

# Study to assess the feasibility of expanding Extended Producer Responsibility (EPR) obligations to additional waste streams

Request for Service: SPD8/2023/149

December 2024



# Executive Summary

The Waste Framework Directive (2008/98/EC) (WFD) establishes a legal framework for treating waste in the EU. The framework is designed to protect the environment and human health by emphasising the importance of proper waste management, recovery, and recycling techniques to reduce pressure on resources and improve their use. The directive, under Articles 8 and 8a, introduced the 'extended producer responsibility scheme' and describes it as 'a set of measures taken by Member States to ensure that producers of products bear financial responsibility or financial and organisational responsibility for the management of the waste stage of a product's life cycle.

On a national level, Subsidiary Legislation 549.141 Extended Producer Responsibility Framework Regulations brings into effect Articles 8 and 8a of Directive 2008/98/EC of the European Parliament and provides a framework for extended producer responsibility (EPR) schemes. Currently the EPR schemes in Malta cover the products for which EPR is mandated by virtue of Union law, including packaging, electrical and electronic equipment and batteries and accumulators, irrespective of the source.

The Environment and Resources Authority (ERA), that is the competent authority responsible for the environment, is seeking to assess the feasibility to expand the EPR obligations to additional waste streams. The implementation of an EPR scheme represents a significant shift in the management of product life cycle, aiming to enhance sustainability by making producers responsible for the end-of-life stage of their products.

In this regard, ERA issued a tender for the provision of Consultancy Services to undertake a Study to assess the feasibility of expanding Extended Producer Responsibility (EPR) obligations to additional waste streams for the Environment and Resources Authority (SPD8/2023/149). The tender was awarded to PwC Malta in May 2024. This report forms part of the reform measure C1R2 of the Recovery and Resilience Plan for Malta, Milestone 1.6 Study on the feasibility of expanding Extended Producer Responsibility obligations to additional waste streams.

This Executive Summary contains both the technical and non-technical aspects of the Study

## Methodology

The results of the study are based on the following activities which were carried out:

- Analysis of relevant EU and national legislation and policies;
- Desk-based research on EPR schemes adopted by other member states;
- Analysis of import and export data obtained from Eurostat and the National Statistics Office;
- Analysis of data relating to the economic operators within the relevant sectors obtained from the National Statistics Office;
- Analysis of collection data related to waste management for the different waste streams obtained from Wasteserv and ERA;
- Consultations with economic operators within the relevant sectors through meetings carried out with members of The Malta Chamber and the Malta Chamber of SMEs;
- Consultations with the Producer Responsibility Organisations for other waste streams subject to an EPR scheme;
- Consultations with the key waste management operators for these waste streams, with a view to understanding the costs related to the waste streams; and
- Financial and economic analysis based on the assumptions gathered through stakeholder consultations and published financial information.

In conducting this feasibility study, data was gathered through consultations with key stakeholders in the industry, market research, and publicly available information. While the work has involved analysis of financial information, it has not included an audit in accordance with generally accepted auditing standards. Moreover, except where otherwise stated in the Report, the information in the Report has not been subjected to checking or verification procedures. Accordingly, no responsibility is being assumed and no representations are being made with respect to the accuracy or completeness of any information received, except where otherwise stated herein, and no assurance is given.

Some of the text in the feasibility study has been redacted to ensure that any data which may be commercially sensitive or confidential is not visible.

The report is split into 3 sections as follows:

- Section A: Tyres
- Section B: Non-Packaging Paper
- Section C: Textiles

## Tyres

Due to road safety requirements and regulations, tyres are frequently replaced, resulting in significant volumes of waste tyres generated annually across the Maltese Islands. End-of-life tyres hold substantial recovery potential, especially through recycling, as they can substitute raw materials such as rubber and metal in various industrial and recreational applications.

To date, waste tyres are not regulated under a specific piece of Union legislation. Nonetheless, the management of waste tyres are subject to the general rules on Environmentally Sound Management of waste established in the WFD and, should a Member State opt to establish an EPR scheme on tyres and waste tyres, the provisions of Article 8 and 8a of the WFD apply.

Currently, around 20 countries in Europe have an EPR for tyres. For example, Belgium operates an EPR scheme for tyres, managed under distinct agreements across its three regions: Flanders, Wallonia, and Brussels. Despite regional governance divisions, the country maintains consistent waste tyre collection and treatment targets through these agreements. Moreover, Italy also has an EPR system for tyres with the primary objective to boost national recycling rates. The EPR system significantly improved the material recovery rate, which more than doubled within the first three years of implementation. The Netherlands also has an EPR system which focuses on the environmentally friendly collection and processing of waste tyres.

The local tyre market is predominantly composed of micro companies, which account for 92.9% of the sector. Small enterprises represent 6.1%, followed by medium-sized firms at 0.9%, and large companies at 0.01%. The highest concentration of companies operate in the maintenance and repair of motor vehicles.

In 2023, tyre imports totalled €11.6 million reflecting c. 3,400 tonnes, with the majority of imports, both in terms of value and volume, consisting of different types of new rubber tyres. Tyre imports are projected to increase to €14 million in value and around 4,200 tonnes in quantity by 2030.

Meanwhile, tyre waste generated increased from c. 2,530 tonnes in 2018 to c. 3,000 tonnes in 2022, with a corresponding rise in exports from c. 2,460 to c. 3,490 tonnes. The discrepancy between generated and exported waste is due to some tyres being earmarked for export but shipped the following year. Most of the tyre waste is exported for R3 recovery (recycling / reclamation of organic substances which are not used as solvents), with minimal amounts for R1 recovery (use of fuel or other means to generate energy). As highlighted in the report both the collection rate (equivalent to tonnes collected in Year N / tonnes imported in Year N-1) and export rate (equivalent to tonnes exported in Year N / tonnes collected in Year N) of waste tyres have exceeded 100% over the last years. Therefore, whilst one of the primary drivers for the introduction of an EPR scheme is to increase collection rates, and promote recycling, based on these figures, this would not seem to be a need in Malta. The high



collection rate could however be due to a number of reasons, including temporary adjustments such as a backlog of tyres which are being collected which had been stored or illegally dumped for a number of years.

Based on the assessment of EPR models for tyres, the Collective Producer Responsibility (CPR) model stands out as the preferred option for Malta's potential EPR for tyres. Its operational efficiency, cost-effectiveness, and ease of implementation make it particularly well-suited to Malta's size and market. Moreover, the single PRO model stands out as the preferred option for implementing a CPR model, as it offers the highest potential for operational efficiency, and ensures that resources are managed effectively, and processes are streamlined.

When considering the various activities involved in the management of tyre waste, ranging from collection, storage, to cutting, baling and export, and examining the associated costs and potential revenues generated, the potential EPR fee per tonne of tyres placed on the market is projected to be around €565 which translates to an estimation of €5.65 per tyre.

Moreover, the potential introduction of the EPR would be expected to create administrative challenges for both producers and the PRO. Producers will need to meet the required reporting standards, tracking product quantities and collecting waste management data, which may require new compliance systems. For the PRO, managing data collection, processing, and reporting, along with ensuring regulatory compliance and logistics oversight, may result in more complex administrative structures and operations.

With producers potentially bearing the costs associated with the EPR scheme, it is anticipated that these expenses would likely be transferred to consumers in the form of higher prices for tyres. This price increase could have broader economic implications, potentially reducing consumer demand for tyres or driving a shift towards lower-cost alternatives. As tyres are a necessary component of vehicle maintenance, higher prices could increase the overall cost of vehicle ownership, placing additional pressure on household budgets and reducing discretionary spending in other areas.

Moreover, the implementation of the new export rules might result in re-routing exports to other EU MS or OECD countries. This, combined with the potential implementation of the EPR would shift freight and treatment costs to producers, as tyres would need to be exported to such countries, where higher regulatory standards would drive up export and compliance costs. These increased costs are likely to be passed on to producers and consumers, raising tyre prices even further, potentially reducing local demand, and disproportionately impacting smaller businesses and household spending.

The environmental benefits of introducing an EPR scheme for tyres in Malta may be limited due to the high existing collection and recycling rate based on available data for imports, collection, and exports.

In conclusion, despite potential benefits due to potentially more cost-effective waste management processes that the implementation of EPR might bring about, such benefits do not seem to justify the additional costs for producers and the potential inflationary impact on consumers and associated social costs, together with the administrative burden on producers, retailers and those associated with the setting up and operation of a PRO. In light of these factors, the implementation of EPR for tyres is not considered feasible under the current scenario.

## Non-packaging paper

Non-packaging paper represents a significant portion of paper that is placed on the market in the form of newspapers, office paper, magazines, books, coated and uncoated paper. Waste arising from non-packaging paper products mostly constitutes municipal waste and thus, is separately collected according to the separate collection systems set up according to the WFD.

To date, non-packaging paper is not regulated under a specific Union legislation, and the Union waste acquis does not mandate the establishment of an EPR scheme for non-packaging paper. However, should a Member State opt to set up such an EPR scheme, then the general requirements in Article 8 and 8a of the WFD apply.

France and the Netherlands have implemented EPR schemes that encompass both packaging and non-packaging paper. In France, the EPR framework originally focused on graphic paper separately, requiring producers to handle the collection, recycling, and disposal of materials like office paper, newspapers, and magazines. However, based on its initial experience with separate collection systems for non-packaging paper and packaging paper, France transitioned to a more integrated approach, combining management of both under a unified EPR scheme. Similarly, the Netherlands has in place a Packaging and Paper and Cardboard Management Decree which combines non-packaging paper and packaging paper, with the aim to enhance the separate collection, reuse, and recycling of packaging and paper/cardboard through an EPR scheme.

The local non-packaging paper market is estimated to be predominantly composed of micro enterprises, which account for 91.2% of the sector. Small enterprises represent 6.7%, followed by medium-sized firms at 1.6%, and large companies at 0.5%. The highest concentration of companies operates in the retail sale of newspapers and stationery in specialised stores.

In 2023, non-packaging paper imports totalled €122.6 million reflecting c. 19,600 tonnes, with the majority of imports, both in terms of value and volume, consisting of articles of paper pulp, paper, or paperboard. Non-packaging paper imports are projected to increase to €152 million in value and around 24,313 tonnes in quantity by 2030.

In addition, when assessing the non-packaging paper placed onto the local market, the fact that certain industries in Malta are export-oriented needs to be considered. In fact, in 2022 a total of 13,583 tonnes related to products with HS Codes which are relevant to this EPR scheme were exported, equivalent to 53.9% of imported tonnes of products with these HS Codes. For example, raw materials for banknotes may be imported under one HS code (4802), but the final product, classified under a different HS code (4907), is exported. In addition, certain raw materials for export-focused products like manuals for toy products or pharmaceutical inserts could not feature within the tonnage of exported non-packaging paper products but as part of the final product, i.e. toy products or pharmaceutical product. This discrepancy may inadvertently overestimate the imported non-packaging tonnage subject to EPR regulations,

Meanwhile, non-packaging paper waste in Malta has increased over the past five years from c. 5,900 tonnes in 2018 to c. 6,700 tonnes in 2022. Non-packaging paper waste is mainly collected from grey bags, which, according to the 2022 Characterisation Survey, consist of 13% non-packaging paper waste and 87% packaging waste. Moreover, non-packaging paper exported for reuse has seen a slight decrease from c. 21,000 in 2018 to c. 19,900 in 2022, indicating a need for increased efforts in waste reduction and recycling efforts.

When considering the various activities involved in the management of non-packaging paper waste due to the implementation of the EPR scheme, ranging from collection, sorting and transportation, to baling and export, and examining the associated costs and potential revenues generated, the potential EPR fee was estimated. The analysis in the feasibility study determined that the potential EPR fee per tonne placed on the market is projected to be around €74.83 which translates to around €0.08 per kilo.

The potential introduction of the EPR would be expected to create administrative challenges for both producers and PROs. Producers will need to pay the EPR fees and meet the required reporting standards and tracking product quantities, which may require new compliance systems. For PROs, managing the waste collection process, together with data collection, processing, and reporting, along with ensuring regulatory compliance and logistics oversight, may result in complex administrative structures and increased operational costs.

Based on assessment of EPR models for non-packaging paper, the CPR model stands out as the preferred option for Malta's potential EPR for non-packaging paper. Its operational efficiency, cost-effectiveness, and ease of implementation make it particularly well-suited to Malta's size and market. In addition, the feasibility study has concluded that integrating an EPR for non-packaging paper within Malta's existing EPR framework for packaging would be the most practical and efficient option for the potential implementation of an EPR framework for non-packaging paper. Leveraging the existing system would reduce implementation challenges and operational costs while addressing non-

packaging paper waste in a cost-effective manner. Given Malta's limited tonnage of such waste, establishing a dedicated EPR system would likely be economically unfeasible.

This approach would also align with EPR principles by minimising the financial burden on producers, restricting costs to those necessary for effective waste management. Financing the system through contributions from non-packaging paper producers, alongside those already participating for packaging, would ensure fair cost distribution. Hence, such an integrated model would utilise existing infrastructure, streamlining processes and avoiding duplication, which is particularly suited to Malta's small size and market characteristics.

With producers potentially bearing the costs associated with the EPR scheme, it is anticipated that these expenses would likely be transferred to consumers and businesses in the form of higher prices for non-packaging paper. The price increases are expected to not be substantial, which may not impact purchasing decisions or overall demand. Additionally, it is expected that the implementation of the EPR for non-packaging paper would lower the price of packaging paper, given that the waste management cost of non-packaging paper would be shifted to non-packaging paper producers, dampening the overall rise in non-packaging paper prices.

However, this increase in non-packaging paper costs would directly contribute to inflationary pressures, as higher input costs for goods generally lead to higher consumer prices. According to Eurostat, newspaper, books and stationery accounted for 0.68% of the total Harmonized Index of Consumer Prices (HICP) basket in 2023. Given this relatively small share, the estimated rise in non-packaging paper prices due to EPR implementation would be estimated to result in a 0.01% increase in the overall HICP, indicating that while the EPR does exert upward pressure on non-packaging paper prices, its broader impact on inflation would be negligible.

In addition, the potential implementation of the EPR scheme would aim to increase non-packaging paper recycling which would align with the municipal waste recycling targets in the Waste Regulations, S.L. 549.63, which transpose the Waste Framework Directive into Maltese law.

Introducing an EPR scheme for non-packaging paper in Malta would also shift the cost of managing non-packaging paper waste, away from the packaging producers. Currently, packaging producers bear the financial burden for both packaging and non-packaging paper waste, but with a separate EPR for non-packaging paper, producers of these materials would take on their share of the waste management costs, relieving packaging producers of paying such costs for non-packaging paper, resulting in an equitable allocation of relevant costs.

In conclusion, primarily considering the imbalance in the current system whereby packaging producers are covering the waste management costs of non-packaging paper, the introduction of an EPR scheme for non-packaging paper is deemed feasible on the condition that this is integrated with the current packaging EPR scheme. It will also be essential to ensure the cost effectiveness of waste management for this waste stream, and to minimise the administrative burden to be placed on producers in complying with the scheme.

## Textiles

The EU's textile consumption, particularly household textiles and clothing has led to overproduction and overconsumption. To address this, the European Commission has proposed an amendment to the WFD, mandating the harmonised implementation of EPR schemes for textiles across all Member States, including Malta. This amendment requires producers of textiles, footwear, and related products to take responsibility for managing the entire lifecycle of their products, including waste generated at the end of use. Although currently an EPR scheme for textiles is implemented in France and the Netherlands, the WFD will now mandate all member states to implement such a scheme.

The EPR scheme aims to promote reuse, improve collection, sorting, preparation for reuse, and recycling processes, aligning with the EU Strategy for Sustainable and Circular Textiles. Malta, like other Member States, will be legally required to implement this system to ensure that textile waste is managed in a way that promotes environmental sustainability and supports the transition to a circular economy.

The local textile market is predominantly composed of micro enterprises, which account for 92.4% of the sector. Small enterprises represent 5.2%, followed by medium-sized firms at 2.0%, and large companies at 0.3%. The highest concentration of companies operates in the retail sale of clothing, footwear, and leather goods through specialised stores.

In 2023, textile imports totalled €261.1 million reflecting c. 10,300 tonnes, with the majority of imports, both in terms of value and volume, consisting of apparel and clothing accessories, both knitted or crocheted, as well as non-knitted or crocheted items. Textile imports are projected to increase to €483 million in value and around 19,020 tonnes in quantity by 2030.

However, the local demand for textile imports may be impacted by the EU Strategy for Sustainable and Circular Textiles, which took effect in July 2024. This strategy aims to improve the durability and sustainability of textiles, reducing the need for frequent garment replacements and, as a result, potentially decreasing import volumes.

Meanwhile, textile waste collected has slightly decreased over the past five years from c. [REDACTED] tonnes in 2018 to c. [REDACTED] tonnes in 2022, while textiles exported for reuse have seen a modest increase from indicating progress in waste reduction and recycling efforts.

In accordance with the General Approach on the Proposal for a Directive of the European Parliament and of the Council amending Directive 2008/98/EC on waste, the implementation of extended producer responsibilities must be exercised collectively through PROs. Hence, given the regulatory constraints, the EPR scheme will adhere to the collective fulfilment requirement set out in the directive, referred to as the CPR model. Based on the options analysis, the organisational and financial responsibility model with a single PRO stands out as the preferred option, offering the highest potential for operational efficiency, ensuring that resources are managed effectively, and processes are streamlined.

When considering the various activities involved in the management of textile waste due to the implementation of the EPR scheme, ranging from collection, transportation, and sorting to export, and examining the associated costs and potential revenues generated, the potential EPR fee was estimated. The analysis in the feasibility study determined that the EPR fee per tonne placed on the market is projected to range from €89 to €104 which translates to a range of €0.09 to €0.10 per kilo. This range is contingent upon the textile collection rate, with the lower fee applicable at a 25% collection rate and the higher fee at a 40% collection rate.

Moreover, the introduction of the EPR is expected to create administrative challenges for both producers and PROs. Producers will need to meet the required reporting standards, tracking product quantities and collecting waste management data, which may require new compliance systems. For PROs, managing data collection, processing, and reporting, along with ensuring regulatory compliance and logistics oversight, may result in more complex administrative structures and increased operational costs.

With producers bearing the costs associated with the EPR scheme, it is anticipated that these expenses will likely be transferred to consumers in the form of higher prices for textiles. The price increases are expected to be minimal, which may not impact consumer purchasing decisions or overall demand.

However, the negligible price hikes may still influence consumer spending patterns, potentially altering market dynamics and competition as companies that effectively manage costs may gain a competitive edge. Moreover, according to Eurostat, clothing and footwear accounted for 4.2% of the total Harmonized Index of Consumer Prices (HICP) basket in 2023. Given this relatively small share, the estimated rise in textile prices due to EPR implementation is around a 0.01% increase in the overall HICP, indicating that while the EPR does exert upward pressure on textile prices, its broader impact on inflation is negligible.

In addition, the implementation of the EPR scheme for textiles is expected to enhance the local reuse market by supporting social enterprises through preferential collection treatment and financial assistance, thereby increasing their capacity to process and reuse textiles locally. Moreover, the EPR scheme will aim to increase textile reuse which would align with the municipal waste preparing for reuse and recycling targets in the Waste Regulations, S.L. 549.63, which transpose the Waste Framework Directive into Maltese law. It will also help divert textile waste from landfills, which will support Malta in

meeting targets in relation to the reduction of the municipal waste landfilled, in line with the Waste Management (Landfill) Regulations (S.L.549.29), which transposes the EU Landfill Directive. The EPR scheme may also lead to job creation, as the increase in textile collection rates may result in a need for the local private operator to expand its workforce to meet growing demand in managing textile waste collection.

In conclusion, the successful implementation of a mandatory EPR scheme for textiles in Malta relies on more than just its establishment. Expanding waste separation obligations to include textiles would ensure the separation of textile waste at source, improve recycling rates, and enhancing compliance with the EPR system. Additionally, ensuring that separate collection points are installed in all Local Councils would increase accessibility, boost collection rates, and strengthen the EPR framework in Malta. Furthermore, should this system of bin collection points fail to improve textile collection rates, alternative systems may also be explored and assessed to boost these rates. This could include the introduction of separate household collection systems managed by local entities such as regional councils. Such measures would align with the Council mandate amending Directive 2008/98/EC on waste, which requires PROs to implement corrective measures if separate collection rates do not improve over time, ensuring compliance and fostering increased collection, re-use and recycling.



# Study to assess the feasibility of expanding Extended Producer Responsibility (EPR) obligations to additional waste streams

Request for Service: SPD8/2023/149

## SECTION A: TYRES

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# 1. Introduction

The Environment and Resources Authority (ERA), that is the competent authority responsible for the environment, is seeking to assess the feasibility to expand the Extended Producer Responsibility (EPR) obligations to additional waste streams. The implementation of an EPR scheme represents a significant shift in the management of product life cycle, aiming to enhance sustainability by making producers responsible for the end-of-life stage of their products.

In this regard, ERA issued a tender for the provision of Consultancy Services to undertake a Study to assess the feasibility of expanding Extended Producer Responsibility (EPR) obligations to additional waste streams for the Environment and Resources Authority (SPD8/2023/149). The tender was awarded to PwC Malta in May 2024. This report forms part of the reform measure C1R2 of the Recovery and Resilience Plan for Malta, Milestone 1.6 Study on the feasibility of expanding Extended Producer Responsibility obligations to additional waste streams.

## 1.1 Report Contents

This report focuses on the tyres waste stream and contains the following sections:

- **Section 2 - Review of national and EU policies including best practices from other EU Member States:** In this section the European and national policies that provide the framework and context for EPR schemes for tyres are reviewed. This review assesses the alignment, coherence, and potential synergies between the proposed EPR initiative and the current legislative landscape. Whilst the EPR system for this waste streams is to be tailor made for Malta, in this section, international systems were assessed to identify best practices relating to EPR solutions from other EU Member States.
- **Section 3: PESTEL Analysis:** This section contains an analysis of the external factors influencing the introduction of an EPR scheme for this waste stream, including the political, economic, social, technological, environmental and legal factors.
- **Section 4: Market Study:** This section contains a stakeholder analysis providing an overview of the key players within the tyres sector, an analysis of the related products and the estimated volumes and values of products placed on the local market that may be relevant to EPR, together with an analysis of tyre waste. In addition, this section also contains an analysis of the relevant market challenges, opportunities and risks.
- **Section 5 – Ex-Ante Assessment:** This section contains an assessment of the current waste management situation for tyres, the potential impact of the introduction of the EPR scheme and alignment with key legislative provisions and national policies and strategies, and other considerations such as the impact on economic operators.
- **Section 6 – Delineation of Policy Options:** This section outlines the options considered in relation to the potential products and economic operators subject to EPR regulations, together with the potential features of the potential EPR system, the related EPR fees and the potential options for waste management for this waste stream.
- **Section 7 –Options Appraisal:** This section assesses the options outlined in Section 6 and provides recommendations on the EPR model, the organisational model and related fees.
- **Section 8 – Assessment of potential key success factors:** This section provides additional considerations that need to be in place for an EPR scheme for this waste stream to be successful.
- **Section 9 – Financial Analysis:** This section provides an analysis on the estimated costs and potential revenue related to the waste management of this waste stream, and the likely fee which would need to be paid by the producers of this waste stream.



- *Section 10 – High Level Economic Impact Assessment:* This section assesses the high level economic impacts from the introduction of an EPR scheme for this waste stream.
- *Section 11 – Conclusion:* This section provides the conclusion of the Study.

## 1.2 Methodology

The results of the study are based on the following activities which were carried out:

- Analysis of relevant EU and national legislation and policies;
- Desk-based research on EPR schemes adopted by other member states;
- Analysis of import and export data obtained from Eurostat and the National Statistics Office;
- Analysis of data relating to the economic operators within the relevant sectors obtained from the National Statistics Office;
- Analysis of collection data related to waste management for this waste stream obtained from Wasteserv and ERA;
- Consultations with economic operators within the relevant sectors through meetings carried out with members of The Malta Chamber and the Malta Chamber of SMEs;
- Consultations with the Producer Responsibility Organisations for other waste streams subject to an EPR scheme;
- Consultations with the key waste management operators for this waste stream, with a view to understanding the costs related to this waste stream; and
- Financial and economic analysis based on the assumptions gathered through stakeholder consultations and published financial information.

In conducting this feasibility study, data was gathered through consultations with key stakeholders in the industry, market research, and publicly available information. While the work has involved analysis of financial information, it has not included an audit in accordance with generally accepted auditing standards. Moreover, except where otherwise stated in the Report, the information in the Report has not been subjected to checking or verification procedures. Accordingly, no responsibility is being assumed and no representations are being made with respect to the accuracy or completeness of any information received, except where otherwise stated herein, and no assurance is given.

## 2. Review of national and EU policies including best practices from other EU Member States

### 2.1 National and EU Policies

The implementation of an Extended Producer Responsibility (EPR) scheme represents a significant shift in the management of product life cycles, aiming to enhance sustainability by making producers responsible for the end-of-life stage of their products. In this section the European and national policies that provide the framework and context for EPR schemes for tyres are reviewed. This review assesses the alignment, coherence, and potential synergies between the proposed EPR initiative and the current legislative landscape. By examining relevant Directives, regulations and strategies at both the national and EU levels, this section aims to identify the key policy drivers, existing gaps, and potential challenges that could influence the successful implementation of an EPR scheme. Additionally, this review explores how existing policies can be leveraged to support any EPR scheme's goals and how the proposed EPR measures can contribute to broader environmental and economic objectives, such as the EU's Circular Economy Action Plan and national sustainability agendas.

#### 2.1.1 Waste Framework Directive (EU Directive 2008/98EC)

The Waste Framework Directive (WFD) outlines fundamental principles and definitions for waste management. It clarifies the conditions under which waste stops being classified as waste and becomes a secondary raw material. It mandates that waste must be managed in a way that does not jeopardise human health or damage the environment. The WFD aims to improve resource efficiency and promote a circular economy where materials are kept in use for as long as possible.

The WFD is established on a waste hierarchy prioritising waste prevention, reuse, recycling, and recovery before disposal as shown in Figure 1<sup>1</sup>. The waste hierarchy is the foundation of the European waste policies and legislations. The scope of the hierarchy is to reduce negative environmental impacts which result from waste and in turn maximise the use of resources efficiently.



Figure 1: Waste hierarchy

Other key principles enshrined in the WFD are the polluter pays principle and the EPR. The polluter pays principle, which is a key environmental policy concept, stipulates that those who generate waste should bear the costs associated with its management and disposal. The second economic instrument introduced by the WFD is EPR, which is one way to implement the polluter-pays principle. EPR schemes embody a set of measures adopted by the member state such that the producer of products bears either the financial responsibility or both the financial and organisational responsibility associated with the management of the product at its end of life i.e., at its waste stage. This would entail producers to at a minimum financially support the collection, separation and sorting, and treatment operations. The producers are to fulfil their obligations either individually or collectively. Effectively, the costs paid

<sup>1</sup> European Commission. Environment – Waste Framework Directive. Accessed 26th September 2024 at: [https://environment.ec.europa.eu/topics/waste-and-recycling/waste-framework-directive\\_en](https://environment.ec.europa.eu/topics/waste-and-recycling/waste-framework-directive_en)

by the producer will reflect the cost of managing that waste whilst simultaneously reducing the financial cost which would have been borne by the public authorities and the taxpayers.

Nevertheless, EPR schemes encourage producers to consider the entire lifecycle of their products, leading to more sustainable product designs and reduced environmental impact. Hence, producers are encouraged to minimise waste by designing products that are durable, repairable, and recyclable potentially eliminating unnecessary waste. This would lead EPR schemes to meet the targets of recycling and recovery stipulated by the WFD by ensuring that producers contribute to the collection, recycling, and recovery of their products at the end of their lifecycle.

The national Waste Regulations (S.L. 549.63)<sup>2</sup> transpose the provisions of the WFD into Maltese national law. In 2023, mandatory waste separation for paper, metal, plastic, glass, and bio-waste was introduced through this legislation for households and businesses. The Waste Regulations specify that waste which has undergone a recycling or other recovery operation is considered to have ceased to be waste if it complies with the following criteria:

- (a) The substance or object is to be used for specific purposes;
- (b) A market or demand exists for such a substance or object;
- (c) The substance or object fulfils the technical requirements for the specific purposes and meets the existing legislation and standards applicable to products; and
- (d) The use of the substance or object will not lead to overall adverse environmental or human health impacts.

Moreover, the legislation specifies that any natural or legal person intending to carry out recycling or other recovery operations in which waste ceases to be waste needs to obtain a permit from the Environment and Resources Authority, prior to any transfer of the resulting material.

The Waste Regulations (S.L. 549.63) also stipulate that without prejudice to regulation 4(3) of the EPR Framework Regulations (S.L. 549.141), in accordance with the polluter-pays principle, the costs of waste management, including for the necessary infrastructure and its operation, shall be borne by the original waste producer or by the current or previous waste holders depending on who has the duty of care for the waste in accordance with the provisions of this regulation.

### Implementing an EPR on Tyres

Due to road safety requirements and regulations, tyres are frequently replaced, resulting in significant volumes of waste tyres generated annually across the Maltese Islands. End-of-life tyres hold substantial recovery potential, especially through recycling, as they can substitute raw materials such as rubber and metal in various industrial and recreational applications. To date, waste tyres are not regulated under a specific piece of Union legislation. Nonetheless, the management of waste tyres are subject to the general rules on Environmentally Sound Management (ESM) of waste established in the WFD and, should a Member State opt to establish an EPR scheme on tyres and waste tyres, the provisions of Article 8 and 8a of the WFD apply.

## 2.1.2 Landfill Directive (EU Directive 2018/850/EC)

Landfilling, as described by the EU's waste hierarchy, is the least favourable disposal method of waste and should be limited to the necessary minimum. Other than the dangerous impacts that landfilling has on both humans and the environment, namely the production of methane gas, materials which are recyclable are lost from the European economy due to landfilling. The legal framework for the landfill of waste falls under Directive (EU) 2018/850/EC of the European Parliament and of the

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<sup>2</sup> <https://legislation.mt/eli/sl/549.63/eng/pdf>

Council of 30 May 2018 amending Directive 1999/31/EC. As of 2021, Malta's municipal waste landfill rate is the highest in the EU as shown in Figure 2<sup>3</sup>.

Source: Eurostat

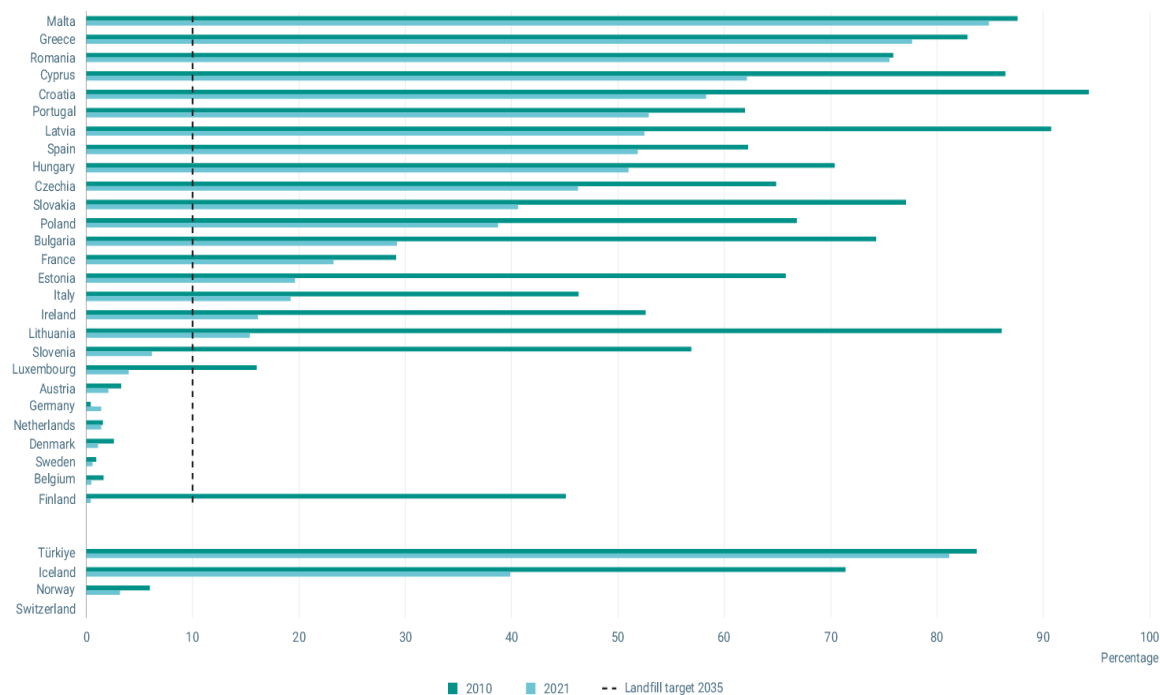


Figure 2: Municipal waste landfill rates by EU countries

The national Waste Management (Landfill) Regulations (S.L.549.29) regulate landfills and their impact, transposing the provisions of the EU Landfill Directive 2018/850. The Landfill Regulations provide measures, procedures and guidance with the goal of preventing or reducing as far as possible the adverse impacts of waste on the environment and on human health. The regulations also establish what information is necessary within an operating permit for a landfill site.

In line with the Landfill Directive, the disposal of whole and shredded tyres is not allowed at landfills in accordance with Regulation 6 of the Waste Management (Landfill) Regulations S.L. 549.29. Tyres are however, deposited at Civic Amenity Sites operated by WasteServ or deposited by third-party authorised waste collectors at the Multi-Material Recovery Facility operated by WasteServ, which are then baled in accordance to size and exported.

### 2.1.3 End of Life of Vehicles Directive (EU Directive 2000/53/EC)

The End-of-Life Vehicles (ELVs) Directive introduces the principle of EPR in the management of ELVs. It stipulates that Member States should ensure that economic operators (such as producers and distributors), set up systems for the collection, treatment, and recovery of ELVs. Member States are to ensure that the last holder and/or owner can deliver the end-of-life vehicle to an authorised treatment facility (ATF) without any cost, given that the producers are to meet all or a significant part of the costs of the implementation of these measures.

At present this EU directive governs the management of tyres arising from the dismantling of ELVs. It is key to note that the ELV regulation applies to M1 and N1 vehicles only. M1 motor vehicle means a vehicle used for the carriage of passengers and comprising no more than eight seats in addition to the driver's seat. N1 vehicles are used for the carriage of goods and having a maximum mass not exceeding 3.5 tonnes. Hence, end-of-life tyres arising out of the dismantling of only these types of waste vehicles are subject to the ELV Directive.

In 2021, a review of the ELV Directive was initiated, culminating in a proposal for a new regulation in 2023. The EU is proposing a new set of rules to enhance the quality of treatment of ELVs, to promote

<sup>3</sup> <https://www.eea.europa.eu/en/analysis/maps-and-charts/municipal-waste-landfill-rates-in-2>



reuse, and optimise the efficient use of valuable resources. The proposal focuses on circular design, use of recycled content, better treatment of ELVs to recover more, good quality raw materials, to enter into scope a wider range of materials, and to make producers responsible for their vehicle products. The new proposal to the ELV regulations is aiming at strengthening the EPR obligations for vehicles. The EU proposes to gradually expand the rules to cover more vehicles including motorcycles, lorries, and buses. The responsibility of vehicle manufacturers and relevant economic operators, under the ELV directive is to ensure that all parts of the vehicle, including tyres, are managed properly. Hence, where an EPR scheme is established for tyres, a cohesive framework is to be created where the responsibility for waste management is shared and reinforced, whilst also avoiding overlapping and duplication of efforts.

The ELV Directive is transposed into Maltese national law by the Waste Management (End of Life Vehicles) Regulations (S.L.549.36.)<sup>4</sup>. These provide additional measures, procedures and guidance to those in the Waste Regulations (S.L. 549.63), which aim, as a first priority, at the prevention of waste from vehicles and, in addition, at the re-use, recycling and other forms of recovery of end-of-life vehicles and their components so as to reduce the disposal of waste. They also aim to achieve the improvement in the environmental performance of all of the economic operators involved in the life cycle of vehicles and, especially, the operators directly involved in the treatment of end-of-life vehicles. They introduce the principles of an EPR in the management of ELVs and should be read and construed in the context of the provisions of the EPR Framework Regulations (S.L. 549.141). The regulation stipulates that economic operators, covering producers, distributors, collectors, motor vehicle insurance companies, dismantlers, shredders, recyclers and other treatment operators of ELVs, including their components and materials shall use existing collection systems or set up systems for the collection of all ELVs and, as far as technically feasible, of any waste used parts which are removed when vehicles are repaired. It is also pertinent to note that the reuse and recovery and reuse and recycling targets stipulated in the ELV Directive and national ELV Regulations apply to ELVs in their entirety, namely the amounts of end-of-life tyres arising from the dismantling of ELVs count towards the attainment of the aforementioned targets.

The economic operators are to set up systems or use existing systems of collection for ELVs. They should as far as technically feasible, collect any used parts that are waste which are removed during the repair of vehicles. The delivery of the ELV is free of charge unless the vehicle does not contain the essential components of a vehicle and/or contains waste which has been added to the ELV.

## 2.1.4 Ecodesign for Sustainable Products Regulation (EU 2024/1781)

The Ecodesign for Sustainable Products Regulation (ESPR), effective from July 18, 2024, stands as a pivotal component of the EU Commission's strategy towards more environmentally sound and circular products. The ESPR replaces the existing Ecodesign Directive 2009/125/EC and creates a framework for establishing ecodesign requirements for specific product categories. As part of a comprehensive set of measures aligned with the 2020 Circular Economy Action Plan, the ESPR plays a crucial role in advancing the EU's environmental and climate objectives. It aims to double the rate of material use circularity and help achieve energy efficiency targets by 2030.

The impact of products and their usage on the environment can be profound, with consumption within the EU being a significant contributor to climate change and pollution. The ESPR operates as framework legislation, indicating that specific rules for products will be established gradually, either individually or collectively for groups of products sharing similar traits.

The process initiates with a prioritisation phase, followed by the publication of a working plan outlining the products and actions to be covered under the ESPR within a specified timeframe. Subsequently, the development of product rules commences, guided by comprehensive planning, detailed impact assessments, and ongoing consultation with stakeholders through an Ecodesign Forum.

The regulation allows for the implementation of performance and information standards, known as 'ecodesign requirements,' for nearly all types of physical goods, with some exceptions like food and feed as outlined in Regulation 178/2002. These requirements aim to:

- Enhance product durability, reusability, upgradability, and reparability
- Improve energy and resource efficiency

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<sup>4</sup> <https://legislation.mt/eli/sl/549.36/eng/pdf>

- Address the presence of substances that hinder circularity
- Increase the use of recycled materials
- Facilitate easier remanufacturing and recycling
- Establish rules regarding carbon and environmental footprints
- Enhance the availability of information on product sustainability

The ESPR includes a number of other new measures such as a digital product passport, rules to address destruction of unsold consumer products and green public procurement.

The Regulation mandates that in the first working plan, which shall be adopted by 19 April 2025, the Commission is to prioritise textiles, in particular garments and footwear and tyres amongst other product groups. To keep the public and stakeholders informed about the plans under the ESPR, the Commission will adopt and regularly update working plans that detail the products and measures to be assessed. This initial plan will cover a period of at least three years.

The development of eco-design requirements includes preparatory studies, impact assessments and consultation with stakeholders. Preparatory work, for certain products, such as textiles or steel, has already begun, whilst the work on other prioritised products and potential measures will be after the adoption of the first working plan.

### 2.1.5 Transboundary Movements of Waste

At a global level, transboundary movements of hazardous and other wastes is governed by the Basel Convention<sup>5</sup>. Parties to the Convention are committed to ensuring the environmentally sound management of the waste they generate. The Convention establishes a regulatory system known as the 'Prior Informed Consent Procedure', whereby all countries involved in a planned transboundary movement of waste are to provide their written consent before that movement is allowed to start. The Convention applies to hazardous wastes and to four types of non-hazardous wastes defined as "other wastes" – namely household waste as collected, incinerator ash, certain plastic wastes, and non-hazardous electronic and electrical wastes (the latter as from 1<sup>st</sup> January 2025).

The controls of the Convention do not apply to the non-hazardous, "green" waste categories listed in Annex IX. Textile wastes can be classified under the green-listed code B3030 and B3035.

The provisions of the Basel Convention and the OECD Decision C(2001)107/FINAL on the Control of Transboundary Movements of Wastes Destined for Recovery Operations are implemented in the European Union through the Regulation (EC) No 1013/2006 on shipments of waste (i.e. the WSR)

The WSR governs the transboundary movement of waste within, into, and out of the EU. The regulation aims to ensure that waste is managed in an environmentally sound manner during transport and that it does not pose risk to human health or the environment. This involves preventing illegal dumping, improper handling, and ensuring that waste is sent to facilities that can manage it safely.

In addition to the wastes covered by the Basel Convention, the WSR also covers shipments of "green-listed" waste. The control regimes in the WSR depends on the origin, destination, route of the shipment, the nature of the waste (e.g. hazardous, "green-listed" non-hazardous, etc.) as well as the intended fate (i.e. whether it is for disposal or recovery).

The two main procedures for shipments of waste established under the WSR are:

- Prior notification and consent, which applies to wastes destined for disposal, and to hazardous wastes, "other waste" and unlisted non-hazardous waste destined for recovery; and
- General information requirements, which generally applies to shipments of "green-listed" wastes destined for recovery.

Exports destined for recovery of certain green-listed wastes to certain non-OECD Countries are also subject to Commission Regulation (EC) No 1418/2007.

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<sup>5</sup> Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal

Waste exporters and importers have specific obligations, including ensuring that waste is appropriately classified, providing necessary documentation, and complying with the conditions set out by the authorities. The notification and consent procedure, along with the general information requirements, provide a clear paper trail for waste shipments. This traceability ensures that authorities can monitor waste flows and take action against illegal activities.

Recently, the EU updated and modernised its waste shipment rules through Regulations (EU) 2024/1157 on shipment of waste. The new Regulation on waste shipments was adopted on April 11, 2024, and came into effect on May 20, 2024. Its objectives are to:

- Prevent the EU from offloading its waste issues onto third countries and promote environmentally responsible waste management.
- Enhance enforcement measures to stop illegal waste shipments within the EU and from the EU to other countries.
- Improve the traceability of waste shipments within the EU, facilitating recycling and reuse.

The provisions of the new Regulation will apply in a progressive manner, to allow for the development of an electronic system for the exchange of documents related to shipments of waste and to allow stakeholders to adapt:

- As from May 2026, (mainly for intra EU shipments), digitalisation of shipment procedures including the Prior-Informed Consent (PIC) and the Annex VII procedures through the use of a central EU electronic system;
- As from 20 May 2024, waste exportation to OECD countries which is observed to undergo a trend will be monitored by the Commission. This could lead to the possibility of the exportation being suspended if proper treatment and management is not guaranteed;
- As from May 2027, for all exports outside of the EU, the exporter must carry out or commission independent audits or acquire the outcome of audits carried out by other EU exporters or commissioned by the receiving facility for waste destined to facilities outside the EU.
- As from May 2027, exports of non-hazardous waste from the EU to non-OECD countries will only be permitted if these countries notify the European Commission of their willingness to accept the waste and demonstrate their capability to manage it sustainably. The regulation maintains bans on exporting waste for disposal to OECD and non-OECD countries and hazardous waste for recovery to non-OECD countries.

The EU Waste Shipment Regulation is implemented in Malta through S.L. 549.65, the Waste Management (Shipment of Waste) Regulations.

Producers under EPR schemes must ensure that the waste they collect and manage, particularly for recycling or disposal, complies with the EU Waste Shipment Regulation when transported across borders. The effect of the above mentioned measures, might result in national exporters needing to re-route waste shipments to EU Member States in order to ensure compliance with these measures.

Given that the EU Waste Shipment Regulation mandates detailed documentation and tracking of waste shipments to provide transparency and traceability, EPR schemes benefit from this by being able to monitor the flow of waste to ensure it reaches the appropriate facilities. EPR schemes often require producers to report on the quantities and types of waste collected and processed. Compliance with the EU Waste Shipment Regulation helps ensure accurate reporting and tracking of waste movements.

By ensuring compliance with these regulations, EPR schemes contribute to reducing such risks. Compliance with the EU Waste Shipment Regulation can impact the costs associated with waste management under EPR schemes. Understanding the regulations and requirements of the Waste Shipping Regulation allows EPR schemes to plan and execute more efficient waste management strategies, ensuring that waste is moved and treated in the most effective way possible.

## 2.1.6 Extended Producer Responsibility Framework Regulations (S.L. 549.141)

In 2021, the Extended Producer Responsibility Framework Regulations (S.L. 549.141) were adopted in Malta. This transposed articles 8 and 8a of the amended WFD. The core objective of the regulations is to provide a framework for EPR schemes, including those EPR schemes that Malta might set up for products for which EPR is not mandated by virtue of Union law.

To enhance waste prevention, recycling, and recovery, the Minister is authorised to implement legislative or non-legislative actions requiring producers to take extended responsibility for their products. In doing so, the technical feasibility, economic viability, and the environmental, health, and social impacts must be considered to ensure that the internal market functions properly. This responsibility does not override existing waste management obligations or specific waste-related laws.

The regulations stipulate that when EPR is introduced, producers must cover the full cost of waste management, with distributors possibly sharing these costs. If such responsibility schemes are established, the roles and responsibilities of all involved parties must be defined, including producers, waste operators, and local authorities. Additionally, waste management targets aligned with existing regulations must be set, along with a reporting system to track products placed on the market and the corresponding waste management activities. The framework ensures equal treatment of producers, avoiding undue regulatory burdens, particularly on small enterprises. Producers based in other EU Member States can appoint a representative in Malta to fulfil their obligations under these schemes, provided they meet the Authority's requirements.

The Minister, with input from relevant bodies, may require producers who manage their products' waste stages to adhere to the framework's regulations. The Authority must also ensure that waste holders are informed about prevention measures, collection systems, and the importance of proper waste disposal, with incentives provided to encourage compliance. The Minister may promote the design and production of products that reduce environmental impact, generate less waste, and facilitate reuse and recycling. These measures will consider the entire lifecycle of products and the potential for multiple recycling, supporting the implementation of the waste hierarchy.

The regulations highlight the producer's key role to design products for easier recycling, disassembly, and safe disposal. This includes using materials that are less harmful to the environment and ensuring that products can be effectively dismantled at the end of their life. Moreover, the regulations emphasise how producers must establish or participate in a waste collection system to facilitate the collection and proper disposal of used products. The waste collection systems are to be appropriately available within the geographical area in which the product is defined. These schemes are essential for ensuring that products are returned for recycling or safe disposal.

The regulations establish the producers' financial responsibility for the entire lifecycle management of their products, including the costs of collection, transportation, and treatment. Whilst this is the minimum requirement for a producer, producers may extend their responsibility into both financial and organisational to meet their EPR obligations.

In addition, the costs paid by the producer is to cover costs associated with providing necessary information to waste holders, as well as, costs necessary to gather data and report. The fee paid by producers is to not exceed the true cost that is required to provide a cost-efficient waste management service. Moreover, depending on the individual product, fees can be modulated by taking into account the nature of the product such as its durability, repairability, re-usability, and recyclability. Furthermore, producers are bound to provide information to the public on how they expect to attain their waste management targets.

## 2.1.7 Waste Management (Waste Batteries and Accumulators) Regulations (S.L.549.54)

The Waste Management (Waste Batteries and Accumulators) Regulations (S.L.549.54.)<sup>6</sup> bring into effect most of the provisions of Directive 2006/66/EC on batteries and accumulators and waste batteries and accumulators. The Regulations, whilst regarding the environmental impact of transport, seeks to

<sup>6</sup> <https://legislation.mt/eli/sl/549.54/eng/pdf>



maximise the separate collection of waste batteries and accumulators and to minimise the disposal of waste batteries and accumulators as mixed municipal waste to achieve a high level of recycling for all batteries and accumulators.

These regulations are relevant to this study as they introduce extended producer responsibilities whereby the producers of batteries and accumulators are bound to finance the collection and treatment of waste batteries and accumulators. A 'producer' as per the regulation is defined as any person in Malta who, irrespective of the selling technique used, including by means of distance communication as defined in the Distance Selling Regulations, places batteries or accumulators, including those incorporated into appliances or vehicles, on the market for the first time within the territory of Malta on a professional basis. Therefore, in the case of these regulations there is also a similar situation with tyres in relation to batteries used in vehicles to which the End of Life Vehicle Directive applies.

Producers of portable batteries and accumulators and automotive batteries and accumulators can fulfil their obligations either individually or by taking part in a waste batteries and accumulators compliance scheme and can use existing collection systems or set up their own collection systems.

Amongst the provisions related to the collection systems, distributors are to take back waste portable batteries or accumulators, unless different collection systems exist which are as effective in meeting the environmental aims of these regulations.

Producers are to finance net costs for the collection, treatment and recycling of all waste batteries and accumulators. Any double charging of producers, particularly when batteries or accumulators are collected under Waste Management (End of Life Vehicles) Regulations (S.L.549.36) and the Waste Management (Electrical and Electronic Equipment) Regulations (S.L.549.89), are to be avoided. The regulations also stipulate that if the producer places very small quantities of batteries or accumulators on the Maltese market for the very first time, they may be exempted as long as this does not affect the proper functioning of the collection systems.

In addition, producers are also required to finance costs related to public information campaigns on the collection, treatment, and recycling of all waste portable batteries and accumulators.

Prior to 2017, an eco-contribution mechanism was in place for batteries and accumulators. However, with the introduction of an EPR scheme under the Waste Management (Waste Batteries and Accumulators) Regulations, the eco-contribution mechanism was removed and a new producer responsibility organisation dedicated to handling waste portable batteries and accumulators started operating in 2017.

### 2.1.8 Waste Management (Electrical and Electronic Equipment) Regulations (S.L.549.89)

The Waste Management (Electrical and Electronic Equipment) Regulations (S.L.549.89.)<sup>7</sup> bring into effect most of the provisions of Directive 2012/19/EU on waste electrical and electronic equipment (WEEE). These regulations aim to prevent or minimise the negative environmental impacts due to the generation and management of WEEE. Thus, focusing on achieving sustainable consumption and production through prevention, re-use, recycling, and other recovery methods for WEEE, with the goal of reducing its disposal.

Each producer is responsible for financing the collection, treatment, recovery, and environmentally sound disposal of WEEE from private households that has been deposited at collection facilities but also that has not been deposited at a designed collection facility.

One of the relevant features of the WEEE regulations in relation to this study on tyres is that when supplying a new product, distributors must ensure that waste can be returned to them at no cost on a one-to-one bases, provided that the equipment is of an equivalent type and has served the same function as the supplied equipment.

According to the Regulations the implementation of the "producer responsibility" principle is to be applied, ensuring that a minimum annual collection rate is achieved. These collection rates are

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<sup>7</sup> <https://legislation.mt/eli/sl/549.89/eng/pdf>

calculated based on the total weight of WEEE collected within a given year in Malta, expressed as a percentage of the average weight of EEE placed on the market in the three preceding years in Malta.

Prior to the introduction of an EPR scheme on WEEE, an eco-contribution mechanism was in place. As a result, this eco-contribution mechanism was removed during the last quarter of 2015 and two PROs for WEEE began their operations.

## 2.1.9 Excise Duty Act - Chapter 382

An excise duty on pneumatic tyres was introduced in 2015. Hence, excise duty must be paid on imported pneumatic goods that are placed on the Maltese market. As per Schedule Five B of the Excise Duty Act Chapter 382 of the Laws of Malta<sup>8</sup>, the following HS Codes, describing pneumatic tyres, are subject to excise duty.

Table 1: HS Codes for tyres and respective description listed in Schedule Five B of the Excise Duty Act (Chapter 382).

HS Code	Description of Excisable goods
401110	New pneumatic tyres of rubber, used on motor cars
401120	New pneumatic tyres of rubber, used on buses or lorries
401130	New pneumatic tyres of rubber, used on aircraft
401140	New pneumatic tyres of rubber, used on motorcycles
401150	New pneumatic tyres of rubber, used on bicycles
401161	New pneumatic tyres of rubber, with herring-bone or similar tread, for agricultural or forestry vehicles & machines
401162	New pneumatic tyres of rubber, with herring-bone, for construction or industrial handling vehicles & machines, rim size ≤ 61cm
401163	New pneumatic tyres of rubber, with herring-bone, for construction or industrial handling vehicles & machines, rim size > 61cm
401169	Other new pneumatic tyres of rubber, with herring-bone or similar tread
401192	Other new pneumatic tyres of rubber, for agricultural or forestry vehicles & machines
401193	Other new pneumatic tyres of rubber, for construction or industrial handling vehicles & machines, rim size ≤ 61cm
401194	Other new pneumatic tyres of rubber, for construction or industrial handling vehicles & machines, rim size > 61cm
401199	Other new pneumatic tyres of rubber
4012	Re-treaded or Used Pneumatic Tyres of rubber; solid or cushion tyres, tyre treads and tyre flaps, of rubber

All items bar 401150 are subject to an excise duty of €0.70 per kilogram up to €24.50 per item. HS Code 401150 is subject to a rate of €0.00 for each kilogram.

## 2.1.10 Long Term Waste Management Plan 2021 – 2030

The Long-Term Waste Management Plan for Malta 2021-2030<sup>9</sup>, issued by the Ministry for the Environment, Climate Change and Planning (MECP), acknowledges the necessity for Malta to shift from a "consume and throw away" mentality to a more resource-efficient circular economy. The plan outlines multiple strategic objectives. However, the one of key interest is to study the feasibility of an enhanced producer responsibility framework to support Malta's transition to a circular economy and better reflect the true cost of waste management.

The plan states that to support Malta's transition to a more resource-efficient and circular economy, it is essential to ensure that any waste generated is treated efficiently and effectively. This approach aims to minimise the environmental impact while maximising the potential of waste as a resource. The plan

<sup>8</sup> <https://legislation.mt/eli/cap/382/eng/pdf>

<sup>9</sup> <https://era.org.mt/wp-content/uploads/2022/02/Long-Term-Waste-Management-Plan-v1.4.3-Spreads-Digital-Version.pdf>

stipulates that this goal will be achieved through improving existing EPR frameworks to create a level playing field and ensure that producers bear the costs of waste management and by extending EPR obligations to additional waste streams following feasibility studies.

In the Long-Term Waste Management Plan 2021-2030, the Government proposed to enact legislation to establish a national EPR scheme for end-of-life tyres (WMRO\_EPR27), noting that end-of-life tyres possess significant recovery potential, particularly through recycling, as they can substitute raw materials in various industrial and recreational applications.

### 2.1.11 Recovery and Resilience Plan

The Recovery and Resilience Facility was proposed by the European Commission in May 2020 to be at the heart of NextGenerationEU which is a unique opportunity at structural transformation in EU Member States. The aim of this Facility is to provide grants and loans to support reform and investment packages, aimed at addressing short -to-medium impact which had been brought about by the Covid-19 pandemic. Member States have put forward their structural reforms and public investment packages in their national Recovery and Resilience Plans (RRPs). In addition, the measures listed in the RRP of the respective nations are to ease and accelerate the green and digital transition.

One of the components in Malta's RRP<sup>10</sup> is to address climate neutrality through enhanced energy efficiency, clean energy, and circular economy. In this regard, Reform C1-R2 relates to 'Fostering effective waste management through a robust waste governance framework including reforming the waste collection system'. To enhance the circular economy in Malta, EPR schemes are considered highly effective. As a result, Malta has chosen to assess the feasibility to extend the EPR obligations to additional waste streams, including tyres. This is reflected in Milestone 1.6 which consists of the publication of a study on the feasibility of expanding EPR obligations to additional waste streams beyond those which had already been implemented. Milestone 1.7 builds on Milestone 1.6 whereby it relates to the entry into force of legislation deemed applicable by the outcomes of Milestone 1.6 expanding the EPR obligations to new waste streams.

## 2.2 EPR Practices in EU Member States

Whilst the EPR system for the waste streams is to be tailor made for Malta, international systems were assessed to identify best practices relating to EPR solutions from other EU Member States. The examples provided were obtained through a literature review and include the tyre EPR schemes implemented in Belgium, Italy and the Netherlands, as well as a summary of a review of EPR-type systems for the end-of-life tyres (ELT) set up in Europe.

A European review of EPR-type systems for the end-of-life tyres (ELT) sector set up in European countries was published in 2022 by ADEME<sup>11</sup> which is a public industrial and commercial establishment placed under the supervision of the Ministry of Ecological Transition and Territorial Cohesion in France. The objective of this review was to provide all French stakeholders with information on how EPR schemes for ELT have been set up in some countries and how they work, in order to supply relevant information for the regulatory development of the ELT EPR scheme in France. Out of 20 European countries identified as having an EPR scheme, five countries were analysed in detail: Belgium, Spain, Italy, the Netherlands and Portugal. The table below summarises the key information for each of these countries.

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<sup>10</sup><https://fondi.eu/wp-content/uploads/2023/11/Malta-Recovery-and-Resilience-Plan-2023-7.11.2023.pdf>

<sup>11</sup><https://librairie.ademe.fr/ged/7834/european-review-of-elt-epr-schemes-report.pdf>

Table 2: A list of operational EPR systems for tyres within the EU as published by ADEME<sup>12</sup>.

Country	Date of EPR implementation	Tyre categories covered by the EPR	ELT/ELV interaction	Number of PROs	EPR fee	Collection
Belgium	2004	All types of tyres, excluding bicycle tyres. Original equipment tyres (except for those of M1 and N1 vehicles which are covered by ELV scheme) and replacement tyres.	The ELT from M1 and N1 category ELVs are managed by Febelauto, the only management body in charge of the ELV scheme in Belgium.	One PRO, Recytyre  Individual systems are authorised, but none exist.	€2.86 for lightweight vehicle tyres	ELT are collected from ELT holders by collection companies, approved by Recytyre. The collectors are paid by the ton of ELT collected. 5,078 collection points made use of Recytyre collectors in 2021. The local authorities can accept ELT from individuals in their Recyparcs. There is a limit for households disposing of ELT, set by regional environmental agreements.
Spain	2006	All types of tyres, excluding bicycle tyres. Replacement tyres only.	ELT from ELV are not included in the ELT EPR scheme. They are not included in the collection targets.	Two PROS, SIGNUS ECOVALOR and TNU (Tratamiento Neumaticos Usados)  There are no individual systems.	€1.18 for lightweight vehicle tyres	ELT are collected from ELT holders by collection companies who are usually paid by the ton of collected ELT. There are 30,000 collection points in Spain. Local authorities do not have to accept ELT, but households do deposit ELT at waste disposal facilities. Local authorities have contracts with TNU and SIGNUS, who collect ELT.
Italy	2011	All types of tyres, excluding bicycle and aircraft tyres, inner tubes, their covers and rubber seals. Replacement tyres only.	ELT from ELV are not included in the ELT EPR scheme. They are not included in the collection targets.	Eight PROs (usually called consortia) Ecopneus, Ecotyre, Greentire, PneuLife, Ges.tyre, Cobat tyre, Green Power,	Per lightweight vehicle tyre, for seven of the eight consortia: €2.60 (Ecopneus), €2.90 (Ecotyre), €2.30 (Greentire), €2.98 (Cobat Tyre), €2.70 (PneuLife), €2.75 (Ges.tyre), €2.65	ELT are collected from ELT holders by collection companies who are paid by the ton of transported ELT by the consortia and individual systems, with varying amounts, depending on the stakeholders. Local authorities are not normally involved in ELT management. In exceptional cases, municipal waste disposal facilities will take back old ELT, but more and more local authorities are refusing to accept this waste.

<sup>12</sup> <https://bibliothec.ademe.fr/ged/7834/european-review-of-elt-epr-schemes-report.pdf>

Country	Date of EPR implementation	Tyre categories covered by the EPR	ELT/ELV interaction	Number of PROs	EPR fee	Collection
				profile Recycling Tyre SCARL.  Individual systems are authorised and in 2021 there were 36.	(Profile Recycling Tyre)	
The Netherlands	2004	Tyres from private vehicles, such as passenger cars, light commercial vehicles (max 3500kg), and tyres from trailers or caravans. Replacement tyres only.	ELT from ELV are not included in the ELT EPR scheme. They are not included in the collection targets <sup>13</sup> .	One PRO, RecyBEM  Individual systems are authorised but the implementation of a General Binding Agreement granted to RecyBEM in 2015 introduces an obligation for all producers to join RecyBEM, and effectively ban individual systems.	€1.70 for lightweight vehicle tyres	The ELT are collected from 10,000 to 12,000 collection points in the Netherlands, which have contracts with collectors, who collect the ELT on site. The local authorities are responsible for collecting ELT from private dwellings, via waste disposal facilities. 20 collectors certified by RecyBEM receive a set payment of around €1.20 (2022) from RecyBEM for each ELT collected.

<sup>13</sup> Several difficulties have been identified in the management of ELT from ELV: • Non-approval of some of the ELV treatment facilities: management of ELT from these centres is not controlled and they end up in their ELT management system. • Lack of treatment of part of the ELT from ELV centres. • Absence of EPR fee payment when ELT from ELV are resold second-hand (loss of income for the ELT management sector).



Country	Date of EPR implementation	Tyre categories covered by the EPR	ELT/ELV interaction	Number of PROs	EPR fee	Collection
Portugal	2002	All types of tyres: vehicles tyres (mopeds, cars, agricultural, industrial or civil engineering vehicles), aircraft, trailers, bicycles and any other equipment motorised or not that contains tyres, including solid tyres.  Original equipment tyres and replacement tyres.	ELT from ELV are included in the ELT EPR scheme. ELV centres deposit their ELT from ELV directly in the collection points, managed by Valorpneu.	One PRO, Valorpneu  Individual systems are not authorised	€1.05 for lightweight vehicle tyres	ELT are collected in the 54 collection points in Portugal. In Portugal, there are no collectors to speak of, the ELT holders deposit the ELT directly at one of the collection points. The collection points are paid by the ton of ELT collected, by Valorpneu. It is then the transporters that take the ELT to the treatment centres. The local authorities in Portugal are not normally involved in ELT management, except under exceptional circumstances (e.g. Waste dumping). In these cases, the ELT may be brought to a collection point.

In the following section three case studies of EPR schemes observed by Winternitz et al. (2019)<sup>14</sup> are presented, together with an overall summary by the same author on the best practices for implementing EPR schemes for tyres.

## 2.2.1 Belgium

Belgium introduced an EPR scheme for tyres in 2004, to address the issue of waste tyre management. Belgium's governance structure plays a crucial role in the implementation of the EPR system. As a federal state with three regions (Flanders, Wallonia and Brussels), responsibilities are divided between federal and regional authorities. Each region has its sole environmental policy agreement with Recytyre, the sole PRO for tyres in Belgium. Despite the separate agreements, the regions maintain consistent collection and treatment targets.

The EPR for tyres was first introduced in Flanders, with the primary motivation being to reduce illegal tyre disposal and secondary to promote eco-design and waste prevention. The legal framework is governed by the Materials Decree and its executive order VLAREMA, which define producers as manufacturers and importers of tyres including online sellers. These regulations enforce a take-back obligation imposed by the EPR and an advanced disposal fee in the form of a visible fee. Such fees are according to the diameter of the rim in inches by type of vehicle, including: motor cycle, passenger car, light utility vehicle, heavy-duty commercial vehicle, agricultural vehicle and machinery, civil engineering and earthworks, industrial vehicles using pneumatic tyres and industrial vehicles with solid tyres.

Table 3: Examples of the environmental fee contribution for tyres by Recytyre<sup>15</sup>.

Type of vehicle	Diameter of the rim in inches	Environmental contribution (Including VAT)
Motorcycle	4" to 23" included	€1.79
Passenger Car	10" to 15" included	€2.34
	16" to 30" included	€4.55
Light utility vehicle	8" to 20" included	€5.30
Heavy-duty commercial vehicle	13" to 17.5" included	€9.53
	18" to 34" included	€21.30
Agricultural Vehicle and machinery	Up to 10" included	€1.78
Civil engineering and earthworks	Up to 22.5" included	€15.69
Industrial vehicles with pneumatic tyres	12" – 15" – 20"	€14.37
Industrial vehicles with solid tyres	15"	€27.68

Since tyres are classified as commercial waste, municipalities are not obliged to collect them. However, many municipalities voluntarily participate in tyre collection to prevent illegal dumping. The Materials Decree also outlines the framework for the environmental policy agreements between the regulator and the tyre sector. These agreements detail the practical implementation of the take-back obligation and specify the targets for collection, material recovery and energy recovery. The agreements are renegotiated every five years, allowing adjustments for its targets and scope.

<sup>14</sup> Winternitz K, Heggie M, Baird J. Extended producer responsibility for waste tyres in the EU: Lessons learnt from three case studies - Belgium, Italy and the Netherlands. Waste Manag. 2019 Apr 15;89:386-396. doi: 10.1016/j.wasman.2019.04.023.

<sup>15</sup>[https://www.recytyre.be/sites/default/files/2023-04/RCT-003130\\_Tarieffijst\\_2023\\_%20FR\\_nieuw\\_v4\\_LR.pdf](https://www.recytyre.be/sites/default/files/2023-04/RCT-003130_Tarieffijst_2023_%20FR_nieuw_v4_LR.pdf)

Recytyre<sup>16</sup> is the only PRO in Belgium. As of 2023 Recytyre<sup>17</sup> has 744 members and finances itself through membership fee. In 2023, Recytyre collected over 87,000 tonnes of waste tyres with collection rate over 100%. The management of tyres is financed through a visible fee that is charged to the customer at the time of purchase. The fee covers the collection and treatment of tyres, waste prevention programs, administration of the PRO, and any communication to the public. However, clean-up costs for illegally disposed tyres are not included and are instead covered by taxpayers. Historical stocks are partially included in the system, with the disposal costs shared between the PRO, the regional authority, and the owner of the stock.

Recytyre facilitates waste tyre collection through points of sale such as garages and tyre retailers, which are registered with them. Municipalities receive a financial compensation for tyres collected from municipal civic amenity sites. The system employs the “1-for-0” principle for collection points, mandating the acceptance of waste tyres without the purchase of new ones, capped at four tyres per household annually. Recytyre directly contracts with private collectors, who then transport tyres to the approved treatment facilities of their choice. These collectors are responsible for meeting material and energy recovery targets, and an independent consultancy sets the collection and treatment costs.

The Belgian EPR system benefits from the environmental agreements between sector and the government, offering flexibility and ensuring sector involvement. These agreements are renegotiated every five years, allowing for the readjustment of the targets and scope. This system has facilitated the inclusion of tyres from original equipment and partially historic stocks, along with phased financial compensation of municipalities for collected tyres.

## 2.2.2 Italy

Italy introduced the EPR system for tyres in 2011, with the primary objective to boost national recycling rates. The EPR system significantly improved the material recovery rate, which more than doubled within the first three years of implementation.

The main objective of Italy’s EPR for tyres was to boost national recycling rates. The system is defined by the Ministerial Decree no. 82 which outlines a take-back obligation, mandating producers to collect 100% of tyres introduced to the market in the previous year, and imposing penalties based on a visible fee for non-compliance. The highest penalty is for free-riding, which amounts to 200% of the fee for the tyres put on the market illegally. A penalty of 150% of the fee for the uncollected amount of tyres is charged for not meeting the minimum collection target. Wrong reporting is fined with 15% and late reporting with 5% of the corresponding fee per detected breach.

Tyres are considered to be waste when the garage, the main producer of waste tyres, deems they have reached end-of-life status. If a tyre is eligible for neither reuse or retread, it is an end-of-life tyre (ELT) and is handed over to waste collectors, at which point, the tyres legally become waste. The system includes an advanced disposal fee which is determined by the regulator. The PRO is required to submit the costs associated with ELT management within their scheme, annually, to form the base to establish the fee. Municipalities are not compensated for collecting illegally disposed tires, leaving some financial burden to taxpayers.

Italian legislation requires waste tyre management entities to be legally independent. Producers executing their responsibilities individually, and businesses selling tyres, regardless of their size, must form or be a member of a PRO. In 2018, 37 PROs operated in Italy, where some represent only one producer, and others represent multiple. PROs can use historical stocks to meet targets, with 30% of financial surpluses allocated for cleaning up illegal or historical stocks. Ecopneus, the largest PRO in Italy, collected 232,000 tonnes of ELT in 2022. Of the tyres collected, 225,000 tonnes underwent effective recovery whereby 47% underwent effective energy recovery and 53% effective material recovery<sup>18</sup>.

The Italian EPR system for tyres is characterised by clear legislation, incentivising garages to sort reusable tyres, resulting in high resale, retread and energy recovery rates. It includes historical stocks in its collection targets and operates on a “1-for-1” principle, meaning that collection points are only

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<sup>16</sup> <https://www.recytyre.be/nl>

<sup>17</sup> Recytyre, Annual Report, 2023, <https://indd.adobe.com/view/1480b909-5772-42a9-a75a-9df0087fe2d4>

<sup>18</sup> Ecopneus, Sustainability Report 2022, [https://www.ecopneus.it/wp-content/uploads/2023/08/0208\\_ENG\\_Ecopneus\\_Report-2022-Pagina-Singola.pdf](https://www.ecopneus.it/wp-content/uploads/2023/08/0208_ENG_Ecopneus_Report-2022-Pagina-Singola.pdf)

required to accept a waste tyre in return for a sold tyre. Transparency and traceability are mandated, with penalties for incomplete reporting.

Italy's approach to managing waste tyres includes a significant reliance on energy recovery through co-incineration in cement kilns, indicating a strong connection to the cement production sector. This coupling makes the waste tyre market vulnerable, as it heavily depends on the cement industry. The current targets in Italy primarily focus on collection rates without specific separate targets for material recovery.

The EPR system for tyres in Italy has effectively reduced the illegal disposal of tyres in the environment. However, the initial aim of boosting recycling rates has seen less success, as energy recovery rates remained relatively high in 2022. Mandatory membership in PROs increases regulatory oversight and may pose challenges in consolidating information and tracking waste flows for the competent authority. Nonetheless, PRO membership helps minimise free-riding behaviours.

### 2.2.3 The Netherlands

The Netherlands has a legislative framework for waste tyres management that dates back to 1995, with an EPR system fully operated by 2000. This system, revised in 2004, focuses on the environmentally friendly collection and processing of waste tyres. The tyres in scope are those from light vehicles up to 3.5 tonnes and tyres from trailers whereas those not in scope are bicycle, motorcycle, bus, truck, airplane, and off-road tyres and tyres from historical stocks. Similar to the Belgian legislation, the Dutch legislation does not define when exactly a tyre becomes waste. Collectors are in charge of sorting reusable and retread tyres, but it is likely that garages do so too. Producers can organise themselves either collectively through a PRO or individually.

The EPR mandates a 20% material recovery and implies a 100% collection target, primarily through a take-back obligation on a "1-for-1" basis at garages and an advanced disposal fee in the form of a visible fee. Municipalities are not obliged to collect tyres but those that choose to do so can either collect them mixed or in two streams; tyres within the scope and those not covered by the EPR system. Tyres within the scope of the EPR are collected for free from municipalities as long as they are structurally sound and clean. The tyres not covered by the EPR legislation are charged to the municipalities.

RecyBEM, the Dutch PRO was established in 2004 and plays a central role in implementing the EPR tyre system. Funded by an advanced disposal fee (example €1.70 per tyre for lightweight vehicles excluding VAT)<sup>19</sup> collected by tyre producers, RecyBEM contracts directly with collectors and treatment facilities. It voluntarily exceeds the minimum recovery rate of 20%, aiming for a 90% material recovery; this is reflected in the high reuse and retread rates achieved by RecyBEM.

It utilises a policy decision-making tool, Ecotest, to evaluate the tyre treatment options in the Netherlands, based on three key indicators: ecological impact, resource efficiency, and economic cost following the life-cycle assessment principles. Ecotest, which mainly relies on real-life data, compares various tyre treatment options to their primary resource or fuel alternatives, such as retreading versus new tyre production and incineration of tyres in cement kiln compared to incineration of hard coal, petcoke and iron ore; etc. The analysis also considers recycling outcomes like steel going to secondary production and rubber being reused in asphalt or sports fields. This assessment helps to understand the impacts of different kinds of treatment methods based on real-life data from all entities involved. The results yielded by Ecotest showed that whilst exportation of tyres for reuse and/or retreading was the least costly, it is the least environmentally favourable one. In fact, the attainment of high reuse and retreading of tyres was a result of exportation which puts this option into the limelight due to the likelihood of these being exported to nations outside of the EU, such as Africa, where end-of-life legislation is less strict and bans on landfilling of tyres are inconsistent across nations.

The Dutch system's limited tyres in scope of an EPR scheme, raises concerns about its effectiveness. Many types of tyres are not covered by the EPR system, potentially leading to their improper disposal in the environment and creating financial burdens for municipalities. Furthermore, the system's fails to address historical stocks and assign financial responsibility for their management to the entities discarding them.

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<sup>19</sup> [https://www.recybem.nl/nl/Eenmalige\\_aangiften](https://www.recybem.nl/nl/Eenmalige_aangiften)

## 2.2.4 Best Practices for Implementing EPR Schemes for Tyres

From the observations made by Winternitz et al.<sup>20</sup> of EPR schemes for tyres in EU Member States their study showed that most EPR systems for waste tyres are structured around a take-back obligation coupled with an advanced disposal fee. The take-back obligation assigns physical responsibility to the producer, while the fee covers the financial aspect. The authors observed that many systems have implemented the advanced disposal fee as a visible charge, which offers transparency to consumers and aids in detecting free-riders.

Winternitz et al. noted that the main objectives of EPR include increased waste collection, waste reduction, resource efficiency, and eco-design. Based on case studies of EPR schemes in Belgium, Italy, and the Netherlands described previously, EPR for tyres has been partially successful in these areas. There is no conclusive evidence that EPR schemes for tyres leads to improvements in waste reduction or advances in eco-design. However, EPR schemes for tyres have been found to enhance resource efficiency by boosting recycling rates, potentially replacing virgin materials with recycled ones. Additionally, EPR has effectively increased tyre collection rates.

The research strongly suggests that EPR for tyres has proven to be a valuable tool in preventing future illegal disposal and assisting in the removal of historical illegal stockpiles through increased collection. To achieve high resource efficiency, the research suggests that legal targets for material recovery should be established. This is supported by the Italian case, which has the highest energy recovery rate among the case studies due to the lack of legal material recovery targets.

Winternitz et al. observed that EPR has the potential to elevate waste tyre treatment up the waste hierarchy. However, reuse and retreading are only environmentally beneficial if the local market for these tyres can be expanded. Once tyres are exported, their environmental performance diminishes significantly. Exported tyres often end up in countries with less stringent waste regulations, potentially leading to waste management practices at the bottom of the waste hierarchy. Therefore, for waste tyres, the authors argued that recycling is considered the most desirable treatment option after local reuse and retreading have been maximised.

Thus, Winternitz et al, concluded through analysis of the case studies that the primary tools to climb the waste hierarchy ladder include:

- Clear goals which are essential but achieving them requires quantitative targets. Among the case studies, Belgium, which has quantitative targets, achieved the best results, indicating that such targets improve treatment performance. Therefore, setting material recovery targets is necessary, and capping less desirable methods like energy recovery may be needed for optimal results. A take-back obligation should be paired with a 100% collection target.
- Legislation should clearly define when a tyre becomes waste to maximise local reuse and retread opportunities. The Italian legislation exemplifies this, incentivising garages to focus on reuse and retread, resulting in the highest local rates and lowest export rates for these activities.

However, the cases of Italy and the Netherlands show that an EPR system alone does not ensure environmentally sound waste treatment. An EPR system must be well-designed, implemented, and enforced to meet its objectives. PROs tend to choose the most economical treatment options within the legal framework, which in Italy is energy recovery and in the Netherlands is export for reuse or retread. Therefore, legislation should clearly target the most desired treatment methods.

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<sup>20</sup> Winternitz K, Heggie M, Baird J. Extended producer responsibility for waste tyres in the EU: Lessons learnt from three case studies - Belgium, Italy and the Netherlands. *Waste Manag.* 2019 Apr 15;89:386-396. doi: 10.1016/j.wasman.2019.04.023.



## 3. PESTEL Analysis

The nature of the EPR for tyres depends on multiple external factors that influence the feasibility and design of the scheme. For a comprehensive understanding and to thoroughly evaluate these factors, a PESTEL analysis was undertaken. By implementing this strategic tool, a deeper understanding of the waste scenario in Malta is explored.

Understanding the external factors influencing the project is fundamental to making well-informed decisions. By examining political, economic, social, technological, environmental, and legal factors the opportunities and challenges that may arise during the setting up and implementation of an EPR can be determined.

### 3.1 Political

Malta's waste management industry is influenced by the country's political environment including government policies and priorities, and waste management strategies. The management of the end-of life of tyres is a growing concern due to road safety requirements and regulations, whereby tyres are frequently replaced, resulting in significant volumes of waste tyres generated annually across the Maltese Islands.

#### 3.1.1 European Environment Agency (EEA)

In their report<sup>21</sup> titled 'Accelerating the circular economy in Europe: State and outlook 2024', the European Environmental Agency (EEA) expressed that EPR schemes should be expanded to cover more product categories, particularly where environmental impacts are significant and material recovery potential is high. The agency further stated that by factoring future environmental costs throughout a product's life cycle into its market price, EPR schemes have proven effective in promoting better waste collection and processing practices. Despite some administrative challenges, the application of these schemes to additional product streams aligns with the broader goals of the Ecodesign for Sustainable Products Regulation (ESPR). New EPR initiatives should include eco-modulated fees from the outset, incentivising producers to design products with greater reparability and durability.

#### 3.1.2 European Economic and Social Committee (EESC)

The European Economic and Social Committee (EESC) is the voice of organised civil society in Europe. It represents employers, workers and civil society organisations. The expertise of its 329 members helps optimise the quality of EU policies and legislation.

In their opinion on the EU Action Plan for the Circular Economy of 2015<sup>22</sup>, the EESC welcomes the introduction of minimal requirements for EPR schemes; however, it states that it is necessary to further clarify roles and liabilities of the various stakeholders along the chain, and that EPR schemes should be mandatory for adoption by Member States. The EESC also highlights the need for viability testing before introducing any new measures.

#### 3.1.4 National Government and Regulatory Bodies

In an EPR scheme for tyres, national governments, local authorities, and environmental agencies are critical stakeholders due to their role in policy creation, enforcement, and oversight. Government plays a central role in EPR schemes, holding responsibility for legislating, enforcing, and overseeing compliance. They set the regulatory framework, defining producer obligations, recycling targets, and penalties for non-compliance. Their influence is substantial, as they determine the stringency of regulations and the scheme's overall structure, while shaping the political narrative on environmental issues. Governments must balance environmental sustainability with economic competitiveness, weighing factors like reducing landfill waste, promoting circular economy practices, and aligning with

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<sup>21</sup> <https://www.eea.europa.eu/publications/accelerating-the-circular-economy>

<sup>22</sup> <https://www.eesc.europa.eu/en/our-work/opinions-information-reports/opinions/circular-economy-package>

international agreements like the Basel Convention. They also navigate complex political pressures from industry lobbyists, environmental groups, and consumer interests.

Malta's Long-Term Waste Management Plan 2021-2030<sup>23</sup> highlights the need to shift from a "consume and throw away" mentality to a circular economy. A key focus is the feasibility of an enhanced producer responsibility framework to reflect the true cost of waste management and support this transition. The plan aims to improve existing EPR schemes, ensuring producers cover waste management costs, and extend EPR obligations to more waste streams, such as that for end-of-life tyres, which have significant recycling and recovery potential in various industries (WMRO\_EPR27).

Malta's Recovery and Resilience Plan<sup>24</sup> includes measures for climate neutrality, energy efficiency, and a circular economy. To strengthen waste management, the plan highlights the potential of EPR schemes. Milestone 1.6 involves a feasibility study on expanding EPR to additional waste streams, including tyres. Milestone 1.7 builds on this by introducing legislation based on the study's findings, potentially regulating an EPR scheme for tyres.

Environmental agencies are tasked with monitoring compliance with environmental laws and assessing the environmental impact of waste tyres. As watchdogs of the EPR system, they ensure that producers adhere to regulations and that waste management practices meet environmental standards. Their supervision is essential for maintaining public and ecological health, making them indispensable stakeholders in any EPR framework. In Malta such a role is the responsibility of the Environment and Resources Authority, which is the national regulator on the environment including waste management.

### 3.1.5 Tyre Producers

Tyre producers are directly impacted by EPR schemes covering tyres, as they would be responsible for the waste management of tyres, including the processes for collecting, recycling, and disposing of tyres at the end of their life cycle. They would bear the financial, and in some cases, logistical responsibilities. Their influence is strong, often shaping the scheme's design through direct participation in regulatory drafting or lobbying efforts via trade unions and employee associations. These stakeholders seek to minimise costs, prevent operational disruptions, and protect their market competitiveness. While they may explore innovations like designing more recyclable tyres, they typically resist regulations they perceive as overly costly or burdensome.

In this regard, stakeholder consultations were held to discuss the topic with a number of stakeholders involved in the tyre sector. The discussion focused on several key aspects, including their current practices for tyre waste collection and the financial costs involved. It was also highlighted that, in addition to excise duty, tyre producers are also subject to other fees, including anti-dumping and countervailing fees for certain non-EU imports. Moreover, stakeholders also highlighted that they perceive the excise duty as effectively replacing the previous eco-contribution, viewing it as a form of waste management funding. As such, many expressed concerns that implementing an EPR for tyres alongside the excise duty could lead to double charging for tyre waste management.

### 3.1.6 Consumers

Consumers would also be impacted by the introduction of EPR schemes for tyres. They are mainly concerned with convenience and cost, preferring accessible disposal options and resisting price increases. Consumer education will play a critical role in the success of any EPR scheme for tyres. The effectiveness of tyre waste management depends not only on businesses fulfilling their regulatory obligations but also on consumers participating in the proper disposal and recycling of tyres. Producers will need to invest in public awareness campaigns to educate consumers about the importance of recycling tyres and how to do so correctly. This could involve significant marketing and outreach expenses, which would add to the overall cost of complying with a potential EPR scheme. Without sufficient consumer education, the scheme might struggle to achieve its intended environmental benefits, leading to inefficiencies and higher costs over time.

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<sup>23</sup> <https://era.org.mt/waste-management-landfill-amendment-regulations-2020/#:~:text=The%20new%20provisions%20state%20that,in%20the%20Directive%20are%20met.>

<sup>24</sup> <https://fondi.eu/wp-content/uploads/2023/11/Malta-Recovery-and-Resilience-Plan-2023-7.11.2023.pdf>

### 3.1.7 Waste Management Companies

Local waste management companies are crucial to EPR schemes, handling the collection, transportation, and sorting of used tyres. They provide essential infrastructure and expertise for effective tyre management. Although less influential than producers, they can lobby for favourable contracts and regulations that boost investment in recycling technologies. Their primary concerns include maximising profits through securing waste collection contracts and for sorting operations, while advocating for clear standards and incentives for technological innovation in recycling.

### 3.1.8 Environmental NGOs

Environmental NGOs, play a watchdog role, advocating for stricter regulations, higher recycling targets, and greater environmental responsibility from producers. They exert significant political pressure through public campaigns, lobbying, and stakeholder consultations, holding governments and businesses accountable to environmental standards. Their key concerns include maximizing environmental benefits, reducing waste, lowering carbon footprints, and promoting circular economy practices. At present in Malta, there is no NGO that primarily focuses on tyres however, the NGO Żibel organises clean ups that yield a significant number of tyres some of which reveal a historic dumping with some tyres being at least 40 years old.

### 3.1.9 Trade Unions and Employers' Associations

Trade unions and employers' associations play a crucial role in shaping EPR schemes by representing the interests of businesses and workers.

Employers' associations aim to minimize regulatory and financial burdens, advocating for cost-effective, flexible regulations, tax incentives, and exemptions for small businesses. They support voluntary industry standards and focus on the impact of EPR on international trade and competitiveness. Through their political influence, they lobby governments and negotiate favourable terms.

Trade unions, on the other hand, prioritise job security, working conditions, and the effects of EPR schemes on workers. They emphasize protecting jobs, particularly in waste management and recycling, and advocate through collective bargaining, social dialogue, and collaboration with environmental groups to ensure EPR schemes balance sustainability with workers' rights.

## 3.2 Economic

Malta's waste management industry is influenced by the country's limited land resources and high population density. The management of waste tyres is a growing concern given that tyres are frequently replaced due to road safety requirements and regulations and thus the level of tyre waste generated annually in Malta is not insignificant.

### 3.2.1 General economic indicators

The current economic context for the Maltese Islands sets out the existing backdrop against which this Project is being proposed. These figures are based on the latest publicly available data issued by the National Statistics Office (NSO) and Eurostat. In this respect, the indicators for 2020 include the impact of the COVID-19 pandemic and therefore should be analysed within this context.

Some key economic indicators for both Malta are outlined and compared below:

Table 4: General Economic Indicators

Economic Indicator	2020	2021	2022	2023
Population	514,564	516,100	520,971	542,051
GDP at market prices (€ bn)	11.9	13.8	15.7	17.7
Real GDP growth (%)	-10.9%	11.9%	5.2%	2.6%
Real GDP per capita (€)	20,850	23,340	24,570	25,200
Average disposable income (€)	31,266	32,590	34,814	37,275
Total consumption expenditure (€m)	2,756	3,009	3,189	3,403
Consumption expenditure: purchase of vehicles (€m)	176	189	230	255
Purchase of vehicles expenditure per capita (€)	342	366	441	470
Purchase of vehicles expenditure as % of total consumption	6.4%	6.3%	7.2%	7.5%
Inflation rate (%)	0.8%	0.7%	6.1%	5.6%
Annual average rate of change of HICP: purchase of vehicles (%)	1.1%	0.2%	5.2%	3.1%
Annual average rate of change of HICP: tyres (%)	3.7%	6.5%	14.1%	3.0%

Sources: Eurostat and NSO

### 3.2.2 Economic developments and their impact on tyre waste generation

The recent economic developments in Malta have had a noticeable impact on waste generation patterns, including in the area of tyre waste. The increase in population, from 514,564 in 2020 to 542,051 in 2023, has contributed to this trend. As the population grows, so does the demand for transportation, leading to a higher usage of tyres across various sectors, including personal vehicles, commercial transport, and industrial equipment. This demographic expansion is a significant driver of tyre waste, as more tyres are required to meet the needs of a larger population, resulting in increased tyre replacement and disposal.

Malta's rising economic activity is also a key factor, as evidenced by the growth in GDP per capita from €20,850 in 2020 to €25,200 in 2023. This increase in economic output per person indicates improved living standards and a greater capacity for consumer spending, which extends to tyres. Higher income levels enable individuals and businesses to invest in new tyres more frequently, whether for personal vehicles, commercial fleets, or industrial applications. This trend directly correlates with the increase in tyre waste, as more tyres are purchased and eventually discarded.

Additionally, consumption expenditure on vehicle purchases in Malta also saw a substantial increase, rising from €176 million in 2020 to €255 million in 2023, representing a 45% growth. This increase outpaced the 5% growth in population during the same period, highlighting a rise in per capita spending on vehicles. This surge in expenditure is closely linked to tyre waste, as more vehicles on the road mean a higher demand for tyres. As vehicles are purchased and used, tyres wear out and need to be replaced, leading to more tyre waste. This pattern highlights the connection between vehicle ownership and tyre waste generation.

The annual average rate of change of the Harmonised Index of Consumer Prices (HICP) for vehicle purchases also saw an increase from 1.1% in 2020 to 3.1% in 2023. This increase in HICP indicates rising costs associated with vehicle ownership. Moreover, the annual rate of change of the HICP for tyres saw a higher increase from 3.7% in 2020 to 3.0% in 2023 with a spike to 14.1% in 2022 suggesting

an increase in the cost of tyre replacement. Such relatively high price growth for tyres may have had an effect on consumption habits, somewhat dampening the increase in tyre waste generation. In summary, the combination of population growth, rising GDP per capita, higher consumption expenditure on vehicles, and the increasing HICP for vehicle purchases has created a situation where tyre waste generation in Malta is on the rise. These economic factors are likely to continue driving the increase in tyre waste, posing challenges for waste management systems and underscoring the need for sustainable practices to mitigate the environmental impact.

### 3.2.3 Economic implications of tyre waste management in Malta

The potential introduction of an EPR scheme for tyres in Malta could have significant economic implications for businesses across multiple sectors. Currently, tyre waste management is not mandatory under a formal EPR scheme, meaning that businesses involved in the sale and distribution of tyres are not yet financially or operationally responsible for the lifecycle of these products. However, if an EPR for tyres is introduced, the economic landscape for businesses could change substantially, imposing new costs and operational requirements.

Tyre producers will be required to pay for EPR fees for the tyres they place on the market in Malta. Another economic challenge associated with a potential EPR scheme for tyres is the increased regulatory burden that it would place on producers, importers, and retailers. Implementing and enforcing compliance with EPR regulations would require substantial administrative resources. Businesses would need to develop systems for tracking, reporting, and ensuring that they meet their obligations under the new scheme. This might involve investing in compliance software, expanding their regulatory teams, or outsourcing these tasks to third-party compliance experts. Smaller businesses, in particular, could find these requirements challenging, as they may lack the necessary resources to manage the increased administrative workload efficiently.

Moreover, efficiently recycling tyre waste requires specialised technologies, such as advanced mechanical recycling processes, which are not available in Malta. Developing or importing these technologies could be costly and time-consuming, adding to the economic burden on businesses. Additionally, the need for ongoing innovation to improve recycling efficiency and reduce environmental impact could drive up costs further, particularly for companies that are directly involved in the tyre sector. Furthermore, taking in consideration the Maltese context and the lack of economies of scale, such technology might not be feasible in Malta.

Despite these challenges, the introduction of an EPR scheme for tyres in Malta could also create economic opportunities. The push for sustainable practices and recycling innovation could drive technological advancements, potentially leading to the development of new products and processes within the tyre industry.

### 3.2.4 Concluding insights

Opportunities	Challenges
<p><b>Job creation and economic growth:</b> The establishment of recycling facilities and the expansion of the tyre waste management sector have created new employment opportunities. Jobs range from collection and processing to research and development of recycling technologies, thereby contributing to economic growth.</p>	<p><b>Infrastructure and technology investment:</b> Developing efficient infrastructure for tyre collection, sorting, and recycling requires substantial investment. Ensuring the availability of advanced recycling technologies that can handle different types of tyre waste poses a challenge, particularly for a small island nation like Malta.</p>
<p><b>Resource recovery and revenue generation:</b> Recycling tyre waste into valuable products like crumb rubber for road construction and other industrial applications not only reduces environmental impact but also could generate revenue through export opportunities. This could contribute positively to Malta's trade balance and economic diversification.</p>	<p><b>Market development:</b> While there is potential for revenue from recycled tyre products, developing a stable market for these products both domestically and internationally remains a challenge. Market fluctuations and competitive pricing from other sources of raw materials can impact profitability. Currently, there is a cost when exporting waste tyres for recovery or recycling.</p>



Opportunities	Challenges
	<p><b>Public awareness and behaviour change:</b> Encouraging responsible tyre disposal practices among the public and businesses is essential but challenging. Increasing public awareness about the benefits of recycling tyres and the consequences of improper disposal requires ongoing educational campaigns and regulatory enforcement.</p>

In summary, the potential introduction of an EPR scheme for tyres in Malta could lead to increased costs and operational challenges for businesses. However, it may also foster broader opportunities, such as improved resource efficiency and innovation in waste management practices, which could indirectly support economic activity.

## 3.3 Social

### 3.3.1 Consumption patterns

- Motor vehicle dependency:** It can be argued that there appears to be increased awareness at some level as to the importance of alternative modes of transport, given, for example, the use of e-scooters and bus travel. However, data related to motor vehicles in Malta implies that this shift in mentality is still very much in its infancy and has not translated into decreased dependency on motor vehicles in Malta. In fact, the number of motor vehicles on Malta's roads continues to increase, with the amount of passenger vehicles rising from 300k to 324k and motorcycles from 27k to 38k between 2018 and 2023 respectively.<sup>25</sup>
- Limited evidence of a shift towards sustainability:** While there would appear to be evidence of such a shift in the case of textiles (e.g. the proliferation of thrift shops), in the case of tyres this appears to be more lagging. During an interview to a local newspaper, Malta's Cleansing Director expressed concerns over the increasing illegal dumping in secluded, rural areas, particularly of tyres, car bumpers and construction waste.<sup>26</sup> However, concrete data on littering of tyres is not available. Hence, increasing public awareness about the benefits of recycling tyres and the consequences of improper disposal requires ongoing educational campaigns and regulatory enforcement.

### 3.3.2 Public awareness

- Public awareness and perception appears low:** The Long Term Waste Management Plan 2021 – 2030, published by the Ministry for the Environment, Climate Change and Planning in 2021 makes reference to the fact that, due to road safety requirements and regulations, tyres are replaced frequently, resulting in large volumes of end-of-life tyres generated across the Maltese Islands every year. The management of end-of-life tyres is subject to the provisions governing duty of care as laid down in the Waste Regulations, whereby the waste generator and/or holder has the responsibility to ensure that waste is managed in an environmentally sound manner. While specific studies on citizens' perceptions regarding the correct and environmentally sound disposal of tyres are not widely available, it is generally recognised that increased public awareness and education on proper tyre disposal practices could enhance environmental outcomes. Raising awareness about these practices is a key component of promoting more sustainable waste management. In fact, the Long Term Waste Management Plan points to the need for a specific EPR in this regard, not just as means to increase public awareness but also to finance and organise more efficient and sustainable waste management practices.

<sup>25</sup> NSO NR 021/2024 publication 'Motor Vehicles: Q4/2023'

<sup>26</sup> Times of Malta – 'Illegal dumping is on the rise'

### 3.3.4 Social impact and public acceptance of an EPR on tyres

- The introduction of an EPR scheme for tyres in Malta could face social resistance, particularly from low-income households and budget-conscious consumers. Low-income households might perceive the scheme as an added financial burden, especially if it leads to higher prices for tyres or related services. Budget-conscious consumers, who prioritise affordability, may also resist the scheme if it results in increased costs for tyre purchase or disposal. The societal impact could be mixed; while some segments might view the EPR as a positive step toward reducing environmental harm and promoting sustainability, others may oppose it if they believe the costs outweigh the benefits.
- To ensure broad public support, targeted outreach strategies are essential. Communication efforts should focus on highlighting the long-term economic and environmental benefits of proper tyre disposal, such as reducing waste and preventing pollution. Collaborating with community leaders, industry representatives, and influencers to advocate for the initiative can help build widespread acceptance and foster a sense of shared responsibility among all stakeholders.

## 3.4 Technological

When considering tyre waste management, various technological factors may play a role in determining the efficiency, environmental impact, and overall effectiveness of the processes involved. These can be split between recycling technologies, energy recovery technologies, automation (sorting and separation), monitoring and regulatory and compliance technologies.

### 3.4.1 Re-use, Preparation for re-use and Recycling technologies

- The re-use of tyres plays a key role in reducing waste and promoting sustainability. A key technological consideration is the establishment of clear criteria to distinguish between used tyres that are still fit for re-use and those that should be classified as waste. This distinction is essential to ensure that only tyres meeting safety and performance standards are reintroduced into the market, while those deemed unfit are directed towards appropriate waste treatment processes. The assessment of tyre re-usability requires expert evaluation, typically conducted by certified professionals within the tyre industry or specialised waste management sectors. These experts assess tyres based on a variety of criteria, including tread depth, structural integrity, and the absence of significant damage, such as sidewall cracks or punctures. The evaluation process often involves both visual inspection and the use of diagnostic tools to measure critical parameters like tread wear and internal damage. The assessment must be performed by qualified personnel who are trained in tyre safety standards and regulations, ensuring that only tyres that meet the stringent criteria are considered for re-use. This expert-driven approach not only helps in minimising waste but also in maintaining public safety by preventing substandard tyres from returning to the market.
- A relevant technology is "retreading," where worn tyres are refurbished by replacing the tread. Retreading is a critical operation in preparing tyres for re-use, effectively extending their lifespan and reducing the need for new tyres.
- Recycling technologies for tyre waste management are crucial for reducing environmental impact and reclaiming valuable resources from end-of-life tyres. Mechanical recycling, one of the most established methods, involves shredding tyres into smaller particles that can be used in applications such as rubberised asphalt, playground surfaces, and various industrial products.
- These technologies not only minimise waste but also reduce the need for virgin materials in manufacturing.

### 3.4.2 Energy Recovery Technologies

- **Tyre-Derived Fuel (TDF):** Waste tyres can be used as a fuel source in cement kilns, paper mills, and power plants. Enhancements in combustion technologies can reduce emissions and increase energy efficiency in these applications.
- **Gasification and Plasma Arc Technologies:** These methods convert tyre waste into synthetic gas or electricity, with reduced environmental impact compared to traditional incineration. Innovations in these technologies can improve energy yield and minimise secondary output materials, ensuring more efficient and cleaner energy recovery.

### 3.4.3 Automated Sorting and Separation Technologies

- **Automated Sorting Systems:** These systems use AI and machine learning to sort tyres by size, type, and material composition, improving the efficiency of the recycling process.
- **Separation Technologies:** Techniques for separating steel, textile, and rubber components from tyres have advanced, allowing for more effective material recovery.

### 3.4.4 Monitoring and Data Analytics

- **Sensor Technology:** Integrating sensors into tyres to monitor their condition and predict their end of life can help in planning more efficient recycling operations.
- **Data Analytics:** Using big data and AI to optimise tyre waste management operations, from collection to recycling, based on real-time data.

### 3.4.6 Assessing technological readiness and barriers to adoption in Malta's tyre waste management

While the technological advancements in tyre waste management, such as recycling, energy recovery, and automated sorting systems, present significant potential for improving sustainability, the readiness and accessibility of these technologies in Malta remain critical considerations, particularly noting the very limited amounts of waste tyres generated locally. Currently, the adoption of advanced technologies in Malta may face several barriers, including high initial capital costs and the need for specialised technical expertise. The small scale of Malta's market represents a major limitation for the implementation of such technologies in a cost-effective manner. Furthermore, the availability of skilled personnel to operate and maintain these systems is essential but may be limited, potentially hindering the effective deployment of these technologies. To overcome these challenges, Malta may need to explore partnerships with international technology providers or invest in capacity-building initiatives to ensure that the necessary technical skills are developed locally. Alternatively, considering the very limited tonnage of waste tyres generated locally, Malta could also export the collected tyres to state-of-the-art facilities in the EU and outside the Union.

## 3.5 Environmental

Due to road safety requirements and regulations, tyres are frequently replaced, resulting in significant volumes of waste tyres generated annually across the Maltese Islands. End-of-life tyres hold substantial recovery potential, especially through recycling, as they can substitute raw materials such as rubber and metal in various industrial and recreational applications. From an environmental perspective, the current environmental challenges due to tyre waste will be assessed.

### 3.5.1 Climate Change

Throughout the life cycle of a tyre, from production to disposal, energy use is central. Tyre manufacturing requires natural rubber, synthetic rubber, and various chemicals derived from fossil fuels. The extraction and processing of these materials generate greenhouse gas emissions whilst the

production process is energy-intensive, relying heavily on fossil fuels, which contributes to CO<sub>2</sub> emissions<sup>27</sup>.

### 3.5.2 Resource Consumption and Chemical Pollution

Tyres are primarily made from rubber (both natural and synthetic), petroleum-based products, steel, and various chemicals. Extracting these resources has significant environmental impacts:

- Natural Rubber: comes from rubber tree plantations, often in tropical areas, leading to deforestation, biodiversity loss, and habitat destruction.
- Synthetic Rubber: Derived from petroleum, the production of synthetic rubber involves the extraction and refinement of oil, which is energy-intensive and contributes to carbon emissions.

As tyres wear down through normal use, they release small rubber and plastic particles into the air, water and soil. These particles are composed of microplastics, metals, and chemicals, and they are a significant source of air, water and soil pollution. Moreover, as tyre particles make their way into ecosystems, they can be ingested by wildlife, including soil animals, fish, and other animals, leading to harmful effects on their health and survival rates<sup>28</sup>.

### 3.5.3 Circular Economy

In the European tyre industry, circular economy begins with designing tyres for optimal performance and longevity. European tyre manufacturers have made significant strides in using raw materials sustainably during production, reducing waste, and replacing materials that hinder tyre recycling. Advanced vehicle technologies now assist drivers in maintaining tyres optimally, such as monitoring tyre pressure and load, which extends tyre lifespan and enhances resource efficiency.

Tyres are designed to facilitate repair and remanufacturing, particularly in the case of truck tyres, which can be retreaded multiple times. At the end of their life, tyres are collected and treated through End-of-Life Tyres (ELT) Management Companies across EU countries, operating under EPR systems. In 2019, 95% of ELTs were collected and processed for material recycling and energy recovery across 32 countries (EU27, Norway, Serbia, Switzerland, Turkey, and UK), reflecting a 4% increase from 2018<sup>29</sup>.

Secondary raw materials derived from ELTs are crucial resources for various applications such as rubber infills for artificial turfs, and moulded rubber products, such as wheels, for dustbins wheelbarrows. Retreading is a prime example of circular economy principles in action, significantly reducing waste and raw material use, while also cutting CO<sub>2</sub> emissions<sup>30</sup>.

### 3.5.4 Illegal Dumping

Although the EU banned landfilling of tyres in 2003 (EC Directive 1999/31), many tyres are still either illegally landfilled or go unaccounted for in official waste records as reported by the European Recycling Industries' Confederation<sup>31</sup>. This discrepancy is partly due to a gap between the number of new tyres entering the market and the quantity of waste tyres properly managed or recorded, highlighting potential illegal disposal practices or data inconsistencies. NGO entity, Żibel, has organised multiple clean-ups since 2017 with tyres being a major waste find<sup>32,33</sup>. This shows how tyres in Malta have been discarded illegally along the years, especially in the past and particularly in the marine environment.

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<sup>27</sup> Yahong Dong, Yating Zhao, Md. Uzzal Hossain, Yan He, Peng Liu, Life cycle assessment of vehicle tires: A systematic review, *Cleaner Environmental Systems*, Volume 2, 2021, <https://doi.org/10.1016/j.cesys.2021.100033>

<sup>28</sup> Yu Wang et al., A review of tire wear particles: Occurrence, adverse effects, and control strategies, *Ecotoxicology and Environmental Safety*, Volume 283, 2024,

<sup>29</sup> [https://www.etrma.org/wp-content/uploads/2021/05/20210520\\_ETRMA\\_PRESS-RELEASE\\_ELT-2019.pdf](https://www.etrma.org/wp-content/uploads/2021/05/20210520_ETRMA_PRESS-RELEASE_ELT-2019.pdf)

<sup>30</sup> <https://www.etrma.org/key-topics/circular-economy/#:~:text=Circular%20Economy%20is%20a%20system,both%20optimal%20performance%20and%20longevity.>

<sup>31</sup> [https://euric.org/images/Brochures/EuRIC\\_MTR\\_mechanical\\_tyre\\_recycling\\_Fact\\_sheet.pdf](https://euric.org/images/Brochures/EuRIC_MTR_mechanical_tyre_recycling_Fact_sheet.pdf)

<sup>32</sup> <https://timesofmalta.com/article/volunteer-divers-find-skip-loads-of-tyres-and-plastic-in-just-five.724069>

<sup>33</sup> <https://tvmnews.mt/en/news/watch-248-tyres-collected-from-ta-xbiex-marina-seabed/>

## 3.6 Legal

The legal landscape plays a crucial role in shaping EPR schemes. Understanding the legal aspects is essential for ensuring compliance and achieving the intended environmental and economic benefits of the scheme.

### 3.6.1 Waste Regulations (S.L.549.63)

The EU Waste Framework Directive 2008/98EC<sup>34</sup> was transposed into Maltese law under the Waste Regulations, S.L. 549.63<sup>35</sup> which does not specifically address the waste management of tyres. However, the WFD lays down the provisions for the management of the products that have reached their waste status and that would include end-of-life tyres. Member States are obliged to take all measures necessary to ensure that such products are treated and disposed of in an environmentally sound manner and that it poses no risk to humans.

### 3.6.2 Waste Management (Landfill) Regulations (S.L.549.29)

The Waste Management (Landfill) Regulations (S.L. 549.29)<sup>36</sup> implement the EU Landfill Directive 2018/850<sup>37</sup> into Maltese law regulating landfill use to significantly reduce the amount of waste sent to landfills, especially recyclable and recoverable materials.. EPR schemes are designed to support these goals by promoting waste reduction and recycling through improved product design. The disposal of whole and shredded tyres is not allowed at landfills in accordance with Regulation 6 of the Waste Management (Landfill) Regulations S.L. 549.29.

### 3.6.3 Waste Management (Shipments of Waste) Regulations (S.L. 549.65)

The EU Waste Shipment Regulation is implemented in Malta by S.L. 549.65, the Waste Management (Shipment of Waste) Regulations<sup>38</sup>. This regulation regulates the cross-border movement of waste to ensure environmentally sound management and protect human health. This regulation aligns with the EU Waste Framework Directive and the Basel Convention, focusing on preventing illegal dumping and ensuring safe handling.

Key updates include digitalisation of shipment processes, monitoring exports to OECD countries, requiring independent audits for waste sent to non-EU countries, and stricter rules governing exports of green-listed waste to non-OECD countries. Also noting that end-of-life tyres are currently exported to non-OECD countries, EPR schemes must adhere to these regulations to ensure proper management of waste during international transport.

### 3.6.4 Extended Producer Responsibility Framework Regulations (S.L. 549. 141)

In 2021, Malta adopted the Extended Producer Responsibility (EPR) Framework Regulations (S.L. 549.141)<sup>39</sup>, aligning with the EU Waste Framework Directive. These regulations establish a framework for EPR schemes, aiming to shift waste management responsibilities from municipalities to producers, thereby reducing environmental impact and improving recycling.

Under the regulations, producers are responsible for the full cost of managing their products' waste, including collection, transportation, and treatment. The Minister can mandate EPR schemes for products not required by EU law, considering technical, economic, and environmental factors. Producers must design products for easier recycling and disposal, and set up waste collection systems within their market areas.

<sup>34</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32008L0098#>

<sup>35</sup> <https://legislation.mt/eli/sl/549.63/eng/pdf>

<sup>36</sup> <https://legislation.mt/eli/sl/549.29/eng/pdf>

<sup>37</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32018L0850>

<sup>38</sup> <https://legislation.mt/eli/sl/549.65/eng/pdf>

<sup>39</sup> <https://legislation.mt/eli/sl/549.141/eng>



The regulations ensure equal treatment of producers, avoid excessive burdens on small businesses, and allow producers from other EU countries to appoint representatives in Malta.

The general minimum requirements for EPR and additional related rules are to be reflected in any national legislative initiative establishing an EPR scheme.

### 3.6.5 Waste Management (End of Life Vehicles) Regulations (S.L. 549.36.)

The Waste Management (End of Life Vehicles) Regulations (S.L. 549.36)<sup>40</sup>, which transposes the End of Life of Vehicles Directive (2000/53/EC)<sup>41</sup> into national legislation, focus on preventing vehicle waste and promoting the re-use, recycling, and recovery of end-of-life vehicles (ELVs) and their components. These regulations also aim to improve the environmental performance of all stakeholders involved, particularly those handling ELVs. The principles of EPR are introduced, requiring economic operators (producers, collectors, insurers, dismantlers, etc.) to use or establish systems for collecting ELVs and, where feasible, parts removed during vehicle repairs.

### 3.6.6 Excise Duty Act - Chapter 382

As outlined in Section 1, in 2015, an excise duty was introduced on pneumatic tyres that are imported and sold on the Maltese market. According to Schedule Five B of the Excise Duty Act<sup>42</sup>, all tyres except bicycle tyres are subject to an excise duty of €0.70 per kilogram up to €24.50 per item. Any EPR fees which may be introduced therefore need to be taken in the context of the excise duty paid on tyres, as the perception amongst stakeholders is that the excise duty is already a form of eco-contribution, despite it being a fiscal measure not linked to waste management.

## 3.7 Concluding remarks

As highlighted throughout the analysis of each PESTEL factor, and summarised in the table below, the introduction of an EPR scheme for tyres would present a range of benefits across various areas, including environmental sustainability, economic growth, and improved regulatory compliance. However, it would also bring several challenges that must be carefully considered and addressed to ensure its success. These challenges include potential financial burdens on producers, consumers, and the need for continuous governmental support and stakeholder collaboration. These pros and cons will be further explored with evidence-based data and detailed analysis in the upcoming sections of this study, providing a more comprehensive understanding of the EPR scheme's potential impact.

Table 5: PESTEL analysis - pros and cons

Factor	Pros	Cons
<b>Political</b>	EU and national institutional stakeholders are putting forward proposals advocating producer responsibility in relation to different waste streams. Most other EU member states have in fact introduced EPR for tyres.	Dependence on government and various stakeholders may result in inconsistent enforcement or policy shifts. Furthermore, during stakeholder consultations, a general perception emerged amongst producers that implementing an EPR for tyres alongside the excise duty could be perceived as double charging for tyre waste management.
<b>Economic</b>	The combination of population growth, rising GDP per capita, and higher consumption expenditure on vehicles has created a situation where tyre waste generation in Malta is on the rise. These economic factors are likely to continue driving the increase in tyre waste, posing challenges for waste management systems and underscoring the need for sustainable	Tyre producers will be required to pay for EPR fees for the tyres they place on the market in Malta, which is likely to be passed on to consumers. Another economic challenge associated with a potential EPR scheme for tyres is the increased regulatory burden that it would place on producers, importers, and retailers.

<sup>40</sup> <https://legislation.mt/eli/si/549.36/eng/pdf>

<sup>41</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32000L0053>

<sup>42</sup> <https://legislation.mt/eli/cap/382/eng/pdf>

Factor	Pros	Cons
	practices to mitigate the environmental impact.	
<b>Social</b>	A potential EPR for tyres would encourage community participation through proper tyre disposal practices.	There may be resistance from consumers to higher product prices, as costs may be passed down from producers.
<b>Technological</b>	An EPR scheme could incentivise innovation in tyre recycling technologies and processes, albeit this does not seem feasible in the context of the volume of tyre waste in Malta.	Limited access to advanced recycling technology for tyres in Malta, primarily driven by the limited volumes of tyre waste, may result in higher operational costs.
<b>Environmental</b>	Tyre waste negatively impacts the environment including pollution, chemical leachates, greenhouse gas emissions, amongst others	If improperly managed, the environmental benefits of an EPR scheme may be offset by inefficient waste handling.
<b>Legal</b>	An EPR legal framework is already in place for other waste which could be used as a basis for the tyres EPR	Legal disputes or uncertainties may arise regarding the scope of responsibilities between stakeholders.

## 4. Market study

### 4.1 Stakeholder analysis

To effectively analyse the tyre market, a stakeholder analysis offers an overview of the key players within the industry. This analysis encompasses all entities in the replacement tyre supply chain, including importers, distributors, retailers, consumers, and waste management organisations. Replacement tyres are placed on the local market through two primary channels: imports from non-EU countries (imports), and intra-community acquisitions from the EU (distributors). Tyres are then either supplied to local distributors, who sell to local retailers, or directly to retailers or consumers. Once available in the market, consumers may purchase tyres from local distributors or retailers.

The disposal process for tyres varies based on their rim diameter. Tyres with a rim diameter of less than 22.5 inches have two main waste management options. These tyres can be collected by retailers, tyre shops or petrol stations, then collected by a third party authorised waste collector which transports the tyre waste to Wasteserv's MMRF. These are subsequently baled and exported. Alternatively, tyres are also collected at Civic Amenity Sites operated by Wasteserv and then transported to MMRF for shredding, bailing and export. In certain cases, Wasteserv contracts third party authorised waste operators to shred, bale and export these tyres. Alternatively, tyres with a diameter greater than 22.5 inches are collected by an authorised waste collector and operator, which then processes the tyres and exports them.

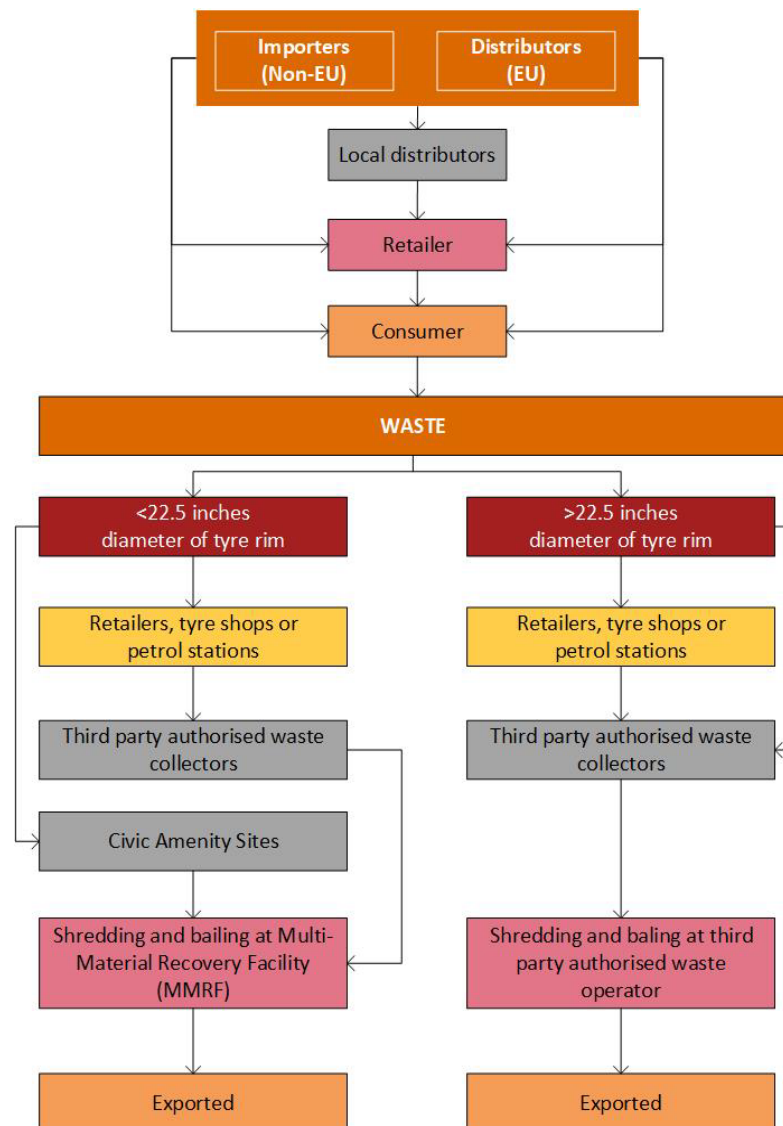


Figure 3: Tyre Waste Value Chain

The following sections of this market study provide an overview of the tyre market in Malta, examining key local stakeholders. This includes an analysis of tyre companies based on their primary activities. The study then explores tyre import values and volumes to assess the volume and types of tyres entering the local market. Finally, it will address the management and collection of tyre waste by Wasteserv and other operators, detailing the volume of waste generated and the proportion that is exported.

## 4.2 Analysis of the tyres market by NACE code

Extended Producer Responsibility (EPR) shifts waste management responsibility from municipalities to producers. Under the Extended Producer Responsibility Framework Regulations (S.L. 549.141), a producer is defined as any natural or legal person who professionally develops, manufactures, processes, treats, sells, or imports specific products.

This market study is relevant for the potential implementation of the EPR in relation to tyres as it provides key insights into historic current, and projected import volumes and market size, and an understanding of the existing ecosystem in relation to the management of tyre waste. This data provides the basis for a potential effective and an economically feasible EPR policy tailored to the local market conditions.

The analysis below is based on NACE codes of companies responsible for the lifecycle of tyres and resulting waste of their products. The relevant NACE codes of companies that are likely to be involved in developing, manufacturing, processing, treating, selling, or importing such products were identified. This section provides an overview of the distribution of companies categorised by size (large, medium, small, and micro) in the tyre industry from 2018 to 2022, based on relevant NACE codes listed below. The completeness of this list of identified NACE codes was confirmed with ERA prior to performing the analysis.

It must be noted that the selected NACE codes present all stakeholders in the lifecycle of tyres. Therefore, some of these economic operators under the selected categories may not necessarily be subject to the potential introduction of the EPR on tyres. However, for completeness, they are still included in this section of the market study.

*Table 6: NACE codes of companies in relation tyres*

NACE code	Description
45.11	Sale of cars and light motor vehicles
45.19	Sale of other motor vehicles
45.2	Maintenance and repair of motor vehicles
45.31	Wholesale trade of motor vehicle parts and accessories
45.32	Retail trade of motor vehicle parts and accessories
45.4	Sale, maintenance and repair of motorcycles and related parts and accessories
46.69	Wholesale of other machinery and equipment
47.3	Retail sale of automotive fuel in specialised stores

We understand that there are other NACE codes which may include companies which engage in activity relating to tyres, however, their primary focus may not necessarily involve tyres (e.g. 42.11 construction of roads and motorways). These codes are listed below for completeness. Therefore, for the purpose of this analysis of number of operators, the operators within these select codes have not been considered.

- 41.2 - Construction of residential and non-residential buildings;
- 42.11 - Construction of roads and motorways;
- 43.99 - Other specialised construction activities;
- 46.74 - Wholesale of hardware, plumbing and heating equipment and supplies;
- 46.9 - Non-specialised wholesale trade;
- 47.64 - Retail sale of sporting equipment in specialised stores;

- 47.78 - Other retail sale of new goods in specialised stores;
- 49.41 - Freight transport by road;
- 51.1 - Passenger air transport;
- 52.29 - Other transportation support activities.

#### 4.2.1 Analysis of number of companies per NACE code

Table 7: Number of companies by NACE code (Source: NSO)

NACE	Description	2018	2019	2020	2021	2022
45.11	Sale of cars and light motor vehicles	147	151	148	166	160
45.19	Sale of other motor vehicles	10	9	15	17	21
45.2	Maintenance and repair of motor vehicles	902	885	868	1053	1055
45.31	Wholesale trade of motor vehicle parts and accessories	85	83	85	103	111
45.32	Retail trade of motor vehicle parts and accessories	137	135	126	142	150
45.4	Sale, maintenance and repair of motorcycles and related parts and accessories	22	28	27	37	37
46.69	Wholesale of other machinery and equipment	98	94	88	100	100
47.3	Retail sale of automotive fuel in specialised stores	74	72	71	68	69
<b>Total</b>		<b>1,475</b>	<b>1,457</b>	<b>1,428</b>	<b>1,686</b>	<b>1,703</b>

The table above presents the total number of companies categorised by their respective NACE codes. It is clear that each year, the highest concentration of companies falls under NACE code 45.2 which pertains to the maintenance and repair of motor vehicles. Additionally, there has been a rise in the overall number of companies, increasing from 1,475 in 2018 to 1,703 in 2022.

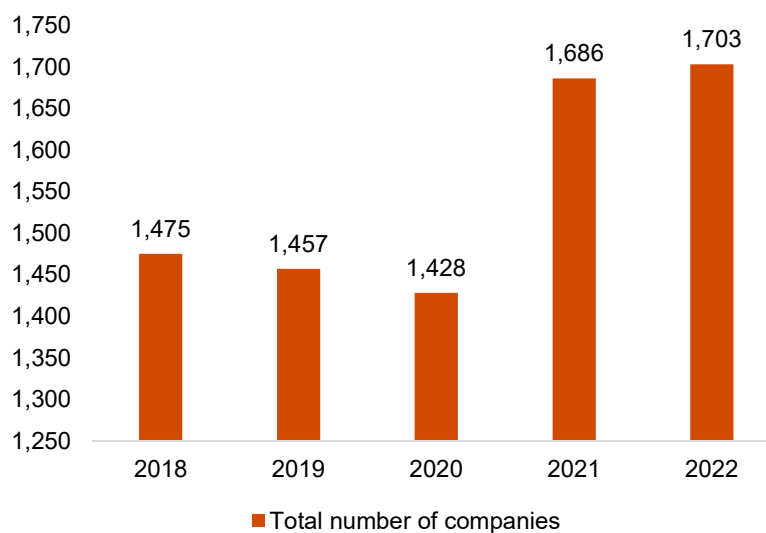


Figure 4: Total number of companies

## 4.2.2 Number companies of all NACE codes by company size

Table 8: Total number of companies of all NACE codes by company size

Company size	2018	2019	2020	2021	2022
Micro	1,360	1,341	1,318	1,570	1,582
Small	99	101	96	101	104
Medium	15	14	13	15	16
Large	1	1	1	0	1
<b>Total</b>	<b>1,475</b>	<b>1,457</b>	<b>1,428</b>	<b>1,686</b>	<b>1,703</b>

Source: NSO

The table above displays the total number of companies by size across all relevant NACE codes. Notably, micro-sized companies are the most common across all NACE codes (92.9%), small and medium-sized companies make up 7% combined, while large companies are the least represented (0.1%).

## 4.3 Analysis of tyres import trends by HS code

The following analysis examines the import trends of tyres to Malta from 2018 to 2022, categorised by the relevant Harmonised System (HS) Codes, using data sourced from Eurostat. The selection of HS Codes included in this study was informed by thorough desk research and consultations with ERA.

HS Codes are standardised numerical identifiers used globally to classify traded products for customs and tariff purposes. Eurostat data was specifically chosen for this historical demand analysis of tyres as it captures Special Trade data, which takes into consideration imports of tyres into the Maltese market.

### 4.3.1 Analysis of total imports for all HS codes potentially relevant to EPR obligations

Imports to Malta under all HS codes that might be potentially subject to EPR obligations, as per the HS codes outlined below in 3.3.2 and 3.3.3, increased from c. €6.4 million in 2018 to c. €11.1 million in 2022, reflecting a CAGR of 9.8% over the five-year period under review. In terms of tonnage, imports increased from 2,038 tonnes in 2018 to 2,668 tonnes in 2022, reflecting a growth of about 31%. This suggests that whilst both the overall value of imports and the overall tonnage rose, the increase in value was significantly higher and may be attributed to inflation over the same period.



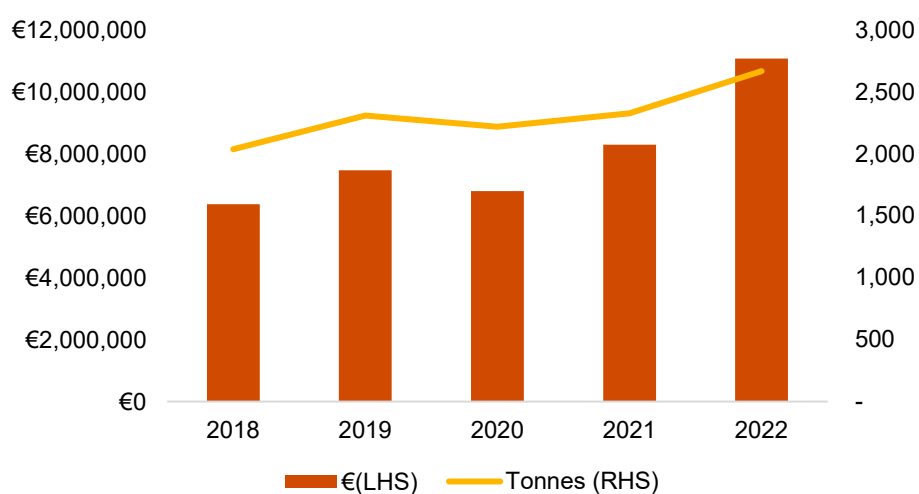


Figure 5: Imports of all HS Codes by € and tonnes. (Source: Eurostat)

### 4.3.2 Analysis of HS Code 4011

HS Code	Description	2022 tonnes
40111000	New pneumatic tyres, of rubber, of a kind used for motor cars	1,669
40112010	Pneumatic tyres, new, of rubber, of a kind used for buses or lorries, with a load index of <= 121	252
40112090	Pneumatic tyres, new, of rubber, of a kind used for buses or lorries, with a load index of > 121	1,026
40113000	New pneumatic tyres, of rubber, of a kind used for aircraft	1
40114000	New pneumatic tyres, of rubber, of a kind used for motorcycles and motor scooters	18
40115000	New pneumatic tyres, of rubber, of a kind used for bicycles	12
40117000	New pneumatic tyres, of rubber, of a kind used on agricultural or forestry vehicles and machines	11
40118000	New pneumatic tyres, of rubber, of a kind used on construction, mining or industrial handling vehicles and machines	233
40119000	New pneumatic tyres, of rubber (excl. of a kind used on agricultural, forestry, construction, mining or industrial handling vehicles and machines, for motor cars, station wagons, racing cars, buses, lorries, aircraft, motorcycles and bicycles)	34

The following analysis of HS Code 4011 focuses specifically on selected subcategories, as outlined in the table above, rather than the entire code. These subcategories encompass different types of new rubber tyres based on their use. The graph below illustrates the combined total imports for these specific codes. As shown below, imports increased from c. €6.2 million in 2018 to €10.7 million in 2022. The volume in tonnage increased in a similar manner from c. 2,000 tonnes in 2018 to c. 2,500 tonnes in 2022. Both value and volume experienced a slight dip in 2020, possibly due to the effects of the pandemic.

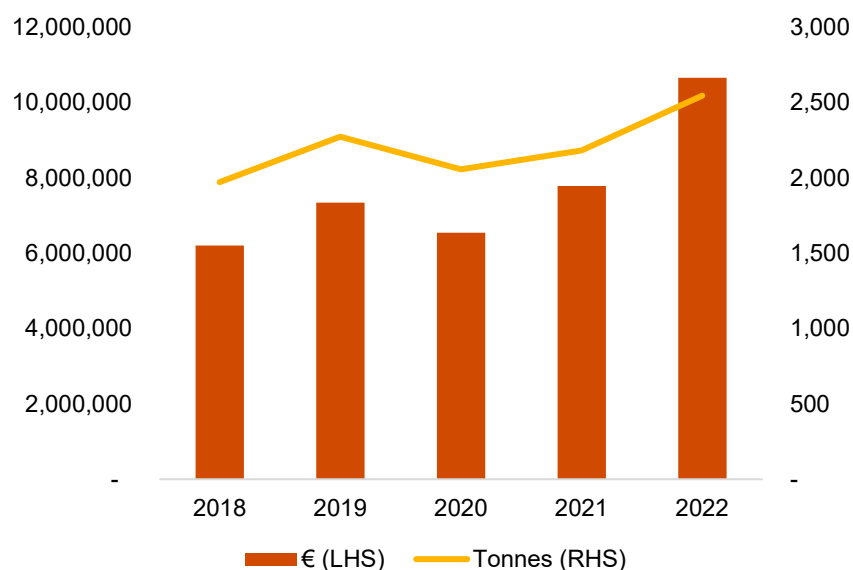


Figure 6: Imports of HS Code 4011 by € and tonne. (Source: Eurostat)

### 4.3.3 Analysis of HS Code 4012

HS Code	Description	Value
40121100	Retreaded pneumatic tyres, of rubber, of a kind used on motor cars "incl. station wagons and racing cars"	0
40121200	Retreaded pneumatic tyres, of rubber, of a kind used on buses or lorries	36
40121300	Retreaded pneumatic tyres, of rubber, of a kind used on aircraft	0
40121900	Retreaded pneumatic tyres, of rubber (excl. of a kind used on motor cars, station wagons, racing cars, buses, lorries and aircraft)	1
40122000	Used pneumatic tyres of rubber	8
40129020	Solid or cushion tyres, of rubber	70
40129030	Tyre treads, of rubber	0
40129090	Tyre flaps, of rubber	2

The following analysis of HS Code 4012 focuses specifically on selected subcategories, as outlined in the table above, rather than the entire code. These HS codes capture different types of rubber tyres, including retreaded tyres that have undergone a remanufacturing process to replace the worn tread on used tyres with new tread to extend the life of the tyre. This category also includes used tyres, solid or cushion tyres, tyre treads, and tyre flaps. The value of imports of these subcategories increased from c. €165,000 in 2018 to €417,000 million in 2022. The volume in tonnage increased in a similar manner from 65 tonnes in 2018 to 121 tonnes in 2022. However, it is important to note that for some years and many of the listed codes, data is unavailable on Eurostat since there were no imports in those periods or traders did not declare.

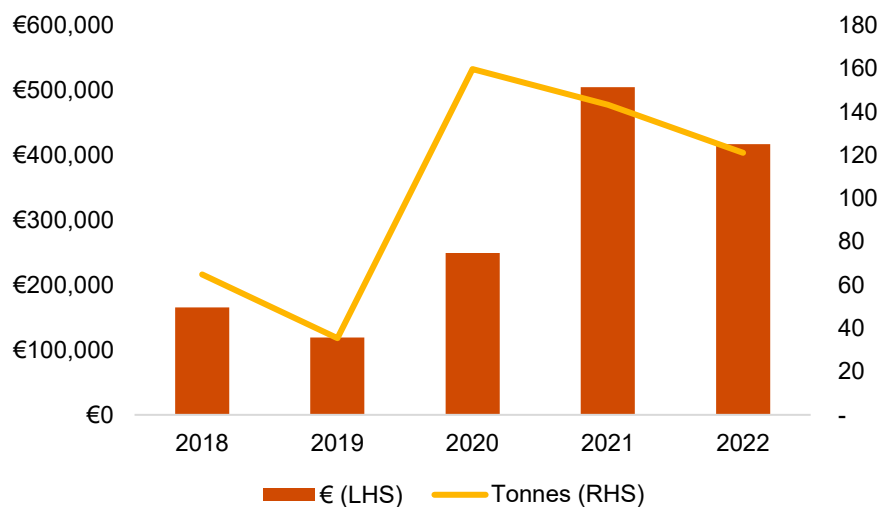


Figure 7: Imports of HS Code 4012 by € and tonne. (Source: Eurostat)

#### 4.3.4 Overall tonnage analysis of tyre imports

The analysis below shows that the bulk of tyre imports relates to HS Code 4011.

HS Code 4011, primarily encompassing subcategories encompass different types of new rubber tyres, recorded the highest tonnage, with c. 2,500 tonnes imported over the five-year period under review. In contrast, HS Code 4012, which specifically covers retreaded tyres, used tyres, tyre treads, and tyre flaps recorded only c. 121 tonnes imported between 2018 and 2022. This indicates that the majority of tyre imports consist primarily of new tyres rather than used ones.

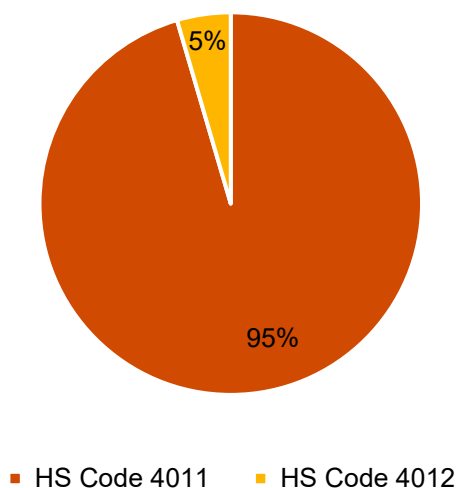


Figure 8: Imports in tonnes over 2018 – 2022 (percentage share by HS code). (Source: Eurostat)

HS Code 4011, covering new rubber tyres, saw the highest import value of c. €10.7 million over five years. In contrast, HS Code 4012, which includes retreaded and used tyres, recorded only c. €417,000 imported from 2018 to 2022. This shows that most tyre imports are new rather than used.

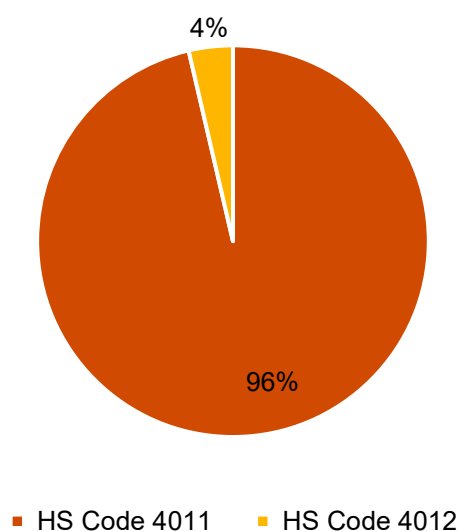


Figure 9: Imports in € over 2018 – 2022 (percentage share by HS code). (Source: Eurostat)

## 4.4 Projections

To project tyre imports for Malta, this section analyses the relationship between total tyre imports (based on the specified HS codes) and population, nominal GDP, nominal consumption, stock of vehicles between 2005 to 2023. These relationships are then utilised to understand the relationship between tyre imports and these variables, in attempt to utilise such variables to forecast tyre imports up to 2030.

### 4.4.1 Historical analysis: main variables of interest

The graph illustrates the imports of tyres to Malta in millions of euros versus nominal GDP, nominal consumption, population and stock of vehicles from 2005 to 2023<sup>43</sup>. A priori, all four variables could potentially be expected to drive the demand for imports of tyres in Malta.

Over this period, imports of tyres increased from €7.1 million in 2005 to €11.6 million in 2023, a Compound Annual Growth Rate (CAGR) of 2.8%, compared with a CAGR of 7.4% for nominal GDP, 6.0% for nominal consumption, 2.3% for stock of vehicles and 1.7% for population.

<sup>43</sup> The analysis begins from 2005 and not earlier in order to avoid any potential distortions to the data in the year 2004, which could have arisen as a result of Malta's accession into the EU and therefore the removal of certain tariffs that would directly affect trade in goods.

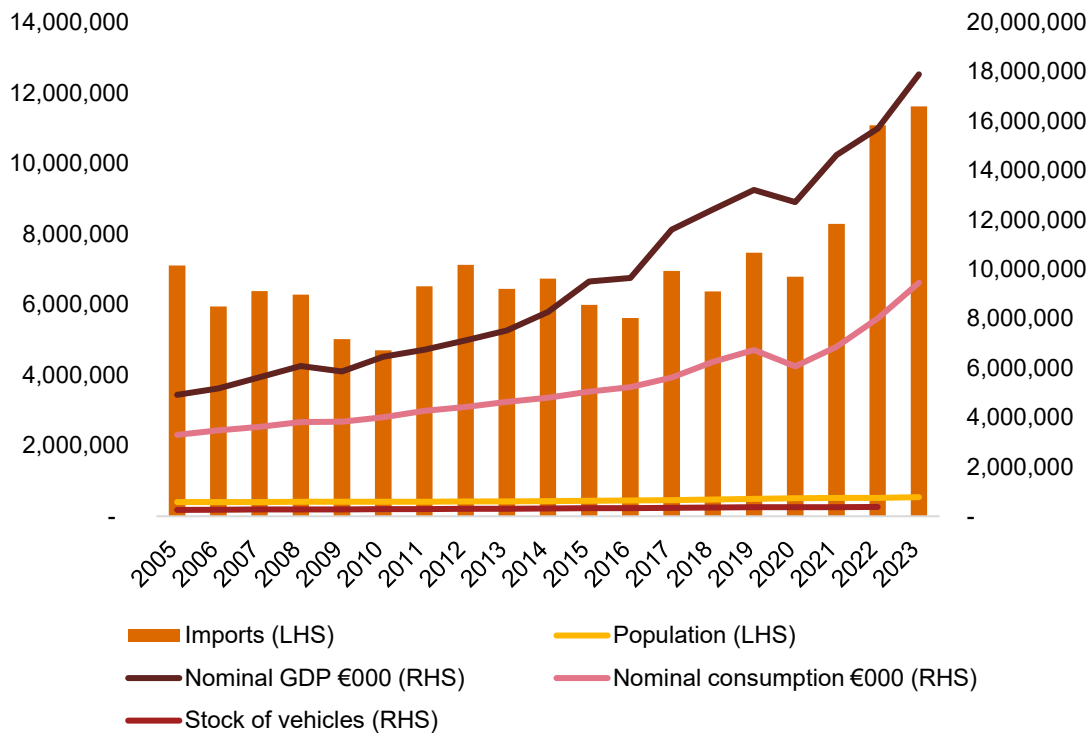


Figure 10: Historic data in levels [Source: Imports € (Eurostat); Population (Eurostat); Stock of vehicles (Eurostat); Nominal GDP (Central Bank of Malta); Consumption (Central Bank of Malta)]

#### 4.4.2 Historical analysis: year-on-year percentage change

The graph below illustrates the percentage changes in the value of imports, population, nominal consumption, nominal GDP and stock of vehicles in Malta over the period 2005 to 2023. It would appear that in terms of percentage changes, the movements in imports are not closely correlated with the movements in GDP, consumption, population and stock of vehicles growth, as outlined in the table below.

Notably, the correlation between nominal consumption and the value of tyre imports shows a moderate positive relationship with a correlation coefficient of 0.48. This suggests that while increases in nominal consumption may to an extent be associated with an increase in tyre imports, the relationship is not strong.

Table 9: Correlation coefficients of x variables against the growth of value in imports

X variable	Correlation coefficient
Nominal GDP	0.38
Nominal consumption	0.48
Population	-0.18
Stock of vehicles	-0.08

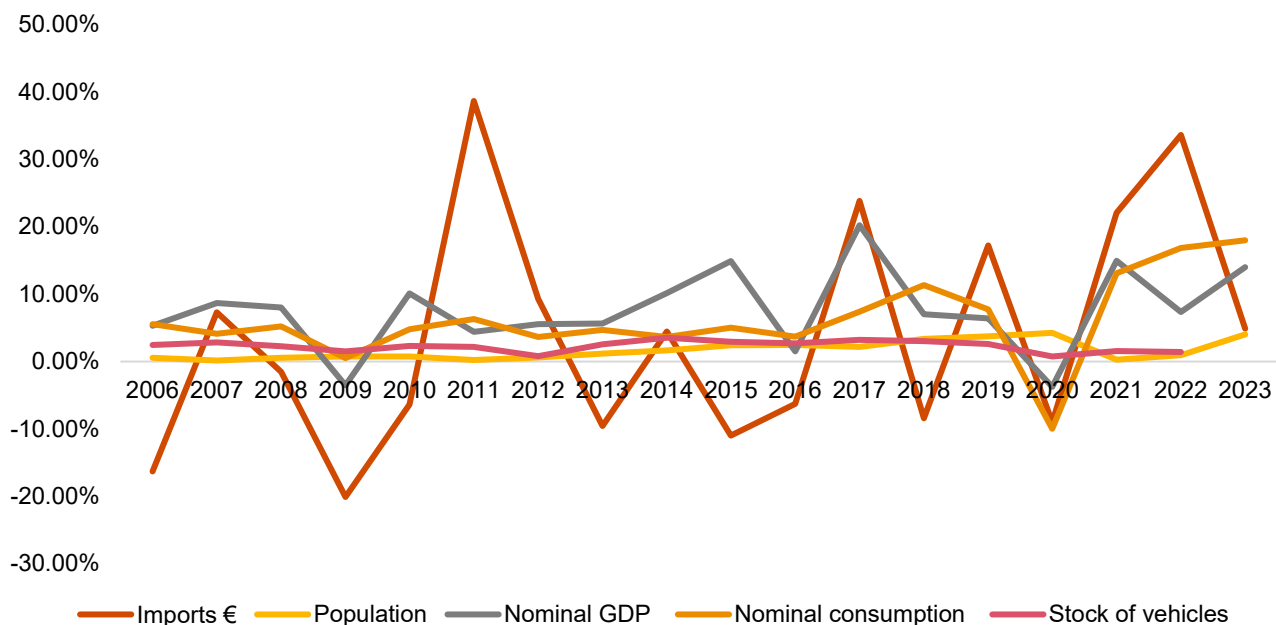


Figure 11: Historical data in percentage change. [Source: Imports € (Eurostat); Population (Eurostat); Stock of vehicles (Eurostat); Nominal GDP (Central Bank of Malta); Consumption (Central Bank of Malta)]

It is important to note that the dependent (y) variable in this case represents tyres which are imported on their own, i.e. not tyres which are attached to vehicles. Therefore, it is reasonable to expect that no such contemporaneous relationship between stock of vehicles in year n will be correlated with imports of tyres in year n.

In this regard, we also analysed the relationship between imports of tyres in year n versus stock of vehicles in years n-1, n-2, n-3 till n-7. In all cases, there does not appear to be a strong historical correlation, with the results summarised below.

Table 10: Correlation coefficients of stock of vehicles lag -1 to lag -7 against the growth of value in imports

X variable	Correlation coefficient
Stock of vehicles lag -1	0.04
Stock of vehicles lag -2	-0.44
Stock of vehicles lag -3	0.13
Stock of vehicles lag -4	0.36
Stock of vehicles lag -5	0.08
Stock of vehicles lag -6	-0.38
Stock of vehicles lag -7	0.24



### 4.4.3 Historical analysis: in tonnes

The figure below depicts the volume of imports of tyres in terms of tonnes, as sourced from Eurostat. The large fluctuations in terms of tonnes imported per year, as shown in the chart, imply that this data should be treated with caution.

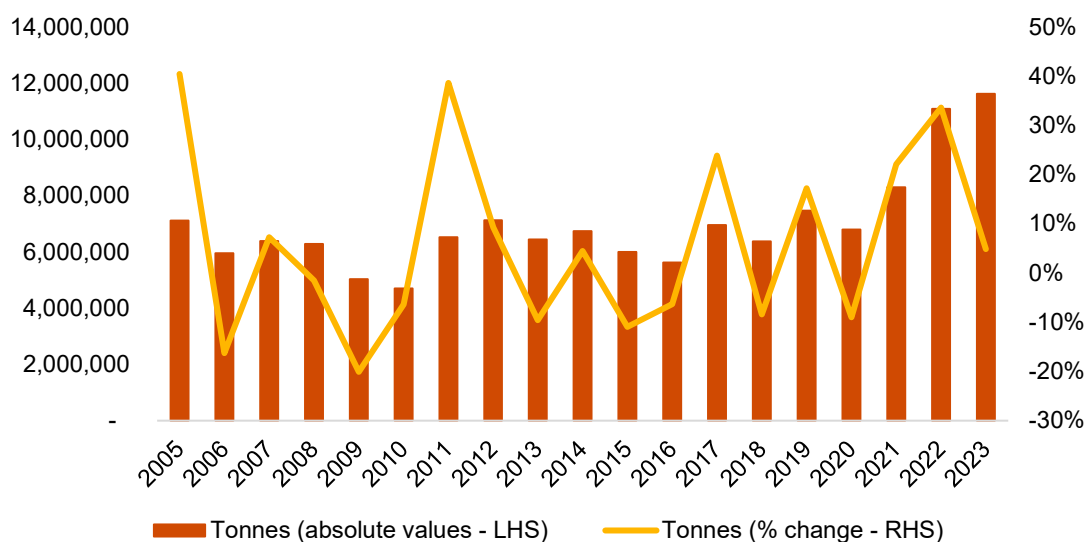


Figure 12: Historic data of tyre imports in tonnes. (Source: Eurostat)

### 4.4.4 Projections of tyre imports

#### 4.4.4.1 Projections methodology

To project the total value of tyre imports, an Error Correction Model (ECM) was initially used to assess and correct deviations from the long-term equilibrium between the value of tyre imports and key variables such as nominal GDP, nominal consumption, the stock of vehicles, population, stock of vehicles lag -1 to lag -7. However, the results of these regressions were statistically insignificant, indicating that no long-run relationship exists between the value of tyre imports and the aforementioned variables.

Subsequently, an attempt was made to establish a relationship using an Autoregressive Distributed Lag (ARDL) model, which accounts for both short-term dynamics and long-term equilibrium. The ARDL approach combines the strengths of autoregressive and distributed lag models to analyse how variables influence each other over time. However, similar to the ECM, the ARDL results showed no significant relationship between the value of tyre imports and the key variables mentioned above.

Given these findings, we have opted to project the value of tyre imports using the projected consumption growth rate provided by the Central Bank of Malta (CBM) as outlined in Table 10 below. These same growth rates were also applied to estimate the total number of tyre imports in tonnes.

Table 11: Projected imports (€m) based on consumption growth rate<sup>44</sup>

Projected years	2024	2025	2026	2027	2028	2029	2030
Consumption expenditure projections	4.9%*	4.0%*	3.7%*	3.0%**	2.5%**	2.0%**	2.0%**
Estimate of projected imports	€12.2m	€12.7m	€13.1m	€13.5m	€13.9m	€14.2m	€14.4m

\* Central Bank of Malta (CBM) projections

\*\* Internal assumption <sup>47</sup>

<sup>44</sup> Consumption has been used as the explanatory variable in the absence of data relating to publicly available forecasts on variables which may be deemed more relevant to the demand for tyres specifically.

#### 4.4.4.2 Projections of tyre imports – in euro

The graph below displays the historical and projected values of tyre imports to Malta. It indicates that the value of tyre imports can be expected to increase from c. €12m in 2023 to €14m by 2030 based on the consumption growth rates outlined above. This would represent a CAGR of 2.9% over the 6-year period, compared with a historical CAGR of 8.9% of the past 6 years.

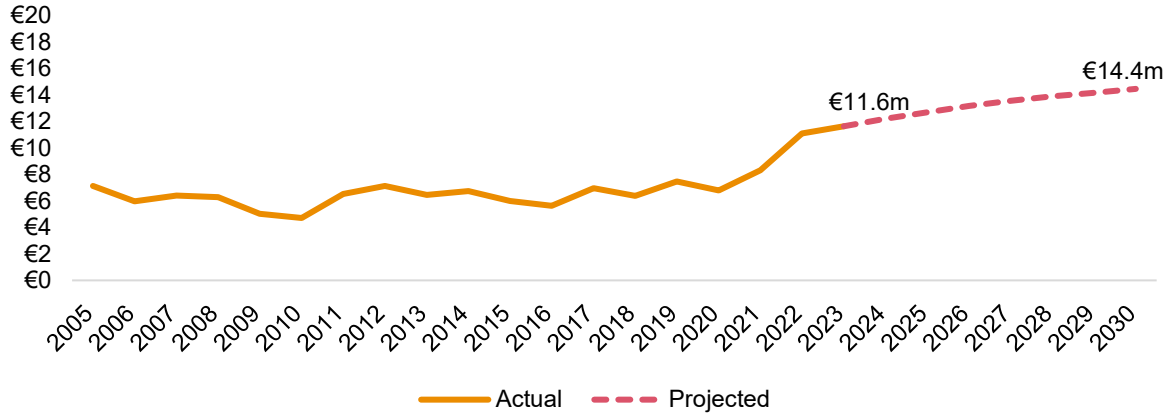


Figure 13: Historical and projected tyre imports in €m. [Source: Actual (Eurostat); Projected (PwC workings)]

#### 4.4.4.3 Projections of tyre imports – in tonnes

As explained above, below we project the total number of tyre imports in tonnes using the projected consumption growth rate provided by the CBM.

Table 12: Projected imports (tonnes) based on consumption growth rate

Projected years	2024	2025	2026	2027	2028	2029	2030
Consumption expenditure projections	4.9%*	4.0%*	3.7%*	3.0%**	2.5%**	2.0%**	2.0%**
Estimate of projected imports (tonnes)	3,528	3,669	3,805	3,919	4,017	4,097	4,179

\* Central Bank of Malta (CBM) projections

\*\* Internal assumption<sup>45</sup>

The graph below displays the historical and projected values of tyre imports to Malta. It indicates that the imports of tyres in tonnes can be expected to increase from 3,363 tonnes in 2023 to 4,179 tonnes by 2030 based on the consumption growth rates outlined above. This would represent a CAGR of 2.9% over the 6-year period, compared with a historical CAGR of 6.3% of the past 6 years.

<sup>45</sup> Since the CBM's projected consumption growth rate is available till 2026, the projections for 2027-2030 are internal assumptions, based on historical trends of projected consumption growth rates.

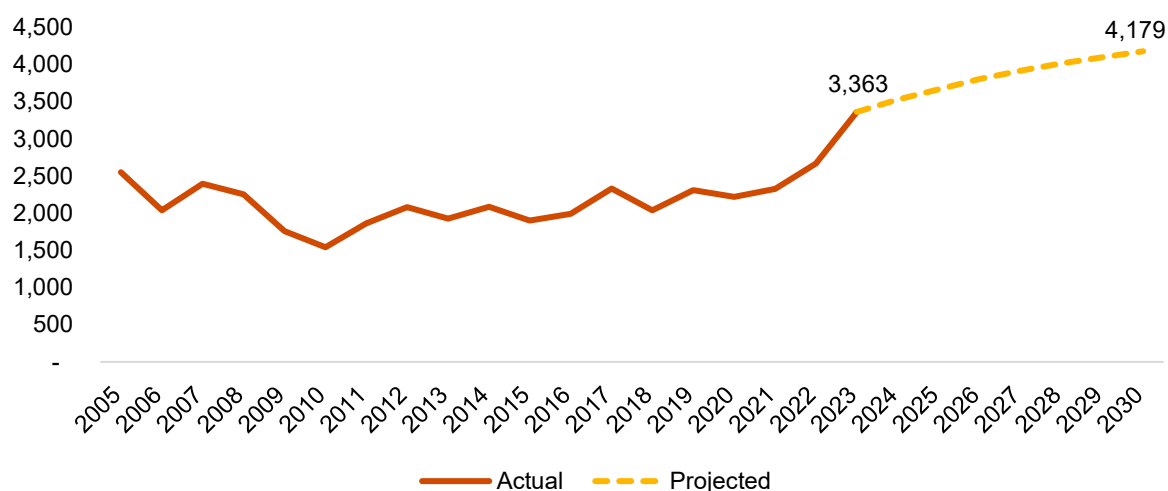


Figure 14: Historical and projected tyre imports in tonnes. [Source: Actual (Eurostat); Projected (PwC workings)]

## 4.5 Tyre waste

This section examines tyre waste to assess how it is being collected and managed.

### 4.5.1 Analysis of tyre waste collection

The table below illustrates the collection rate for tyres in Malta by comparing the total tyre imports with total tyre waste collected in the subsequent year (Collection in N/ Imports in N-1). It shows that the amount of tyre waste collected exceeds the total tyre imports from the previous year for each year analysed. This indicates that the collection rate is higher than 100% in each analysed year, showing that more tyre waste is collected than imported.

Table 13: Analysis of tyre waste collection [Source: Total tyre imports (Eurostat); Total tyre waste collected (AER by ERA); Collection rate (PwC workings)]

Import year	Total tyre imports	Collection year	Total tyre waste collected	Collection rate
2018	2,054	2019	2,123	<b>103%</b>
2019	2,151	2020	2,693	<b>125%</b>
2020	2,099	2021	3,248	<b>155%</b>
2021	2,205	2022	2,804	<b>127%</b>

Therefore, whilst one of the primary drivers for the introduction of an EPR scheme is to increase collection rates, based on these figures, this would not seem to be a need in Malta. The high collection rate could however be due to a number of reasons, including temporary adjustments such as a backlog of tyres which are being collected which had been stored or illegally dumped for a number of years. In any case, the focus of the EPR scheme would be to maintain these collection rates and to shift the cost of tyre waste management to the producer, particularly the treatment and export cost.

### 4.5.2 Analysis of tyre waste exports

#### 4.5.2.1 EWC codes and recovery operations analysis: tyre exports trends

The following analysis examines data relating to the exports of tyres from Malta from 2018 to 2022 by the relevant European Waste Catalogue (EWC) codes and recovery operations, as reported in the AER submitted to ERA.

### 4.5.2.2 European Waste Catalogue code and the Basel convention code

EWC codes are a classification system used to identify different types of waste within the European Union (EU) which aims to ensure proper waste management. The recovery operations refer to the various processes aimed at reclaiming materials or energy from waste. The following analysis provides an overview of tyre-related exported waste, classified under the relevant EWC codes, and its recovery according to Basel recovery options codes.

The analysis will cover the following recovery operations with relevance to exported waste of tyre:

<b>R1</b>	Use of fuel (other than in direct incineration) or other means to generate energy
<b>R3</b>	Recycling / reclamation of organic substances which are not used as solvents

#### Analysis of 16 01 03

EWC code 16 01 03 includes end-of-life tyres.

<b>16 01 03</b>	16 - various types of waste that is not specified into other specific categories
	01 - end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)
	03 – tyres that have reached the end of their useful life

The table below provides an overview of tyre waste generation and exportation in tonnes. It includes data on the total tyre waste generated, the waste reported to ERA by waste management facilities for R1 and R3 recovery abroad, and the ERA's database on waste shipments for R1 and R3 recovery operations. The shipment database tracks all waste leaving Malta in a given year, while the waste reported by facilities might include tyres intended for export that were actually shipped the following January. This discrepancy explains the difference between total tyre waste generated and tyre waste exported.

From 2018 to 2022, there was a slight increase in total tyre waste generated, rising from c. 2,530 tonnes in 2018 to c. 3,000 tonnes in 2022. This increase is also reflected in the exported tyre waste, which grew from c. 2,460 tonnes in 2018 to c. 3,490 tonnes in 2022. Notably, the majority of exported tyre waste is designated for R3 recovery, with minimal amounts sent for R1 recovery.

Table 14: Analysis of EWC code 16 01 03. (Source: AERs submitted to ERA)

EWC code	Year	Total generation (tonnes)	R1: abroad (tonnes)	R3: abroad (tonnes)	R1: shipment (tonnes)	R3: shipment (tonnes)	Total exported (shipment)
<b>16 01 03</b>	2018	2534	0	2461	0	2461	2461
	2019	2326	0	2254	0	2254	2254
	2020	2845	71	2774	71	2774	2845
	2021	3439	824	3194	824	3194	4018
	2022	3050	0	3489	96	3393	3489
	<b>TOTAL</b>		<b>14,195</b>	<b>895</b>	<b>14,172</b>	<b>991</b>	<b>14,076</b>

\* The EWC code 16 01 03 and the data presented in this table include waste tyres from replacement activities and waste tyres from Authorised Treatment Facilities for End-of-life vehicles. For ease of reference, in 2018, 2019, 2020 and 2021, waste tyres resulting from end-of-life vehicles were reported as 163, 203, 152 and 192 tonnes, respectively.

When comparing the quantities of collected and exported tyres, it is clear that the export rate is also above 100%. For instance, in 2022, while tyres collected amounted to 3,050 tonnes, exports of waste tyres in 2022 amounted to 3,489 tonnes, implying an export rate of 114%, which is notably higher than rates witnessed in some other EU countries (see section 4.5.3 below).

Additionally, a collection rate above 100% seems also to suggest that further analysis as to the accuracy of the data might need to be performed, particularly in terms of import data (i.e. placing on the market). Moreover, the methodology for calculating the collection rate may need to be reconsidered.

These alternatives should be further evaluated to ensure a more accurate reflection of the collection rate and improve data reliability.

### 4.5.3 Benchmarking

In order to assess how the introduction of EPR for tyres may impact waste disposal trends in Malta, this section examines the effects of the EPR in select countries.

**Spain:** Spain implemented its EPR scheme for end-of-life tyres (ELT) in 2006, requiring tyre producers, importers, and distributors to take responsibility for the collection, treatment, and disposal of ELTs. The EPR system is managed two PROs: Signus Ecovalor and TNU (Tratamiento Neumáticos Usados). This growth is directly tied to the EPR system, which established the infrastructure and regulations necessary for responsible tyre management from production to disposal.<sup>46</sup>

Table 15: Collection rates and treatment rates of tyre waste in Spain

<b>Tyres placed on the market</b>	214,091 tonnes (2020)
<b>Collection rate</b>	108% (2020) – Target 100%
<b>Treatment rate</b>	Treatment rate 96.5% (2020) <ul style="list-style-type: none"> <li>• Preparation for reuse: 12.9% (target -15%) (e.g. for artificial turf football pitches, playgrounds and highways)</li> <li>• Recycling: 50.1% (target – 45%)</li> <li>• Energy recovery: 37% (target 40%)</li> </ul>

**Italy:** Italy introduced its EPR for tyres in 2011, annually dealing with about 444,000 tonnes of waste tyres including historical stocks. The implementation of EPR greatly improved the material recovery rate, more than doubling it within the first three years. Since EPR was introduced, the rate of illegally disposed tyres, which accounted for 25% of those sold in 2010, has steadily declined, with the collection rate reaching an estimated 90% in 2018. Overall, Italy's EPR for tyres has been successful in curbing illegal tyre disposal in the environment.<sup>47</sup>

**The Netherlands:** The EPR for tyres in the Netherlands was enforced in 2004. Its objective is the environmentally friendly collection and processing of waste tyres. However, the scheme's operator, RecyBEM, increasingly exports waste tyres for reuse and retreading, primarily to Africa. While economically viable, this practice is less environmentally friendly due to weaker waste regulations in recipient countries, potentially leading to improper disposal. Moreover, the Dutch system's limited scope excludes many tyre types, burdening municipalities financially and posing environmental risks. Although the high reuse and retread rates are notable, they rely heavily on exports, resulting in lower carbon emission savings.<sup>48</sup>

Table 16: Collection rates and treatment rates of tyre waste in the Netherlands

<b>Tyres placed on the market</b>	9.169 million (in 2021)
<b>Collection rate</b>	103.5% (2021)
<b>Treatment rate</b>	<ul style="list-style-type: none"> <li>• Reuse: 27.4%</li> <li>• Material recovery: 70.8%</li> </ul>

<sup>46</sup> European Review of EPR schemes for Tyres, October 2022, ADEME

<sup>47</sup> Extended producer responsibility for waste tyres in the EU: Lessons learnt from three case studies – Belgium, Italy and the Netherlands, 2019

[https://researchonline.gcu.ac.uk/ws/files/27165887/J.Baird\\_WM\\_18\\_2410R2.pdf](https://researchonline.gcu.ac.uk/ws/files/27165887/J.Baird_WM_18_2410R2.pdf)

<sup>48</sup> Extended producer responsibility for waste tyres in the EU: Lessons learnt from three case studies – Belgium, Italy and the Netherlands, 2019

[https://researchonline.gcu.ac.uk/ws/files/27165887/J.Baird\\_WM\\_18\\_2410R2.pdf](https://researchonline.gcu.ac.uk/ws/files/27165887/J.Baird_WM_18_2410R2.pdf)

- |  |  |
|--|--|
|  | <ul style="list-style-type: none"> <li>• Energy recovery: 1.7%</li> <li>• Recycling: Target as per regulation – 20%; Target from PRO – 90%)</li> </ul> |
|--|--|

Thus, from the above results of Spain, Italy and the Netherlands, it is expected that the implementation of the EPR scheme for Malta should increase the volume of tyre waste collected to be reused or recycled, which would promote a more sustainable approach to waste management.

## 4.6 Market opportunities and challenges

The implementation of EPR in the tyre industry presents various market opportunities and challenges, detailed as follows:

### 4.6.1 Market opportunities for implementing tyre EPR

**Environmental sustainability:** Albeit the already high collection rates based on current available data, the implementation of an EPR for tyres may enhance environmental sustainability by further reducing waste and pollution associated with tyre disposal. Producers may be motivated to improve collection and recycling rates and place eco-friendly tyres onto the market, leading to a smaller environmental footprint. This shift would support a more sustainable lifecycle for tyres, from production to disposal.

**Job creation:** the introduction of an EPR for tyres could create further jobs in recycling, collection, and repurposing industries as producers take responsibility for tyre disposal. The expansion of these services could drive employment in both existing and new facilities. Additionally, secondary markets for recycled tyre materials would generate further job opportunities, supporting economic growth.

### 4.6.2 Market challenges to implementing tyre EPR

**Complexity of regulatory enforcement:** the introduction of EPR can place an administrative burden on producers and PROs. Producers may face increased reporting requirements, such as tracking the quantities of products placed on the market, and collecting data on waste management. This could require new systems for compliance monitoring. For PROs, the need to collect, process, and report detailed data, manage logistics, and ensure alignment with legal requirements can lead to complex administrative structures, higher operational costs, and increased oversight. Balancing these burdens with environmental objectives is essential for the system's efficiency and success.

**Existence of excise duty:** it should be noted that in the case of tyres, producers are currently obliged to pay excise duty once tyres are imported into Malta (€0.70 per Kg). Any eventual introduction of an EPR scheme for tyres could therefore be perceived as an extra burden over and above the existing excise obligation, despite the Excise Duty being a fiscal measure not linked to waste management.

**Cost transfer to consumers:** suppliers may pass on the costs associated with EPR compliance to consumers. This could result in higher prices for tyres, which might be met with reluctance or dissatisfaction from price-sensitive consumers. Such cost increases could also affect consumer purchasing decisions and overall market demand. This may also lead to safety considerations if consumers do not replace tyres as often as may be required due to increased costs.

**Educating consumers:** effective EPR implementation relies on public participation in proper waste disposal practices. Educating consumers and encouraging their active involvement in these practices can be difficult. Without widespread public support and understanding, the success of EPR initiatives may be limited, impacting their overall effectiveness and potential benefits.

**Parallel trading challenges:** Imported goods from a MS where such goods are subject to EPR that are then resold in Malta without the original producer's knowledge might be subject to EPR fees both in the MS of origin and in Malta, causing double counting issues and resulting in higher prices for local consumers.



## 4.7 Market risks

The implementation of EPR in the tyre industry faces several market risks that could affect its success, as outlined below:

**Economic downturns:** the higher costs associated with sustainable practices may become a burden for producers experiencing financial strain. Additionally, consumers may shift their purchasing priorities towards more affordable options, leading to reduced demand for these higher-cost tyres. This economic pressure could result in non-compliance or a decrease in the market availability of sustainable products.

**Regulatory changes:** differing standards across countries may create challenges for multinational tyre companies, leading to increased costs and operational complexities. Moreover, if new regulations are introduced without sufficient alignment with EPR frameworks, this could result in redundancies or gaps that weaken the overall effectiveness of the EPR.

**Shifts in consumer behaviour:** the success of EPR relies heavily on consumer engagement for sustainable tyre products. If consumer interest in sustainability reduces, possibly due to changing trends, perceptions, or economic pressures, the intended environmental benefits may not be fully utilised.

**Cost of implementation:** the higher costs of the EPR could be prohibitive to small and medium-sized enterprises, leading to potential non-compliance or a competitive disadvantage against larger firms with more resources.

**Lack of consumer education:** the EPR's effectiveness also relies on consumers understanding the importance of proper disposal. If consumers are unaware of or uninterested in their role in the recycling process, participation rates may be low, reducing the overall impact of the scheme and leading to higher costs for producers who have to manage uncollected or improperly sorted waste.

## 4.8 Conclusion

In conclusion, the tyre market is primarily composed of micro companies, with the highest concentration under NACE code 45.2 which pertains to the maintenance and repair of motor vehicles. The market of imported tyres amounted to €11.7 million in 2023 with the majority of imports, both by value and volume, falling under HS Code 4011 which includes different types of new rubber tyres based on their use.

Meanwhile, tyre waste generated from replacement tyres increased from c. 2,123 tonnes in 2018 to c. 2,804 tonnes in 2022, indicating collection rates above 100% (based on Collection in N/ Imports in N-1). There was also a corresponding rise in exports from c. 2,460 to c. 3,490 tonnes. The discrepancy between generated and exported waste is due to some tyres being earmarked for export but shipped the following January. Most of the tyre waste is exported for R3 recovery (recycling / reclamation of organic substances which are not used as solvents), with minimal amounts for R1 recovery (use of fuel or other means to generate energy).

Netherlands introduced its EPR for ELT in 2004, followed by Spain in 2006, and Italy in 2011. These schemes require tyre producers, importers, and distributors to manage the collection, treatment, and disposal of waste tyres. Implementing an EPR for tyres in Malta would be expected to streamline tyre waste collection for reuse or recycling, promoting sustainable waste management.

EPR implementation offers some market opportunities in environmental sustainability and job creation. However, challenges include administrative burdens, infrastructural limitations, consumer awareness, cost transfer to consumers and parallel trading challenges. Risks involve economic downturns, regulatory changes, shifting consumer behaviours, implementation costs, and insufficient consumer education.

## 5. Ex- Ante Assessment

In developing the ex-ante assessment for the introduction of an EPR scheme we have assessed the following:

- Current waste management situation for tyres;
- The costs currently being borne by economic operators;
- The potential impact of the introduction of the EPR scheme and alignment with key legislative provisions;
- The potential impact of the introduction of the EPR scheme and alignment with national policies and strategies;
- Other considerations such as the impact on economic operators.

### 5.1 Current waste management situation for tyres

As outlined in Section 4, replacement tyres are placed on the local market through two primary channels: imports from non-EU countries (imports), and intra-community acquisitions from the EU (distributors). Tyres are then either supplied to local distributors, who sell to local retailers, or directly to retailers or consumers. Once available in the market, consumers may purchase tyres from local distributors or retailers. In 2022, a total of 2,668 tonnes of tyres were imported into Malta.

Replacement tyres can be collected by retailers, tyre shops or petrol stations, then collected by a third party authorised waste collector which transports the tyre waste to Wasteserv's MMRF. Alternatively, tyres are also collected at Civil Amenity Sites operated by Wasteserv and then transported to MMRF for shredding, bailing and export. In certain cases, notably with respect to tyres with a rim diameter greater than 22.5 inches, Wasteserv contracts third party operators to shred, bale and export these tyres. In 2022, 2,804 tonnes of waste tyres were collected, representing 127% of tyres imported in 2021.

Therefore, whilst one of the primary drivers for the introduction of an EPR scheme is to increase collection rates, based on these figures, this would not seem to be a need in Malta. The high collection rate could however be due to a number of reasons, including temporary adjustments such as a backlog of tyres which are being collected which had been stored or illegally dumped for a number of years.

### 5.2. Costs currently being borne by economic operators

An EPR scheme for tyres aims to shift all costs associated with tyre waste management to the producers. Currently, most producers of replacement tyres are already paying costs related to the collection, transportation and gate fees for waste tyres. Through consultations with stakeholders it is estimated that collection and transport costs amount to around €50 per tonne. The gate fees for tyres for 2024 are €35 per tonne, increasing to €95 per tonne by 2037<sup>49</sup>. As will be outlined in Section 9, the gate fee does not cover all the costs being incurred in relation to processing and export of waste tyres.

Thus, the EPR scheme for tyre waste would aim to shift other waste management costs such as those relating to sorting, cutting, baling and export of tyre waste to the producers.

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<sup>49</sup> Legal Notice 242 of 2022 - Deposit of Wastes and Rubble (Fees) (Amendment) Regulations, 2022 <https://legislation.mt/eli/ln/2022/242/eng>

## 5.3 Impact and alignment with key legislative provisions

### 5.3.1 Extended Producer Responsibility Framework Regulations (S.L. 549.141)<sup>50</sup>

Key Objectives	Potential Impacts of an EPR scheme
<p>The core objective of these regulations is to provide the framework for EPR schemes in Malta including definitions of producers, their roles, and the financial and organisational responsibilities of producers. These regulations apply as well to EPR schemes pursuant under existing Waste Management Regulations.</p> <p>The Regulations provide for producers of a product to have extended producer responsibility in order to strengthen the collection, re-use and the prevention, recycling and other recovery of waste. The Regulations mandate that, where an EPR scheme is established, the costs charged to producers shall be limited to the ones required to provide waste management in a cost-effective way, while ensuring that quantitative and, potentially, qualitative targets are achieved. Another key requirement is to avoid placing disproportionate regulatory burden on producers of small quantities of products.</p>	<p>Introducing an EPR scheme for tyres in Malta would be aligned to these Regulations in so far as the general minimum requirements on EPR and other relevant rules will have to be aptly reflected in related EPR legislation on tyres. Hence, these regulations would apply to end-of-life tyres in accordance with the waste management regulations that would be established for end-of-life tyres.</p> <p>In addition, adding an EPR scheme on replacement tyres could help harmonise waste management efforts and make the system more efficient in capturing tyres existing on the market other than those captured under the EPR for ELVs.</p> <p>It is estimated that about 20 European countries have an EPR scheme for end-of-life tyres (ELT)<sup>51</sup>.</p> <p>A detailed study of the EPR schemes in Belgium, the Netherlands, and Italy showcase successful tyre waste management through producer responsibility, efficient collection systems, and a focus on recycling.</p> <ol style="list-style-type: none"> <li>1. <b>High Collection Rates:</b> All three countries achieve near-complete tyre collection, reducing illegal dumping. Belgium, for example, collected over 87,000 tonnes of tyres in 2023<sup>52</sup>, with a focus on material recovery.</li> <li>2. <b>Producer Responsibility:</b> Tyre producers finance these systems via eco-contributions or fees, ensuring sustainability. For example, Italy mandates producers collect 100% of tyres sold the previous year, supported by fines for non-compliance<sup>53</sup>.</li> <li>3. <b>Material Recovery:</b> These schemes prioritise recycling, with Belgium reaching 93.62% material recovery in 2023<sup>54</sup>. Recycled tyres are repurposed into valuable materials like rubber for sports fields and roads, minimizing landfill and incineration.</li> </ol>

<sup>50</sup> <https://legislation.mt/eli/sl/549.141/eng>

<sup>51</sup> <https://bibliothec.ademe.fr/dechets-economie-circulaire/6228-european-review-of-epr-schemes-for-tyres.html>

<sup>52</sup> <https://indd.adobe.com/view/37162436-9340-4f57-aecc-257ada87560b>

<sup>53</sup> Winternitz K, Heggie M, Baird J. Extended producer responsibility for waste tyres in the EU: Lessons learnt from three case studies - Belgium, Italy and the Netherlands. Waste Manag. 2019 Apr 15;89:386-396. doi: 10.1016/j.wasman.2019.04.023.

<sup>54</sup> <https://indd.adobe.com/view/37162436-9340-4f57-aecc-257ada87560b>

Key Objectives	Potential Impacts of an EPR scheme
	<p>4. <b>Stakeholder Collaboration:</b> Success hinges on partnerships between governments, producers, and waste managers. The PRO, RecyBEM in the Netherlands, for example, works closely with garages and collectors for efficient sorting and recovery.</p> <p>5. <b>Public Engagement:</b> Consumer education and convenient return systems, like Belgium’s “1-for-0” initiative, help drive compliance and proper disposal.</p> <p>6. <b>Challenges:</b> Some challenges remain, such as Italy’s reliance on energy recovery and the exclusion of certain tyre types in the Netherlands.</p> <p>These successful models provide a framework for Malta to implement an EPR scheme, ensuring responsible tyre disposal, improved recycling, and a circular economy.</p> <p>As outlined in Section 4, the collection and treatment rate of tyres in Malta also appears to exceed 100%, and therefore an EPR scheme would not seem to be required in order to increase collection and treatment rates.</p> <p>Notwithstanding the seemingly limited scope in increasing collection and treatment rates in Malta, the introduction of an EPR scheme would ensure that all the costs associated with collection and treatment of replacement tyres would be borne by the producers, as required by the EPR regulations.</p>

### 5.3.2 Waste Regulations (S.L. 549.63)

Key Objectives	Potential Impacts of an EPR scheme
<p>The Waste Regulations, S.L. 549.63<sup>55</sup> transpose the provisions of the Waste Framework Directive (WFD) 2008/98/EC<sup>56</sup> into Maltese national law. These regulations set out guidelines to protect both the environment and public health by focusing on reducing waste generation, minimising its negative impacts, and improving resource efficiency. They play a crucial role in promoting the transition to a circular economy in Malta.</p>	<p>An EPR scheme for tyres would make producers responsible for the entire lifecycle of tyres, from collection to disposal. It aligns with the WFD’s requirement for environmentally sound management of all waste, including tyres. This would be aimed at reducing tyre waste and improving Malta’s collection and sorting systems for this stream.</p>

<sup>55</sup> <https://legislation.mt/eli/si/549.63/eng/pdf>

<sup>56</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32008L0098>

### 5.3.3 Excise Duty Act - Chapter 382<sup>57</sup>

Key Objectives	Potential Impacts of an EPR scheme
Chapter 382: Excise Duty Act introduces an excise duty for replacement pneumatic tyres which must be paid for imported tyres. The excise duty is typically paid by importers and producers of tyres when they place the product on the Maltese market.	<p>An analysis of excise duties across EU member states<sup>58</sup> shows that Malta is the only member state which has excise duty on tyres.</p> <p>As indicated above, on the other hand, it is estimated that about 20 European countries have an EPR scheme for end-of-life tyres (ELT)<sup>59</sup>.</p> <p>Any EPR fees which may be introduced therefore need to be taken in the context of the excise duty paid on tyres, as the perception amongst stakeholders is that the excise duty is already a form of eco-contribution, despite it being a fiscal measure not linked to waste management.</p>

## 5.4 Impact and alignment with key national policies and strategies

### 5.4.1 Long Term Waste Management Plan 2021 – 2030<sup>60</sup>

Key Objectives	Potential Impacts of an EPR scheme
<b>WMRO_EPR27:</b> The Government proposed establishing a national EPR scheme for end-of-life tyres.	A national EPR scheme for end-of-life tyres might provide significant environmental, economic, and social benefits by promoting recycling, reducing illegal dumping, and fostering a circular economy. However, it also requires careful planning, investment in infrastructure, and effective regulation to ensure its success. By shifting responsibility to producers and encouraging eco-friendly designs, the scheme could significantly improve tyre waste management and sustainability in the long term.

### 5.4.2 Recovery and Resilience Plan (RRP)<sup>61</sup>

Key Objectives	Potential Impacts of an EPR scheme
<b>Reform C1-R2:</b> To foster an effective waste management through a robust waste governance framework, including reforming the waste management system.	An EPR scheme for tyres would support reaching this objective. It would support waste management by increasing collection rates, enhancing recycling, shifting waste management costs to producers, and reducing the environmental impact of tyre disposal. It

<sup>57</sup> <https://legislation.mt/eli/cap/382/20240301/eng>

<sup>58</sup> <https://trade.ec.europa.eu/access-to-markets/en/content/excise-duties>

<sup>59</sup> <https://librairie.ademe.fr/dechets-economie-circulaire/6228-europeen-review-of-epr-schemes-for-tyres.html>

<sup>60</sup> <https://era.org.mt/wp-content/uploads/2022/02/Long-Term-Waste-Management-Plan-v1.4.3-Spreads-Digital-Version.pdf>

<sup>61</sup> <https://fondi.eu/wp-content/uploads/2023/11/Malta-Recovery-and-Resilience-Plan-2023-7.11.2023.pdf>

Key Objectives	Potential Impacts of an EPR scheme
	fosters a circular economy where tyres are not just disposed of but repurposed, leading to resource efficiency and environmental sustainability.
<p><b>Milestone 1.6:</b> This milestone focuses on assessing the feasibility of extending the EPR obligations to waste streams beyond those currently covered. Tyres are identified as a waste stream that is to be assessed through this feasibility study.</p>	<p>The carrying out of this feasibility assessment to determine the feasibility of expanding the EPR obligations to tyres, would result in achieving Milestone 1.6. This involves assessing the current situation including waste generation and management practices. It also looks at the volume of tyres produced, imported, and discarded, providing a clear picture of the scale of the issue and the potential volume of tyre waste that would be covered by the EPR scheme. The feasibility study for an EPR scheme on tyres is crucial for assessing the economic, environmental, and social viability of the programme. It helps identify potential benefits, costs, challenges, and opportunities, ultimately guiding the design and implementation of a successful tyre waste management system.</p>
<p><b>Milestone 1.7:</b> This milestone builds on Milestone 1.6 whereby the target is the enactment of legislation based on the outcomes of Milestone 1.6. This would expand EPR obligations to tyres.</p>	<p>Depending on the outcomes of the feasibility study, if an EPR scheme for tyres is deemed feasible, this would lead to drafting of the legislation. The findings of the feasibility study would be used to draft the legislation which involves outlining the objectives, scope, mechanisms, and specific provisions of the legislation. The legal framework would also address the challenges identified in the study and align with existing laws and regulations.</p>

## 5.5 Conclusion

The introduction of an EPR scheme for tyres should be further considered due to the following:

- **Relevance:** The introduction of the EPR scheme is relevant to waste management objectives for several reasons:
  - Promotes recycling and reuse: EPR schemes hold tyre producers responsible for the entire lifecycle of their products, including end-of-life management. This encourages the recycling and reuse of tyres.
  - Reduces environmental impact: By ensuring that tyres are properly managed and recycled, the EPR scheme would help minimise the environmental impact of tyre waste.
  - Shifts financial responsibility: The cost of managing tyre waste is shifted from taxpayers to the producers and consumers of the tyres. This aligns with the “polluter pays” principle, ensuring that those who generate waste are responsible for its management.
  - Supports circular economy: EPR schemes contribute to a circular economy by promoting the recovery and reuse of materials.



- This should however be taken into the context whereby according to the import data of tyres and the collection data of waste tyres available to date, it seems that more than 100% of tyres imported are being collected. This would therefore indicate that there are no apparent environmental benefits from the introduction of an EPR scheme for tyres. Therefore, whilst one of the primary drivers for the introduction of an EPR scheme is to increase collection rates, based on these figures, this would not seem to be a need in Malta. **Effectiveness:** An EPR scheme for tyres will increase the accountability of producers for the collection, recycling and disposal of tyres, ensuring that they are managed in an environmentally sound manner. Whilst the current excise duty may be perceived as an eco-contribution, in effect it is not linked to the waste management of tyres and does not place responsibility on producers for the waste management processes. In addition, proper management of waste tyres prevents them from being improperly disposed of, which can lead to environmental pollution. An EPR scheme would ensure that tyres are collected and processed in ways that minimise pollution and health risks. This notwithstanding, as outlined in Section 4, the high collection and export rates for waste tyres seems to indicate that these are already being effectively managed in an environmentally sound manner.
- **Efficiency:** Overall, the EPR schemes are considered to be an efficient way to optimise waste management as by making producers responsible for the entire lifecycle of their products, it incentivises them to place products on the market that are easier to manage at the end of their lifecycle. In addition, through an EPR, producers pay a fee which funds the collection, transportation, and recycling of waste tyres, ensuring that all tyres are accounted for and managed sustainably. Whilst producers are already paying some costs associated with waste management including collection costs and the gate fees, these do not cover the costs associated with the entire waste management process, including shredding, baling and export.

## 6. Delineation of policy options

In this section various potential policy options identified through the qualitative and quantitative analysis conducted during the study are outlined. By leveraging insights and data gathered from the market study in Section 4, a number of potential policy options that can effectively accelerate the implementation and maintenance of a potential EPR scheme for tyres are explored. These options would be designed to address Malta's unique waste management challenges, promote sustainability, and ensure compliance with EU regulations. Through a detailed examination of existing infrastructure, demographic behaviour, financial frameworks, and stakeholder engagement, a range of strategic approaches that could optimise a potential EPR system for tyres in Malta are presented.

### 6.1 Establishing the products subject to EPR obligations

To ensure the effective implementation of a potential EPR system for tyres in Malta, it is crucial to define the specific products that could be subject to EPR obligations. The recommendations are based on extensive desk research and consultations with the Environment and Resources Authority (ERA), as well as key stakeholders representing the impacted sectors.

A key consideration in defining the scope of the EPR system for tyres is the distinction between original tyres and replacement tyres. As original tyres fall within the scope of the End-of-Life Vehicles (ELV) scheme, regulated by the ELV Regulations (S.L. 549.36), the proposed EPR scheme would focus exclusively on replacement tyres. This ensures no overlap with the ELV scheme, streamlining the management of tyre waste and clarifying producer responsibilities for different types of tyres.

In this regard, the table below provides a list of tyre products which may be within the scope of the EPR. These are specified by Combined Nomenclature (CN) codes, an 8-digit numerical classification used in the EU to identify goods in international trade, extending the global Harmonised System (HS) with additional EU-specific details.

The recommended products specifically focus on HS codes that apply to both new pneumatic rubber tyres and rethreaded or used rubber tyres. This list has also been cross-checked with the Customs list of excisable HS codes, ensuring consistency. All items except 401150 (New pneumatic tyres, of rubber, of a kind used for bicycles) are subject to an excise duty of €0.70 per kilogram up to €24.50 per item. HS Code 401150 is subject to a rate of €0.00 for each kilogram.

Hence, by adhering to these products, we can ensure that the potential EPR scheme would target the appropriate range of tyre products, facilitating a standardised and effective approach to tyre waste management.

Table 17: Tyre products potentially subject to EPR obligations

HS Code	Description
40111000	New pneumatic tyres, of rubber, of a kind used for motor cars, incl. station wagons and racing cars
40112010	Pneumatic tyres, new, of rubber, of a kind used for buses or lorries, with a load index of <= 121
40112090	Pneumatic tyres, new, of rubber, of a kind used for buses or lorries, with a load index of > 121
40113000	New pneumatic tyres, of rubber, of a kind used for aircraft
40114000	New pneumatic tyres, of rubber, of a kind used for motorcycles(2009-2500);New pneumatic tyres, of rubber, of a kind used for motorcycles and motor scooters(1988-1992)
40115000	New pneumatic tyres, of rubber, of a kind used for bicycles
40117000	New pneumatic tyres, of rubber, of a kind used on agricultural or forestry vehicles and machines
40118000	New pneumatic tyres, of rubber, of a kind used on construction, mining or industrial handling vehicles and machines

HS Code	Description
40119000	New pneumatic tyres, of rubber (excl. of a kind used on agricultural, forestry, construction, mining or industrial handling vehicles and machines, for motor cars, station wagons, racing cars, buses, lorries, aircraft, motorcycles and bicycles)
40121100	Rethreaded pneumatic tyres, of rubber, of a kind used on motor cars "incl. station wagons and racing cars"
40121200	Rethreaded pneumatic tyres, of rubber, of a kind used on buses or lorries
40121300	Rethreaded pneumatic tyres, of rubber, of a kind used on aircraft
40121900	Rethreaded pneumatic tyres, of rubber (excl. of a kind used on motor cars, station wagons, racing cars, buses, lorries and aircraft)
40122000	Used pneumatic tyres of rubber
40129020	Solid or cushion tyres, of rubber
40129030	Tyre treads, of rubber
40129030	Tyre flaps, of rubber

## 6.2 Establishing the economic operators subject to EPR requirements

For tyres, there is no mandatory requirement for the implementation of an EPR scheme. However, Member States, including Malta, have either introduced or are considering the introduction of an EPR scheme for tyres. Such a scheme would place responsibility on producers, for the end-of-life management of tyres they place on the local market. This approach would cover collection, recycling, and disposal, ensuring that tyres are handled in an environmentally responsible manner. While not obligatory, implementing an EPR scheme for tyres would align with broader sustainability goals, encouraging producers to minimise waste and promote the circular economy.

To determine which economic operators would be subject to EPR requirements, an analysis was conducted considering the various stakeholders involved in the lifecycle of tyre products. These include producers, such as importers, as well as supply chain actors like local distributors and retailers. Each of these entities would play a vital role in ensuring the responsibilities of the EPR system are effectively met, particularly in the collection, sorting, and proper disposal of tyre waste.

In this regard, the 'producer' who would be subject to EPR requirements would be defined as the economic operator that directly imports the product from EU or non-EU countries. This means that the 'producer' is the entity that imports the product and thus is subject to EPR requirements. By focusing on the economic operators that import the product, the approach ensures that those who are involved in importing the product are accountable for the end-of-life management of the replacement tyres they introduce to the market.

## 6.3 Potential features of the proposed EPR system

In developing the potential features of a potential EPR system for tyres, an analysis of various models to determine the most effective framework was conducted. In doing so, different EPR schemes, including options for individual producers to self-comply with their EPR obligations and collective compliance through Producer Responsibility Organisations (PROs) were evaluated. Hence, in developing the potential features of the proposed EPR system for tyres, a high-level analysis of various models to determine the most effective framework was conducted:

1. **Individual Producer Responsibility (IPR):** Producers are responsible for the end-of-life management of the tyres they place on the market. They can establish their own take-back schemes, either individually or through third-party providers. In addition, under this model, producers would also be responsible for the full recycling and export process, going beyond just the collection of tyres. Hence, this model promotes waste minimisation by making producers directly accountable for waste management. Successful implementations of this

model, such as in Italy, show that while producers are allowed to fulfil their EPR obligations through a PRO, they also have the option to manage their own collection, recycling, and disposal processes. However, it may pose significant logistical and financial challenges, especially for smaller producers.

2. **Collective Producer Responsibility (CPR):** The CPR model for tyres would involve producers collectively fulfilling their EPR obligations through a single Producer Responsibility Organisation (PRO) or multiple competing PROs.
  - **Single PRO:** This model involves a single PRO fulfilling EPR obligations on behalf of all producers. A centralised PRO can achieve economies of scale, streamline operations, and simplify compliance monitoring. This model is efficient and can reduce administrative burdens for producers.
  - **Multiple competing PROs:** In this model, multiple PROs operate within the market, competing to provide waste management services. This competition can drive efficiency, lower costs, and foster innovation in recycling processes. Producers can choose the PRO that best meets their needs, which can increase service quality and responsiveness. However, this model requires robust regulatory oversight to prevent market fragmentation and ensure all producers meet their obligations.
3. **State-run PRO:** A State-Run PRO model would involve the government establishing and managing a centralised PRO to fulfil EPR obligations on behalf of producers within the tyres sector. Given that a large majority of Maltese companies are small and medium-sized enterprises (SMEs), this model would be designed to minimise the administrative burden on producers by having a state-run entity take on the responsibility of collecting, storing, transporting, and disposing of tyre waste. This approach ensures uniform compliance across the industry and leverages public sector oversight to enhance transparency and accountability.
4. **Public-private partnership (PPP):** The PPP model for tyres would involve a collaboration between the government and private sector companies to facilitate tyre waste management. In this model, the government would provide initial funding and establish the regulatory framework, while private sector partners would manage the day-to-day operations of collection, storage, transportation and disposal of tyre waste. This partnership leverages the efficiency and innovation capabilities of the private sector while ensuring regulatory compliance and alignment with public interests through government oversight. Hence, the PPP model combines public sector support with private sector efficiency, fostering sustainable waste management solutions and promoting the circular economy in the tyre industry.

As highlighted in the table below, each model was then evaluated against a range of critical factors, including legal requirements, cost-effectiveness, market size, administrative efficiency, and the level of competition. These criteria are essential in determining the most appropriate approach for Malta's unique context. The goal was to identify a framework that not only meets regulatory obligations but also enhances the sustainability of waste management practices. By carefully balancing these considerations, the aim is to select a model that drives innovation, promotes efficient resource use, and ensures economic feasibility for producers, while also safeguarding the interests of consumers and the environment.

*Table 18: Potential features of the proposed EPR system*

Feature	Description
Legal requirements	The proposed system must comply with both national and EU regulations, ensuring alignment with relevant directives and frameworks. Compliance with key environmental and waste management legislation is essential to ensure that the system meets sustainability goals and legal standards.

Feature	Description
<b>Cost effectiveness</b>	The model should balance the financial impact on producers with the operational costs of waste management. It should promote economic efficiency, minimising costs while still achieving environmental objectives without overburdening producers, particularly smaller businesses.
<b>Market size</b>	Considering Malta's relatively small market, the model must be scalable and adaptable. A single PRO might offer economies of scale, while a larger market might benefit from multiple PROs to drive competition and efficiency.
<b>Administrative efficiency</b>	The model should be easy to implement, with streamlined processes and effective monitoring mechanisms. High administrative efficiency reduces the burden on both producers and regulators, ensuring smooth operation and compliance.
<b>Competition</b>	If the PRO option is adopted, the model must decide between a single PRO for streamlined operations or multiple PROs to foster competition. Competition can drive innovation and efficiency, but it must be balanced against the need for operational simplicity in a smaller market like Malta.
<b>Environmental impact</b>	The model should contribute to sustainability goals by promoting recycling, re-use, and eco-friendly product design. It should align with the waste hierarchy, prioritising waste prevention and minimising the environmental footprint of tyre waste.

## 6.4 Establishing EPR fees

In developing an EPR system for tyres in Malta, it is essential to consider a range of factors that influence EPR fees and costs. Under an EPR framework producers should bear the environmental costs associated with their products throughout their lifecycle, from importation to post-consumer disposal. Key considerations in setting these fees include the design characteristics of the tyre, such as durability, ease of recycling, and potential for retreading. Durable tyres reduce waste through fewer replacements, while rethreadable and recyclable tyres help minimise environmental impact, ensuring sustainable resource use and better end-of-life management.

In this regard, in collective EPR schemes, PROs must establish criteria and methods for setting fees to determine the amount each producer must pay to recover costs. The complexity of fee modulation varies depending on the methodology and the lifecycle phases targeted. In doing so, there are two possible methodologies:

1. **Basic fee modulation:** a straightforward system that assigns fees based on standard factors like weight, unit, or material, representing the cost of managing the product's end-of-life without considering additional product characteristics like rethreadability or recyclability.
2. **Advanced fee modulation:** A more nuanced system that would incorporate various environmental criteria, such as the tyre's ability to be rethreaded or recycled. This approach would provide targeted incentives for eco-friendly tyre designs. Tyres that are durable or easier to recycle may incur lower fees, which would encourage producers to design products with a lower environmental impact. On the other hand, products with higher disposal costs or environmental footprints could attract higher fees. This type of fee modulation does not seem to widely used for tyres.

Taking the above into account, and drawing from the market research, the impact of incentivising more sustainable tyre production. This approach not only aligns with environmental sustainability goals but also ensures that the EPR fees are fair and reflect the true environmental costs associated with each tyre. However, it is important to note that the advanced fee modulation, while promoting eco-friendly design, may introduce complexity and additional administrative burden on both producers and PROs.

The following table outlines the potential factors that impact EPR fees and costs, providing a structured framework for their calculation and modulation.

Table 19: Factors impacting EPR fees and costs

Factor	Description and potential impact on EPR fees and costs
<b>Design for durability</b>	Tyres designed for longer life and durability may incur lower EPR fees, as they reduce the frequency of replacements and waste generation. This encourages tyre manufacturers to focus on producing tyres that can withstand wear and tear over extended periods, lowering their environmental footprint.
<b>Ease of reuse</b>	Tyres that can be easily reused or rethreaded help minimise waste and resource consumption. EPR fees could be adjusted to incentivise designs that facilitate reuse or refurbishment, extending the lifespan of the tyre before disposal.
<b>Repairability and retreadability</b>	Tyres that are easy to repair, such as those designed with features that make puncture repairs or tread replacements simpler, can significantly extend their useful life. EPR fees could be reduced for tyres that offer accessible repair options, encouraging manufacturers to design for reparability.
<b>Recyclability</b>	The recyclability of tyres, particularly those made with materials that can be broken down and used for the production of other products, can impact EPR fees. Tyres designed with recyclable materials or those that can be efficiently processed at the end of their life cycle may benefit from reduced EPR costs, promoting more sustainable manufacturing practices.
<b>Resource efficiency</b>	Tyres designed to use fewer raw materials or to be produced with lower energy inputs could benefit from lower EPR fees. This encourages manufacturers to focus on reducing material and energy use throughout the production process, decreasing the overall environmental impact of tyres.
<b>Hazardous material content</b>	Tyres containing hazardous materials, such as certain chemicals used in rubber processing, may incur higher EPR fees due to the increased costs and complexity of proper disposal. Reducing or eliminating hazardous substances in tyres could result in lower EPR costs, encouraging the use of safer materials.

By carefully considering these factors, the EPR system can effectively incentivise sustainable production and consumption practices, while ensuring that producers are held accountable for the environmental impacts of their tyre products. This approach not only supports Malta’s environmental goals but also aligns with the broader objectives of the EU Waste Framework Directive.

## 6.5 Identification of potential options for waste management within the proposed EPR system

The proposed EPR system for tyres in Malta is aimed to address the island's unique waste management challenges while promoting environmental sustainability. To achieve this, an assessment was conducted of various waste management options tailored to Malta's specific needs.

Taking this into account, the following table outlines the potential operational options with regards to tyre waste management for the proposed EPR system, based on the local current situation where tyre waste is exported. These scenarios were assessed based on the Waste Hierarchy established in the Waste Framework Directive, ensuring that waste prevention, reuse, and recycling were prioritised.



Table 20: Potential options for the proposed EPR system

Option	Description
<p><b>Collection options</b></p>	<p>The first stage in tyre waste management involves the collection of used tyres, which can be carried out through several potential options:</p> <ol style="list-style-type: none"> <li>1. <b>Take-Back schemes:</b> This approach involves producers and retailers implementing a 1-for-1 take-back scheme whereby they collect a used tyre from the consumer for free when selling a replacement tyre. This scheme can operate in two ways: <ul style="list-style-type: none"> <li>○ <b>Direct sales:</b> When the producer sells directly to the consumer, they are responsible for collecting the used tyres directly from consumers at the point of sale.</li> </ul> <p><b>Sales via retailers:</b> When the producer sells tyres through retailers, the retailers would temporarily collect used tyres from consumers until the PRO collects them. To ensure efficient collection and proper tracking, it is recommended that retailers also register with the PRO, as tyres would be collected from their premises. In this case, the retailers would not bear the EPR fees, and the producer would retain financial responsibility under the EPR scheme. Hence, producers would need to inform the PRO of when their tyres are sold through retailers, allowing the PRO to effectively track and manage tyre collection from these points.</p> </li> </ol> <p>In both scenarios, if the consumer does not provide a used tyre when purchasing a replacement, the seller is still obligated to collect an equivalent used tyre. A possible solution for managing this responsibility could involve issuing a certificate to the consumer, requiring them to return a used tyre within a specified timeframe for free.</p> <ol style="list-style-type: none"> <li>2. <b>Dedicated collection points:</b> In this option, the producer or PRO would establish dedicated collection points where consumers can directly deposit their used tyres, such as the current Civic Amenity sites. These collection points would provide a convenient and accessible way for consumers to dispose of tyres responsibly.</li> <li>3. <b>Combined approach:</b> This option integrates both take-back schemes and dedicated collection points, allowing for greater flexibility and coverage in the collection process. Consumers could return used tyres through the 1-for-1 take-back scheme at the point of sale or utilise designated collection points managed by the PRO or third parties, ensuring that tyres are collected efficiently from all possible sources.</li> </ol> <p>In all the above options the tyres would also need to be transported from the collection points to facilities where they will be treated and prepared for export. The PRO would also need to enter into arrangements with authorised waste collectors to operate and / or finance this transportation.</p>
<p><b>Processing options</b></p>	<p>The third stage of the process involves processing activities such as shredding, cutting, and baling used tyres to prepare them for further treatment, or export. This processing can be carried out through two primary options:</p> <ol style="list-style-type: none"> <li>1. <b>Processing at Wasteserv's MMRF:</b> In this option, the processing of used tyres would take place at Wasteserv's MMRF. Here, tyres would undergo shredding, cutting, and baling, leveraging Wasteserv's existing infrastructure and capacity to handle large volumes of tyre waste.</li> <li>2. <b>Processing by private authorised waste operators:</b> Alternatively, processing can be managed by private authorised waste operators who have the necessary facilities and expertise. These operators can provide</li> </ol>

Option	Description
	<p>specialised shredding, cutting, and baling services, potentially offering more flexibility and capacity for handling specific types of tyre waste.</p> <p>For either option, the respective facility handling the preparation for export would also be required to issue a certificate, confirming that they have followed and completed the necessary waste management procedures.</p>

These potential implementation options offer a range of strategies to enhance Malta's tyre waste management system, each with its own set of advantages and challenges. By considering these options, Malta can develop an EPR system that is tailored to its specific needs and promotes effective waste management and environmental sustainability.

## 6.6 Identification of potential targets

Quantitative targets are designed to support the objectives of an EPR scheme. These targets play a role in influencing the overall performance of the EPR system.

The only targets set in the Union and national acquis relevant to end-of-life tyres are those relating to End-of life vehicles: reuse and recovery - 95% by average weight per vehicle; re-use and recycling - 85 % by average weight per vehicle as set out in the Waste Management (End of Life Vehicles) Regulations (S.L.549.36.) which bring into effect the targets set out in the End of Life of Vehicles Directive (EU Directive 2000/53/EC).

The table below presents the collection, material recovery, and energy recovery targets established by various countries that have implemented EPR for tyres. It shows that typically collection targets range between 70% and 100%, ensuring that a significant proportion of tyres sold are recovered.<sup>62 63</sup>

While collection targets are commonly set, treatment targets, such as material recovery and energy recovery, are less frequently defined. Material recovery involves recycling tyres into new products, while energy recovery uses waste tyres as a source of fuel. This gap suggests that while the collection of tyres is well-regulated, there is less emphasis on the treatment of tyre waste.

Table 21: Collection, material recovery and energy recovery targets

Countries	Collection target	Material recovery target (incl. preparation for reuse and retread)	Energy recovery target
Belgium	100% (minimum of 85%)	Minimum 55%	Maximum 45%
Italy	95%		
Netherlands	100%	20%	
Portugal	96%		
Finland	95%		
Greece	90%		
Czech Republic	90%		
Lithuania	90%		
Latvia	90%		
Romania	90%		
Poland	75%		

<sup>62</sup> European Review of EPR Schemes for Tyres (October 2022) ADEME <https://bibliothec.ademe.fr/dechets-economie-circulaire/6228-european-review-of-epr-schemes-for-tyres.html>

<sup>63</sup> [https://researchonline.gcu.ac.uk/ws/files/27165887/J.Baird\\_WM\\_18\\_2410R2.pdf](https://researchonline.gcu.ac.uk/ws/files/27165887/J.Baird_WM_18_2410R2.pdf)

Countries	Collection target	Material recovery target (incl. preparation for reuse and retread)	Energy recovery target
Ireland	70%		
Slovakia		75% (by 2025)	24%
Bulgaria	65%		
Spain	100%	15% preparation for reuse 45% minimum for recycling	40%
Slovenia	75%		
Turkey	80%		

Considering these targets in the context of Malta, the country's unique challenges should be acknowledged as it is the smallest nation in the European Union. Malta's limited geographic size and population create constraints that hinder its ability to achieve the economies of scale typically required for efficient tyre waste management. Due to its small market and logistical limitations, it is likely that Malta would need to adopt quantitative targets at the lower end of the range observed in other countries. These tailored targets would better reflect Malta's capacity while still promoting responsible tyre waste collection and treatment.

## 6.7 Potential measures and considerations for the setting up of the EPR

In determining the potential measures and considerations for setting up a potential EPR system for tyre waste in Malta, several critical factors were taken into account. Desk research and market analysis were conducted to understand the specific requirements and challenges associated with tyre waste management. The focus included assessing the existing infrastructure and identifying the necessary upgrades or new facilities required to handle tyre waste effectively. This involved evaluating the capacity and efficiency of current collection, transportation and recycling systems, as well as exploring potential improvements or expansions needed to support the EPR system.

By addressing these factors, the objective to develop a comprehensive and effective EPR system tailored to Malta's specific needs, promoting efficient waste management and environmental sustainability is being met. In this regard, based on a similar approach to the previous activities, below the various potential measures and considerations for setting up the EPR system for tyres are outlined.

Table 22: Potential measures and considerations for the proposed EPR system

Aspect	Description
<b>Existing infrastructure and required infrastructure</b>	In evaluating the EPR system options for tyres, the existing infrastructure in Malta, where tyre waste is primarily managed directly by producers themselves or by private collectors who transport used tyres to WasteServ for disposal was considered. WasteServ's Multi-Material Recovery Facility (MMRF) currently processes these tyres by cutting, baling, and exporting them..
<b>Geographical constraints</b>	Malta's small size and high population density create logistical challenges for tyre waste management. Limited space for new facilities necessitates efficient use of current infrastructure, such as existing waste storage areas. The proposed EPR system must leverage existing operations like WasteServ's storage and export processes at the MMRF facility, as well as those of licensed waste management operators. Additionally, exploring innovative approaches to optimise land use and space for

Aspect	Description
	storing collected tyres will be key to ensure the system both sustainable and practical.
<b>Demographic behaviour</b>	Understanding local practices related to tyre disposal is vital for EPR implementation. Many tyres are currently stored by producers or collected by private companies before being transported to WasteServ. Increasing public engagement with proper tyre disposal is essential. Public awareness campaigns and incentives are needed to educate producers and end-users about the importance of proper tyre disposal and collection systems. By improving consumer and producer behaviour, the EPR system can be more effective in managing tyre waste.
<b>Fee structure</b>	The financial model for the EPR scheme must ensure that producers bear a fair share of the cost of waste management while promoting sustainable practices. As highlighted in Section 6.4, various fee structures were evaluated, including product-related fees and the overall cost of waste management, to incentivise producers to design for durability and recyclability. The fee structure should be transparent and equitable, reflecting the true costs associated with activities such as the collecting, transporting, and disposing of tyres, while encouraging producers to minimise their environmental impact. This approach aims to create a balanced financial framework that drives compliance, fosters continuous improvement, and supports the overall goals of the EPR system.

## 6.8 Potential measures to ensure compliance from producers and PROs

Ensuring compliance from producers and PROs is crucial for the success of the EPR system. As part of developing a comprehensive EPR system, a number of potential effective and reasonable compliance measures are set out below. These measures would be designed to promote transparency, fairness, and accountability among all participants in the EPR system. By fostering a collaborative environment and clearly defining the roles and responsibilities, the aim is to build a system that all parties could trust and commit to.

Overall, these compliance measures would be designed to create a robust and transparent EPR system that encourages responsible behaviour among all stakeholders. By fostering cooperation and accountability, such measures would contribute to ensure the successful implementation and operation of the EPR system for tyres in Malta. This comprehensive approach not only supports the achievement of waste management goals but also builds a sustainable framework for ongoing environmental stewardship. Through these efforts, Malta would be committed to creating an effective EPR system that benefits the environment and society at large.

In this regard, the following table outlines the potential measures designed to ensure compliance from producers and PROs within the proposed EPR system.

*Table 23: Potential measures and considerations for the proposed EPR system*

Aspect	Description
<b>Full disclosure of responsibilities and obligations</b>	Producers and PROs should receive comprehensive guidelines from the competent authority detailing their specific responsibilities and obligations. This includes clear instructions on reporting, record-keeping, and adherence to environmental standards. Regular updates and training sessions can help ensure that all parties remain informed about any changes in regulations or procedures.
<b>Registration of tyre retailers</b>	Tyre retailers would be required to register with the designated tyre PRO and obtain a unique registration number. This registration number would then be included on all invoices and fiscal receipts issued to customers. This measure would ensure accurate tracking of tyre sales and distribution, promoting transparency in the supply chain, as well as facilitating the monitoring of compliance with EPR obligations. By integrating this system, it would become easier to identify and address any potential non-compliance among retailers.
<b>Monitoring and identification of anti-competitive practices</b>	Implementing a robust monitoring system is essential to identify and address anti-competitive practices (e.g. price fixing) within the EPR framework. This could involve regular audits, market analysis, and the establishment of a reporting mechanism where stakeholders can report suspected anti-competitive behaviour. Ensuring a level playing field will help maintain fair competition and encourage compliance.
<b>Identification of free-riders and penalty fees</b>	To prevent free-riders, being those producers who benefit from the EPR system without contributing financially, there should be a system to identify and penalise such entities. This could include cross-referencing market data, import records, and sales information to spot discrepancies. Penalty fees for free-riders should be substantial enough to deter non-compliance and ensure fairness.
<b>Penalty fees for PROs not meeting targets</b>	PROs that fail to meet their targets should be subject to penalty fees. These penalties will incentivise PROs to achieve their collection, recycling, and reuse targets. The penalties collected could be reinvested into the EPR system to support infrastructure improvements and public awareness.

Aspect	Description
	<p>campaigns. One other measure could be the implementation of a bank guarantee from PROs, which would cover the costs of waste management. This guarantee would be utilised by the Authority in cases of serious non-compliance, ensuring that necessary waste management activities continue without disruption.</p>
<p><b>Regular compliance audits</b></p>	<p>Conducting regular compliance audits of producers will help ensure that they are adhering to the EPR requirements. These audits can be commissioned by the PROs and carried out by independent third-party auditors to ensure objectivity and transparency. This measure can be balanced with the need to avoid placing an undue burden on micro, small and medium-sized enterprises, by establishing a quantitative threshold. This threshold would ensure equal treatment of producers regardless of size or origin, exempting micro and small-to-medium enterprises (SMEs) from this auditing requirement. Hence, such an approach would reduce the regulatory burden on smaller producers, while still maintaining the integrity and transparency of the EPR system.</p>
<p><b>Mandatory reporting standards and transparency</b></p>	<p>Producers and PROs should be required to submit regular reports detailing their activities, including quantities of tyres collected, recycled, and disposed of. These reports should be made publicly available to ensure transparency and allow stakeholders to track progress against EPR targets.</p>
<p><b>Public awareness and education campaigns</b></p>	<p>Ensuring that the public understands the importance of the EPR system and how to participate effectively is crucial. Public awareness campaigns can educate consumers about proper tyre disposal methods, the benefits of recycling tyres, and the roles of producers and PROs in the EPR system. Engaging the public can help increase compliance rates and support overall system effectiveness. In this regard, to ensure compliance from PROs, the proposed system can establish a minimum number of such campaigns that must be carried out or financed annually by PROs.</p>



## 7. Options Appraisal

The introduction of an EPR scheme for tyre waste in Malta, necessitates a structured approach to evaluate various policy alternatives. This EPR scheme aims to shift all costs associated with tyre waste management to the producers. Currently, most producers of replacement tyres are already paying costs related to the collection, transportation and gate fees for waste tyres. Thus, the EPR scheme for tyre waste would aim to shift other waste management costs such as those relating to sorting, cutting, baling and export of tyre waste from the public sector to the producers. The objective is to incentivise more durable tyre products, reduce waste generation, and enhance recycling rates.

The purpose of this appraisal is to identify and evaluate potential policy options for the EPR scheme, drawing on best practices from other EU member states. By considering criteria such as environmental impact, economic feasibility, ease of implementation, stakeholder acceptance, and regulatory compliance, the objective is to determine the most feasible and effective approach for Malta. Through a systematic and comparative analysis, this appraisal will guide the final recommendation for the optimal EPR scheme for tyre waste management in Malta.

### 7.1 'Do-nothing' Approach

In this context, a "do nothing" approach, would mean maintaining the current system, where producers (importers and distributors) of replacement tyres handle tyre waste without any collective responsibility framework. Tyre waste would continue to be processed depending on the tyre rim diameter as outlined in Section 4.

These two tyre waste management options would not fully address the environmental or financial inefficiencies associated with tyre waste management, as there would be no financial incentives or obligations for producers to manage their waste more sustainably. Additionally, the cost burden associated with tyre waste management would primarily remain the public sector's responsibility, as the gate fees do not currently cover the whole life cycle. Hence, this system would lack the structured incentives or regulatory frameworks to promote recycling, reuse, or innovation in tyre product design, resulting in continued reliance on the existing, less efficient system.

### 7.2 Products subjects to EPR obligations

Table 17 in Section 6 lists tyre products that fall under the potential scope of EPR. These include both original tyres and replacement tyres. Original tyres are already covered by the End-of-Life Vehicles (ELV) scheme under Directive S.L. 549.36. Therefore, based on the products listed in this table, it is recommended that the EPR for tyres should only encompass replacement tyres, as original tyres are regulated by the ELV Directive (M1 and N1 categories of vehicles) or its proposed amendments (to broader categories of vehicles).

Moreover, aircraft tyres would not be subject to EPR requirements because, based on information which was received during stakeholder consultations, they are not disposed of in Malta when replaced. Instead, they are returned to the manufacturer for refurbishment and reuse. This process is possible due to the high quality and greater thickness of aircraft tyres compared to other types of tyres.

Furthermore, bicycles are also not recommended to be subject to EPR requirements, in order to align with efforts to promote sustainable travel practices.

### 7.3 Recommendations on the EPR model

To determine the most suitable policy option from those outlined in Section 6, each of the four options were evaluated against five key criteria considered to be key in reaching the objectives of a potential EPR for tyres. These include the below:

1. **Operational efficiency:** how efficiently each option allows the EPR system to function, considering factors like ease of coordination, administrative complexity, and the ability to achieve high collection and recycling rates;

2. **Cost-effectiveness:** the assessment of the overall cost to producers and PROs in implementing and maintaining each option, including but not limited to waste management, compliance monitoring and reporting;
3. **Market competition and innovation:** the potential for fostering competition and innovation within the EPR system. A model with PROs might encourage innovation and efficiency through competition, while an IPR model or single PRO model might benefit from unified strategies and consistency;
4. **Regulatory compliance and ease of implementation:** how easily each option aligns with existing and proposed regulations.
5. **Environmental impact:** the potential environmental benefits of each option, including the ability to reduce tyre waste, increase recycling and reuse rates.

Taking all of the above into account, the table below assesses each option using a Likert scale ranging from 1 to 5, with 5 representing the maximum value. Hence, this evaluation facilitates the identification of the option that best aligns with the scheme's goals and the unique context of Malta.

Table 24: Policy option analysis using a Likert scale

	IPR	CPR	State-run PRO	Public-private partnership
Operational efficiency	2	5	3	4
Cost effectiveness	2	5	3	4
Market competition & innovation	3	4	1	3
Regulatory compliance & ease of implementation	3	4	5	3
Environmental impact	3	4	4	4
<b>TOTAL SCORE</b>	<b>13</b>	<b>22</b>	<b>15</b>	<b>18</b>

Based on the evaluation, the **CPR (Collective Producer Responsibility)** model stands out as the preferred option for Malta's potential EPR for tyres. Its operational efficiency, cost-effectiveness, and ease of implementation make it particularly well-suited to Malta's size and market. CPR allows producers to collectively handle their obligations, ensuring a streamlined process that leverages existing infrastructure. It distributes costs more equitably and promotes better environmental outcomes. Additionally, it supports market innovation while maintaining compliance with regulatory frameworks efficiently.

## 7.4 Recommendations on the organisational model

In addition to the above, below the three potential options for the implementation of the CPR model for the tyres EPR are outlined, ensuring that extended producer responsibilities are fulfilled collectively through PROs.

Table 25: potential CPR models

Option	Description
<b>Financial responsibility by PRO and Organisational</b>	In this option, producers through the PRO would finance the collection, processing and export of waste tyres organised by public entities. Hence, producers would contribute to the PRO based on their market placements, and the PRO would then allocate these funds to cover the costs of waste tyre

Option	Description
responsibility by public body	collection, storage, transportation, and export. In this regard, it is to be noted that, unlike other municipal streams such as packaging and non-packaging recyclables, for which door-to-door and bin-based systems are widely established, the separate collection of tyres (other than through one-to-one return systems by retailers) requires collection points in the form of facilities. As such, this model might be difficult to implement on the ground.
Organisational and financial responsibility by PRO	This option would assign the PRO both organisational and financial responsibilities. While producers would still contribute financially, the PRO would also actively organise an independent collection system, such as recycling points or direct pick-ups. This would include managing logistics, liaising with waste collectors and waste operators, and overseeing storage, transportation, and export of tyre waste
Combined approach	This approach incorporates elements of both models. For certain collection routes, such as those potentially organised by local authorities, PROs would have financial responsibility only. Conversely, they would assume both financial and organisational responsibilities for other systems, such as recycling points or independent collection schemes established by the PRO.

In addition to the assignment of responsibilities, another key structural option for implementing the CPR model is deciding between a single PRO or multiple PROs. To determine the most suitable implementation option within this framework, each of the three CPR options outlined earlier were evaluated, along with the consideration of whether a single or multiple PRO approach should be adopted, against the five key criteria set out in Section 6.2. In this regard, the table below assesses each option using a Likert scale ranging from 1 to 5, with 5 representing the maximum value.

Table 26: Assessment of CPR models

	Financial responsibility only (Single PRO)	Financial responsibility only (Multiple PROs)	Organisational & financial responsibility (Single PRO)	Organisational & financial responsibility (Multiple PRO)	Combined approach (Single PRO)	Combined approach (Multiple PROs)
Operational efficiency	3	2	5	2	3	2
Cost effectiveness	3	2	4	3	4	3
Market competition & innovation	2	3	3	4	3	4
Regulatory compliance & ease of implementation	3	1	4	3	3	2
Environmental impact	5	5	5	5	5	5
<b>TOTAL SCORE</b>	<b>16</b>	<b>13</b>	<b>21</b>	<b>16</b>	<b>18</b>	<b>16</b>

Based on the evaluation, a single PRO model with both financial and organisational responsibility stands out as the preferred option, offering the highest potential for operational efficiency, ensuring that resources are managed effectively and processes are streamlined. Additionally, it might provide benefits in terms of more coordinated and effective waste collection and recycling efforts.

It is crucial that the PRO identifies and implements the most cost-effective practices, particularly in relation to the processing and export/reuse stages. The PRO should continuously evaluate and optimise the operations during these stages to reduce costs and enhance the overall efficiency of the tyre waste

management process, ensuring that the system remains sustainable and economically viable while achieving environmental targets.

Furthermore, given Malta's small size, a single PRO model is particularly well-suited for the initial introduction of the EPR system. It simplifies coordination and oversight, ensuring that responsibilities are managed effectively and that resources are allocated efficiently. The single PRO can provide a unified structure, minimising complexity and fostering a more streamlined rollout of the EPR scheme.

## 7.5 Recommendations on fee modulation

By applying either the basic or advanced modulation fee methodologies, Malta can effectively manage the financial contributions from producers to cover the costs associated with tyre waste management. The choice between basic and advanced modulation depends on the desired balance between simplicity and the level of environmental incentives provided to producers. In this regard, in the below the pros and cons of both scenarios for Malta's EPR system for tyres are set out, considering factors such as cost, administrative complexity, environmental impact, and incentivisation of sustainable practices.

Table 27: analysis of basic vs. advanced modulation fees

Fee	Pros	Cons
Basic modulation fee	<b>Simplicity and ease of implementation:</b> basic modulation fees are straightforward to calculate and administer. Fees are based on simple criteria like unit or weight, making it easier for producers and the regulatory body to understand and manage.	<b>Limited incentivisation for eco-design:</b> Basic modulation fees do not provide strong incentives for local producers to import environmentally friendly products. Since all products are treated equally regardless of their environmental impact, there is less motivation for producers to improve product durability or recyclability.
	<b>Lower administrative costs:</b> the simplicity of the basic model reduces the administrative burden on both the producers and the PRO. This can result in lower implementation and operational costs.	
	<b>Predictability for producers:</b> producers can easily predict their fees based on clear, consistent criteria, facilitating better financial planning and budgeting.	<b>Environmental impact:</b> without specific incentives, the environmental benefits may be limited. Producers might not be encouraged to reduce waste or enhance the sustainability of their products.
	<b>Initial adaptation:</b> as an initial step towards EPR, a basic modulation fee system can help producers transition smoothly without overwhelming them with complex requirements.	
Advanced modulation fee	<b>Incentivisation for sustainable practices:</b> Advanced modulation fees reward producers for designing products that are durable, easier to recycle and retread, or have a lower environmental impact. This encourages innovation and the adoption of sustainable practices.	<b>Complexity and higher administrative costs:</b> Implementing an advanced modulation fee system requires more sophisticated data collection, monitoring, and verification processes. This increases administrative complexity and costs for both producers and regulators.
	<b>Alignment with environmental goals:</b> by linking fees to environmental criteria, the advanced model would directly support Malta's sustainability and circular economy goals. Products with lower environmental impact are financially incentivised, promoting overall waste reduction and improved recycling rates.	<b>Initial resistance from producers:</b> Producers may initially resist the advanced fee system due to the higher complexity and potential increase in fees for non-sustainable products. It requires significant effort

Fee	Pros	Cons
		to educate and engage producers in the new system.
	<p><b>Cost efficiency in the long run:</b> Although initially more complex, advanced modulation can lead to long-term cost savings for producers who choose to place on the market eco-friendly products. Over time, the reduction in waste and improved recyclability can decrease overall waste management costs.</p>	<p><b>Implementation challenges:</b> Advanced modulation fees require a robust framework for assessing the environmental impact of products, which may be challenging to establish and enforce effectively.</p>

Taking the above into account, reviewing what other countries have implemented, and based on discussions with key stakeholders, it became evident that advanced modulation fees would be challenging and inefficient to implement in Malta, primarily due to the country's small size, the limited quantities of tyre waste produced, and the fact that the majority of waste management costs are tied to shipping expenses related to export. Therefore, introducing a basic modulation fee structure throughout the EPR scheme is being recommended.

A basic modulation fee system offers simplicity, making it more feasible to implement and manage, particularly within the Maltese context. By applying such a fee structure across all producers, administrative burdens would be minimised, and the system would remain straightforward and transparent. While advanced modulation fees could theoretically incentivise sustainable product design, the complexities associated with implementing such a system in Malta would likely outweigh the benefits, given the relatively small volumes involved. Based on the size of the market in Malta, the impact the Maltese producers would have on the design by manufacturers is limited.

Ultimately, adopting a basic modulation fee system ensures the EPR scheme remains efficient and manageable, while still meeting its environmental objectives. This approach recognises Malta's unique context, providing a streamlined solution that aligns with the country's waste management infrastructure and cost considerations.

## 8. Assessment of potential key success factors

The successful implementation of an EPR scheme for tyres in Malta hinges on more than just the establishment of the EPR mechanism itself. To ensure that the EPR system operates effectively and meets its sustainability objectives, a comprehensive approach involving additional legislative and other measures is essential. These measures will address key aspects of tyres waste management, enhance the efficacy of the EPR scheme, and align with broader environmental and waste reduction goals.

This section outlines the critical success factors necessary for supporting the EPR scheme's implementation in Malta. It highlights the need for complementary regulatory, and other actions that will underpin the EPR system and facilitate its success. By addressing these factors, a robust framework that not only supports the EPR scheme but also ensures its integration into Malta's broader waste management strategy would be created.

Table 28: Potential key success factors

Feature	Description
Mandatory registration for tyre retailers	A key factor for the successful implementation of a potential EPR system for tyres would involve requiring tyre retailers to register with the designated tyre PRO and obtain a unique registration number. This number would then be included on all invoices and fiscal receipts issued to customers. Such a measure would enhance the traceability of tyre sales, improve supply chain transparency, and support monitoring efforts to ensure compliance with EPR obligations, thereby reducing the risk of non-compliance within the system.
Consumer educational campaigns	Consumer educational campaigns enforced by EPR requirements can be complemented by the implementation of target measures. Educating consumers about the environmental impacts of tyre waste and the importance of responsible disposal can lead to enhanced tyre waste management. These campaigns can be delivered through various channels, such as social media, advertisements, and community workshops, emphasising the ease and benefits of returning used tyres to designated collection points. By increasing consumer understanding and engagement, these campaigns would reduce illegal dumping, promote sustainable behaviours, and support the overall goals of the EPR scheme.
Tyre waste collection optimisation	Optimised collection of tyre waste from producers and retailers would enhance the effectiveness of the EPR scheme by ensuring timely and efficient tyre waste management processes. By determining the optimal frequency for collecting tyre waste, producers would avoid the accumulation of large volumes of unprocessed tyres, which would create higher storage costs and potential environmental hazards. By coordinating collection schedules based on factors such as sales volume and waste management points capabilities, the EPR scheme would streamline operations, minimise the risk of stockpiling, and enhance the overall efficiency of the waste management process. This would help producers fulfil their responsibilities under the EPR scheme and also contribute to better waste management practices.

Due to the limited amounts of waste tyres generated in Malta and the significant lack of economies of scale, such waste is currently exported mostly for recycling outside the EU. In this context, whilst the setting up of an EPR scheme might theoretically promote circular activities locally, the specificities of the national context represent a significant obstacle towards closing the recycling loop in Malta. In light of the above, such a potential benefit is not considered to be a key success factor.

Hence, taking all of the above into account, the successful establishment and operation of the EPR scheme for tyres in Malta depends on a range of supportive regulatory and other measures beyond the EPR framework itself. These key success factors are essential for ensuring that the EPR scheme



achieves its objectives of reducing tyre waste, promoting reusability, recycling, and recovery and fostering a circular economy. They will provide the necessary regulatory support and financial incentives to engage all stakeholders, including producers, consumers, and waste management operators, in a unified effort to manage tyre waste effectively.

Furthermore, implementing these measures will not only enhance the effectiveness of the EPR scheme but also contribute to Malta's broader environmental goals. By addressing these foundational elements, Malta can establish a robust EPR system that supports sustainable tyre management, drives positive environmental impact, and sets a precedent for effective waste management practices.

## 9. Financial analysis

This Section delves into a detailed analysis of the various activities involved in the management of tyre waste, ranging from collection, storage and transportation, to cutting, baling and export. By examining the associated costs, this Section sets out a clear picture of the financial dynamics that would underpin a potential EPR system for tyres. The analysis is based on market research, publicly available information, and consultations with key stakeholders in the industry.

Hence, this analysis would form the foundation for determining the EPR fee structure for tyre producers, should an EPR be introduced. Ultimately, this assessment also helps outline the financial responsibilities that need to be passed on to producers, which would provide them with a transparent and fair mechanism for managing their obligations under the EPR framework.

### 9.1 Baseline assumptions

This sub-section presents the key assumptions and factors considered in projecting the costs associated with tyre waste management in Malta should an EPR be introduced. This analysis will delve into the financial implications of tyre waste management, providing a detailed breakdown of the associated costs generated from these activities.

#### 9.1.1 Collection rate assumptions

As outlined in Section 4, over the last years the collection rate of tyres has exceeded 100%. When comparing the total tyre imports with total tyre waste collected in the subsequent year (Collection in N/ Imports in N-1) between 2018 and 2022, a total of 8,509 tonnes of tyres were imported (placed on the Maltese market) and a total of 10,868 tonnes of replacement waste tyres were collected, resulting in a collection rate of 128%.

The high collection rate could however be due to a number of reasons, including temporary adjustments such as a backlog of tyres which are being collected which had been stored or illegally dumped for a number of years.

It is therefore being assumed that for the purposes of estimating an indicative EPR fee, a **100% collection rate** will be achieved, meaning that all tyres sold in Malta in N-1 will eventually be collected and treated through the waste management system in N.

#### 9.1.2 Export assumptions

As outlined in Section 4, over the last years, the rate of collected tyres exported has exceeded 100%. When comparing the total tyres collected with the tyre waste exported in the same year, between 2019 and 2022, a total of 11,661 tonnes of tyres were collected, whilst a total of 12,606 tonnes of tyres were exported, resulting in an export rate of 108%. This is due to the fact that export data includes tyres originating from Authorised Treatment Facilities (ATF) for End-of-Life vehicles (which would not be subject to a potential EPR scheme of replacement tyres) and also, to a lesser extent, to temporary adjustments such as a backlog of tyres to be exported.

It is therefore being assumed that for the purposes of estimating an indicative EPR fee, a **100% export rate will be achieved**, meaning that all tyres collected in a particular year will be exported as waste.

#### 9.1.3 Direct waste management costs

- **Collection and transportation:** The initial stage of tyre waste management involves the collection of waste tyres and their transportation either to Wasteserv or other private authorised waste operators for treatment. Based on industry consultations, the cost for this stage is estimated to be c. €50 per tonne. This figure includes logistical expenses associated with coordinating collection routes and ensuring tyres are transported safely and efficiently.

- **Gate fee and EPR:** The gate fee is currently only covering a portion of the tyre waste management costs (i.e. part of storage, cutting, baling and exportation). Hence, it was considered that in order to calculate the true waste management cost and to avoid double counting (since the costs for storage, cutting, baling, loading and exporting are taken into consideration below), the gate fee would not enter in this calculation. In the case that the PRO would opt to use WasteServ infrastructure most probably there would have to be a specific agreement between both parties so that the producers pay the true cost of waste management.
- **Storage, cutting, and baling:** Following collection, tyres must be stored, cut, and baled to prepare them for export. According to data provided by Wasteserv, the cost for this stage is estimated to be c. €160 per tonne. This figure is based on the average cost paid by Wasteserv for a third party operator to carry out this activity between 2020 and the first quarter of 2024, prior to when the MMRF facility started being used for waste processing including that of tyres. This cost breakdown is expected to cover the below:
  - **Labour costs:** Assuming seven employees are required to manage the storage, cutting, and baling operations;
  - **Baler and material costs:** This accounts for the replacement costs of baling equipment and any materials used during the baling process;
  - **Electricity costs:** The energy required for cutting and baling the tyres is also factored into this cost estimate.
  - **Rental costs:** For facility where storage, cutting and baling is carried out.
  - **Equipment replacement and maintenance:** Mainly related to balers.
  - **Profit margin:** The third party operator would have factored in a profit margin into the cost if charged Wasteserv.
- **Loading and exporting:** Once the tyres are processed, the final step involves loading them for export and actually carrying out the export operations. According to a publicly issued and awarded tender by Wasteserv (Tender reference: CT2103/2023), the estimated cost to load and export one tonne of light-weight tyres is c. €239 per tonne.

In summary, when considering these key activities (collection, storage, treatment, and export), the total direct cost of managing tyre waste is estimated to be c. €449 per tonne of tyres treated.

#### 9.1.4 PRO costs

- **Costs borne by the PRO:** Under the EPR framework, the PRO is responsible for several activities that must be incorporated into the EPR fee calculation. The PRO will incur administrative costs related to compliance and reporting obligations. These may include employees to carry out data collection and management, the preparation of compliance documents, audits, IT and software systems, and stakeholder engagement. Based on market research of similar PROs across the EU<sup>64</sup>, such administrative costs are estimated to represent about 12% of the overall waste management costs, translating to approximately €54 per tonne. The activities to be carried out by the PRO also include publicity and awareness-raising campaigns aimed at educating the public on proper tyre waste management practices. These initiatives are projected to account for c. 2% of the total tyre waste management cost, equating to c. €10 per tonne.

<sup>64</sup> These percentages were determined using published figures from the Belgian, Spanish and Dutch tyre PRO for 2021 <https://librairie.ademe.fr/societe-et-politiques-publicques/6228-european-review-of-epr-schemes-for-tyres.html>

## 9.2 EPR fee calculation

Based on the costs detailed above, this sub-section outlines the estimated total annual cost of managing tyre waste under a potential EPR framework. This cost represents the amount that would need to be covered by producers, ultimately determining the EPR fee per tonne of tyres placed on the market.

Direct waste management costs per tonne	€449.00
PRO costs	€64.81
<b>Total cost per tonne</b>	<b>€513.81</b>
10% contingency	€51.38
<b>Estimated EPR fee per tonne of tyres placed on the market</b>	<b>€565.20</b>
Tyres per tonne	100
<b>Estimated EPR fee per tyre</b>	<b>€5.65</b>

- **Total costs:** As outlined in the table above, the total cost for managing tyre waste is estimated to amount to c. €449 per tonne. Additionally, the costs associated with the operations of a PRO are estimated to be c. €65 per tonne. To provide a buffer for any unforeseen expenses, a 10% contingency is also applied, bringing the total cost to c. €565 per tonne of tyres treated.
- **EPR fee per tyre:** Based on the assumption that an average lightweight tyre weighs around 10 kg, this would result in an estimated EPR fee of c. €5.65 per tyre.
- **Per kilogram cost:** When this fee is broken down per kilogram, it would result in a cost of c. €0.57 per kg. Hence, in the subsequent section dedicated to the Economic Impact Assessment (EIA) of such a potential EPR for tyres, we will explore the potential implications of implementing EPR in the context of the current fiscal regime, including its effects on the economy.

## 9.3 Key limitations of the data

In conducting this feasibility study, data was gathered through consultations with key stakeholders in the industry, market research, and publicly available information. While the work has involved analysis of financial information, it has not included an audit in accordance with generally accepted auditing standards. Moreover, except where otherwise stated in the Report, the information in the Report has not been subjected to checking or verification procedures. Accordingly, no responsibility is being assumed and no representations are being made with respect to the accuracy or completeness of any information received, except where otherwise stated herein, and no assurance is given.

Below, the primary limitations encountered during the data collection process are outlined:

1. **Export cost assumptions:** We assume that the current costs per tonne of tyres exported would remain constant. However, with the implementation of the new rules governing the export of green-listed waste outside the Union, notably to non-OECD countries, there might be a potential shift in exports from third countries to nations within the EU itself. Hence, this transition creates uncertainty regarding how these changes may influence the associated costs of exporting used tyres.
2. **Collection rate:** While a 100% collection rate of tyres under the EPR framework is being assumed, this may not materialise. Various factors could result in tyres not being properly collected, such as illegal disposal. Consequently, assuming full collection could lead to an overestimation of the quantities treated, and of the actual waste management costs.

3. **Direct waste management cost assumptions:** The assumptions on collection costs are based on feedback provided during stakeholder consultations and are therefore not based on a comprehensive assessment. The storage, cutting, and baling cost assumptions are based on average fees paid by Wasteserv to third party contractors. The operating costs for Wasteserv in storing, cutting and baling tyres at the MMRF, which is the main current operator for waste tyres could therefore differ from these costs.
4. **PRO costs:** While we have conducted market research on PRO costs, particularly concerning publicity and administrative expenses for established tyre EPRs in other EU member states, we do not have a complete understanding of these costs in the local context. Therefore, we estimate these costs as a percentage of the total expenses, drawing on similar percentages incurred in other tyre EPRs across the EU. However, these figures may differ in the Maltese context.
5. **Tyre size:** an additional limitation is that the data and cost estimates used in this feasibility model, include those specific to lightweight tyres (those less than 22.5 inches), which are the majority of the tyres placed on the market. This means that the figures may not fully account for the processes and associated costs required for managing larger tyres (those over 22.5 inches). As the handling, treatment, and disposal of larger tyres could involve more complex processes, these variations could lead to different cost structures that are not reflected in the current model.

## 10. High level economic impact assessment

The potential implementation of an EPR scheme in the local tyre industry would impact the local economy. This economic impact assessment examines the potential effects of introducing such a scheme, which would shift the responsibility for the entire lifecycle of tyres to producers, with the aim to promote sustainability and reduce waste. Thus, this Section provides an analysis of how an EPR framework could influence the local economy, evaluating both the direct and indirect economic impacts and providing insights into broader changes in industry practices, market dynamics, and overall economic growth.

Table 29: Potential impacts on the local economy

Feature	Description
<b>Shifting waste management costs from the government to producers</b>	The potential successful implementation of the EPR scheme for tyres would transfer the waste management costs of tyres currently borne by the government to producers. Currently the government bears some waste management costs of tyre waste, which pertain to the storage, cutting, and baling and export of tyre waste. These costs amount to an estimated cost of €160 per tonne of tyres for storage, cutting and baling, and an estimated cost of €239 per tonne for loading and export. This means that the current total cost to the government for managing tyre waste is around €399 per tonne. Thus, the government is currently funding Wasteserv which is paying an estimated €3.99 per tyre to manage the waste, which translates to €0.40 per kilogram. Thus, if the EPR scheme is introduced, the government would no longer need to bear the waste management costs of €0.40 per kilogram. Therefore, the long-term economic benefits of implementing the EPR scheme would result in a shift of the financial and operational responsibility for tyre waste management from the Government to tyre producers.
<b>Impact on consumer prices</b>	The potential implementation of the EPR scheme for tyres would be expected to shift the financial burden of tyre waste management from public bodies to producers. This transition would result in increased administrative, compliance, and operational costs for producers, as they would be required to finance the collection, recycling, and disposal of tyres in line with EPR regulations. The estimated average cost for producers would be €5.65 per tyre, which would be anticipated to be passed on to consumers through higher tyre prices. This price increase could have broader economic implications, potentially reducing consumer demand for tyres or driving a shift towards lower-cost alternatives. As tyres are a necessary component of vehicle maintenance, higher prices could increase the overall cost of vehicle ownership, placing additional pressure on household budgets and reducing discretionary spending in other areas. The rise in tyre costs could disproportionately affect lower-income households, potentially enhancing economic inequality. Additionally, the increased cost burden may influence market dynamics, affecting demand for tyres and related services. While the EPR scheme aims to improve environmental outcomes by promoting sustainable waste management, its economic impact could extend beyond the tyre industry, influencing consumer spending patterns.
<b>Comparative impact of EPR costs</b>	As indicated in Section 1, the average EPR fee for lightweight vehicle tyres ranges from €1.18 to €2.98 per tyre in the sample of countries analysed. The potentially higher estimated EPR fee for tyres in Malta, if implemented, could be influenced by the country's smaller economy and market size, which may result in higher per-unit costs for waste management due to limited economies of scale. Additionally, as Malta's EPR system for tyres is not yet established, there could be higher initial administrative, regulatory, and operational costs that drive up the fees. In comparison, other countries with a long-standing EPR system, benefit from more efficient processes and established infrastructure, leading to lower fees. However, this difference in



Feature	Description
	fees suggests a greater financial burden on consumers in Malta under the new EPR scheme. The higher costs in Malta could result in price sensitivity, reducing demand for tyres, and creating broader economic effects, such as increased vehicle maintenance costs and decreased discretionary spending.
<b>Effect on overall inflation</b>	The potential implementation of an EPR scheme for tyres would likely result in increased tyre prices, as producers would incur higher compliance costs related to waste management and sustainability initiatives, which would likely be passed on to consumers. With the current average price of a tyre at €70, and a projected price increase due to the EPR estimated at €5.65, the expected inflationary effect due to the imposition of the EPR fee would be around 8.07%. According to Eurostat 2023 data, tyres constitute 0.27% of the total Harmonized Index of Consumer Prices (HICP) basket, meaning that the overall impact on inflation is expected to be modest, around 0.02%. Although the direct inflationary effect may be limited, the broader economic implications could be more pronounced within the tyre industry. Consumers may alter their purchasing behaviour by delaying tyre replacements, opting for second-hand or retreaded alternatives, or prioritising more durable, longer-lasting products.
<b>Rising costs of tyre waste exports</b>	Currently, tyre waste is exported to non-OECD countries like India for treatment, since export costs (including treatment) are understood to be lower than the costs of export to EU member states. However, the implementation of the new rules governing the export of green-listed waste outside the Union, notably to non-OECD countries, might result in re-routing export of waste tyres to other EU MS. Furthermore, the export costs (including treatment) to EU countries are expected to be higher than those to non-OECD countries, potentially due to higher labour cost, stricter regulatory and environmental standards within the EU. Thus, this change might introduce an additional financial strain to export. These increased costs would be incorporated in the waste management cycle of tyres under the EPR framework, as the lifecycle of the product includes its responsible disposal and treatment. As a result, these increased export and treatment costs are likely to be passed on to producers, who would, in turn, pass them on to consumers in the form of higher product prices. The increased export costs associated with the EPR could hinder the competitiveness of local businesses, particularly those reliant on tyre sales, as higher operational costs may lead to increased consumer prices. This price increase might result in reduced demand for tyres. Furthermore, the burden of compliance with EPR regulations may disproportionately impact smaller businesses that lack the financial flexibility to absorb rising costs. Additionally, as consumer prices rise due to the passed-on costs, there may be a shift in spending patterns, leading to decreased disposable income for households and potentially affecting economic growth.

The potential implementation of an EPR scheme for tyres in Malta would be expected to shift the financial burden of tyre waste management from public entities to producers, resulting in higher operational costs that would likely be passed on to consumers. This would lead to increased tyre prices, with an estimated average cost increase of 5.65 per tyre. As a necessary component of vehicle maintenance, the rise in tyre prices could place additional pressure on household budgets, particularly affecting lower-income households and reducing discretionary spending. While the overall inflationary impact is expected to be modest, around 0.02%, the increased costs may alter consumer behaviour, driving demand for lower-cost alternatives or encouraging delayed tyre replacements.

Additionally, the higher costs associated with exporting tyre waste, would further increase the financial burden on producers. These costs would be incorporated into the final price of tyres, potentially reducing demand and impacting the competitiveness of local businesses. Smaller businesses may struggle to

absorb these rising costs. Despite these economic challenges, the EPR scheme would help shift more of the financial responsibility of tyre waste management directly to producers, fostering greater accountability and transparency while ensuring a fairer distribution of costs across the supply chain.

## 11. Conclusion

Due to road safety requirements and regulations, tyres are frequently replaced, resulting in significant volumes of waste tyres generated annually across the Maltese Islands. End-of-life tyres hold substantial recovery potential, especially through recycling, as they can substitute raw materials such as rubber and metal in various industrial and recreational applications.

To date, waste tyres are not regulated under a specific piece of Union legislation. Nonetheless, the management of waste tyres are subject to the general rules on ESM of waste established in the WFD and, should a Member State opt to establish an EPR scheme on tyres and waste tyres, the provisions of Article 8 and 8a of the WFD apply.

Currently, around 20 countries in Europe have an EPR for tyres. For example, Belgium operates an EPR scheme for tyres, managed under distinct agreements across its three regions: Flanders, Wallonia, and Brussels. Despite regional governance divisions, the country maintains consistent waste tyre collection and treatment targets through these agreements. Moreover, Italy also has an EPR system for tyres with the primary objective to boost national recycling rates. The EPR system significantly improved the material recovery rate, which more than doubled within the first three years of implementation. The Netherlands also has an EPR system which focuses on the environmentally friendly collection and processing of waste tyres.

The local tyre market is predominantly composed of micro companies, which account for 92.9% of the sector. Small enterprises represent 6.1%, followed by medium-sized firms at 0.9%, and large companies at 0.01%. The highest concentration of companies operate in the maintenance and repair of motor vehicles.

In 2023, tyre imports totalled €11.6 million reflecting c. 3,400 tonnes, with the majority of imports, both in terms of value and volume, consisting of different types of new rubber tyres. Tyre imports are projected to increase to €14 million in value and around 4,200 tonnes in quantity by 2030.

Meanwhile, tyre waste generated increased from c. 2,530 tonnes in 2018 to c. 3,000 tonnes in 2022, with a corresponding rise in exports from c. 2,460 to c. 3,490 tonnes. The discrepancy between generated and exported waste is due to some tyres being earmarked for export but shipped the following year. Most of the tyre waste is exported for R3 recovery (recycling / reclamation of organic substances which are not used as solvents), with minimal amounts for R1 recovery (use of fuel or other means to generate energy). As highlighted in the report both the collection rate (equivalent to tonnes collected in Year N / tonnes imported in Year N-1) and export rate (equivalent to tonnes exported in Year N / tonnes collected in Year N) of waste tyres have exceeded 100% over the last years. Therefore, whilst one of the primary drivers for the introduction of an EPR scheme is to increase collection rates, and promote recycling, based on these figures, this would not seem to be a need in Malta. The high collection rate could however be due to a number of reasons, including temporary adjustments such as a backlog of tyres which are being collected which had been stored or illegally dumped for a number of years.

Based on the assessment of EPR models for tyres, the CPR model stands out as the preferred option for Malta's potential EPR for tyres. Its operational efficiency, cost-effectiveness, and ease of implementation make it particularly well-suited to Malta's size and market. Moreover, the single PRO model stands out as the preferred option for implementing a CPR model, as it offers the highest potential for operational efficiency, and ensures that resources are managed effectively, and processes are streamlined.

When considering the various activities involved in the management of tyre waste, ranging from collection, storage, to cutting, baling and export, and examining the associated costs and potential revenues generated, the potential EPR fee per tonne of tyres placed on the market is projected to be around €565 which translates to an estimation of €5.65 per tyre.

Moreover, the potential introduction of the EPR would be expected to create administrative challenges for both producers and the PRO. Producers will need to meet the required reporting standards, tracking product quantities and collecting waste management data, which may require new compliance systems. For the PRO, managing data collection, processing, and reporting, along with ensuring regulatory

compliance and logistics oversight, may result in more complex administrative structures and operations.

With producers potentially bearing the costs associated with the EPR scheme, it is anticipated that these expenses would likely be transferred to consumers in the form of higher prices for tyres. This price increase could have broader economic implications, potentially reducing consumer demand for tyres or driving a shift towards lower-cost alternatives. As tyres are a necessary component of vehicle maintenance, higher prices could increase the overall cost of vehicle ownership, placing additional pressure on household budgets and reducing discretionary spending in other areas.

In addition, the potential successful implementation of the EPR scheme for tyres would shift the financial responsibility for tyre waste management, currently estimated to be costing the Government €0.4 per kilogram, to tyre producers under the EPR scheme. In addition to these costs, producers would also be required to cover the cost of collection, as well as, the PRO costs and additional contingency estimated at €0.17 per kilo, resulting in a total estimated fee of €0.57 per kilo of tyres placed onto the market.

Moreover, the implementation of the new export rules might result in re-routing exports to other EU MS or OECD countries. This, combined with the potential implementation of the EPR would shift freight and treatment costs to producers, as tyres would need to be exported to such countries, where higher regulatory standards would drive up export and compliance costs. These increased costs are likely to be passed on to producers and consumers, raising tyre prices even further, potentially reducing local demand, and disproportionately impacting smaller businesses and household spending.

As outlined throughout the report, the environmental benefits of introducing an EPR scheme for tyres in Malta may be limited due to the high existing collection and recycling rate based on available data for imports, collection, and exports.

In conclusion, despite potential benefits due to potentially more cost-effective waste management processes that the implementation of EPR might bring about, such benefits do not seem to justify the additional costs for producers and the potential inflationary impact on consumers and associated social costs, together with the administrative burden on producers, retailers and those associated with the setting up and operation of a PRO. In light of these factors, the implementation of EPR for tyres is not considered feasible under the current scenario.

# Study to assess the feasibility of expanding Extended Producer Responsibility (EPR) obligations to additional waste streams

Request for Service: SPD8/2023/149

## SECTION B: NON-PACKAGING PAPER

December 2024



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# 1. Introduction

The Environment and Resources Authority (ERA), that is the competent authority responsible for the environment, is seeking to assess the feasibility to expand the Extended Producer Responsibility (EPR) obligations to additional waste streams. The implementation of an EPR scheme represents a significant shift in the management of product life cycle, aiming to enhance sustainability by making producers responsible for the end-of-life stage of their products.

In this regard, ERA issued a tender for the provision of Consultancy Services to undertake a Study to assess the feasibility of expanding Extended Producer Responsibility (EPR) obligations to additional waste streams for the Environment and Resources Authority (SPD8/2023/149). The tender was awarded to PwC Malta in May 2024. This report forms part of the reform measure C1R2 of the Recovery and Resilience Plan for Malta, Milestone 1.6 Study on the feasibility of expanding Extended Producer Responsibility obligations to additional waste streams.

## 1.1 Report Contents

This report focuses on the non-packaging paper waste stream and contains the following sections:

- **Section 2 - Review of national and EU policies including best practices from other EU Member States:** In this section the European and national policies that provide the framework and context for EPR schemes for non-packaging paper are reviewed. This review assesses the alignment, coherence, and potential synergies between the proposed EPR initiative and the current legislative landscape. Whilst the EPR system for the waste streams is to be tailor made for Malta, in this section, international systems were assessed to identify best practices relating to EPR solutions from other EU Member States.
- **Section 3: PESTEL Analysis:** This section contains an analysis of the external factors influencing the introduction of an EPR scheme for this waste stream, including the political, economic, social, technological, environmental and legal factors.
- **Section 4: Market Study:** This section contains a stakeholder analysis providing an overview of the key players within the non-packaging paper industry, an analysis of the related products and the estimated volumes and values of products placed on the local market that may be relevant to EPR, together with an analysis of non-packaging paper waste. In addition, this section also contains an analysis of the relevant market challenges, opportunities and risks.
- **Section 5 – Ex-Ante Assessment:** This section contains an assessment of the current waste management situation for non-packaging paper, the potential impact of the introduction of the EPR scheme and alignment with key legislative provisions and national policies and strategies, and other considerations such as the impact on economic operators.
- **Section 6 – Delineation of Policy Options:** This section outlines the options considered in relation to the potential products and economic operators subject to EPR regulations, together with the potential features of the potential EPR system, the related EPR fees and the potential options for waste management for this waste stream.
- **Section 7 – Options Appraisal:** This section assesses the options outlined in Section 6 and provides recommendations on the EPR model, the organisational model and related fees.
- **Section 8 – Assessment of potential key success factors:** This section provides additional considerations that need to be in place for an EPR scheme for this waste stream to be successful.
- **Section 9 – Financial Analysis:** This section provides an analysis on the estimated costs and potential revenue related to the waste management of this waste stream, and the likely fee which would need to be paid by the producers of this waste stream.

- *Section 10 – High Level Economic Impact Assessment:* This section assesses the high level economic impacts from the introduction of an EPR scheme for this waste stream.
- *Section 11 – Conclusion:* This section provides the conclusion of the Study.

## 1.2 Methodology

The results of the study are based on the following activities which were carried out:

- Analysis of relevant EU and national legislation and policies;
- Desk-based research on EPR schemes adopted by other member states;
- Analysis of import and export data obtained from Eurostat and the National Statistics Office;
- Analysis of data relating to the economic operators within the relevant sectors obtained from the National Statistics Office;
- Analysis of collection data related to waste management for this waste stream obtained from Wasteserv and ERA;
- Consultations with economic operators within the relevant sectors through meetings carried out with members of The Malta Chamber and the Malta Chamber of SMEs;
- Consultations with the Producer Responsibility Organisations for other waste streams subject to an EPR scheme;
- Consultations with the key waste management operators for this waste stream, with a view to understanding the costs related to this waste stream; and
- Financial and economic analysis based on the assumptions gathered through stakeholder consultations and published financial information.

In conducting this feasibility study, data was gathered through consultations with key stakeholders in the industry, market research, and publicly available information. While the work has involved analysis of financial information, it has not included an audit in accordance with generally accepted auditing standards. Moreover, except where otherwise stated in the Report, the information in the Report has not been subjected to checking or verification procedures. Accordingly, no responsibility is being assumed and no representations are being made with respect to the accuracy or completeness of any information received, except where otherwise stated herein, and no assurance is given.

## 2. Review of national and EU policies including best practices from other EU Member States

### 2.1 National and EU Policies

The implementation of an Extended Producer Responsibility (EPR) scheme represents a significant shift in the management of product life cycles, aiming to enhance sustainability by making producers responsible for the end-of-life stage of their products. In this section the European and national policies that provide the framework and context for EPR schemes for non-packaging paper are reviewed. This review assesses the alignment, coherence, and potential synergies between the proposed EPR initiative and the current legislative landscape. By examining relevant Directives, regulations and strategies at both the national and European Union (EU) levels, this section aims to identify the key policy drivers, existing gaps, and potential challenges that could influence the successful implementation of an EPR scheme. Additionally, this review explores how existing policies can be leveraged to support any EPR scheme's goals and how the proposed EPR measures can contribute to broader environmental and economic objectives, such as the EU's Circular Economy Action Plan and national sustainability agendas.

#### 2.1.1 Waste Framework Directive (EU Directive 2008/98EC)

The Waste Framework Directive (WFD) outlines fundamental principles and definitions for waste management. It clarifies the conditions under which waste stops being classified as waste and becomes a secondary raw material. It mandates that waste must be managed in a way that does not jeopardise human health or damage the environment. The WFD aims to improve resource efficiency and promote a circular economy where materials are kept in use for as long as possible.

The WFD is established on a waste hierarchy prioritising waste prevention, reuse, recycling, and recovery before disposal as shown in Figure 1<sup>1</sup>. The waste hierarchy is the foundation of the European waste policies and legislations. The scope of the hierarchy is to reduce negative environmental impacts which result from waste and in turn maximise the use of resources efficiently.



Figure 1: Waste hierarchy

Other key principles enshrined in the WFD are the polluter pays principle and the EPR. The polluter pays principle, which is a key environmental policy concept, stipulates that those who generate waste should bear the costs associated with its management and disposal. The second economic instrument introduced by the WFD is EPR, which is one way to implement the polluter-pays principle. EPR schemes embody a set of measures adopted by the member state such that the producer of products bears either the financial responsibility or both the financial and organisational responsibility associated with the management of the product at its end of life i.e., at its waste stage. This would entail producers to at a minimum financially support the collection, separation and sorting, and treatment operations.

<sup>1</sup> European Commission. Environment – Waste Framework Directive. Accessed 26th September 2024 at: [https://environment.ec.europa.eu/topics/waste-and-recycling/waste-framework-directive\\_en](https://environment.ec.europa.eu/topics/waste-and-recycling/waste-framework-directive_en)

The producers are to fulfil their obligations either individually or collectively. Effectively, the costs paid by the producer will reflect the cost of managing that waste whilst simultaneously reducing the financial cost which would have been borne by the public authorities and the taxpayers.

Nevertheless, EPR schemes encourage producers to consider the entire lifecycle of their products, leading to more sustainable product designs and reduced environmental impact. Hence, producers are encouraged to minimise waste by designing products that are durable, repairable, and recyclable potentially eliminating unnecessary waste. This would lead EPR schemes to meet the targets of recycling and recovery stipulated by the WFD by ensuring that producers contribute to the collection, recycling, and recovery of their products at the end of their lifecycle.

The current upcoming targets for EU countries to comply with the objectives of the WFD are as follows:

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

The above-mentioned targets are coupled with a set of mandatory calculation rules, which *inter alia* clarify the point at which recycled waste is to be measures. As part of the standing rules, Member States can report the amount of waste exported from the Union for recycling if the conditions established in the EU Waste Shipment Regulation are fulfilled.

In terms of Malta's status when it comes to these targets, in 2023, the European Commission published an early warning report<sup>2</sup> which identified Malta as being at risk of not meeting the 2025 target of 55% for the preparing for re-use and the recycling of its municipal waste.

The national Waste Regulations (S.L. 549.63) transpose the provisions of the Waste Framework Directive 2008/98/EC into Maltese national law including the re-use and recycling targets of municipal waste. In 2023, mandatory waste separation for paper, metal, plastic, glass, and bio-waste was introduced through this legislation for households and businesses. The Waste Regulations specify that waste which has undergone a recycling or other recovery operation is considered to have ceased to be waste if it complies with the following criteria:

- a) The substance or object is to be used for specific purposes;
- b) A market or demand exists for such a substance or object;
- c) The substance or object fulfils the technical requirements for the specific purposes and meets the existing legislation and standards applicable to products; and
- d) The use of the substance or object will not lead to overall adverse environmental or human health impacts.

Moreover, the legislation specifies that any natural or legal person intending to carry out recycling or other recovery operations in which waste ceases to be waste needs to obtain a permit from the Environment and Resources Authority, prior to any transfer of the resulting material.

The Waste Regulations (S.L. 549.63) also stipulate that without prejudice to regulation 4(3) of the EPR Framework Regulations, in accordance with the polluter-pays principle, the costs of waste management, including for the necessary infrastructure and its operation, shall be borne by the original

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<sup>2</sup><https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52023SC0195#:~:text=Based%20on%20an%20analysis%20of,65%25%20of%20its%20packaging%20waste>

waste producer or by the current or previous waste holders depending on who has the duty of care for the waste in accordance with the provisions of this regulation.

### **Implementing an EPR on Non-packaging paper**

Non-packaging paper represents a significant portion of paper that is placed on the market in the form of newspapers, office paper, magazines, books, coated and uncoated paper. Waste arising from non-packaging paper products mostly constitutes municipal waste and thus, is separately collected according to the separate collection systems set up by Member States according to the WFD.

To date, non-packaging paper is not regulated under a specific Union legislation, and the Union waste *acquis* does not mandate the establishment of an EPR scheme for non-packaging paper. However, should a Member State opt to set up such an EPR scheme, then the general requirements in Article 8 and 8a of the WFD apply.

### **2.1.2 Landfill Directive (EU Directive 2018/850/EC)**

Landfilling, as described by the EU's waste hierarchy, is the least favourable disposal method of waste and should be limited to the necessary minimum. Other than the dangerous impacts that landfilling has on both humans and the environment, namely the production of methane gas, materials which are recyclable are lost from the European economy due to landfilling.

The legal framework for the landfill of waste falls under Directive (EU) 2018/850/EC of the European Parliament and of the Council of 30 May 2018 amending Directive 1999/31/EC.

The aim of this Directive is to ensure a progressive reduction in the landfilling of waste, especially waste that can be recycled or otherwise recovered. It also aims to establish measures, procedures, and guidelines to prevent or minimise negative environmental impacts. Under these regulations, by 2035, the amount of municipal waste landfilled by Member States should be reduced to 10% or less of the total amount of municipal waste generated (by weight).

Moreover, as of 2030, Member States shall endeavour to ensure that waste that is suitable for recycling or other material or energy recovery should not be accepted at landfills whilst separately collected waste which has been collected for preparing for reuse and recycling cannot be landfilled.

This directive is essential to one of the fundamental scopes of an EPR scheme i.e., to deviate waste from the landfill and reintroduce the waste into the market as a different or new product. According to the European Environment Agency's early warning assessment for Malta<sup>3</sup>, published in June 2022 but based on 2020 data, Malta's landfilling rate has remained very high and concluded that Malta is at risk for not meeting the 2035 target. As of 2021, Malta's municipal waste landfill rate is the highest in the EU as shown in Figure 2<sup>4</sup>.

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<sup>3</sup><https://www.eea.europa.eu/en/analysis/maps-and-charts/municipal-waste-landfill-rates-in-2>

<sup>4</sup><https://www.eea.europa.eu/en/analysis/maps-and-charts/municipal-waste-landfill-rates-in-2>



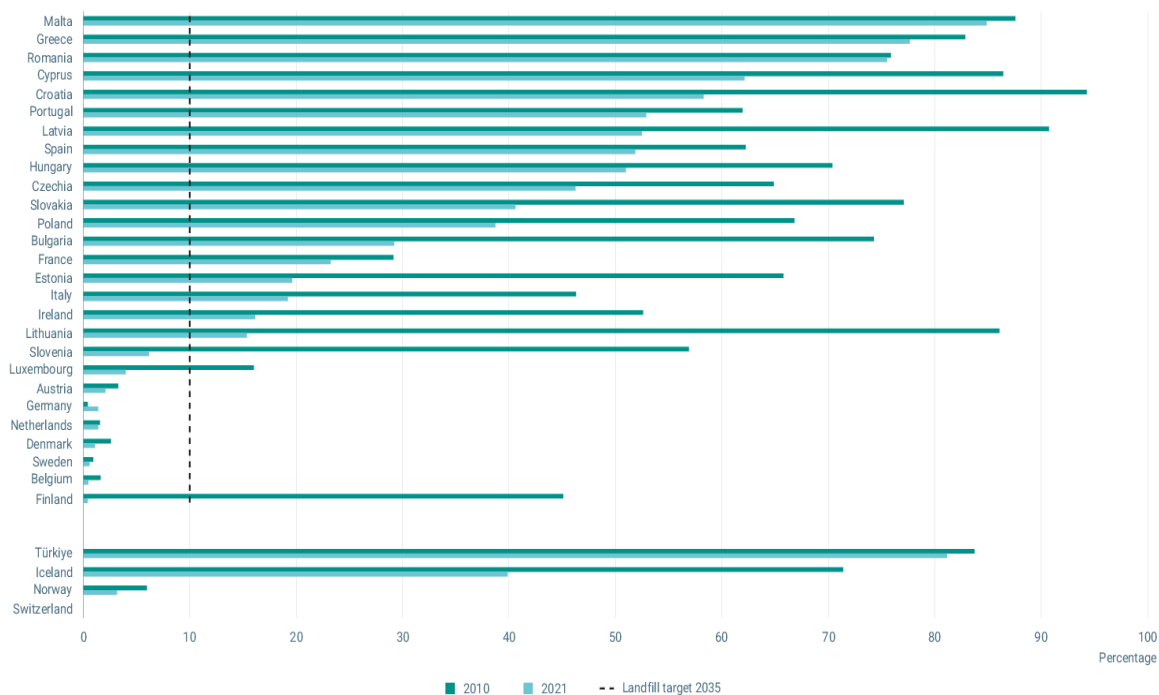


Figure 2: Municipal waste landfill rates by EU countries

The Waste Management (Landfill) Regulations (S.L.549.29) are the national legislation that regulate landfills and their impact, transposing the provisions of the EU Landfill Directive 2018/850 of the European Parliament and of the Council of 30 May 2018 amending Directive 1999/31/EC on the landfill of waste. These regulations stipulate the wastes not to be accepted in landfill. Amongst these is waste that has been separately collected for preparing for re-use and recycling pursuant to regulation 10 of the Waste Regulations. In addition, the Authority is to ensure that, by 2030, all waste suitable for recycling or other recovery are not accepted in a landfill. Given the separation of waste in Malta is mandatory under Waste Regulation (as from April 2023), non-packaging paper is to be disposed of either as part of the mixed recycling bag (grey bag) or at bring-in sites (collection points). However, the waste characterisation survey carried out by the Environment and Resources Authority on the mixed recycling bag (in 2022) and mixed waste bag (in 2023), shows some of the non-packaging paper disposed of with the mixed waste bag (black bag) which is then disposed of in landfills.

### 2.1.3 Ecodesign for Sustainable Products Regulation (EU 2024/1781)

The Ecodesign for Sustainable Products Regulation (ESPR), effective from July 18, 2024, stands as a pivotal component of the EU Commission's strategy towards more environmentally sound and circular products. The ESPR replaces the existing Ecodesign Directive 2009/125/EC and creates a framework for establishing eco-design requirements for specific product categories. As part of a comprehensive set of measures aligned with the 2020 Circular Economy Action Plan, the ESPR plays a crucial role in advancing the EU's environmental and climate objectives. It aims to double the rate of material use circularity and help achieve energy efficiency targets by 2030.

The impact of products and their usage on the environment can be profound, with consumption within the EU being a significant contributor to climate change and pollution. The ESPR operates as framework legislation, indicating that specific rules for products will be established gradually, either individually or collectively for groups of products sharing similar traits.

The process initiates with a prioritisation phase, followed by the publication of a working plan outlining the products and actions to be covered under the ESPR within a specified timeframe. Subsequently, the development of product rules commences, guided by comprehensive planning, detailed impact assessments, and ongoing consultation with stakeholders through an Ecodesign Forum.

The regulation allows for the implementation of performance and information standards, known as 'ecodesign requirements,' for nearly all types of physical goods, with some exceptions like food and feed as outlined in Regulation 178/2002. These requirements aim to:

- Enhance product durability, reusability, upgradability, and reparability
- Improve energy and resource efficiency
- Address the presence of substances that hinder circularity
- Increase the use of recycled materials
- Facilitate easier remanufacturing and recycling
- Establish rules regarding carbon and environmental footprints
- Enhance the availability of information on product sustainability

The ESPR includes a number of other new measures such as a digital product passport, rules to address destruction of unsold consumer products and green public procurement.

The Regulation mandates that in the first working plan, which shall be adopted by 19 April 2025, the Commission is to prioritise textiles, in particular garments and footwear and tyres amongst other product groups. To keep the public and stakeholders informed about the plans under the ESPR, the Commission will adopt and regularly update working plans that detail the products and measures to be assessed. This initial plan will cover a period of at least three years.

The development of eco-design requirements includes preparatory studies, impact assessments and consultation with stakeholders. Preparatory work, for certain products, such as textiles or steel, has already begun, whilst the work on other prioritised products and potential measures will be after the adoption of the first working plan.

## 2.1.4 Transboundary movements of waste

At a global level, transboundary movements of hazardous and other wastes is governed by the Basel Convention<sup>5</sup>. Parties to the Convention are committed to ensuring the environmentally sound management of the waste they generate. The Convention establishes a regulatory system known as the 'Prior Informed Consent Procedure', whereby all countries involved in a planned transboundary movement of waste are to provide their written consent before that movement is allowed to start. The Convention applies to hazardous wastes and to four types of non-hazardous wastes defined as "other wastes" – namely household waste as collected, incinerator ash, certain plastic wastes, and non-hazardous electronic and electrical wastes (the latter as from 1<sup>st</sup> January 2025).

The controls of the Convention do not apply to the non-hazardous, "green" waste categories listed in Annex IX. Textile wastes can be classified under the green-listed code B3030 and B3035.

The provisions of the Basel Convention and the OECD Decision C(2001)107/FINAL on the Control of Transboundary Movements of Wastes Destined for Recovery Operations are implemented in the EU through the Regulation (EC) No 1013/2006 on shipments of waste (i.e. the WSR).

The WSR governs the transboundary movement of waste within, into, and out of the EU. The regulation aims to ensure that waste is managed in an environmentally sound manner during transport and that it does not pose risk to human health or the environment. This involves preventing illegal dumping, improper handling, and ensuring that waste is sent to facilities that can manage it safely.

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<sup>5</sup> Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal

In addition to the wastes covered by the Basel Convention, the WSR also covers shipments of “green-listed” waste. The control regimes in the WSR depends on the origin, destination, route of the shipment, the nature of the waste (e.g. hazardous, “green-listed” non-hazardous, etc.) as well as the intended fate (i.e. whether it is for disposal or recovery).

The two main procedures for shipments of waste established under the WSR are:

- *Prior notification and consent*, which applies to wastes destined for disposal, and to hazardous wastes, “other waste” and unlisted non-hazardous waste destined for recovery; and
- *General information requirements*, which generally applies to shipments of “green-listed” wastes destined for recovery.

Exports destined for recovery of certain green-listed wastes to certain non-OECD Countries are also subject to Commission Regulation (EC) No 1418/2007.

Waste exporters and importers have specific obligations, including ensuring that waste is appropriately classified, providing necessary documentation, and complying with the conditions set out by the authorities. The notification and consent procedure, along with the general information requirements, provide a clear paper trail for waste shipments. This traceability ensures that authorities can monitor waste flows and take action against illegal activities.

Recently, the EU updated and modernised its waste shipment rules through Regulation (EU) 2024/1157 on shipment of waste. The new Regulation on waste shipments was adopted on April 11, 2024, and came into effect on May 20, 2024. Its objectives are to:

- Prevent the EU from offloading its waste issues onto third countries and promote environmentally responsible waste management.
- Enhance enforcement measures to stop illegal waste shipments within the EU and from the EU to other countries.
- Improve the traceability of waste shipments within the EU, facilitating recycling and reuse.

The provisions of the new Regulation will apply in a progressive manner, to allow for the development of an electronic system for the exchange of documents related to shipments of waste and to allow stakeholders to adapt:

- As from May 2026, (mainly for intra EU shipments), the Prior-Informed Consent (PIC) and the Annex VII procedures shall be digitalised together with other shipment procedures with the use of a central EU electronic system;
- As from 20 May 2024, waste exportation to OECD countries which is observed to undergo a trend will be monitored by the Commission. This could lead to the possibility of the exportation being suspended if proper treatment and management is not guaranteed;
- As from May 2027, for all exports outside of the EU, the exporter must carry out or commission independent audits or acquire the outcome of audits carried out by other EU exporters or commissioned by the receiving facility for waste destined to facilities outside the EU;
- As from May 2027, exports of non-hazardous waste from the EU to non-OECD countries will only be permitted if these countries notify the European Commission of their willingness to accept the waste and demonstrate their capability to manage it sustainably. The regulation maintains bans on exporting waste for disposal to OECD and non-OECD countries and hazardous waste for recovery to these regions.

The EU Waste Shipment Regulation is implemented in Malta through S.L. 549.65, the Waste Management (Shipment of Waste) Regulations.

Producers under EPR schemes must ensure that the waste they collect and manage, particularly for recycling or disposal, complies with the EU Waste Shipment Regulation when transported across borders. The effect of the above mentioned measures, might result in national exporters needing to re-route waste shipments to EU Member States in order to ensure compliance with the measures.

Given that the EU Waste Shipment Regulation mandates detailed documentation and tracking of waste shipments to provide transparency and traceability, EPR schemes benefit from this by being able to monitor the flow of waste to ensure it reaches the appropriate facilities. EPR schemes often require producers to report on the quantities and types of waste collected and processed. Compliance with the EU Waste Shipment Regulation helps ensure accurate reporting and tracking of waste movements.

By ensuring compliance with these regulations, EPR schemes contribute to reducing such risks. Compliance with the EU Waste Shipment Regulation can impact the costs associated with waste management under EPR schemes. Understanding the regulations and requirements of the Waste Shipping Regulation allows EPR schemes to plan and execute more efficient waste management strategies, ensuring that waste is moved and treated in the most effective way possible.

## 2.1.5 Packaging and Packaging Waste Directive (EU Directive 94/62/EC)

Directive 94/62/EC on packaging and packaging waste addresses both the design of packaging and the management of packaging waste. These rules aim to tackle the growing amounts of packaging waste that lead to environmental issues, and to eliminate obstacles in the internal market caused by differing national regulations on packaging design within the EU. The EU's packaging regulations apply to all packaging and packaging waste available on the European market, covering various materials and sectors including industrial, commercial, household, and others. These regulations govern the types of packaging allowed on the EU market and include measures for managing and preventing packaging waste. Under the new rules, all packaging (except for lightweight wood, cork, textile, rubber, ceramic, porcelain, and wax) will have to be recyclable by fulfilling strict criteria. Material categories are plastic, wood, ferrous metals, aluminium, glass, and paper and cardboard. The below is a table which shows the current targets for recycling including targets to be attained by 2025 and by 2030.

Table 1: Specific targets for recycling set in Directive 2018/852/EC

	Current targets (%)	By 2025 (%)	By 2030 (%)
<b>All packaging</b>	55	65	70
<b>Plastic</b>	25	50	55
<b>Wood</b>	15	25	30
<b>Ferrous metals</b>	50 (including Aluminium)	70	80
<b>Aluminium</b>	-	50	60
<b>Glass</b>	60	70	75
<b>Paper and Cardboard</b>	60	75	85

The amended directive mandates that EU countries implement measures such as national programmes, EPR schemes, and other economic tools to prevent packaging waste and reduce the environmental impact of packaging.

EU countries are encouraged to increase the proportion of reusable packaging on the market and to establish systems for environmentally sound reuse of packaging, while ensuring food and consumer safety. This may involve:

- Deposit-return schemes;
- Setting targets;

- Providing economic incentives;
- Establishing minimum percentages of reusable packaging for each type of packaging.

Directive 94/62/EC on packaging and packaging waste was transposed into Maltese law under Waste Management (Packaging and Packaging Waste) Regulations S.L. 549.43. These regulations are applicable to all packaging placed on the market in Malta and to all packaging waste, regardless of the material used, whether it is generated at industrial, commercial, office, shop, service, household, or any other level, unless specifically excluded. Furthermore, the door-to-door collection and treatment of municipal packaging waste are to be organised by the Regional Councils and PROs shall finance it. In the case of packaging waste collected through recycling points, the organisation and financial responsibility fall under the PROs.

Directive 94/62/EC will be replaced with a new EU Regulation on packaging and packaging waste, which is – at the time of drafting of this report – in the process of being formally adopted. The main novelties of the informally adopted new Regulation include:

- **Banning Certain Single-Use Plastics:** Starting in 2030, certain single-use plastic packaging, such as small toiletries and fresh produce packaging, will be banned.
- **Recyclability and Recycled Content:** Various packaging formats will need to meet phased-in requirements for recyclability and the use of recycled content.
- **Deposit Return Systems:** There will be requirements for deposit return systems to ensure the collection and recycling of packaging materials.
- **Extended Producer Responsibility:** Producers will be responsible for the collection, sorting, and recycling of packaging waste.
- **Banning “Forever Chemicals”:** The regulation will ban “forever chemicals” above certain levels in food packaging.
- **Reuse and Refill Targets:** Measures will be introduced to increase the reuse and refill of packaging, minimising the need for new packaging.
- **Avoidable Packaging:** The regulation aims to ban avoidable packaging for certain uses, such as single-use packaging in restaurants and cafes.

### 2.1.6 Extended Producer Responsibility Framework Regulations (S.L. 549.141)

In 2021, the Extended Producer Responsibility Framework Regulations (S.L. 549.141.) were adopted in Malta. This transposed articles 8 and 8a of the amended WFD. The core objective of the regulations is to provide a framework for EPR schemes, including those EPR schemes that Malta might set up for products for which EPR is not mandated by virtue of Union law.

In accordance with Regulation 4 of the EPR Framework Regulations<sup>6</sup>, to enhance waste prevention, recycling, and recovery, the Minister is authorised to implement legislative or non-legislative actions requiring producers to take extended responsibility for their products. In doing so, the technical feasibility, economic viability, and the environmental, health, and social impacts must be considered to ensure that the internal market functions properly. This responsibility does not override existing waste management obligations or specific waste-related laws.

The regulations stipulate that when EPR is introduced, producers must cover the full cost of waste management, with distributors possibly sharing these costs. If such responsibility schemes are established, the roles and responsibilities of all involved parties must be defined, including producers, waste operators, and local authorities. Additionally, waste management targets aligned with existing

<sup>6</sup> <https://legislation.mt/eli/sl/549.141/eng>

regulations must be set, along with a reporting system to track products placed on the market and the corresponding waste management activities. The framework ensures equal treatment of producers, avoiding undue regulatory burdens, particularly on small enterprises. Producers based in other EU Member States can appoint a representative in Malta to fulfil their obligations under these schemes, provided they meet the Authority's requirements.

The Minister, with input from relevant bodies, may require producers who manage their products' waste stages to adhere to the framework's regulations. The Authority must also ensure that waste holders are informed about prevention measures, collection systems, and the importance of proper waste disposal, with incentives provided to encourage compliance. The Minister may promote the design and production of products that reduce environmental impact, generate less waste, and facilitate reuse and recycling. These measures will consider the entire lifecycle of products and the potential for multiple recycling, supporting the implementation of the waste hierarchy.

The regulations highlight the producer's key role to design products for easier recycling, disassembly, and safe disposal. This includes using materials that are less harmful to the environment and ensuring that products can be effectively dismantled at the end of their life. Moreover, the regulations emphasise how producers must establish or participate in a waste collection system to facilitate the collection and proper disposal of used products. The waste collection systems are to be appropriately available within the geographical area in which the product is defined. These schemes are essential for ensuring that products are returned for recycling or safe disposal.

The regulations establish the producers' financial responsibility for the entire lifecycle management of their products, including the costs of collection, transportation, and treatment. Whilst this is the minimum requirement for a producer, producers may extend their responsibility into both financial and organisational to meet their EPR obligations.

In addition, the costs paid by the producer is to cover costs associated with providing necessary information to waste holders, as well as, costs necessary to gather data and report. The fee paid by producers is to not exceed the true cost that is required to provide a cost-efficient waste management service. Moreover, depending on the individual product, fees can be modulated by taking into account the nature of the product such as its durability, reparability, re-usability, and recyclability. Furthermore, producers are bound to provide information to the public on how they expect to attain their waste management targets.

### 2.1.7 Long Term Waste Management Plan 2021 – 2030

The Long-Term Waste Management Plan for Malta 2021-2030<sup>7</sup>, issued by the Ministry for the Environment, Climate Change and Planning (MECP), acknowledges the necessity for Malta to shift from a "consume and throw away" mentality to a more resource-efficient circular economy. The plan outlines multiple strategic objectives. However, the one of key interest is to study the feasibility of an enhanced producer responsibility framework to support Malta's transition to a circular economy and better reflect the true cost of waste management.

The plan states that to support Malta's transition to a more resource-efficient and circular economy, it is essential to ensure that any waste generated is treated efficiently and effectively. This approach aims to minimise the environmental impact while maximising the potential of waste as a resource. The plan stipulates that this goal will be achieved through improving existing EPR frameworks to create a level playing field and ensure that producers bear the costs of waste management and by extending EPR obligations to additional waste streams following feasibility studies.

In the Plan, the Government proposed enacting legislation to establish a national EPR scheme for non-packaging paper (WMRO\_EPR29). Currently, this waste stream is not directly regulated, and is being managed through systems funded by PROs established for packaging and packaging waste.

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<sup>7</sup> <https://era.org.mt/wp-content/uploads/2022/02/Long-Term-Waste-Management-Plan-v1.4.3-Spreads-Digital-Version.pdf>



## 2.1.8 Recovery and Resilience Plan (RRP)

The Recovery and Resilience Facility was proposed by the European Commission in May 2020 to be at the heart of NextGenerationEU which is a unique opportunity at structural transformation in EU Member States. The aim of this Facility is to provide grants and loans to support reform and investment packages, aimed at addressing short -to-medium impact which had been brought about by the Covid-19 pandemic. Member States have put forward their structural reforms and public investment packages in their national Recovery and Resilience Plans (RRPs). In addition, the measures listed in the RRP of the respective nations are to ease and accelerate the green and digital transition. One of the components in Malta's RRP<sup>8</sup> is to address climate neutrality through enhanced energy efficiency, clean energy, and circular economy. In this regard, Reform C1-R2 relates to 'Fostering effective waste management through a robust waste governance framework including reforming the waste collection system'. To enhance the circular economy in Malta, EPR schemes are considered highly effective. As a result, Malta has chosen to assess the feasibility to extend the EPR obligations to additional waste streams, including non-packaging paper. This is reflected in Milestone 1.6 which consists of the publication of a study on the feasibility of expanding EPR obligations to additional waste streams beyond those which had already been implemented. Milestone 1.7 builds on Milestone 1.6 whereby it relates to the entry into force of legislation deemed applicable by the outcomes of Milestone 1.6 expanding the EPR obligations to new waste streams.

## 2.2 EPR Practices in EU Member States

Whilst the EPR system for the waste streams is to be tailor made for Malta, international systems were assessed to identify best practices relating to EPR solutions from other EU Member States. The examples provided were obtained through a literature review and include the EPR scheme on items of non-packaging waste implemented in the Netherlands and France.

At present, the Netherlands operate an EPR scheme for paper and cardboard which does not classify as packaging, whereas France have an EPR scheme in place for graphic paper.

### 2.2.1 The Netherlands

The Packaging and Paper and Cardboard Management Decree<sup>9</sup> was introduced in the Netherlands in 2005. It is the result of the evaluation of the 1997 Packaging Covenant III. This decree aims to ensure the separate collection and reuse of packaging materials and paper/cardboard, reduce the environmental impact of packaging, and prevent litter. The decree addresses all products made from material that can be used as packaging for enclosing, protecting, handling, delivering or presenting substances, preparations or products but also products made from paper and cardboard which are not packaging. Whilst this decree does not focus on non-packaging paper only, the focus of this section will be on the non-packaging paper element of the decree i.e., paper and cardboard.

The decree describes a producer or an importer as a person who is exercising their business in the Netherlands, who amongst criteria associated with packaging products is also defined as someone who makes paper or cardboard available to another person for the first time that is not used for the manufacture of packaging.

Furthermore, with regards paper and cardboard, the decree puts the following responsibilities on the producer or importer:

- The responsibility of separate collection or collection and the separation of paper and cardboard that the importer has made available to another person in the Netherlands;
- The costs associated with separated collection or collection and separation of paper and cardboard including commercial waste.

<sup>8</sup><https://fondi.eu/wp-content/uploads/2023/11/Malta-Recovery-and-Resilience-Plan-2023-7.11.2023.pdf>

<sup>9</sup> <https://faolex.fao.org/docs/pdf/net64280.pdf>

The producer or importer must take measures to promote the reduction of the weight and environmental harm of paper and cardboard by:

- Using as little as possible paper and cardboard;
- Designing paper and cardboard in such a way that application is facilitated;
- Applying as much reused material as possible in new paper and cardboard;
- Preventing litter as much as possible.

The producer or importer also has targets whereby they have to ensure that at least 75% of the quantity of paper and cardboard made available to another person in the Netherlands in the preceding calendar year is reused as material per following calendar year. To ensure transparency and accountability in the management of paper and cardboard, producers and importers must report on how they will comply with the requirements of the decree.

Stichting Papier Recycling Nederland (PRN)<sup>10</sup> is the Producer Responsibility Organisation (PRO) responsible for non-packaging paper and cardboard in the Netherlands. PRN collects non-packaging paper and cardboard generated in the Netherlands including that from households and from offices, shops, services and industries. This includes newspapers, magazines, books, leaflets, notebooks, printer paper, and sanitary paper. In 2022, PRN was in agreement with 94% of the Dutch municipalities for the source-separated collection and processing of wastepaper from private households. Furthermore, whilst municipalities encourage that at least 75% of all wastepaper and cardboard is collected from private households, that produced by offices, shops, services, and industries is collected separately. The company reported that in 2022, 961 kton of non-packaging paper and cardboard was placed on the market whereby 721 kton of that was collected and thus achieved 83% collection, exceeding the 75% minimum target.

In the following situations, companies must pay a recycling management fee:

- in periods when the international market price of waste paper is low the producers must pay the recycling management fee to municipalities;
- once a year for PRN system costs.

The recycling management fee was last paid in 2009. The General Board of the Stichting Verwijderingsfonds (SVF) Foundation, the financial arm of the PRN system, has set the rate for the annual levy at €3.00 per 1,000 kg of newly placed/imported paper and/or cardboard for non-packaging (excluding VAT ). This levy is intended to cover the system costs of PRN and SVF for the period up to mid-2025.

PRN continuously monitors the amount of non-packaging paper and cardboard that is placed on the Dutch market. The data must be provided to PRN by the producers and importers which are “first recipients”. “First recipients” are defined as companies that are the first to purchase new paper that is yet to be processed, cardboard, and products made from new paper and cardboard that are aimed to be sold on the Dutch market. This includes publishers, printers, mail order companies and importers of copy paper. All first recipients are required to report the tonnage of new paper and cardboard, excluding packaging, that they place on the Dutch market to PRN. There are no exceptions, such as a minimum tonnage, that would exempt first recipients from reporting. Moreover, PRN has the right to check the accuracy and completeness of the information reported by the first recipients.

One of PRN’s goals is to identify free riders i.e., first recipients of non-packaging paper and cardboard who have not registered with PRN. If identified, a levy would apply to them. In most cases, these are newly established, small-scale enterprises that either order their products from Dutch suppliers (printers or paper wholesalers) or independently import ready-made products for Dutch clients. It is also common

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<sup>10</sup> <https://prn.nl/prn-en-het-prn-systeem/prn/rapportage/>

for companies to overlook the fact that instructions or leaflets must be reported to PRN and are not part of packaging or the product itself.

Through monthly monitoring of the municipalities affiliated with PRN, the amount of paper and cardboard from private households collected by the wastepaper companies with which municipalities have contracts is recorded. This figure is recorded for the report. Municipalities join PRN voluntarily. Affiliated municipalities are assured that the non-packaging wastepaper and cardboard collected from their private households will be taken under all market conditions. During times when wastepaper has a low economic value on the international raw materials market, they can claim the market guarantee compensation from PRN. This ensures uninterrupted collection of wastepaper from private households. There are no costs associated with the participation agreement with PRN. However, certain conditions must be met. The municipality must:

- Take charge of wastepaper collection. This means the municipality is responsible for source-separated collection from private households and has a contract with a wastepaper company;
- Ensure that the collected wastepaper (non-packaging) contains a maximum of 3% contamination and 10% moisture;
- Ensure the wastepaper company with which the municipality has a contract is certified based on the Recognition Scheme for Wastepaper and Cardboard;
- Actively contribute to PRN's monthly monitoring.

At the end of 2022, 96 of the nearly 100 wastepaper companies in the Netherlands, had an agreement with PRN. Since not all wastepaper companies accept wastepaper collected from private households, there is no necessity for that portion of the wastepaper companies to join PRN. Once a municipality decides to join PRN, PRN will ensure that all wastepaper companies based in that municipality also join PRN. The tonnages of wastepaper from a single municipality not affiliated with PRN can be calculated with a high degree of statistical reliability based on the average amount of source-separated wastepaper collected per inhabitant in affiliated municipalities.

The total stream of collected old paper and cardboard consists of both non-packaging items (reporting responsibility of PRN) and packaging items (reporting responsibility of Afvalfonds Verpakkingen<sup>11</sup>). To determine the portion of the collected old paper that should be attributed to non-packaging items, a distribution key is needed. Therefore, PRN, in consultation with Afvalfonds Verpakkingen, uses a rolling three-year average of the weight distribution between packaging and non-packaging items in the household and the offices, shops, services and industries streams of separately collected wastepaper and cardboard. These two averages are based on research samples. By weighting these averages with the 'market' figures known to PRN for collection from private households and offices, shops, services and industries stream collection, a weighted rolling three-year average for non-packaging paper and cardboard in the total old paper stream can be established. The share of non-packaging items in the entire stream was determined to be 34.37% for the reporting year 2022.

An important element of the EPR for non-packaging paper and cardboard scheme in the Netherlands is source-separated, clean, and dry wastepaper and cardboard. These have a positive financial value in the global circular economy whilst coupled with a strong Dutch collection system leading to a low contamination rate. This low contamination rate ensures that paper mills can directly use the collected tonnages in their production processes. All source-separated wastepaper and cardboard collected in the Netherlands is thus used as a secondary raw material. Sometimes for new cardboard (corrugated, solid, folding, or moulded cardboard), other times for new paper. Therefore, PRN can guarantee that all source-separated wastepaper and cardboard that meets the set quality requirements and is offered separately to PRN-affiliated certified wastepaper companies is processed as material and not incinerated or landfilled.

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<sup>11</sup> <https://www.verpact.nl/nl>

## 2.2.2 France

In France, an EPR scheme is in place for graphic paper. In accordance with Article 541-10-I No.1<sup>12</sup> of the Environmental Law, printed paper, with the exception of books, issued, including free of charge, by principals or on their behalf and paper for graphic use, intended for end users who produce household and similar waste, are subject to an EPR scheme. If a producer puts on the market a printed paper item which weighs less than 224 g/m<sup>2</sup> and distributes it within the French market, they are subject to EPR. The paper products which are included with the definition of graphic paper are but not limited to: brochures, leaflets, catalogues, magazines, newspapers, mailings, headed paper, management documents, envelopes, posters, user manuals, decorative paper, receipts, and tickets. This EPR scheme also applies if the company engages a printer to print out paper products for the company to use. Under such circumstances, the company is responsible for declaring the paper volumes and ultimately to pay the corresponding contribution in accordance with the volume placed on the market. However, blank paper is declared directly by the paper mills which manufacture it. The EPR also applies to companies who are first to invoice French VAT on imported or resold printed or blank paper in France.

The EPR is applicable to any volume of graphic paper introduced to the French market. Upon introduction of the graphic paper on the market by a company, the company has to join CITEO<sup>13</sup> or as of January 1<sup>st</sup> 2024, producers could join Léko<sup>14</sup>. Companies can join CITEO or Léko via their respective online portals. According to Citeo, upon first registration, companies have to declare any graphic paper introduced on the French market over the preceding three years, regardless of the volume.

The financial contribution, which must be paid to CITEO is not applicable if the volume of graphic paper is under five tonnes annually. In such a scenario, the company would still need to register with the PRO because having a unique identifier number is compulsory. This unique identifier number needs to be transmitted to the marketplaces that sell the products. This unique identifier number is also necessary for companies to access all the necessary information related to sorting that needs to be added to graphic paper products.

For volumes of graphic paper which exceed five tonnes annually, the rate per tonne of graphic paper is updated annually. In 2023, the base rate per tonne of paper for CITEO EPR contribution stood at €74 excl. tax<sup>15</sup>. This fee is split as follows:

- 78% goes towards supporting the functioning of France's industrial sorting centres, which process collected materials for later recycling;
- 13% goes towards promoting research and development, eco-design, and initiatives focused on advancing the circular economy, especially in the French Overseas Territories;
- 7% goes towards providing assistance to customers and local authorities, while also covering CITEO's internal operating expenses;
- 2% goes towards raising consumer awareness through national and local advertising campaigns to integrate waste sorting into daily routines.

The rate may be adjusted higher or lower, depending on the type of declaration chosen (simplified or detailed). In 2021, the recycling rate of graphic paper stood at 60%<sup>16</sup>.

CITEO operates an eco-modulation system whereby it applies a tariff using a bonus-malus system. Such a tariff encourages the use of recycled paper or paper from sustainably managed forests and the reduction of recycling disruptors<sup>17</sup>. The following adjustments are applied to the base rate of €74 excl. tax as follows:

<sup>12</sup> [https://www.legifrance.gouv.fr/codes/article\\_lc/LEGIARTI000043974960](https://www.legifrance.gouv.fr/codes/article_lc/LEGIARTI000043974960)

<sup>13</sup> <https://www.citeo.com/faq-epr-graphic-papiers>

<sup>14</sup> [https://www.leko-organisme.fr/en/fusion-des-filieres-rep-papiers-graphiques-et-emballages-menagers/#weglot\\_switcher](https://www.leko-organisme.fr/en/fusion-des-filieres-rep-papiers-graphiques-et-emballages-menagers/#weglot_switcher)

<sup>15</sup> [https://bo.citeo.com/sites/default/files/2023-12/231006\\_Guide\\_tarifs\\_papiers\\_2023\\_EN.pdf](https://bo.citeo.com/sites/default/files/2023-12/231006_Guide_tarifs_papiers_2023_EN.pdf)

<sup>16</sup> [https://notre-impact.citeo.com/240418\\_Chiffres\\_cles\\_2022\\_FR\\_WEB.pdf](https://notre-impact.citeo.com/240418_Chiffres_cles_2022_FR_WEB.pdf)

<sup>17</sup> <https://www.citeo.com/leco-modulation-2022-pour-leco-conception-des-papiers/>

- A reduction 10% if paper with more than 50% of recycled fibre is placed on the market;
- A 5% penalty if paper placed on the market includes coloured fibre, adhesives, inks or non-fibrous elements;
- A 20% penalty if paper placed on the market includes mineral oils; and
- A 50% penalty if paper placed on the market includes materials which are non-renewable or not sustainably managed.

Prior to April 2023, packaging and graphic paper had two separate EPR schemes, and were collected and recycled in separate streams. However, this separation led to inefficient processes and higher costs. By merging these two EPR streams, the aim is to achieve more efficient collection, separation and recycling of waste, through the following:

1. Increase the recycling rate: The joint collection and processing of packaging and graphic paper should lead to higher recycling rates. This will help to reduce the environmental impact and conserve valuable raw materials.
2. Cost efficiency: Merging the streams should reduce the costs of collection and recycling. More efficient processes and the reduction of duplicate structures mean that financial resources can be better utilised.
3. Standardised disposal systems: Consumers benefit from clearer and simpler disposal systems. Standardising collection makes it easier to separate and dispose of waste correctly.

Merging the EPR streams for packaging and graphic paper in France is an important step towards more sustainable waste management. Both the environment and the economy will benefit from more efficient processes, higher recycling rates and lower costs. Companies should prepare for the changes at an early stage in order to make the most of the resulting opportunities<sup>18</sup>.

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<sup>18</sup> [https://www.lizenzero.eu/en/blog/consolidation-of-epr-flows-for-packaging-and-graphic-paper-in-france/page/3/?et\\_blog](https://www.lizenzero.eu/en/blog/consolidation-of-epr-flows-for-packaging-and-graphic-paper-in-france/page/3/?et_blog)

## 3. PESTEL Analysis

### 3.1 Political

Malta's waste management industry is influenced by the country's political environment including the positions of key stakeholders at a national and EU level towards EPR for non-packaging paper waste. Non-packaging paper represents a large share of the paper placed on the Maltese market in the form of newspapers, office paper, magazines, books, coated and uncoated paper, for which its management needs to be addressed in a cost-efficient and environmentally sound manner<sup>19</sup>. At present, this waste stream is being handled through systems financed by the PROs which were established for packaging and packaging waste since non-packaging paper is not directly regulated and some of this waste is disposed of in the mixed recycling bag together with packaging waste.

#### 3.1.1 European Environment Agency (EEA)

In their report titled 'Accelerating the Circular Economy in Europe: State and Outlook 2024'<sup>20</sup>, the European Environment Agency (EEA) advocates for expanding EPR schemes to encompass a wider range of product categories, particularly those with significant environmental impacts and high material recovery potential. The report highlights that incorporating future environmental costs into a product's market price through EPR schemes has effectively encouraged improved waste collection and processing practices. Although there are some administrative hurdles, extending these schemes to more product streams supports the objectives of the Ecodesign for Sustainable Products Regulation (ESPR). The report also suggests that new EPR initiatives should include eco-modulated fees from the beginning, motivating producers to design products that are more repairable and durable.

#### 3.1.2 European Economic and Social Committee

The European Economic and Social Committee (EESC) is the voice of organised civil society in Europe. It represents employers, workers and civil society organisations. The expertise of its 329 members helps optimise the quality of EU policies and legislation.

On the EU Action Plan for the Circular Economy of 2015, the European Economic and Social Committee (EESC) emphasised that EPR schemes must address every stage of a product's lifecycle<sup>21</sup>. Although regulating material efficiency is more complex than managing energy efficiency, this challenge calls for innovative solutions. They stated that new EPR incentives should be designed to drive significant changes in producer behaviour, which will, in turn, affect consumer habits. The EESC also recommends that manufacturers disclose the anticipated lifespan of their products. Prices should reflect factors such as resource availability and product design. This could be implemented through EPR schemes or green taxation, with the EESC stressing the importance of viability testing before introducing any new measures.

#### 3.1.3 Government and Regulatory Bodies

The national government plays a central role in driving EPR schemes by drafting, enforcing, and overseeing legislation. They establish the regulatory framework that defines the collection, recycling, and financial obligations of producers, ensuring compliance and promoting environmental sustainability. Governments are primarily interested in reducing landfill waste, promoting recycling, and advancing sustainability goals. Their focus extends to protecting public health and meeting international commitments, such as climate change agreements and EU waste directives, with EPR serving as a key tool to achieve these objectives. The national government can shape EPR schemes through legislation, enforcement, and the use of incentives or penalties. They have the power to control the economic viability of these schemes by setting and enforcing standards.

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<sup>19</sup> <https://era.org.mt/wp-content/uploads/2022/02/Long-Term-Waste-Management-Plan-v1.4.3-Spreads-Digital-Version.pdf>

<sup>20</sup> <https://www.eea.europa.eu/publications/accelerating-the-circular-economy>

<sup>21</sup> <https://www.eesc.europa.eu/en/our-work/opinions-information-reports/opinions/circular-economy-package>



Malta's Long-Term Waste Management Plan 2021 – 2030<sup>22</sup>, published by the Ministry for the Environment, Climate Change and Planning (MECP), aims to transition Malta from a 'consume and throw away' culture to a resource-efficient circular economy. Through the Plan, the government is proposing to enact appropriate national legislative measures to establish an EPR scheme for non-packaging paper waste (WMRO\_EPR29), with the specifics of establishing this EPR scheme still to be determined. In the plan, it is also recommended that ambitious national targets be set for non-packaging paper producers or PROs to meet.

Malta's Recovery and Resilience Plan<sup>23</sup> includes measures for climate neutrality, energy efficiency, and a circular economy. To strengthen waste management, the plan highlights the potential of EPR schemes. Milestone 1.6 involves a feasibility study on expanding EPR to additional waste streams, including non-packaging paper. Milestone 1.7 builds on this by introducing legislation based on the study's findings, potentially regulating an EPR scheme for non-packaging paper.

Environmental agencies are tasked with monitoring compliance with environmental laws and assessing the environmental impact of waste tyres. As watchdogs of the EPR system, they ensure that producers adhere to regulations and that waste management practices meet environmental standards. Their supervision is essential for maintaining public and ecological health, making them indispensable stakeholders in any EPR framework. In Malta such a role is the responsibility of the Environment and Resources Authority, which is the national regulator on the environment including waste management.

### 3.1.4 Non-packaging paper producers

Non-packaging paper producers would be directly impacted by EPR schemes for non-packaging paper as they would be legally responsible for financing and/or managing the end-of-life process for the paper they place on the market. This includes financing collection and recycling. Their primary interest lies in minimising the costs associated with complying with EPR regulations.

In this regard, stakeholder consultation meetings were held through The Malta Chamber and the Chamber of SMEs to discuss the topic with a number of stakeholders involved in the non-packaging paper sector. The discussion focused on several key aspects, including the current challenges of the sector, including the decline in printing and the demand for office paper resulting from digital transformation. The discussion also focussed on the feasibility of excluding certain non-packaging paper products such as educational materials from the EPR scheme and exploring mechanisms for defining and implementing such exclusions. Participants also discussed options for methods for identifying producers subject to EPR fees and the need to clarify which non-packaging paper products would qualify.

The group also considered how to address instances where printed materials, such as magazines or leaflets, are used locally versus exported for purposes like pharmaceuticals or toy manuals. The stakeholders were generally of the view that non-packaging paper is one of the most recyclable products and that therefore less recyclable products should be prioritised in being subject to an EPR scheme. Therefore, while acknowledging paper's recyclability and alignment with sustainability regulations, the discussion emphasised that non-packaging paper still accounts for a considerable amount of the municipal waste stream. Hence, given that currently, the costs for its collection and recycling are not borne by non-packaging producers, discussions were also held on how an EPR scheme could better align responsibility with waste management costs.

### 3.1.5 Packaging producers and PROs

In Malta, two PROs manage EPR schemes for packaging and packaging waste, namely GreenPak and GreenMT. The introduction of EPR for non-packaging paper will likely lead to several key impacts on these PROs. At present, the two PROs are financially responsible for the collection and treatment of the grey bag which consists of a mixture of non-packaging paper and packaging waste. Furthermore, they also have the organisational and financial responsibilities for the paper waste collected from the recycling points.

<sup>22</sup> <https://era.org.mt/wp-content/uploads/2022/02/Long-Term-Waste-Management-Plan-v1.4.3-Spreads-Digital-Version.pdf>

<sup>23</sup> <https://fondi.eu/wp-content/uploads/2023/11/Malta-Recovery-and-Resilience-Plan-2023-7.11.2023.pdf>

In this regard, a consultation meeting was also held with representatives from the two current PROs operating under the existing EPR framework for packaging waste. The discussion provided an overview of how their operations function, including the costs involved and the objectives of the fees charged to producers. These fees cover expenses such as staffing, promotional activities, and collection costs.

During the discussions, it was also highlighted that the PROs are currently financing the disposal of non-packaging paper without collecting fees for this purpose. In fact, a considerable portion of the fees charged to packaging producers is being utilised to manage non-packaging paper waste, highlighting an imbalance in cost allocation. The issue of free-riders, where producers do not contribute to the system but still benefit from its services, was also identified as a potential challenge that requires attention to ensure fairness and compliance within the system.

### 3.1.6 Consumers

Consumers of non-packaging paper include end-consumers and also businesses who use paper for the operational requirements. Their purchasing choices and behaviours directly impact the success of an EPR scheme. They are mainly concerned with convenience and cost, preferring accessible disposal options and resisting price increases. Businesses, in particular, may seek to enhance their environmental image by opting for sustainable paper products and supporting recycling initiatives. Consumers can influence the market by favouring eco-friendly products and demanding greater accountability from producers.

### 3.1.7 Waste management companies

Waste management firms are responsible for the collection and sorting of non-packaging paper, serving as key operational players in the EPR scheme. Their primary interest lies in improving the efficiency and profitability of their recycling operations. They are also focused on securing fair compensation for their services. In Malta, the collection of paper waste is undertaken by private collectors through their agreements with the Regional Councils, and through their agreements with the packaging waste PROs for the paper collected from the bins at bring-in sites. The financing of this collection is covered by producers of packaging and packaging waste as part of their fulfilment of EPR related to packaging and packaging waste. Furthermore WasteServ Malta Ltd. is the primary facility which sorts mixed recycling bags at its sorting facilities.

These companies hold considerable influence over the implementation of the system, particularly when involved in negotiations with producers or governments regarding financial and logistical arrangements. Their input can shape the overall efficiency and cost structure of the EPR process.

### 3.1.8 Environmental NGOs

Environmental organisations advocate for stronger environmental protection measures and actively campaign for the effectiveness of EPR schemes. Their key interest is in promoting high recycling rates, reducing waste, and minimising the environmental impact of paper production and disposal. They also seek transparency in the EPR process and hold producers accountable for their environmental responsibilities. At present, no NGO in Malta focuses primarily on paper waste.

### 3.1.9 Trade unions and employers' association

Trade unions and employers' associations represent the interests of workers and businesses in industries affected by the EPR scheme for non-packaging paper, making them important stakeholders in the process.

Employers' associations aim to minimise regulatory and financial burdens, advocating for cost-effective, flexible regulations, tax incentives, and exemptions for small businesses. Through their political influence, they lobby governments and negotiate favourable terms.

The main interest of trade unions lie in ensuring that the EPR scheme does not negatively impact jobs, working conditions, or wages within the paper production, waste management, and recycling sectors.

They advocate for fair labour practices and may seek to influence the scheme to support job creation in sustainable industries, including recycling and waste management.

## 3.2 Economic

### 3.2.1 General economic indicators

The current economic context for the Maltese Islands sets out the existing backdrop against which this Project is being proposed. These figures are based on the latest publicly available data issued by the National Statistics Office (NSO) and Eurostat. In this respect, the indicators for 2020 include the impact of the COVID-19 pandemic and therefore should be analysed within this context.

Some key economic indicators for both Malta are outlined and compared below:

*Table 2: General Economic Indicators*

Economic Indicator	2020	2021	2022	2023
Population	514,564	516,100	520,971	542,051
GDP at market prices (€ bn)	11.9	13.8	15.7	17.7
Real GDP growth (%)	-10.9%	11.9%	5.2%	2.6%
Real GDP per capita (€)	20,850	23,340	24,570	25,200
Average disposable income (€)	31,266	32,590	34,814	37,275
Total consumption expenditure (€m)	2,756	3,009	3,189	3,403
Tourism expenditure (€m)	455	871	2,013	2,671
Consumption expenditure: newspaper, books and stationery (€m)	45	45	50	51
Newspaper, books and stationery expenditure per capita (€)	87	87	96	94
Newspaper, books and stationery expenditure as % of total consumption expenditure	1.6%	1.5%	1.6%	1.5%
Inflation rate (%)	0.8%	0.7%	6.1%	5.6%
Annual average rate of change of HICP: newspaper, books and stationery (%)	5.1%	2.2%	5.2%	6.2%

### 3.2.2 Economic developments and their impact on non-packaging paper waste generation

The recent economic developments in Malta have significantly influenced waste generation patterns, particularly in the context of non-packaging paper. The population growth, from 514,564 in 2020 to 542,051 in 2023, has led to an increased demand for various goods and services, including paper products such as newspapers, books, and stationery. As the population expands, so does the consumption of these paper products, resulting in a corresponding rise in non-packaging paper waste. This demographic change is a key factor contributing to the overall increase in waste generation in the country.

Malta's economic growth, as reflected in the rise in GDP per capita from €20,850 in 2020 to €25,200 in 2023, also plays a crucial role. This increase in economic output per person suggests an improvement in living standards and a greater capacity for consumer spending, which extends to non-packaging paper products. Higher income levels enable individuals to purchase more paper goods, whether for personal, educational, or professional use. As a result, the increase in paper consumption driven by

higher GDP per capita correlates with an increase in non-packaging paper waste, even if at a slow pace, as more paper products are gradually used and eventually discarded.

The rise in disposable income further amplifies this trend. The average disposable income in Malta increased from €31,266 in 2020 to €37,275 in 2023, indicating that individuals have more financial resources available for discretionary spending, including on newspapers, books, and stationery. This higher disposable income likely fuels greater demand for these paper products, contributing to a rise in their consumption. Consequently, as more paper products are purchased and used, the rate at which they are disposed of also increases, adding to the accumulation of non-packaging paper waste. In addition, as the population grows and disposable income rises, businesses are likely to invest more in marketing campaigns to attract consumers and capitalise on their increased spending power. This can lead to a proliferation of printed promotional materials, contributing further to the volume of non-packaging paper waste.

Moreover, consumption expenditure on newspapers, books, and stationery in Malta also saw an increase from €45 million in 2020 to €51 million in 2023, marking a 13% increase. This increase, which surpasses the 5% growth in population during the same period, reflects a shift in consumer behaviour, with more money being allocated to these paper products. The increased spending not only highlights the growing affluence of the Maltese population but also points to a higher turnover of paper products, where more items are being bought, used, and subsequently discarded. This pattern contributes to the escalating levels of non-packaging paper waste, as higher consumption leads to a faster accumulation of discarded paper products.

The annual average rate of change of the Harmonised Index of Consumer Prices (HICP) for newspapers, books, and stationery also saw an increase from 5.1% in 2020 to 6.2% in 2023. This rise in prices indicates that the cost of these paper products has been increasing, which may influence purchasing behaviour.

In summary, the combination of population growth, rising GDP per capita, increased disposable income, higher consumption expenditure on newspapers, books, and stationery, and the increasing HICP for these products has led to a situation where non-packaging paper waste generation in Malta is on the rise. These economic factors are likely to continue driving the increase in paper waste, posing challenges for waste management systems and highlighting the need for sustainable practices to mitigate the environmental impact.

### 3.2.3 Economic implications of non-packaging paper waste management in Malta

The potential implementation of an EPR scheme for non-packaging paper in Malta could significantly impact businesses and the waste management sector. Currently, non-packaging paper waste management is not regulated under a formal EPR scheme, meaning that businesses involved in the production and distribution of such paper products do not bear the direct costs of managing waste from their products. This waste stream is being handled through systems (i.e. the grey bag collected door-to-door and the recycling points) financed by the PROs which were established for packaging and packaging waste. Should an EPR scheme on non-packaging paper be introduced, it would result in waste management costs being shifted to the relevant non-packaging paper economic operators, likely resulting in a more equitable system where the obliged industries bear the costs of the management of the products they place on the market. This might however bring about potential economic impacts on the non-packaging paper industry.

One of the primary economic considerations would be the increased regulatory and administrative responsibilities imposed on businesses. Under an EPR scheme, producers and distributors of non-packaging paper products would need to adhere to new regulations, including registration and reporting on the non-packaging paper they place on the market. This shift could necessitate investments in compliance systems, including software and administrative resources, which could be particularly burdensome for smaller businesses with limited financial and operational capacity. The added complexity of meeting these requirements could result in higher operational costs and require adjustments in business practices.

In addition, the implementation of an EPR scheme for non-packaging paper could exacerbate challenges already being faced by the print industry, which has been under pressure due to the ongoing shift towards digital media. As the demand for printed materials continues to decline, the introduction of additional costs associated with managing and recycling non-packaging paper may further strain businesses in this sector. Printing companies, might find it difficult to absorb these new financial obligations without passing costs onto consumers or business clients, which could further harm their competitiveness. In this regard, it may be necessary to consider excluding certain categories of printed materials, such as books and educational resources, from the full scope of the EPR scheme, or offering preferential treatment to these items. Such exemptions or adjustments could help prevent an undue increase in costs for essential products that serve educational purposes, ensuring that access to knowledge and learning materials remains affordable.

Another important consideration is the cost of educating consumers about their role in the EPR scheme. For an EPR scheme to be effective, consumers must be well-informed about how to properly dispose of and recycle non-packaging paper products. This could necessitate investment in public awareness campaigns and educational programmes, which would add to the overall cost of compliance for businesses. Effective consumer education is crucial for ensuring high participation rates in recycling programmes and achieving the environmental goals of the EPR scheme. Without it, there could be inefficiencies and increased costs related to waste management.

In conclusion, while the potential EPR scheme for non-packaging paper in Malta presents certain economic challenges, including increased regulatory costs, it also offers opportunities in terms of creating a more equitable scenario where the related industries cover the costs for the management of the waste arising from the products they place on the market, whilst aiding Malta in moving towards a Circular Economy. Businesses will need to strategically manage these changes to maintain competitiveness while contributing to Malta’s environmental objectives.

### 3.2.4 Economic impact of non-packaging paper waste management

Table 3: The economic opportunities and challenges of non-packaging paper waste management

Opportunities	Challenges
<p><b>More equitable distribution of EPR costs amongst relevant industries:</b> Establishing an EPR scheme for NPP would enable a level playing field for producers of packaging and NPP, as the former are currently bearing the waste management cost of NPP.</p>	<p><b>Increased prices for consumers and businesses:</b> The introduction of an EPR scheme for non-packaging paper and the introduction of fees to be paid by the producers of such products is likely to be passed on to the end consumers and businesses.</p>
<p><b>Job Creation:</b> While non-packaging paper waste is already collected and sorted in Malta, the introduction of an EPR scheme could lead to the creation of specialised roles focused on improving the efficiency and effectiveness of current processes. For instance, there could be new opportunities in areas such as compliance monitoring, quality control, and consumer education. However, in view of the size and the characteristics of the Maltese market, the creation of jobs is not expected to be high.</p>	<p><b>Current challenges of the sector:</b> The implementation of an EPR scheme for non-packaging paper could exacerbate challenges already facing the print industry, which has been under pressure due to the ongoing shift towards digital media.</p>
<p><b>Improved public awareness and participation:</b> The introduction of an EPR scheme could lead to heightened public awareness and greater participation in recycling programmes. Through educational campaigns and community engagement, consumers could become more conscious of their paper usage and disposal habits. This could not only improve recycling rates but also foster a culture of environmental responsibility, supporting broader waste reduction goals in Malta.</p>	<p><b>Regulatory and administrative burden:</b> Implementing and enforcing the EPR scheme will require robust regulatory frameworks and administrative oversight. Businesses may struggle with the complexity and cost of compliance, especially those that lack the resources to manage these new obligations effectively.</p>

Opportunities	Challenges
<p><b>Enhanced circular economy:</b> Implementing an EPR scheme for non-packaging paper can further integrate Malta into the circular economy by ensuring that paper waste is systematically collected, sorted, and recycled. This can promote more sustainable business practices and encourage the development of closed-loop systems where non-packaging paper products are designed with recyclability in mind. Over time, this could reduce the environmental footprint associated with paper products and decrease waste generation.</p>	<p><b>Consumer participation:</b> Effective waste sorting and recycling depends on additional effort from consumers. Low awareness and convenience issues can influence public engagement.</p>

## 3.3 Social

### 3.3.1 Digital Shift

- **Newspapers and Magazines:** The shift towards digital media has significantly reduced consumption of traditional paper such as newspapers and magazines.
- **Office paper:** Remote work and digital documentation trends are decreasing office paper usage with many companies promoting and adopting policies to opt for paperless solutions.
- **Books:** With the prevalence of smartphones and tablets, e-books and audiobooks are gaining popularity. However, physical book sales remain steady among certain demographics and in many educational settings which are balancing digital and physical learning tools.
- **Leaflets and flyers:** Digital marketing is also reducing the need for physical leaflets and flyers, though they persist in specific industries like hospitality and retail.

### 3.3.2 Demographic Shifts

Older generations maintain a steady demand for traditional newspapers, magazines, and books due to their lower digital inclination. Conversely, younger consumers drive the shift towards e-books and digital documents.

### 3.3.3 Education and Awareness

**Environmental Concern:** Growing environmental awareness specifically considering deforestation, carbon footprint and waste is impacting paper consumption. Increased education on recycling and sustainable practices boosts the use of recycled paper. Additionally, awareness of digital and sustainable alternatives to traditional paper is influencing consumer and corporate choices towards more eco-friendly and sustainable products, driving demand for recycled paper and digitised options.

**School Programmes:** Environmental education is also being integrated into school curricula. Programmes are designed to teach students about the importance of recycling and responsible paper use.

### 3.3.4 Cultural perception

**“Throwaway Culture”:** Malta’s convenience-driven lifestyle has contributed to a culture of disposability, where the focus on immediate convenience often outweighs considerations of environmental impact. While many non-packaging paper products, such as newspapers, brochures, and office paper, may have limited reuse potential, there are exceptions. Books and, to a lesser extent, certain magazines, can be reused. Nonetheless, the widespread use and subsequent disposal of these



products contribute significantly to waste generation, highlighting the need for enhanced recycling initiatives and more sustainable consumption practices.

### 3.3.5 Community engagement

**Mandatory waste separation:** Residents are actively participating in separating recyclables from general waste, helping streamline the recycling process.

**“Bring-in sites”:** The establishment of "Bring-In Sites" across Malta serve as collection points for different types of waste, such as glass, paper, and metal. By providing easily accessible drop-off points, the initiative encourages individuals to participate in recycling efforts.

**Reuse centres:** In 2023, over 18,000 items including toys, books, clothes and furniture were collected in four reuse centres operated by Wasteserv.

### 3.3.6 Social impact and public acceptance of an EPR on non-packaging paper

The introduction of an EPR scheme for non-packaging paper in Malta could also face social resistance, particularly from businesses that rely heavily on non-packaging paper products. Businesses that rely on large quantities of non-packaging paper, such as offices, newspapers or print shops, may resist the scheme which results in increased operational costs. The impact on society could be mixed, with some viewing the EPR as a necessary step towards reducing paper waste and promoting sustainability, while others may oppose it if they perceive the costs as unjustified or burdensome.

To ensure broad public support, it is crucial to implement targeted outreach strategies. Communication efforts should emphasise the long-term environmental benefits of reducing paper waste, such as the preservation of natural resources. Additionally, collaborating with educational institutions, environmental organisations, and industry leaders to advocate for the initiative will be key in building widespread acceptance and fostering a culture of sustainability.

## 3.4 Technological

Advancements in technology are revolutionising paper waste management by introducing more efficient and sustainable methods for recycling paper products. Malta can embrace these technologies to reduce further its paper waste and promote sustainable practices to move towards a circular economy.

### 3.4.1 Automation in sorting and recycling

**Automated sorting systems:** Machine learning algorithms are increasingly being used in waste paper recycling. These systems can analyse a vast amount of data, recognise patterns, and make decisions with high accuracy. In non-packaging paper recycling, AI-powered sorting machines are capable of distinguishing various types of paper based on factors such as colour, texture, thickness, and composition.

### 3.4.2 Energy-efficient processing

**Renewable energy integration:** Recycling facilities are increasingly integrating renewable energy sources, such as solar and wind power, to reduce their reliance on fossil fuels. This shift towards renewable energy supports the overall sustainability of the non-packaging paper waste management sector.

**Deinking processes and fibre recover systems:** Technological innovations are enabling the efficient recovery and reuse of paper fibres and by-products. Advanced recycling technologies such as deinking processes and fibre recovery systems, enable the production of high-quality recycled paper products with minimal environmental impact.

### 3.4.3 Smart recycling bins

**Smart waste bins:** AI-based bins simplify recycling by automatically sorting and compressing waste, controlling the fill levels and processing data for convenient waste management. These smart bins can notify collection services when they need to be emptied, optimising collection routes and reducing operational costs.

**User engagement:** Smart bins can also provide feedback to users on their recycling habits through connected apps, encouraging more responsible disposal practices and increasing public participation in paper recycling programs.

### 3.4.4 Advanced recycling technologies

**Hydrothermal treatment of waste:** This technology uses high-pressure steam and water to break down paper waste into its basic components. The process helps produce high-quality recycled fibre, making it easier to reuse and recycle paper effectively.

### 3.4.5 Digital platforms

**Recycling incentive programs:** Digital platforms can also be used to implement incentive programmes for recycling. Users can earn rewards or discounts for participating in non-packaging paper recycling initiatives, encouraging more widespread adoption.

**Digital Media Platforms:** Digital platforms such as news portals, e-readers such as Kindle, and digital magazine subscriptions promote paper sustainability by offering content in electronic formats. Additionally purchasing second-hand books extends sustainability by extending the lifecycle of printed materials and reducing the demand for new paper products.

### 3.4.6 Assessing technological readiness and barriers to adoption

While advanced technologies like automated sorting, energy-efficient processing, and smart recycling bins offer significant potential for improving the management of non-packaging paper waste, their readiness and accessibility in Malta may present challenges. The adoption of such technologies may be hindered by high implementation costs, especially in a smaller market like Malta, where economies of scale are harder to achieve. Additionally, the integration of renewable energy sources into recycling facilities or the deployment of AI-powered sorting systems requires significant investment and technical expertise, which might not be readily available locally. The transition to these advanced technologies may also be slowed by the need to upgrade existing infrastructure and train personnel to operate and maintain new systems effectively. Addressing these challenges will likely require targeted government support, such as financial incentives, as well as strategic partnerships with international technology providers to make these technologies more accessible and affordable for Malta's waste management sector. Moreover, a focus on building local expertise through education and training programmes will be essential to ensure the successful adoption and long-term sustainability of these innovations.

## 3.5 Environmental

Non-packaging paper represents a large share of the paper placed on the Maltese market in the form of newspapers, office paper, magazines, books, coated and uncoated paper. At present, this waste stream is not directly regulated in relation to EPR<sup>24</sup>. This waste is primarily disposed of in the mixed recycling bag together with packaging waste and in paper bins in bring-in sites. From an environmental perspective, the aspects which relate to non-packaging paper, the use of sustainable resources, preventing pollution, and to reduce climate impacts are outlined below.

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<sup>24</sup><https://era.org.mt/wp-content/uploads/2022/02/Long-Term-Waste-Management-Plan-v1.4.3-Spreads-Digital-Version.pdf>

### 3.5.1 Climate Change

The demand for paper and paperboard has shown an accelerated growth due to a rise in population and economic growth. According to the International Energy Agency (IEA)<sup>25</sup>, total paper production is projected to increase and greater efforts must be made to reduce the emissions intensity of production. The climate change impact of non-packaging paper primarily arises from greenhouse gas (GHG) emissions generated throughout its lifecycle, including raw material extraction, production, use, and disposal.

### 3.5.2 Resource Consumption and Chemical Pollution

Non-packaging paper production relies heavily on wood as the primary raw material, which is obtained from forests. Unsustainable logging practices can lead to deforestation, forest degradation, and the loss of biodiversity, especially when natural forests are replaced with monoculture plantations. Deforestation for paper production threatens ecosystems and species dependent on forest habitats.

Paper production is also one of the most water-intensive industries. A significant amount of freshwater is used in the pulping and paper-making processes. This can deplete local water resources, particularly in water-stressed regions. Nevertheless, pulp and paper mills generate large amounts of wastewater containing pollutants, including dissolved organic materials, heavy metals, and chemicals used in the production process. If untreated, this wastewater can contaminate local water bodies and harm aquatic ecosystems. Paper production also generates air pollutants which contribute to acid rain, smog, and respiratory issues. Moreover, non-packaging paper production involves the use of a variety of chemicals, including those for pulping, bleaching, and sizing. These chemicals, if improperly managed, can harm both ecosystems and human health, potentially leaching into water sources and affecting soil quality.

### 3.5.3 Circular Economy

The pulp and paper industry exemplifies the principles of circular economy by maximising resource reuse through efficient utilisation of by-products. The principle of 'Reuse and Recycle' aligns closely with current practices in the industry, reducing the reliance on virgin resources and raw materials by utilising waste streams. Embracing a circular economy approach reduces waste generation, thereby mitigating environmental harm associated with landfilling. It effectively lowers greenhouse gas emissions and offers cost savings, particularly when considering the expenses of landfilling, the loss of reusable materials, and the environmental impacts of waste degradation<sup>26</sup>.

## 3.6 Legal

The legal landscape plays a crucial role in shaping EPR schemes. Understanding the legal aspects is essential for ensuring compliance and achieving the intended environmental and economic benefits of the scheme.

### 3.6.1 Waste Regulations (S.L.549.63)

The Waste Regulations (S.L. 549.63)<sup>27</sup> transpose the Waste Framework Directive 2008/98/EC<sup>28</sup> into Maltese legislation, setting forth crucial waste management principles. These principles follow a hierarchy that prioritises prevention, reuse, recycling, and recovery, with disposal being the last option. In 2023, the regulations introduced compulsory waste separation for materials such as paper, metal, plastic, glass, and organic waste, which also applies to businesses.

The aim is to enhance resource efficiency and promote a circular economy by maximising material use for as long as possible. Central concepts include the polluter pays principle and EPR, which obligate

<sup>25</sup> <https://www.iea.org/energy-system/industry/paper#tracking>

<sup>26</sup> [https://unece.org/sites/default/files/2023-11/ECE\\_TIM\\_2023\\_Inf.5\\_FAO\\_EFC\\_2023\\_Inf.5.pdf](https://unece.org/sites/default/files/2023-11/ECE_TIM_2023_Inf.5_FAO_EFC_2023_Inf.5.pdf)

<sup>27</sup> <https://legislation.mt/eli/sl/549.63/eng/pdf>

<sup>28</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32008L0098#>

producers to cover the costs associated with their products throughout their lifecycle, especially at the end of their use. The regulations also set ambitious recycling targets for municipal waste (including paper): 55% by 2025, 60% by 2030, and 65% by 2035.

### 3.6.2 Waste Management (Landfill) Regulations (S.L.549.29)

The Waste Management (Landfill) Regulations (S.L. 549.29)<sup>29</sup>, implementing the EU Landfill Directive 2018/850<sup>30</sup> into Maltese law, aim to significantly reduce landfill waste, especially recyclable and recoverable materials. Under these regulations, the target for Member States, including Malta, is reducing municipal waste landfilled to 10% by 2035. From 2030, Member States should aim to ensure that waste suitable for recycling or other forms of material or energy recovery is not sent to landfills. EPR schemes support these goals by promoting waste reduction and recycling through better product design..

### 3.6.3 Waste Management (Shipments of Waste) Regulations (S.L. 549.65)

The EU Waste Shipment Regulation is implemented in Malta through the Waste Management (Shipment of Waste) Regulations (S.L. 549.65)<sup>31</sup>. The regulation oversees cross-border waste movement to ensure environmentally sound management and protect human health. It aligns with the EU Waste Framework Directive and international agreements like the Basel Convention, focusing on preventing illegal dumping, improper handling, and ensuring safe waste treatment.

Key updates in the 2024 Regulation (2024/1157), which apply to non-packaging paper waste include digitalising shipment processes, monitoring exports to OECD countries, requiring independent audits for waste sent outside the EU, and stricter rules governing exports of green-listed waste to non-OECD nations. Also noting that paper waste is currently mainly exported outside the Union, EPR schemes must ensure proper waste management during cross-border transportation in compliance with these regulations-

## 3.7 Concluding remarks

As highlighted throughout the analysis of each PESTEL factor, and summarised in the table below, the introduction of an EPR scheme for non-packaging paper presents a range of benefits across various areas, especially in terms of strengthening the implementation of the polluter-pays principle while ensuring a level-playing field for both producers of packaging and non-packaging paper. However, it also brings certain challenges that must be carefully considered and addressed to ensure its success. These challenges include potential financial burdens on producers, consumers and the need for continuous governmental support and stakeholder collaboration. These pros and cons will be further explored with evidence-based data and detailed analysis in the upcoming sections of this study, providing a more comprehensive understanding of the EPR scheme's potential impact.

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<sup>29</sup> <https://legislation.mt/eli/sl/549.29/eng/pdf>

<sup>30</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32018L0850>

<sup>31</sup> <https://legislation.mt/eli/sl/549.65/eng/pdf>

Table 4: PESTEL analysis - pros and cons

Factor	Pros	Cons
<b>Political</b>	The implementation of the EPR principle has proven to be effective in terms of improving waste management performance in a cost-effective manner and thus, it is promoted across the EU. In addition, the national Waste Management Plan includes a measure whereby EPR is to be implemented for non-packaging paper.	Dependence on government and various stakeholders may result in inconsistent enforcement or policy shifts.
<b>Economic</b>	The main economic benefit of the implementation of EPR for non-packaging paper would be to ensure a level-playing field for both producers of paper packaging and non-packaging paper, and to strengthen the implementation of the polluter-pays principle. In addition, the implementation of EPR may result in improved waste management performance delivered in a cost-effective manner.	The financial burden on producers of non-packaging paper could be substantial, especially for small and medium enterprises in the sector. Such burden would however compensate the financial burden currently borne by producers of packaging paper due to the costs for the management of non-packaging paper waste.
<b>Social</b>	An EPR can raise public awareness about sustainable non-packaging paper use, encouraging more eco-conscious consumption.	There may be resistance from consumers to higher product prices, as costs may be passed down from producers.
<b>Technological</b>	An EPR scheme can incentivise advancements in non-packaging paper recycling technologies which would improve the efficiency and effectiveness of non-packaging paper waste management. However, owing to the size of the national market and Malta's specificities, and further considering that the costs of the management of non-packaging paper waste are already borne by producers of paper packaging, the extent to which this advantage could manifest itself is considered to be limited.	Limited access to advanced recycling technology for non-packaging paper in Malta may result in higher operational costs.
<b>Environmental</b>	An EPR has the potential to improve waste management performances, thus aiding Malta in moving towards a Circular Economy.	If improperly managed, the environmental benefits of an EPR scheme may be offset by inefficient waste handling.
<b>Legal</b>	An EPR would provide a clear legal framework for producers' responsibilities, ensuring accountability.	Legal disputes or uncertainties may arise regarding the scope of responsibilities between stakeholders.

## 4. Market study

### 4.1 Stakeholder analysis

To effectively analyse the non-packaging paper market, a stakeholder analysis offers an overview of the key players within the industry. This analysis encompasses all entities in the non-packaging paper supply chain, including importers, distributors, retailers, consumers, and waste management organisations. Non-packaging paper is placed on the local market through three primary channels: imports from non-EU countries (imports), intra-community acquisitions from the EU (distributors), as well as, purchases from online sellers both within and outside the EU. The non-packaging paper is then either supplied to local distributors, who sell to local retailers, or directly to retailers or consumers. Once available on the market, consumers may purchase non-packaging paper from local distributors or retailers.

When non-packaging paper is disposed of, it should be placed with recycling waste in the grey bags or in the appropriate 'Paper recycling point bins' situated across Malta, or, alternatively, it can be disposed of at the network of Civic Amenity sites managed by WasteServ. Non-packaging paper is however also found with mixed waste in the black bags. Non-packaging paper disposed of in the grey and black bags is collected by authorised waste collectors engaged by the Regional Councils. The grey bag also contains packaging material such as plastic and packaging paper. The grey bags are then transported by the waste collectors to Wateserv's Material Recovery Facility (MRF) to be sorted. The sorted non-packaging paper is exported for recycling, sold for recycling, or exported for energy recovery as refuse-derived fuel (RDF). Non-packaging paper is typically exported with packaging paper. Non-packaging paper found in the black bag is sent to the landfill. The non-packaging paper placed in the 'Paper recycling point bins' situated across Malta is organised by the packaging PROs through third party collectors who transport the bins to the MRF or private waste management facilities for sorting.

Non-packaging paper can also be taken to the WasteServ Reuse Centre, where paper can be donated if still in good condition. Items donated are sold to the public, with proceeds going to an environmental fund managed by WasteServ for initiatives. Consumers and retailers also have the option to donate non-packaging paper directly to charity shops, for example in the case of books and magazines, where these can be resold. Paper consumed by offices is also disposed of through shredding contractors, where it is then baled and exported for recycling.



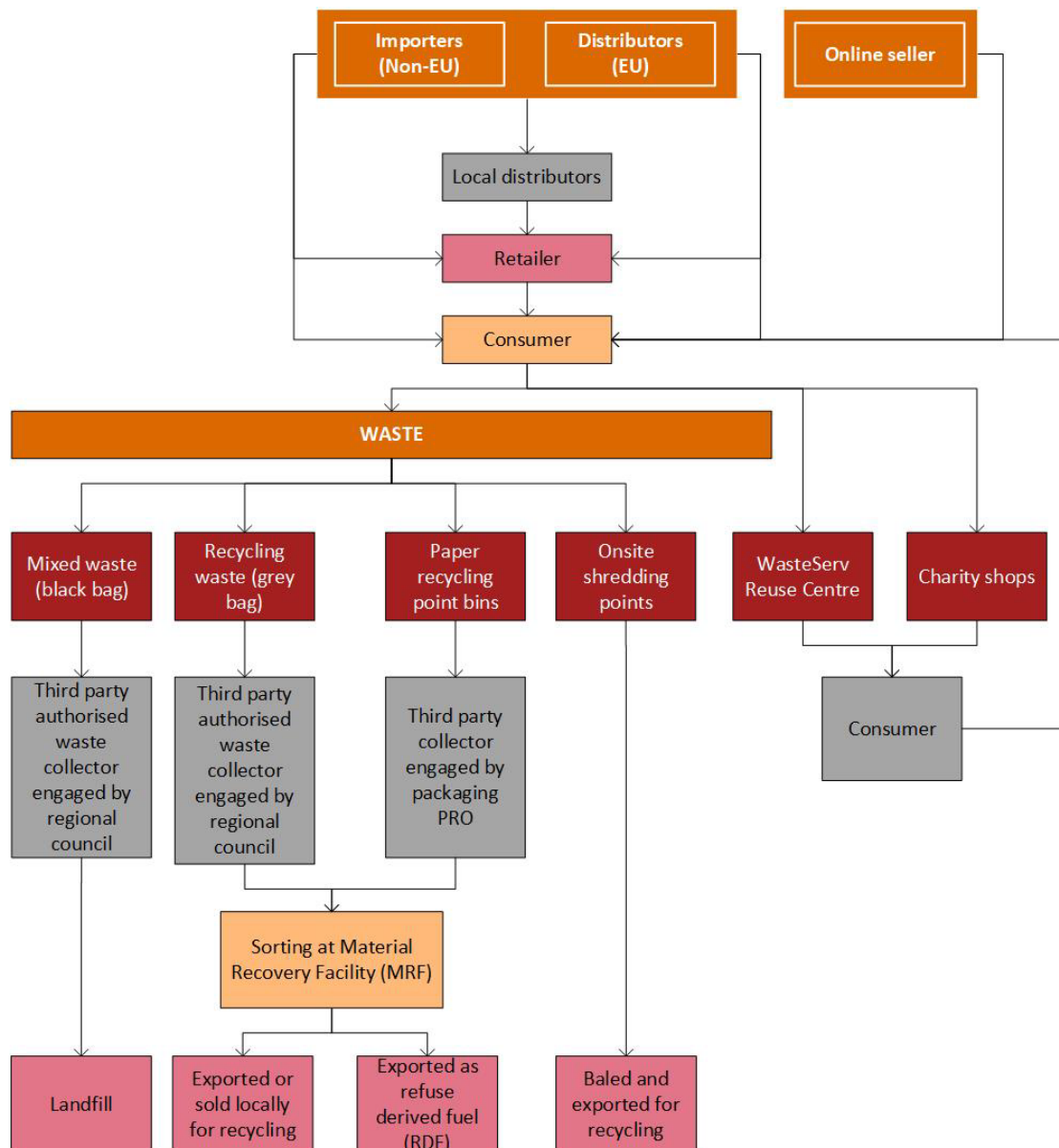


Figure 3: Non-packaging paper waste value chain

The following sections of this market study provide an overview of the non-packaging paper market in Malta, examining key local stakeholders. This includes an analysis of non-packaging paper companies based on their primary activities. The study then explores non-packaging paper import values and volumes to assess the scale and types of non-packaging paper entering the local market. Finally, it will address the management and collection of non-packaging paper waste, detailing the volume of waste generated and the proportion that is exported. The market study does not analyse the amount of non-packaging paper donated to charity shops due to the lack of data.

## 4.2 Analysis of the non-packaging paper market by NACE code

Under the Extended Producer Responsibility Framework Regulations (S.L. 549.141), a producer is defined as any natural or legal person who professionally develops, manufactures, processes, treats, sells, or imports specific products.

This market study is relevant for the assessment of the EPR in relation to non-packaging paper as it provides key insights into historic, current, and projected import volumes and market size, and an understanding of the existing ecosystem in relation to the management of non-packaging paper waste.

This data provides the basis for a potential effective and an economically feasible EPR policy tailored to the local market conditions.

The analysis below is based on NACE codes of companies responsible for the lifecycle of non-packaging paper and resulting waste of their products. The relevant NACE codes of companies that are likely to be involved in developing, manufacturing, processing, treating, selling, or importing such products were identified. This section provides an overview of the distribution of companies categorised by size (large, medium, small, and micro) in the non-packaging paper industry from 2018 to 2022, based on relevant NACE codes listed below. The completeness of this list of identified NACE codes was confirmed with ERA prior to performing the analysis.

It must be noted that NACE codes 17.12, 17.2, 17.21, 17.23, 17.24 and 17.29 capture the manufacture of non-packaging paper in Malta, some of which could be exported outside of Malta. Therefore, the economic operators under these categories may not necessarily be subject to the potential introduction of the EPR, as this will be focussed solely on products placed onto the Maltese market. However, for completeness, they are still included in this section of the market study.

*Table 5: NACE codes of companies in relation non-packaging paper*

<b>NACE code</b>	<b>Description</b>
17.12	Manufacture of paper and paperboard
17.2	Manufacture of articles of paper and paperboard
17.21	Manufacture of corrugated paper and paperboard and of containers of paper and paperboard
17.23	Manufacture of paper stationery
17.24	Manufacture of wallpaper
17.29	Manufacture of other articles of paper and paperboard
18	Printing and reproduction of recorded media
18.1	Printing and services activities related to printing
18.11	Printing of newspapers
18.12	Other printing
18.13	Pre-press and pre-media services
18.14	Binding and related services
47.61	Retail of books in specialised stores
47.62	Retail sale of newspapers and stationery in specialised stores
58	Publishing activities
58.1	Publishing of books, periodicals and other publishing activities
58.11	Book publishing
58.12	Publishing of directories and mailing lists
58.13	Publishing of newspapers
58.14	Publishing of journals and periodicals
58.19	Other publishing activities

## 4.2.1 Number of companies per NACE code

Table 6: Number of companies by NACE code. (Source: NSO)

NACE	Description	2018	2019	2020	2021	2022
17.12	Manufacture of paper and paperboard	1	0	0	0	0
17.2	Manufacture of articles of paper and paperboard	12	11	12	19	16
17.21	Manufacture of corrugated paper and paperboard and of containers of paper and paperboard	3	3	3	3	4
17.23	Manufacture of paper stationery	4	4	5	10	7
17.24	Manufacture of wallpaper	0	0	0	0	0
17.29	Manufacture of other articles of paper and paperboard	2	1	1	2	2
18	Printing and reproduction of recorded media	145	144	141	200	218
18.1	Printing and services activities related to printing	140	137	133	183	196
18.11	Printing of newspapers	1	1	0	0	0
18.12	Other printing	124	123	121	156	167
18.13	Pre-press and pre-media services	9	7	6	17	21
18.14	Binding and related services	6	6	6	10	8
47.61	Retail of books in specialised stores	65	55	57	61	57
47.62	Retail sale of newspapers and stationery in specialised stores	210	192	181	202	199
58	Publishing activities	89	88	96	138	163
58.1	Publishing of books, periodicals and other publishing activities	53	47	49	86	99
58.11	Book publishing	16	12	17	26	21
58.12	Publishing of directories and mailing lists	0	0	0	0	0
58.13	Publishing of newspapers	6	5	6	6	6
58.14	Publishing of journals and periodicals	10	4	4	11	13
58.19	Other publishing activities	21	26	22	43	59
<b>Total</b>		<b>917</b>	<b>866</b>	<b>860</b>	<b>1,173</b>	<b>1,256</b>

The table above presents the total number of companies categorised by their respective NACE codes. It is clear that each year, the highest concentration of companies falls under NACE code 47.62. Additionally, there has been a rise in the overall number of companies, increasing from 917 in 2018 to 1,256 in 2022.

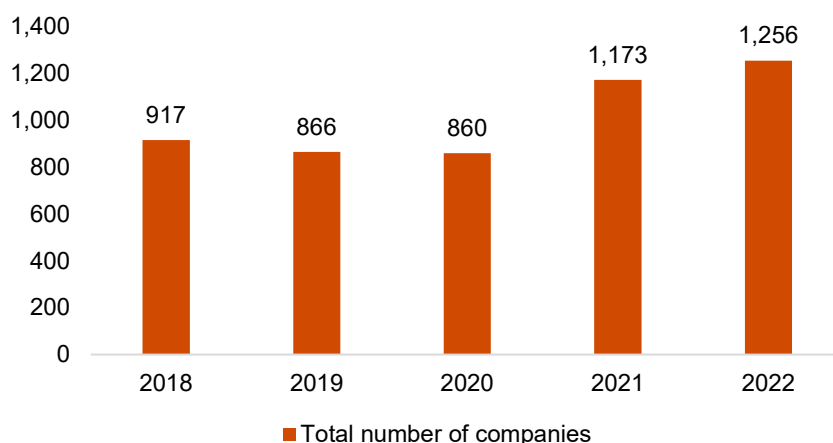


Figure 4: Total number of companies

## 4.2.2 Total number companies of all NACE codes by company size

Table 7: Total number of companies of all NACE codes by company size. (Source: NSO)

Company size	2018	2019	2020	2021	2022
Micro	810	757	747	1,064	1,146
Small	79	81	86	84	84
Medium	22	22	21	19	20
Large	6	6	6	6	6
<b>Total</b>	<b>917</b>	<b>866</b>	<b>860</b>	<b>1,173</b>	<b>1,256</b>

The table above displays the total number of companies by size across all relevant NACE codes. Notably, micro-sized companies are the most common across all NACE codes (91.2%), while large companies are the least represented (0.5%).

## 4.3 Analysis of non-packaging paper import trends by HS code

The following analysis examines the import trends of non-packaging paper to Malta from 2018 to 2022, categorised by the relevant Harmonised System (HS) Codes, using data sourced from Eurostat. The selection of HS Codes included in this study, which might be relevant to the eventual EPR, was informed by desk research and consultations with ERA.

HS Codes are standardised numerical identifiers used globally to classify traded products for customs and tariff purposes. Eurostat data was specifically chosen for this historical demand analysis of non-packaging paper as it captures Special Trade data, which takes into consideration imports of non-packaging paper into the Maltese market.

### 4.3.1 Analysis of total imports for all HS codes that might be relevant to EPR

Imports to Malta which relate to the HS codes (relating to non-packaging paper deemed relevant for an eventual EPR) increased from c. €88.4 million in 2018 to c. €103.3 million in 2022, reflecting a growth of about 17% over the five-year period under review. However, in terms of tonnage, imports experienced a slight decline, from 26,943 tonnes in 2018 to 25,217 tonnes in 2022. This suggests that while the

overall value of imports rose, the decrease in tonnage likely indicates that the increase in value can be attributed to inflation over the same period.

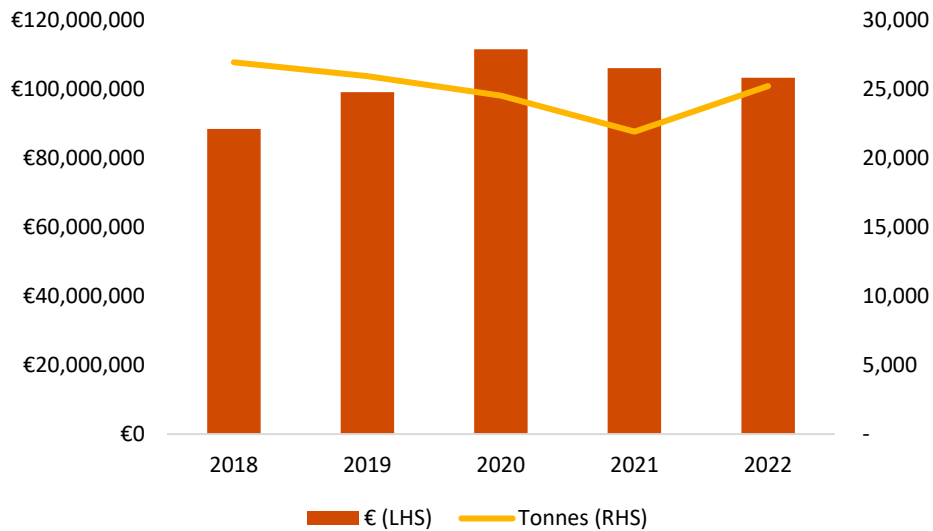


Figure 5: Imports of all HS Codes by € and tonnes. (Source: Eurostat)

### 4.3.2 Overall tonnage analysis of non-packaging paper imports

The analysis shows that the bulk of non-packaging paper imports relates to HS Code 48.

HS Code 48, primarily encompassing articles of paper pulp, paper, or paperboard, registered the highest tonnage, with c. 116,725 tonnes imported over the five-year period under review. In contrast, HS Code 47, which specifically covers recovered (waste and scrap) paper or paperboard, accounted for the smallest volume, with only c. 21 tonnes imported between 2018 and 2022. Lastly, HS Code 49, which includes printed books, newspapers, pictures, and other products of the printing industry, saw a significant amount of non-packaging paper imports over the past five years, totalling c. 7,806 tonnes.

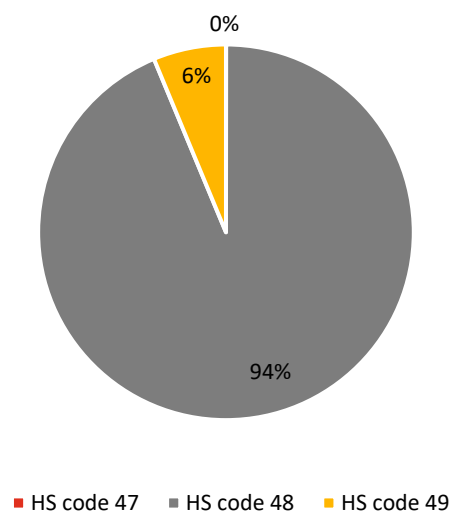


Figure 6: Imports in tonnes over 2018 – 2022 (percentage share by HS code). (Source: Eurostat)

HS Code 48, primarily covering articles of paper pulp, paper, or paperboard, recorded the highest import value, totalling c. €411.1 million over the 2018–2022 period, and thereby constituting the majority of the non-packaging paper import data analysed. In contrast, HS Code 47 accounted for a very minimal portion of the total non-packaging paper imports, with a value of just c. €100,637 over the same five-year period. Meanwhile, HS Code 49, which includes printed books, newspapers, pictures, and other products of the printing industry, represented a middle ground, with a substantial import value of c. €97.2 million during the 2018–2022 period.

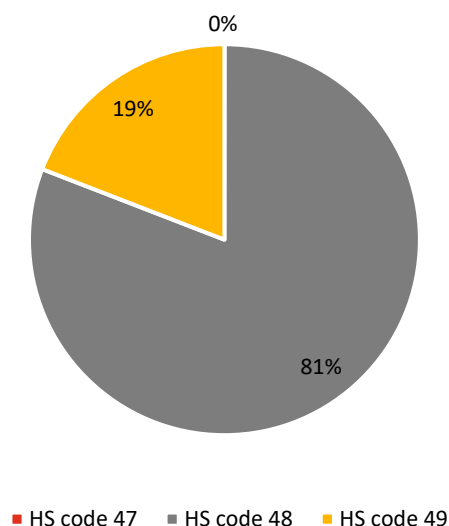


Figure 7: Imports in € over 2018 – 2022 (percentage share by HS code). (Source: Eurostat)

### 4.3.3 Overall tonnage of non-packaging paper exports

Given the above, one should recognise that certain industries in Malta are export-oriented when assessing the potential implementation of the EPR scheme for non-packaging paper. These products would not be subject to EPR, as this should focus on products placed on the local market. In fact, in 2022 a total of 13,583 tonnes related to products with HS Codes which are relevant to this EPR scheme were exported, equivalent to 53.9% of imported tonnes of products with these HS Codes. For example, raw materials for banknotes may be imported under one HS code (4802), but the final product, classified under a different HS code (4907), is exported. In addition, certain raw materials for export-focused products like manuals for toy products or pharmaceutical inserts could not feature within the tonnage of exported non-packaging paper products but as part of the final product, i.e. toy products or pharmaceutical product. This discrepancy may inadvertently overestimate the imported non-packaging tonnage subject to EPR regulations,

The reconciled figure of non-packaging paper placed on the market, taking into consideration exports is further outlined in Section 9 of this feasibility study.

### 4.3.4 Analysis of HS Code 48

HS Code 4802	Uncoated paper and paperboard, non-perforated punchcards and punch-tape paper, handmade paper and paperboard (excl. newsprint of heading 4801 and paper of heading 4803)
HS Code 4804	Uncoated kraft paper and paperboard (excl. goods of heading 4802 or 4803)
HS Code 4805	Other paper and paperboard, uncoated



HS Code 4806	Vegetable parchment, greaseproof papers, tracing papers and glassine and other glazed transparent or translucent papers
HS Code 4807	Composite paper and paperboard
HS Code 4808	Corrugated paper and paperboard "with or without glued flat surface sheets"
HS Code 4809	Carbon paper, self-copy paper and other copying or transfer papers, incl. coated or impregnated paper
HS Code 4810	Paper and paperboard, coated on one or both sides (excl. all other coated papers and paperboards)
HS Code 4811	Paper, paperboard, cellulose wadding and webs of cellulose fibers (excl. goods of heading 4803, 4809 and 4810)
HS Code 4814	Wallpaper and similar wallcoverings of paper; window transparencies of paper
HS Code 4816	Carbon paper, self-copy paper and other copying or transfer papers
HS Code 4817	Envelopes, letter cards, plain postcards and correspondence cards, of paper or paperboard (excl. letter cards, postcards and correspondence cards with imprinted postage stamps)
HS Code 4820	Registers, account books, notebooks, order books, receipt books, letter pads, and other articles of stationery, of paper or paperboard
HS Code 4821	Paper or paperboard labels of all kinds, whether or not printed

The following analysis of HS Code 48 focuses on selected subcategories, specifically the HS codes specified above, rather than the entire code. These HS codes cover different types of paper including uncoated and coated papers and other type of non-packaging paper such as labels, stationery, and wallpaper. The below graph illustrates the combined total imports for these codes. The value of imports increased from c. €66.7 million in 2018 to c. €86 million in 2022. The tonnage slightly decreased from 24,954 tonnes in 2018 to 24,084 tonnes in 2022, with a dip in 2021 to 20,213 tonnes, most likely due to the effects of the pandemic.

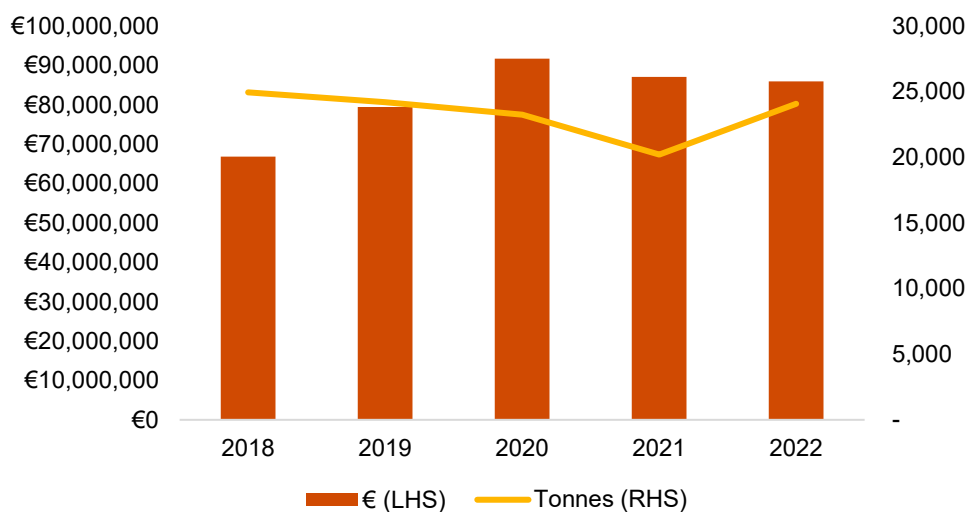


Figure 8: Imports of HS Code 48 by € and tonnes. (Source: Eurostat)

The total tonnes of products exported for HS Code 48 was 569 tonnes in 2022, equivalent to 4.2% of the total tonnes exported within the HS Codes in scope and 2.4% of the total tonnes imported under HS Code 48. As indicated above, however it could be that a % of the products imported under this HS Code are exported under another HS Code.

### 4.3.5 Analysis of HS Code 47

HS Code 47071000	Recovered "waste and scrap" paper or paperboard of unbleached kraft paper, corrugated paper or corrugated paperboard
HS Code 47072000	Recovered "waste and scrap" paper or paperboard made mainly of bleached chemical pulp, not coloured in the mass
HS Code 47073090	"Waste and scrap" of paper or paperboard made mainly of mechanical pulp (excl. old and unsold newspapers and magazines, telephone directories, brochures and printed advertising material)

The following analysis of HS Code 47 focuses specifically on selected subcategories, as outlined in the table above, rather than the entire code. These HS codes cover various types of waste and scrap paper, including unbleached, bleached, and mechanical pulp paper. The graph below illustrates the combined total imports for these specific codes. As depicted, 2019 recorded the highest number of imports, with c. €85,822 and c. 19 tonnes. However, it is important to note that for most years and many of the listed codes, data is unavailable on Eurostat since there were no imports in those periods or traders did not declare.

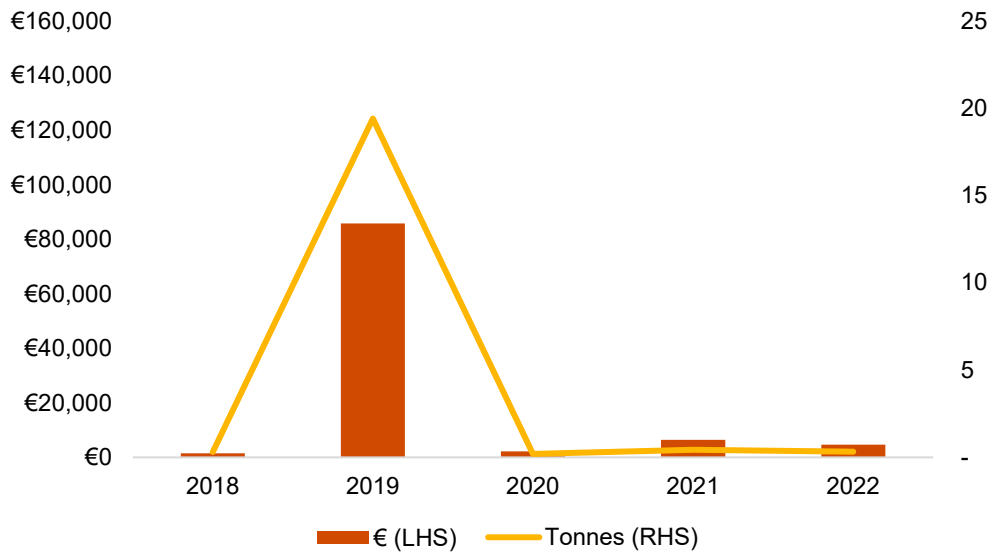


Figure 9: Imports of HS Code 47 by € and tonne. (Source: Eurostat)

The total tonnes of products exported for HS Code 47 was 6,911 tonnes in 2022, equivalent to 50.9% of the total tonnes exported within the HS Codes in scope. The total tonnes exported under HS Code 47 is much higher than the tonnes imported. As this HS Code relates to waste and scrap, it is likely that these products were imported under a different HS Code such as HS Code 48 or 49.

#### 4.3.6 Analysis of HS Code 49

HS Code 4901	Printed books and similar matter
HS Code 4902	Printed periodicals and newspapers only
HS Code 4903	Childrens picture colouring books
HS Code 4904	Printed music manuscripts
HS Code 4905	Printed maps and charts
HS Code 4906	Hand-drawn architectural plans only
HS Code 4907	Unused stamps and financial papers
HS Code 4908	Printed decalcomnia transfers
HS Code 4909	Illustrated postcards and greetings
HS Code 4910	Printed calendars and calendar blocks
HS Code 4911	Printed pictures and photographs

The following analysis of HS Code 49 focuses specifically on selected subcategories as specified in the table above, rather than the entire code. These HS codes relate to various printed materials. The graph below illustrates the combined total imports for these specific codes. Over the past five years, imports under HS Code 49 have shown a consistent decline, with the exception of 2021, which saw an increase in the total tonnes imported. Specifically, total imports for HS Code 49 decreased from approximately €21.5 million and 1,989 tonnes in 2018 to around €17.3 million and 1,132 tonnes in 2022.

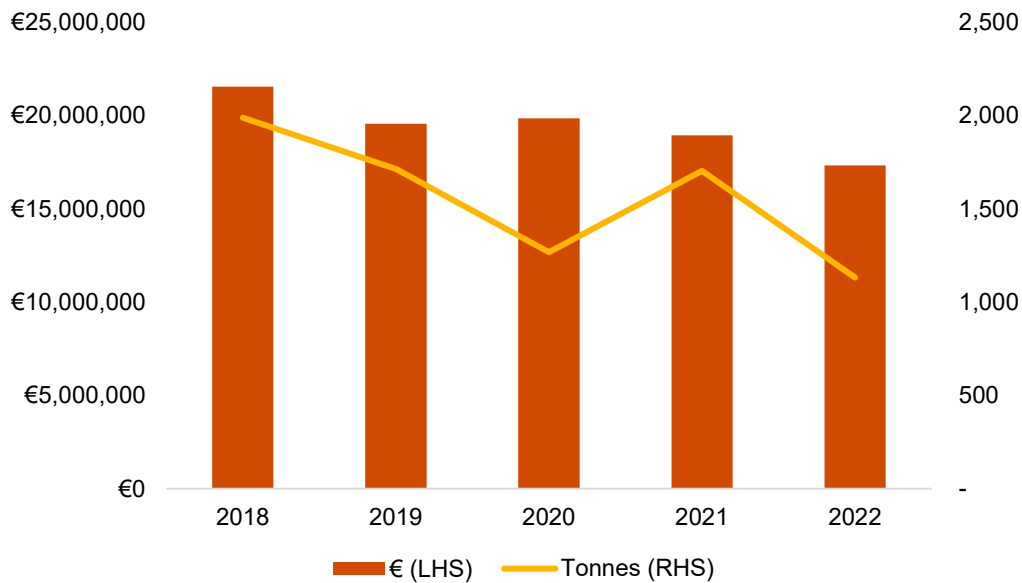


Figure 10: Imports of HS Code 49 by € and tonne. (Source: Eurostat)

The total tonnes of products exported for HS Code 49 was 6,103 tonnes in 2022, equivalent to 44.9% of the total tonnes exported within the HS Codes in scope and 539% of the total tonnes imported under HS Code 49. As indicated above, however it could be that a % of the products imported under other HS Codes are exported under another HS Code (e.g. banknotes).

## 4.4 Projections

To project non-packaging paper imports for Malta, this section analyses the relationship between total non-packaging paper imports (based on the specified HS codes) and population, nominal GDP and nominal consumption, between 2005 to 2023. These relationships are then utilised to understand the relationship between non-packaging paper imports and these variables, in attempt to utilise such variables to forecast non-packaging paper imports up to 2030.

### 4.4.1 Historical analysis: main variables of interest

The graph illustrates the imports of non-packaging paper to Malta in millions of euros versus nominal GDP, nominal consumption and population from 2005 to 2023<sup>32</sup>. A priori, all three variables could potentially be expected to drive the demand for imports of non-packaging paper in Malta.

Over this period, imports of non-packaging paper increased from €69.8 million in 2005 to €122.6 million in 2023, a Compound Annual Growth Rate (CAGR) of 3.2%, compared with a CAGR of 7.4% for nominal GDP, 6.0% for nominal consumption and 1.7% for population.

<sup>32</sup> The analysis begins from 2005 and not earlier in order to avoid any potential distortions to the data in the year 2004, which could have arisen as a result of Malta's accession into the EU and therefore the removal of certain tariffs that would directly affect trade in goods

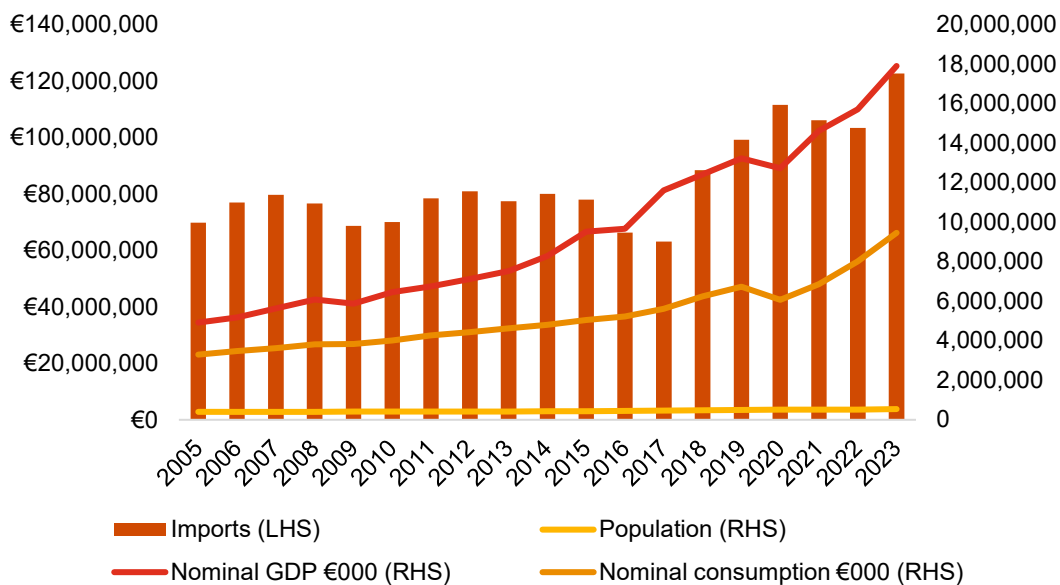


Figure 11: Historic data in levels. [Source: Imports € (Eurostat); Population (Eurostat); Nominal GDP (Central Bank of Malta); Nominal consumption (Central Bank of Malta)]

#### 4.4.2 Historical analysis: percentage change

The graph below illustrates the percentage changes in the value of imports, nominal GDP, nominal consumption and population in Malta over the period 2005 to 2023. It would appear that in terms of percentage changes, the movements in imports are not closely correlated with the movements in GDP, consumption and population growth, as summarised in the table below.

Notably, the correlation between population and the value of imports shows a moderate positive relationship with a correlation coefficient of 0.46. This suggests that while increases in population are associated with some rise in the value of non-packaging paper imports, nevertheless the relationship is not very strong.

Table 8: Correlation coefficients of x variables against the growth of value in imports

X variable	Correlation coefficient
Nominal GDP	-0.01
Nominal consumption	0.19
Population	0.46

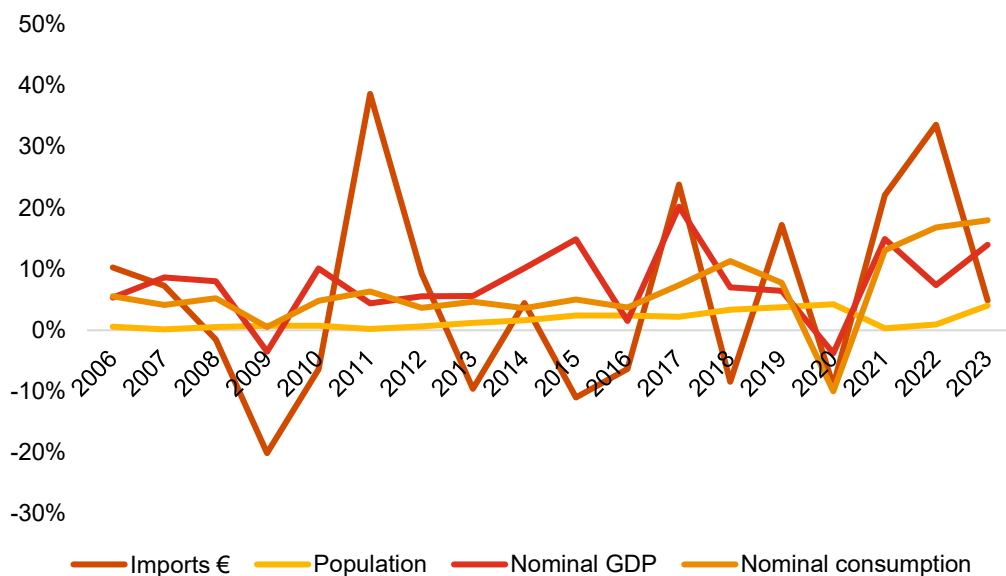


Figure 12: Historical data in percentage change. [Source: Imports € (Eurostat); Population (Eurostat); Nominal GDP (Central Bank of Malta); Nominal consumption (Central Bank of Malta)]

### 4.4.3 Historical analysis: in tonnes

The figure below depicts the volume number of imports of non-packaging paper in terms of tonnes, as sourced from Eurostat. The large fluctuations in terms of tonnes imported per year, as shown in the chart, imply that this data should be treated with caution.

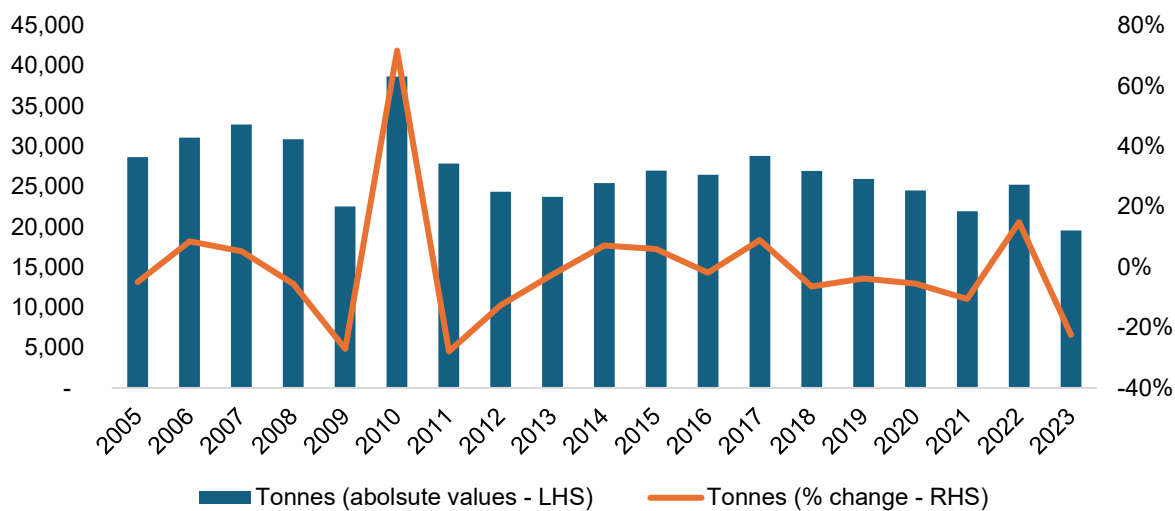


Figure 13: Historic data of non-packaging paper imports in tonnes. (Source: Eurostat)



## 4.4.4 Projections of non-packaging paper imports

### 4.4.4.1 Projections methodology

To project the total value of non-packaging paper imports, an Error Correction Model (ECM) was initially used to assess and correct deviations from the long-term equilibrium between the value of non-packaging paper imports and key variables such as nominal GDP, nominal consumption, and population.

However, the results of these regressions were statistically insignificant, indicating that no long-run relationship exists between the value of non-packaging paper imports and the aforementioned variables.

Subsequently, an attempt was made to establish a relationship using an Autoregressive Distributive Lag (ARDL) model, which accounts for both short-term dynamics and long-term equilibrium. The ARDL approach combines the strengths of autoregressive and distributed lag models to analyse how variables influence each other over time.

However, similar to the ECM, the ARDL results showed no significant relationship between the value of non-packaging paper imports and the key variables mentioned above. This lack of statistically robust relationship between such variables and non-packaging paper imports is consistent with the apparent lack of historical correlation between the variables as shown in section 4.4.2<sup>33</sup>.

In the absence of a statistically robust regression model, reference was made to the projected growth rate published by the Central Bank of Malta (CBM) as outlined in Table 8 below. These same growth rates were also applied to estimate the total number of non-packaging paper imports in tonnes.

Table 9: Projected imports (€m) based on consumption growth rate

Projected years	2024	2025	2026	2027	2028	2029	2030
Consumption expenditure projections	4.9%*	4.0%*	3.7%*	3.0%**	2.5%**	2.0%**	2.0%**
Estimate of projected imports	€128.6m	€133.8m	€138.7m	€142.9m	€146.4m	€149.4m	€152.3m

\* Central Bank of Malta (CBM) projections

\*\* Internal assumption<sup>34</sup>

### 4.4.5.2 Projections of non-packaging paper imports – in euro

The graph below displays the historical and projected values of non-packaging paper imports to Malta. It indicates that the value of non-packaging paper imports can be expected to increase from c. €123 million in 2023 to between €152m by 2030, based on the consumption growth rates outlined above. This would represent a CAGR of between 2.9% over the 6-year period, compared with a historical CAGR of 11.7% of the past 6 years.

<sup>33</sup> Other industry-specific variables in the paper sector were also tested using both an ECM and an ARDL model. However, similar to the more general variables, no statistically significant relationships were found.

<sup>34</sup> Since the CBM's projected consumption growth rate is available till 2026, the projections for 2027-2030 are internal assumptions, based on historical trends of projected consumption growth rates.

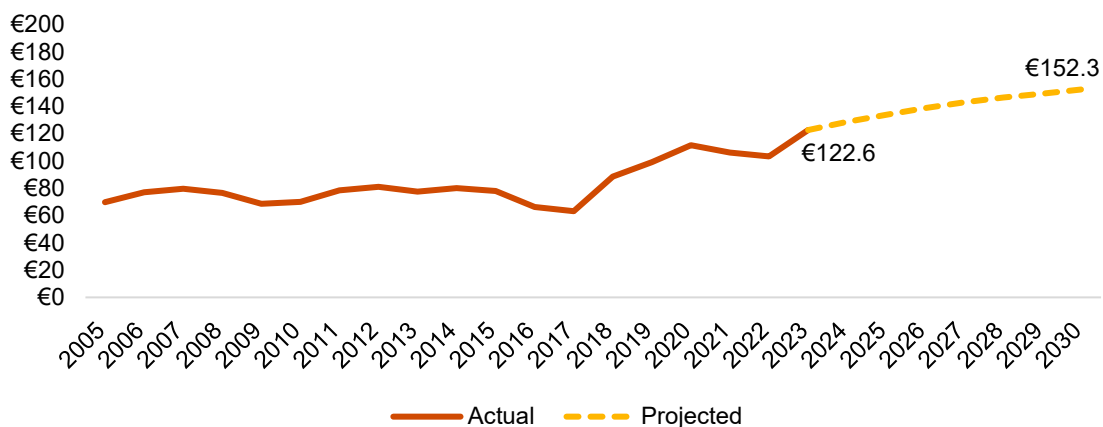


Figure 14: Historical and projected of non-packaging paper imports in €. [Source: Actual (Eurostat); Projected (PwC workings)]

#### 4.4.5.2 Projections of non-packaging paper imports – in tonnes

As explained above, below we project the total number of non-packaging paper imports in tonnes using the projected consumption growth rate provided by the CBM.

Table 10: Projected imports (tonnes) based on consumption growth rate

Projected years	2024	2025	2026	2027	2028	2029	2030
Consumption expenditure projections	4.9%*	4.0%*	3.7%*	3.0%**	2.5%**	2.0%**	2.0%**
Estimate of projected imports (tonnes)	<b>20,524</b>	<b>21,345</b>	<b>22,135</b>	<b>22,799</b>	<b>23,369</b>	<b>23,836</b>	<b>24,313</b>

\* Central Bank of Malta (CBM) projections

\*\* Internal assumption

The graph below displays the historical and projected values of non-packaging paper imports to Malta. It indicates that the imports of non-packaging paper in tonnes can be expected to increase from 19,566 tonnes in 2023 to 24,313 tonnes by 2030 based on the consumption growth rates outlined above. This would represent a CAGR of between 2.9% over the 6-year period, compared with a historical CAGR of -6.3% of the past 6 years.

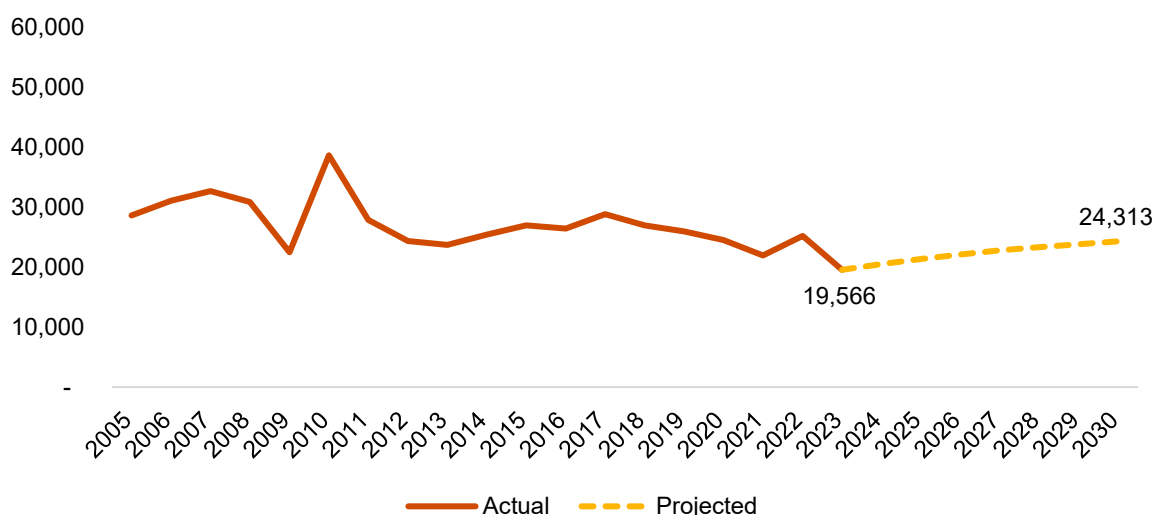


Figure 15: Historical and projected of non-packaging paper imports in tonnes. [Source: Actual (Eurostat); Projected (PwC workings)]

## 4.5 Non-packaging paper waste

This section examines non-packaging paper waste to assess how it is being collected and managed. At present, non-packaging paper waste is being collected as outlined in section 4.1.

The table below outlines the non-packaging paper waste data from 2018 to 2022, collected through waste bag collections, waste recycling bin points and the network of Civic Amenity sites. Non-packaging paper waste in black bags decreased slightly from c. 3,200 tonnes in 2018 to c. 3,000 tonnes in 2022. Conversely, non-packaging paper waste in grey bags increased from c. 2,700 tonnes in 2018 to c. 3,300 tonnes in 2022. Moreover, paper collected through the paper recycling point bins also declined from c. 520 tonnes in 2019 to c. 460 tonnes in 2022. In addition, paper found in metal recycling point bins reduced from 0.97 tonnes in 2019 to 0.60 tonnes in 2022. Furthermore, the paper waste collected at Civic Amenity sites over the period 2018 – 2022 varied between c. 1,000 tonnes in 2018 to c. 1,300 in 2022. Consequently, the estimated total non-packaging paper waste increased from c. 6,900 tonnes in 2018 to c. 8,000 tonnes in 2022.

In addition, the total exports of paper and cardboard waste exported for another use as reported in the Annual Environmental Report (AER) by ERA amounted to c. 21,000 tonnes in 2018 to c. 20,000 tonnes in 2022. It can be noted that the amount of paper exported significantly exceeds the total paper waste collected, primarily because the exported paper waste encompasses both paper and cardboard, which includes a broader range of paper types beyond non-packaging paper. This limitation in the data arises from the absence of specific figures for non-packaging paper waste exports.

Table 11: Summary of non-packaging paper waste data

Years	Estimate of total non-packaging paper waste generated (tonnes)						Total exports of paper and cardboard waste (tonnes)
	Black bag	Grey bag	Paper recycling point bins	Metal recycling point bins	Civic Amenity sites	Total	Paper and cardboard waste exported for recycling
2018	3,201	2,701	N/A	N/A	947	6,849	21,022
2019	2,825	2,410	524	0.97	1,075	6,835	19,764
2020	2,656	3,459	556	1.31	810	7,482	18,118
2021	2,690	3,329	328	0.60	1,019	7,367	20,921
2022	2,962	3,272	462	0.60	1,357	8,054	19,913

Source: Black bag, grey bag, paper recycling point bins, metal recycling point bins, compositional survey in 2022 (grey bag and recycling points) and 2023 (black bag); Civic Amenity sites (ERA); Paper and cardboard waste exported for recycling (AERs submitted to ERA)

These figures are explained in further detail in the following sections.

### 4.5.1 Analysis of non-packaging paper waste: insights from waste bags collection

The Environment and Resources Authority conducted an annual Characterisation Survey which estimated the annual mass of waste per waste bag and its separate components by waste stream (in 2022 for the grey bag and recycling; and in 2023 for the black bag). Non-packaging paper waste was found in grey bags comprising of 3.66% from leaflets and magazines, 7.53% from office paper and 0.59% from other non-packaging paper reaching a total of 11.78%. In the recycling points for paper, non-packaging paper represented 62.66%. In addition, the black bag was estimated to comprise 1.78% of non-packaging paper which include magazines, leaflets, office paper, books and newspapers.

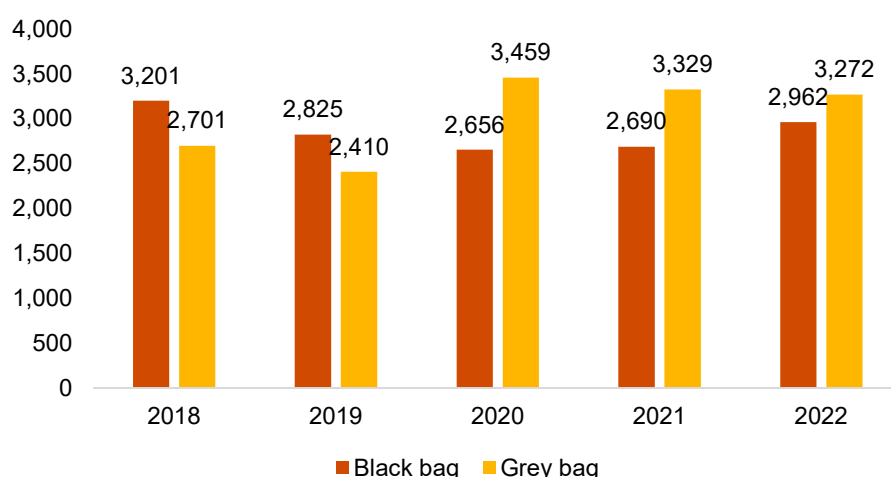


Figure 16: Non-packaging paper waste in tonnes: black bag and grey bag. (Source: ERA)

Source: Black bag, grey bag, paper recycling point bins, metal recycling point bins and compositional survey in 2022 (grey bag and recycling points) and 2023 (black bag) - (ERA)

Based on the 2022 Characterisation Survey, non-packaging paper in grey bags accounted for 3,272 tonnes, comprising 1,000 tonnes of leaflets and magazines, c. 2,100 tonnes of office paper, and c. 160 tonnes of other non-packaging paper out of a total waste mass of about 27,800 tonnes. Office paper emerged as the predominant non-packaging paper category disposed of in grey bags, constituting the largest portion.

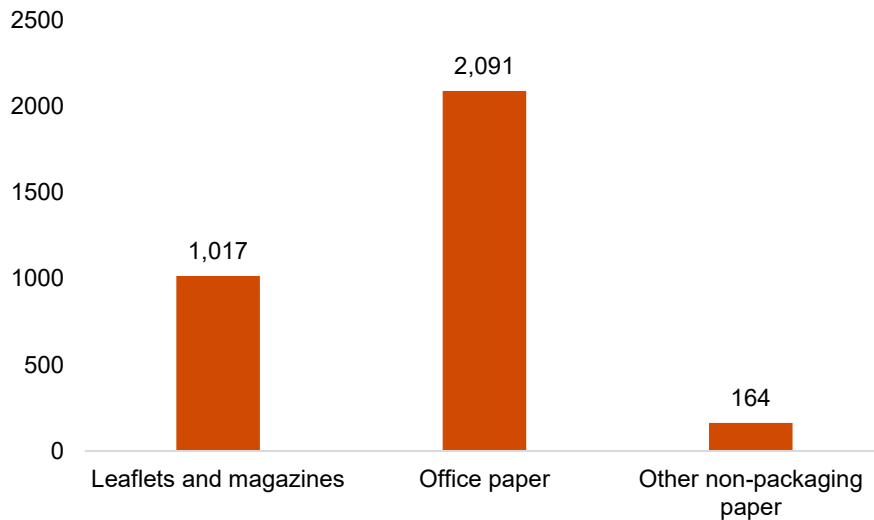


Figure 17: Non-packaging paper waste in tonnes: split by type (2022). (Source: ERA)

Non-packaging paper found in paper recycling point bins across Malta and Gozo decreased from 524 tonnes in 2019 to 462 tonnes in 2022 as shown in the graph below. The year 2018 is excluded from the analysis due to the unavailability of data on the annual mass of waste collected from metal recycling bins.

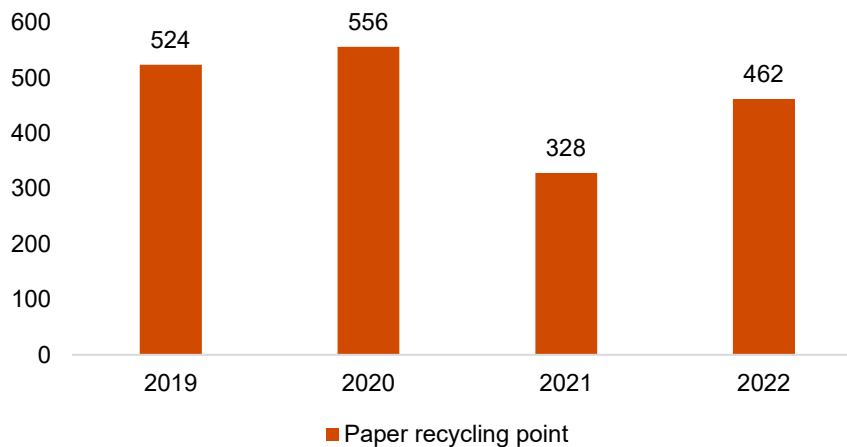


Figure 18: Non-packaging paper waste in tonnes: paper recycling point bins. (Source: ERA)

Source: Compositional survey in 2022 (grey bag and recycling points) and 2023 (black bag) - (ERA)

Non-packaging paper is also found in metal recycling bins across Malta and Gozo, though in small quantities. The volume decreased from 0.97 tonnes in 2019 to 0.60 tonnes in 2022. The year 2018 is excluded from the analysis due to the unavailability of data on the annual mass of waste collected from metal recycling bins.

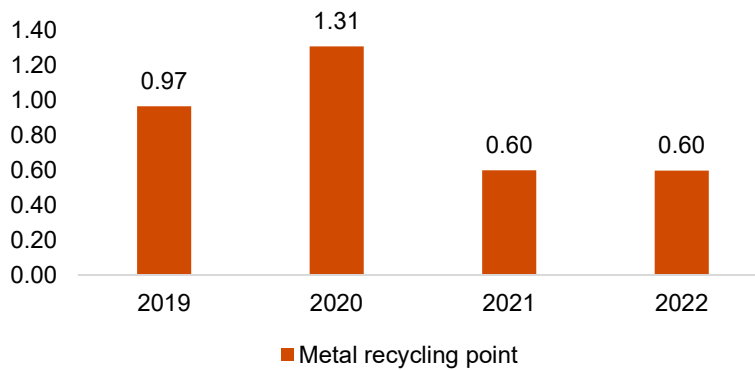


Figure 19: Non-packaging paper waste in tonnes: metal recycling point bins.  
(Source: ERA)

Source: Compositional survey in 2022 (metal recycling point bins)

With regards to the non-packaging paper waste collected at Civic Amenity sites, it is being assumed that all paper waste classified under the EWC code 20 01 01 constitutes non-packaging paper in view of the fact that such sites are equipped with a dedicated container for the collection of cardboard packaging waste. Furthermore, in the absence of a detailed resolution on the types of non-packaging paper waste disposed of (e.g. office paper, magazines, etc.), it is not possible to provide any further breakdown as to such waste.

## 4.5.2 Analysis of non-packaging paper waste exports

### 4.5.2.1 EWC codes and recovery operations analysis: paper and cardboard exports trends

The following analysis examines data relating to the exports of paper and cardboard from Malta from 2018 to 2022 by the relevant European Waste Catalogue (EWC) codes and recovery operations, as reported in the AER submitted to ERA.

### 4.5.2.2 European Waste Catalogue code and the Basel convention code

EWC codes are a classification system used to identify different types of waste within the EU which aims to ensure proper waste management. The recovery operations refer to the various processes aimed at reclaiming materials or energy from waste. The following analysis provides an overview of non-packaging paper-related exported waste, classified under the relevant EWC codes, and its recovery according to Basel recovery options codes.

The analysis will cover the following recovery operations with relevance to exported waste of non-packaging paper:

R1	Use of fuel (other than in direct incineration) or other means to generate energy
R3	Recycling / reclamation of organic substances which are not used as solvents
R4	Recycling / reclamation of metals and metal compounds
R5	Recycling / reclamation of other inorganic materials
R12	Exchange of wastes for submission to any of the operations numbered R1 – R11
R13	Accumulation of material intended for any operation in Section B

#### 4.5.2.2.1 Analysis of 19 12 01 - Class A4 EWC Codes for Separated Waste

EWC code 19 12 01 includes paper and cardboard waste from mechanical treatment processes such as sorting and compacting, intended for recycling.

19 12 01	19 - wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use
	12 - wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
	01 – paper and cardboard

From 2018 to 2022, waste under this code was exported primarily for R3 recovery, starting at 21,022 tonnes in 2018 and decreasing to 19,913 tonnes by 2022. In 2020, there were also 23 tonnes exported for R4 recovery, increasing to 121 tonnes in 2022 and ceasing after that year. Additionally, 420 tonnes were exported for R5 recovery in 2022. Moreover, 186 tonnes of non-packaging paper were exported for R13 in 2020, and 84 tonnes for R12/13 in 2020, with no exports in 2021, but resuming with 49 tonnes in 2022. These trends highlight a notable shift in the management of paper and cardboard waste, with R3 recovery exports dominating the recovered exports over the analysed period.

Table 12: Analysis of EWC code 19 12 01

EWC code	Year	Exported for R1 (tonnes)	Exported for R3 (tonnes)	Exported for R4 (tonnes)	Exported for R5 (tonnes)	Exported for R13 (tonnes)	Exported for R12/13 (tonnes)	Total (tonnes)
19 12 01	2018	0	21,022	0	0	0	0	21,022
	2019	0	19,764	0	0	0	0	19,764
	2020	0	17,859	23	0	186	49	18,118
	2021	0	20,788	133	0	0	0	20,921
	2022	0	19,288	121	420	0	84	19,913

Source: AER by ERA

#### 4.5.2.2.2 Analysis of 20 01 01 - Class A2 EWC Codes for Road Services & Furniture (Bulky Refuse, beach cleaning, road cleaning, etc.)

EWC code 20 01 01 includes separately collected paper and cardboard waste from municipal sources, intended for recycling.

20 01 01	20 - municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions
	01 - separately collected fractions (except 15 01)
	01 – paper and cardboard

In 2018, 33 tonnes were exported for R3 which ceased to be exported following 2019. This indicates a shift in waste management practices for paper and cardboard waste in 2019, as paper and cardboard waste was no longer exported for R3 recovery.



Table 13: Analysis of EWC code 20 01 01. (Source: AER by ERA)

EWC code	Year	Exported for R1 (tonnes)	Exported for R3 (tonnes)	Exported for R4 (tonnes)	Exported for R5 (tonnes)	Exported for R13 (tonnes)	Exported for R12/13 (tonnes)	Total (tonnes)
20 01 01	2018	0	33	0	0	0	0	33
	2019	0	0	0	0	0	0	0
	2020	0	0	0	0	0	0	0
	2021	0	0	0	0	0	0	0
	2022	0	0	0	0	0	0	0

### 4.5.3 Benchmarking

In order to assess how the introduction of EPR for non-packaging paper may impact waste disposal trends in Malta, this section examines the effects of the EPR in select countries.

**France:** France has an EPR scheme for graphic paper that requires producers to handle the collection, recycling, and disposal of materials like office paper, newspapers, and magazines. This programme is designed to enhance recycling rates and minimise the environmental impact of paper waste. Previously, graphic paper and packaging were collected and recycled separately, which resulted in inefficient processes and higher costs. In response, a new law was enacted in 2023 to merge these EPR streams. Thus, the consolidation of the EPR laws is expected to further streamline collection, separation, and recycling, improving overall efficiency. The results being achieved in France in relation to graphic paper are the following:

- Recycling rate: 60%<sup>35</sup>. Graphic papers are recycled on average 5 times into newspapers, magazines, notebooks, and cardboard packaging. Of these:
  - 59% are recycled in France;
  - 40% in Europe; and
  - 1% elsewhere in the world.

**The Netherlands:** The Packaging and Paper and Cardboard Management Decree, introduced in the Netherlands in 2005, aims to enhance the separate collection, reuse, and recycling of packaging and paper/cardboard while minimising environmental impact and litter. In 2023, 82% of all non-packaging of paper and cardboard that was placed on the market was collected and recycled<sup>36</sup>. Paper collection is nearing its limit due to non-collectible types like bills and hygiene paper. Despite these limitations, the Netherlands has managed to exceed previously set theoretical recycling targets. This shows the effectiveness of increased recycling rates targets of paper and cardboard in the Netherlands.<sup>37</sup>

Therefore, from the above results of the Netherlands and France, it is expected that the implementation of the EPR scheme for Malta should increase the volume of non-packaging paper waste collected to be reused or recycled, which would promote a more sustainable approach to waste management.

## 4.6 Market opportunities and challenges

The implementation of EPR in the non-packaging paper industry presents various market opportunities and challenges, detailed as follows:

<sup>35</sup> <https://www.citeo.com/le-mag/infographie-ou-sont-recycles-les-emballages-et-papiers>

<sup>36</sup> [https://prn-nl.translate.goog/nieuws/papier-recycling-nederland-rapporteert-82-recycling-in-2023/?\\_x\\_tr\\_sl=nl&\\_x\\_tr\\_tl=en&\\_x\\_tr\\_hl=en&\\_x\\_tr\\_pto=wapp](https://prn-nl.translate.goog/nieuws/papier-recycling-nederland-rapporteert-82-recycling-in-2023/?_x_tr_sl=nl&_x_tr_tl=en&_x_tr_hl=en&_x_tr_pto=wapp)

<sup>37</sup> <https://kidv.nl/collection-and-recycling#:~:text=Recycling%20of%20packaging%20materials,the%20EU's%20target%20of%2055%25.>

## 4.6.1 Market opportunities for implementing non-packaging paper EPR

**Environmental sustainability:** the implementation of an EPR for non-packaging paper has the potential to improve waste management performances, potentially encouraging the use of recycled materials, thus aiding Malta in moving towards a Circular Economy.

**Job creation:** the setting up of an EPR scheme might create employment opportunities as the result of improved waste management. However, given the size of the national market, notably the significant lack of economies of scale due to Malta's specificities, this market opportunity is considered to be limited.

**Ensuring a level-playing field for producers of packaging paper:** to date, producers of packaging paper bear the costs of the management of the non-packaging paper waste collected through the established door-to-door collection system and recycling points. Hence, the setting up of an EPR scheme for non-packaging paper would ensure a level-playing field for producers of packaging paper.

**Increased innovation and technological advancement:** the EPR may drive innovation by encouraging producers to import more recyclable non-packaging paper products and encourage advanced recycling technologies. This would drive technological advancements, leading to more efficient and sustainable production processes, reducing environmental impact and production costs. However, given the size of the national market, notably the significant lack of economies of scale due to Malta's specificities, this market opportunity is considered to be limited.

## 4.6.2 Market challenges to implementing non-packaging paper EPR

**Cost transfer to consumers:** suppliers may pass on the costs associated with EPR compliance to consumers and businesses. This could result in higher prices for non-packaging paper products, which might be met with reluctance or dissatisfaction from price-sensitive consumers. Such cost increases could also affect consumer purchasing decisions and overall market demand.

**Complexity of regulatory enforcement:** the introduction of EPR can place an administrative burden on producers and PROs. Producers may face increased reporting requirements, such as tracking the quantities of products placed on the market, and collecting data on waste management. This could require new systems for compliance monitoring. For PROs, the need to collect, process, and report detailed data, manage logistics, and ensure alignment with legal requirements can lead to complex administrative structures, higher operational costs, and increased oversight. Balancing these burdens with environmental objectives is essential for the system's efficiency and success.

**Limited market size resulting in technological and infrastructural limitations:** the limited size of the national market and the lack of economies of scale represent a significant obstacle to close the recycling loop locally.

**Educating consumers:** effective EPR implementation relies on public participation in recycling and proper waste disposal practices. Educating consumers and encouraging their active involvement in these practices can be difficult. Without widespread public support and understanding, the success of EPR initiatives may be limited, impacting their overall effectiveness and potential benefits.

**Parallel trading challenges:** parallel trading can cause double counting issues. Since EPR responsibility falls on the producer who first places a product on the market, imported goods resold without the original producer's knowledge might be counted twice. Both the original producer and the parallel trader could be held accountable for the same product, complicating accurate tracking and potentially undermining the system's effectiveness and fairness.

## 4.7 Market risks

The implementation of EPR in the non-packaging paper industry faces several market risks that could affect its success, as outlined below:

**Economic downturns:** the higher costs associated with sustainable practices may become a burden for producers experiencing financial strain. Additionally, consumers may shift their purchasing priorities towards more affordable options, leading to reduced demand for these higher-cost non-packaging paper. This economic pressure could result in non-compliance or a decrease in the market availability of sustainable products.

**Regulatory changes:** differing standards across countries may create challenges for multinational non-packaging paper companies, leading to increased costs and operational complexities. Moreover, if new regulations are introduced without sufficient alignment with EPR frameworks, this could result in redundancies or gaps that weaken the overall effectiveness of the EPR.

**Shifts in consumer behaviour:** the success of EPR relies heavily on consumer engagement for paper products or sustainability. If consumer interest in sustainability or paper products reduces, possibly due to changing trends, perceptions, or economic pressures, the intended environmental benefits may not be fully utilised.

**Cost of implementation: the higher costs of the EPR** could be prohibitive to small and medium-sized enterprises, leading to potential non-compliance or a competitive disadvantage against larger firms with more resources.

**Lack of consumer education:** the EPR's effectiveness also relies on consumers understanding the importance of proper disposal and recycling. If consumers are unaware of or uninterested in their role in the recycling process, participation rates may be low, reducing the overall impact of the scheme and leading to higher costs for producers who have to manage uncollected or improperly sorted waste.

## 4.8 Conclusion

In conclusion, the non-packaging paper market is primarily composed of micro companies, with the highest concentration under NACE codes 47.62 (retail sale of newspapers and stationery in specialised stores). In terms of volumes, imports of non-packaging paper experienced a decline as shown by the historical data analysis, from 26,943 tonnes in 2018 to 25,217 tonnes in 2022. The majority of imports, both by value and volume, fall under HS Codes 48 which includes different types of non-packaging paper including uncoated and coated papers and other type of non-packaging paper such as labels, stationery, and wallpaper.

In addition, non-packaging paper which is export-oriented would need to be considered when assessing the potential implementation of the EPR scheme for non-packaging paper. These products would not be subject to EPR, as this should focus on products placed on the local market. In fact, in 2022 a total of 13,583 tonnes related to products with HS Codes which are relevant to this EPR scheme were exported, equivalent to 53.9% of imported tonnes of products with these HS Codes. For example, raw materials for banknotes may be imported under one HS code (4802), but the final product, classified under a different HS code (4907), is exported. On the other hand, of the total exports under the relevant HS codes, 6,911 tonnes exported in 2022 related to HS Code 47, which is composed of waste and scrap paper or paperboard, with the relevant imports which would still need to be in scope of the EPR scheme. In addition, certain raw materials for export-focused products like manuals for toy products or pharmaceutical inserts could not feature within the tonnage of exported non-packaging paper products but as part of the final product, i.e. toy products or pharmaceutical product. This discrepancy may inadvertently overestimate the imported non-packaging tonnage subject to EPR regulations,

Meanwhile, non-packaging paper waste in Malta has increased over the past five years from c. 6,849 tonnes in 2018 to c. 8,054 tonnes in 2022. Non-packaging paper waste is mainly collected from grey bags, which, according to the 2022 Characterisation Survey, consists of 11.78% non-packaging paper waste. Moreover, non-packaging paper exported for recycling has seen a slight decrease from c. 21,055 in 2018 to c. 19,913 in 2022, indicating a need for increased efforts in waste reduction and recycling efforts.

EPR implementation offers market opportunities mainly in terms of ensuring a level-playing field for producers of packaging paper and improved waste management performance in a cost-effective way,

thus aiding Malta in the transition to a true Circular Economy. On the other hand, the limited size of the national market and the lack of economies of scale represent a significant barrier to the development of recycling infrastructure in Malta. In addition, it is to be noted that separate collection systems, as well as pre-treatment routes for paper waste, including both packaging and non-packaging paper waste, already exist. Challenges include administrative burdens, infrastructural limitations, consumer awareness, cost transfer to consumers and parallel trading challenges. Risks involve economic downturns, regulatory changes, shifting consumer behaviours, implementation costs, and insufficient consumer education.

## 5. Ex-Ante Assessment

In developing the ex-ante assessment for the introduction of an EPR scheme we have assessed the following:

- Current waste management situation for non-packaging paper
- The potential impact of the introduction of the EPR scheme and alignment with key legislative provisions;
- The potential impact of the introduction of the EPR scheme and alignment with national policies and strategies;
- Other considerations such as the impact on economic operators.

### 5.1 Current waste management situation for non-packaging paper

As outlined in Section 4, household mixed recycling waste includes both packaging and non-packaging material, including non-packaging paper. The non-packaging waste generated is however much lower than that of packaging, with only around 12% estimated to be non-packaging paper. When taking into consideration all the collection channels for non-packaging paper (black bag, grey bag, paper recycling point bins, metal recycling point bins and Civic Amenity sites, the volumes are still limited with 8,054 tonnes of non-packaging paper estimated to have been collected in 2022. The limited tonnage of post-consumer non-packaging paper waste generated seems to indicate that it would not be feasible to have a dedicated, standalone EPR system (including collection systems) for non-packaging paper.

In addition, currently, separate collection systems for municipal recyclable waste already exists, including for non-packaging paper waste. This seems to indicate that the potential environmental benefit of setting a dedicated EPR system (including collection) would be limited. Subsequently, making use of existing systems (including the packaging PROs) would result in less costs for producers, including administrative costs, thus mitigating potential impacts on economic operators and society at large.

Furthermore, as also outlined in Section 4, it is estimated that imports to Malta which relate to the HS codes deemed relevant for an eventual EPR on non-packaging paper were 25,217 tonnes in 2022. In addition, export data for the same HS Codes excluding HS code 47 which relate to export of waste and scrap paper and paperboard, indicates that around 6,672 tonnes of non-packaging paper were exported from Malta in 2022, resulting in a net tonnage of non-packaging paper which would be placed on the local market and therefore subject to EPR of 18,545 tonnes.

Even once exports under these HS codes are taken into consideration, there is still a very wide gap between import data and waste data, which would suggest that a share of imported materials are used to produce non-packaging paper products destined for export, which are not classified under the same HS codes, but under other HS Codes for the final product, e.g. toys or pharmaceutical products. This would consequently indicate the need to refine import data to have a more accurate picture of what is actually placed on the national market to then estimate the EPR fee and related impacts, including in terms of inflation.

## 5.2 Impact and alignment with key legislative provisions

### 5.2.1 Extended Producer Responsibility Framework Regulations (S.L. 549.141)

Key Objectives	Potential Impacts of an EPR scheme
<p>The core objective of these regulations<sup>38</sup> is to provide the framework for EPR schemes in Malta including definitions of producers, their roles, and the financial and organisational responsibilities of producers. These regulations also apply to EPR schemes pursuant under existing Waste Management Regulations (S.L.549.63).<sup>39</sup></p> <p>To date, the non-packaging paper waste stream is not directly regulated and is being handled through systems financed by the PROs established for packaging and packaging waste. Whilst non-packaging paper is collected and treated together with packaging and packaging waste, an EPR is only currently in place for packaging and packing waste.</p>	<p>Introducing an EPR scheme for non-packaging paper in Malta would be aligned to this regulation which provides for producers of a product to have extended producer responsibility in order to strengthen the re-use and the prevention, recycling and other recovery of waste. Therefore, adding non-packaging paper could help harmonise waste management efforts and make the system more efficient for the packaging and packaging waste stream.</p> <p>Through an EPR for non-packaging paper, the financial responsibility for the collection, recycling, and disposal of non-packaging paper would be shifted onto producers, such as publishers, printing companies and office paper suppliers. This scheme would therefore extend the provisions of the EPR regulations to this waste stream.</p> <p>Producers might be incentivised to import or design products that are easier to recycle, use less paper, or contain recycled content.</p> <p>Consumers might become more aware of the environmental impacts of paper consumption and be encouraged to adopt more sustainable practices, such as reducing paper usage or choosing products with recycled content.</p>

### 5.1.2 Waste Regulations (S.L. 549.63)<sup>40</sup>

Key Objectives	Potential Impacts of an EPR scheme
<p>The Waste Regulations, S.L. 549.63 transpose the provisions of the Waste Framework Directive 2008/98/EC into Maltese national law. These regulations establish guidelines for the separate collection of packaging and packaging waste without prejudice to the Waste Management (Packaging and Packaging Waste) Regulations. These regulations set the following targets:</p> <ul style="list-style-type: none"> <li>by 2025, the preparing for re-use and the recycling of municipal waste shall be</li> </ul>	<p>The EPR scheme for non-packaging paper would ensure that producers are responsible for the entire lifecycle of their products, including collection, recycling, and disposal. The operational and/or financial responsibility would be shifted onto producers, such as publishers, printing companies and office paper suppliers.</p> <p>This would help mitigate the negative environmental impacts associated with non-packaging paper, and ensure that the</p>

<sup>38</sup> <https://legislation.mt/eli/sl/549.141/eng>

<sup>39</sup> <https://legislation.mt/eli/sl/549.63/eng/pdf>

<sup>40</sup> <https://legislation.mt/eli/sl/549.63/eng/pdf>

Key Objectives	Potential Impacts of an EPR scheme
<p>increased to a minimum of 55% by weight;</p> <ul style="list-style-type: none"> <li>• by 2030, the preparing for re-use and the recycling of municipal waste shall be increased to a minimum of 60% by weight;</li> <li>• by 2035, the preparing for re-use and the recycling of municipal waste shall be increased to a minimum of 65% by weight;</li> </ul> <p>The European Environment Agency released an Early Warning Assessment for Malta<sup>41</sup> based on the analysis of several factors which are affecting Malta's recycling performance. The scope of the assessment was to assess whether Malta is at risk of not meeting its targets for municipal waste and which are set to be achieved by 2025. The EU's early warning assessment highlights that Malta is at risk of missing its 2025 recycling targets for packaging waste, including the 65% overall target and 75% for paper and cardboard. While Malta's collection system has a high capture rate of 56% for paper and cardboard, its 2019 recycling rate for this material was only 45.5%, well below the required target. The assessment points to a decline in paper and cardboard recycling over the past five years, suggesting Malta may struggle to meet its upcoming goals.</p>	<p>responsibility is shifted from the current packaging producers to non-packaging producers.</p> <p>An EPR scheme for non-packaging paper would help Malta reach its recycling targets by shifting responsibility to producers for the end-of-life management of their products. This would incentivise the design of recyclable products and increase the use of recycled materials.</p> <p>By shifting responsibility to producers and encouraging eco-friendly designs, the scheme could significantly improve the waste management of non-packaging paper.</p> <p>As outlined in Section 1, France and the Netherlands have implemented EPR schemes for non-packaging paper.</p> <p>By incorporating these successful strategies from France and the Netherlands, Malta can enhance its EPR implementation and make significant strides towards achieving its recycling targets.</p> <p>France implemented an EPR scheme for graphic paper that requires producers to handle the collection, recycling, and disposal of materials like office paper, newspapers, and magazines in 2006. This programme is designed to enhance recycling rates and minimise the environmental impact of paper waste. Previously, graphic paper and packaging were collected and recycled separately, which resulted in inefficient processes and higher costs. In response, a new law was enacted in 2023 to merge these EPR streams. However, in 2022 the European Environment Agency reported that France had already surpassed its 2025 target for paper and cardboard packaging recycling<sup>42</sup>. Thus, the consolidation of the EPR laws is expected to further streamline collection, separation, and recycling, improving overall efficiency. Paper and paperboard production in France dropped by more than 30% since 2005, reaching seven million metric tons in 2022<sup>43</sup>. In 2022, the paper and paperboard consumed per capita in France reached over 124 kilograms decreased steadily from approximately 136 kilograms in 2014<sup>44</sup>. This decline is influenced by multiple factors, including the introduction of the EPR by encouraging more sustainable practices and</p>

<sup>41</sup> <https://www.eea.europa.eu/publications/many-eu-member-states/malta/view>

<sup>42</sup> EEA (June 2022) *Early warning assessment related to the 2025 targets for municipal waste and packaging waste report*

<sup>43</sup> <https://www.statista.com/statistics/743957/production-paper-paperboard-industry-france/>

<sup>44</sup> <https://www.statista.com/statistics/745988/per-capita-consumption-paper-paperboard-france/>



Key Objectives	Potential Impacts of an EPR scheme
	<p>reducing waste, but also economic conditions, high production costs, and changes in consumer behaviour<sup>45</sup>.</p> <p>The Packaging and Paper and Cardboard Management Decree, introduced in the Netherlands in 2005, aims to enhance the separate collection, reuse, and recycling of packaging and paper/cardboard while minimising environmental impact and litter. By 2016, the Netherlands achieved a 73% recycling rate for packaging materials, surpassing both its 70% target and the EU's 55% target. Paper collection is nearing its limit due to non-collectible types like bills and hygiene paper. Despite these limitations, the Netherlands has managed to exceed previously set theoretical recycling targets. This shows the effectiveness of increased recycling rates targets of paper and cardboard in the Netherlands.<sup>46</sup></p>

### 5.1.3 Waste Management (Packing and Packaging Waste) Regulations (S.L.549.43)<sup>47</sup>

Key Objectives	Potential Impacts of an EPR scheme
<p>Directive 94/62/EC<sup>48</sup> on packaging waste, amended by Directive 2018/852/EC, addresses packaging design and waste management, aiming to reduce environmental impacts and harmonise EU regulations. It mandates EPR schemes, deposit-return systems, and incentives to reduce packaging waste and promote reuse, with recycling targets for 2025 and 2030.</p> <p>In Malta, the Directive was implemented through the Waste Management (Packaging and Packaging Waste) Regulations S.L. 549.43. Producers are responsible for managing packaging waste costs under the EPR Framework.</p> <p>With respect to municipal packaging waste, the two authorised PROs finance the collection, transport and treatment of packaging waste collected door-to-door through the grey bag system, but it is mixed with non-packaging paper waste during collection and sorting. In addition, the PROs organise and finance the collection, transport and treatment of the fraction of</p>	<p>The principal outcome from the implementation of an EPR scheme for non-packaging paper would be that the current EPR scheme for packaging and packaging waste would still hold however, producers of non-packaging paper would have to finance their share for the non-packaging paper.</p>

<sup>45</sup> <https://www.cepi.org/wp-content/uploads/2024/02/Cepi-Preliminary-Statistics-report-2023.pdf>

<sup>46</sup> <https://kidv.nl/collection-and-recycling#:~:text=Recycling%20of%20packaging%20materials,the%20EU's%20target%20of%2055%25.>

<sup>47</sup> <https://legislation.mt/eli/si/549.43/eng/pdf>

<sup>48</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A31994L0062>



Key Objectives	Potential Impacts of an EPR scheme
municipal packaging waste collected from the bring-in sites, which both include non-packaging paper.	

## 5.3 Impact and alignment with national policies

### 5.3.1 Long Term Waste Management Plan 2021 – 2030<sup>49</sup>

Key Objectives	Potential Impacts of an EPR scheme
<b>WMRO_EPR29:</b> The Government proposed establishing a national EPR scheme for non-packaging paper.	The implementation of an EPR scheme for non-packaging paper in Malta relies on conducting the feasibility assessment. If deemed feasible, an EPR scheme for non-packaging paper in Malta would therefore allow for the successful achievement of WMRO_EPR29.

### 5.3.1 Recovery and Resilience Plan (RRP)<sup>50</sup>

Key Objectives	Potential Impacts of an EPR scheme
<b>Reform C1-R2:</b> To foster an effective waste management through a robust waste governance framework, including reforming the waste management system	An EPR scheme for non-packaging paper would support reaching this objective. It would support waste management by increasing collection rates, enhancing recycling, shifting waste management costs to producers, and reducing the environmental impact of non-packaging paper disposal.
<b>Milestone 1.6:</b> This milestone focuses on assessing the feasibility of extending the EPR obligations to waste streams beyond those currently covered. Non-packaging paper is identified as a waste stream that is to be assessed through this feasibility study.	The carrying out of this feasibility assessment to determine the feasibility of expanding the EPR obligations to non-packaging paper, would result in achieving Milestone 1.6. This involves assessing the current situation including waste generation and management practices. It also looks at the volume of non-packaging paper produced, imported, and discarded, providing a clear picture of the scale of the issue and the potential volume of this waste that would be covered by the EPR scheme. The feasibility study for an EPR scheme on non-packaging paper is crucial for assessing the economic, environmental, and social viability of the programme. It helps identify potential benefits, costs, challenges, and opportunities, ultimately guiding the design and implementation of a successful non-packaging paper waste management system.

<sup>49</sup> <https://era.org.mt/wp-content/uploads/2022/02/Long-Term-Waste-Management-Plan-v1.4.3-Spreads-Digital-Version.pdf>

<sup>50</sup> <https://fondi.eu/wp-content/uploads/2023/11/Malta-Recovery-and-Resilience-Plan-2023-7.11.2023.pdf>

Key Objectives	Potential Impacts of an EPR scheme
<p><b>Milestone 1.7:</b> This milestone builds on Milestone 1.6 whereby the target is the enactment of legislation based on the outcomes of Milestone 1.6. This would expand EPR obligations to non-packaging paper.</p>	<p>Depending on the outcomes of the feasibility study, if an EPR scheme for non-packaging paper is deemed feasible, this would lead to drafting of the legislation. The findings of the feasibility study would be used to draft the legislation which involves outlining the objectives, scope, mechanisms, and specific provisions of the legislation. The legal framework would also address the challenges identified in the study and align with existing laws and regulations.</p>

## 5.4 Conclusion

The introduction of an EPR scheme for non-packaging paper should be further considered due to the following:

- **Relevance:** The introduction of the EPR scheme is relevant to waste management objectives for several reasons:
  - Waste hierarchy: The WFD establishes a waste hierarchy that prioritises waste prevention, followed by preparing for re-use, recycling, recovery, and disposal as the last resort. An EPR scheme for paper would encourage producers to place on the market products that are easier to recycle and generate less waste, aligning with the top tiers of this hierarchy.
  - Polluter pays principle: The WFD incorporates the “polluter pays principle,” which holds producers responsible for the costs of managing the waste they generate. The introduction of an EPR scheme for paper ensures that producers bear the financial and operational responsibility for the collection, recycling, and disposal of paper products, thus internalising the environmental costs. This is particularly relevant considering that currently in Malta the financial responsibility for non-packaging paper waste is being borne by the packaging producers.
  - Recycling targets: An EPR scheme will help Malta achieve its waste management targets by ensuring that a higher percentage of paper waste is collected and recycled, thus contributing to the overall recycling goals.
- **Effectiveness:** An EPR scheme for non-packaging paper will increase the accountability of producers for the collection, recycling and disposal of paper, ensuring that they help achieve the WFD’s goals of reducing waste generation, promoting recycling, and ensuring sustainable waste management practices.
- **Efficiency:** The EPR schemes are considered to be an efficient way to achieve the EU waste targets as by making producers responsible for the entire lifecycle of their products, it incentivises them to place products on the market that are easier to manage at the end of their lifecycle.

In addition, through an EPR, producers pay a fee which funds the collection, transportation, and recycling of waste non-packaging paper, ensuring that non-packaging paper are accounted for and managed sustainably. It is to be noted that as indicated in the Extended Producer Responsibility Regulations (S.L. 549.141), the EPR fees paid by producers to comply with an EPR scheme are to not exceed the costs that are necessary to provide waste management services in a cost-effective manner, while ensuring that quantitative and, potentially, qualitative

targets are achieved. In addition, the requirement to not place disproportionate regulatory burden on producers of small quantities of products in S.L. 549.141 needs to also be addressed.

In order to ensure that a potential EPR for non-packaging paper is as efficient as possible, and operated in the most cost-effective manner, any economies of scale and synergies should be exploited. This could for example refer to the use of the existing PROs for packaging who are already financing the collection costs of non-packaging paper, however through the fees they charge the packaging producers. In other member states where an EPR for non-packaging paper has been introduced, this is operated in conjunction with the EPR for packaging. As indicated in sub-section 1.2.1 and 1.2.2, the Dutch system integrates both packaging and non-packaging paper and in France, whereas previously graphic paper and packaging were collected and recycled separately, this resulted in inefficient processes and higher costs, and in response, a new law was enacted in 2023 to merge these EPR streams.

## 6. Delineation of policy options

Throughout this activity various potential policy options identified through qualitative and quantitative analysis conducted during the study are outlined. By leveraging insights and data gathered from the market study in Section 4, a number of potential policy options are explored that can effectively accelerate the implementation and maintenance of a potential EPR scheme for non-packaging paper. These options would be designed to address Malta's unique waste management challenges, promote sustainability, and ensure compliance with EU regulations. Through a detailed examination of existing infrastructure, demographic behaviour, financial frameworks, and stakeholder engagement, a range of strategic approaches that could optimise a potential EPR system for non-packaging paper in Malta are presented.

### 6.1: Establishing the products subject to EPR obligations

To ensure the effective implementation of a potential EPR system for non-packaging paper in Malta, it is crucial to define the specific products that could be subject to EPR obligations. The products considered are based on desk research and consultations with ERA, as well as key stakeholders representing the impacted sectors.

In this regard, for the purpose of estimating the quantities of non-packaging paper materials and products that are potentially placed on the national market in Malta, a number of potentially relevant Combined Nomenclature (CN) codes, that is an 8-digit numerical classification used in the EU to identify goods in international trade, extending the global Harmonised System (HS) with additional EU-specific details, were selected.

*Table 14: HS codes that might potentially be relevant to define the products in scope*

HS Code 47071000	Recovered "waste and scrap" paper or paperboard of unbleached kraft paper, corrugated paper or corrugated paperboard
HS Code 47072000	Recovered "waste and scrap" paper or paperboard made mainly of bleached chemical pulp, not coloured in the mass
HS Code 47073090	"Waste and scrap" of paper or paperboard made mainly of mechanical pulp (excl. old and unsold newspapers and magazines, telephone directories, brochures and printed advertising material)
HS Code 4802	Uncoated paper and paperboard, non-perforated punchcards and punch-tape paper, handmade paper and paperboard (excl. newsprint of heading 4801 and paper of heading 4803)
HS Code 4804	Uncoated kraft paper and paperboard (excl. goods of heading 4802 or 4803)
HS Code 4805	Other paper and paperboard, uncoated
HS Code 4806	Vegetable parchment, greaseproof papers, tracing papers and glassine and other glazed transparent or translucent papers
HS Code 4807	Composite paper and paperboard
HS Code 4808	Corrugated paper and paperboard "with or without glued flat surface sheets"
HS Code 4809	Carbon paper, self-copy paper and other copying or transfer papers, incl. coated or impregnated paper
HS Code 4810	Paper and paperboard, coated on one or both sides (excl. all other coated papers and paperboards)
HS Code 4811	Paper, paperboard, cellulose wadding and webs of cellulose fibers (excl. goods of heading 4803, 4809 and 4810)

HS Code 4814	Wallpaper and similar wallcoverings of paper; window transparencies of paper
HS Code 4816	Carbon paper, self-copy paper and other copying or transfer papers
HS Code 4817	Envelopes, letter cards, plain postcards and correspondence cards, of paper or paperboard (excl. letter cards, postcards and correspondence cards with imprinted postage stamps)
HS Code 4820	Registers, account books, notebooks, order books, receipt books, letter pads, and other articles of stationery, of paper or paperboard
HS Code 4821	Paper or paperboard labels of all kinds, whether or not printed
HS Code 4901	Printed books and similar matter
HS Code 4902	Printed periodicals and newspapers only
HS Code 4903	Childrens picture colouring books
HS Code 4904	Printed music manuscripts
HS Code 4905	Printed maps and charts
HS Code 4906	Hand-drawn architectural plans only
HS Code 4907	Unused stamps and financial papers
HS Code 4908	Printed decalcomania transfers
HS Code 4909	Illustrated postcards and greetings
HS Code 4910	Printed calendars and calendar blocks
HS Code 4911	Printed pictures and photographs

In considering which products should be included within the scope of the EPR for non-packaging paper, a number of considerations will need to be made, such as:

- Use of paper: Certain uses of paper could be excluded if their inclusion goes against some other policy, such as educational purposes. For example books have been excluded from the EPR scheme in France, however they are included in the EPR scheme of the Netherlands.
- Breadth of paper types: In the Netherlands for example, toilet paper is also included within the scope of the EPR scheme for non-packaging paper.
- Paper thickness: For example in France the thickness of the paper subject to the EPR scheme is  $\leq 224$  g/m<sup>2</sup>.

Malta has adopted a reduced VAT rate of 5% on certain categories of printed matter in line with Item 6 of Annex III of the VAT Directive (2006/112/EC) which allows for a reduced VAT rate for the 'supply, including on loan by libraries, of books (including brochures, leaflets and similar printed matter, children's picture, drawing or colouring books, music printed or in manuscript form, maps and hydrographic or similar charts), newspapers and periodicals, other than material wholly or predominantly devoted to advertising'. The aim is to promote literacy, education, and access to information by making these materials more affordable. It is therefore important that any EPR scheme which is introduced is not contrary to this policy initiative. In this regard the Eight Schedule of the national Value Added Tax (Cap 406), subjects the following to a reduced VAT rate of 5%: "5. Printed matter: The goods falling under CN code in the Common Customs Tariff: (a) 4820.20.00; (b) Chapter 49 but excluding items falling under CN code 4905.10.00; 4906.00.00; 4907.00.10; 4907.00.90.00; 4908.10.00; 4908.90.00; 4909 and 4911.91.00.

It is important to note that further consultations with relevant stakeholders are required to define the products under scope for EPR purposes as well as the approach to capture such products and, or raw materials.

## 6.2: Establishing the economic operators subject to EPR requirements

For non-packaging paper, there is no mandatory requirement for the implementation of an EPR scheme. However, Member States, including Malta, have the potential to explore the introduction of an EPR scheme for such products. Such a scheme would place responsibility on producers, for the end-of-life management of non-packaging paper products they place on the market. This approach could include managing or financing the collection, sorting and disposal, ensuring that non-packaging paper products are handled in an environmentally responsible manner. While not obligatory, implementing an EPR scheme for non-paper products would align with broader sustainability goals, ensure a level-playing field for producers of packaging paper and non-packaging paper and promote the circular economy.

In this regard, to determine which economic operators would be subject to EPR requirements, an analysis was conducted considering the various stakeholders involved in the lifecycle of non-packaging paper products. These include producers, such as importers, as well as supply chain actors like local distributors and retailers.

In this regard, the 'producer' who is subject to EPR requirements would be defined by specific roles and activities, whilst ensuring smooth implementation on the ground and avoiding placing disproportionate administrative burden on small producers of products. In view of this, an option could be that the economic operator printing the non-packaging paper products under scope for further distribution on the local market would be considered the producer and thus subject to EPR obligations. Additionally, importers or distributors of office paper or other products that would be in scope of the EPR scheme would also be considered the producer and subject to EPR. While this approach would ensure that relevant economic operators are accountable for the end-of-life management of the non-packaging paper products they introduce to the market, further consultations with relevant stakeholders are needed to better define the obliged industry as well as the products under scope.

## 6.3: Potential features of the proposed EPR system

In developing the potential features of a potential EPR system for non-packaging paper, an analysis of various models was conducted to determine the most effective framework. In the first place, it should be assessed whether it would be more feasible to either make use of the existing EPR system already established for packaging and packaging waste or to develop a new, dedicated EPR system solely covering non-packaging paper:

- 1. Making use of the existing EPR system for packaging:** this model entails that producers of non-packaging paper would be required to become members of one of the existing authorised PROs for packaging, thus fulfilling their EPR obligations collectively through such organisations by making use of already established separate collection and treatment systems. Since non-packaging paper essentially constitutes municipal waste that is collected together with municipal packaging waste, such a model would maximise synergies by making use of existing structures and systems, thus fulfilling EPR obligations in a cost-effective manner by reducing compliance and administrative costs.
- 2. Setting up a new dedicated EPR system for non-packaging paper:** under this model, producers would need to fulfil their EPR obligations through a dedicated EPR system, either individually or collectively or both. This model would entail that producers, individually or collectively, either set up dedicated collection systems for non-packaging paper or finance the door-to-door separate collection system set up by the Regional Councils in proportion to the share of municipal non-packaging paper

waste generated and cooperate with the packaging PROs with respect to the management of the network of existing recycling points.

As highlighted in the table below, each model was then evaluated against a range of critical factors, including legal requirements, cost-effectiveness, market size, administrative efficiency, and the level of competition. These criteria are essential in determining the most appropriate approach for Malta's unique context. The goal was to identify a framework that not only meets regulatory obligations but also enhances the sustainability of waste management practices. By carefully balancing these considerations, the objective is to select a model that drives innovation, promotes efficient resource use, and ensures economic feasibility for producers, while also safeguarding the interests of consumers and the environment.

*Table 15: Potential features of the proposed EPR system*

<b>Feature</b>	<b>Description</b>
<b>Legal requirements</b>	The proposed system must comply with both national and EU regulations, ensuring alignment with relevant directives and frameworks. Compliance with key environmental and waste management legislation is essential to ensure that the system meets sustainability goals and legal standards.
<b>Cost effectiveness</b>	The model should balance the financial impact on producers with the operational costs of waste management. It should promote economic efficiency, minimising costs while still achieving environmental objectives without overburdening producers, particularly smaller businesses.
<b>Market size</b>	Considering Malta's relatively small market, the model must be scalable and adaptable. The use of the existing EPR system for packaging might offer economies of scale.
<b>Administrative efficiency</b>	The model should be easy to implement, with streamlined processes and effective monitoring mechanisms. High administrative efficiency reduces the burden on both producers and regulators, ensuring smooth operation and compliance.
<b>Competition</b>	The existing EPR scheme for packaging is characterised by two competing PROs, where producers of sales and grouped packaging are legally obliged to join an authorised PRO. Since such packaging constitutes a significant portion of municipal waste, which collection and treatment are to be ensured across the entire territory of Malta, it would not be feasible to allow producers to self-comply for such packaging. On the other hand, if a new EPR scheme is established with collective responsibility, the model must decide between a single PRO for streamlined operations or multiple PROs to foster competition. Competition can drive innovation and efficiency, but it must be balanced against the need for operational simplicity in a smaller market like Malta, notably taking into consideration the limited tonnage of non-packaging paper waste generated.
<b>Environmental impact</b>	The model should contribute to sustainability goals by promoting the implementation of the waste hierarchy, and eco-friendly product design.

## 6.4: Establishing EPR fees or costs

In developing an EPR system for non-packaging paper in Malta, it is essential to consider a range of factors that influence EPR fees and costs. Under an EPR framework, producers should bear the environmental costs associated with their products throughout their lifecycle, from importation to post-consumer disposal. Key considerations include the paper's recyclability and the recycled content in the products placed on the market. Easily recyclable non-packaging paper reduces waste management



costs and environmental impact, ensuring sustainable resource use and better end-of-life management. Similarly, products containing recycled materials should be promoted so as to stimulate the demand for both such products and recycled materials, thus fostering the transition to a true Circular Economy.

In this regard, in collective EPR schemes, PROs must establish criteria and methods for setting fees to determine the amount each producer must pay to recover costs. The complexity of fee modulation varies depending on the methodology and the lifecycle phases targeted. In doing so, there are two possible methodologies:

1. **Basic fee modulation:** a straightforward system that assigns fees based on standard factors like weight or unit, representing the cost of managing the product's end-of-life without considering additional product characteristics like recyclability.
2. **Advanced fee modulation:** A more nuanced system that may incorporate various environmental criteria, such as the product's ease of recycling and recycled content. Non-packaging paper products that are easier to recycle or contain recycled material would potentially incur lower fees, encouraging producers to prioritise designs with a reduced environmental impact. On the other hand, products with higher disposal costs or environmental footprints could attract higher fees. For example, France applies an eco-modulation fee for paper, offering a 10% fee reduction if the paper contains 50% or more recycled fibre. Conversely, if the paper is made from materials that are more difficult to recycle, such as coloured fibres, inks, or non-renewable or unsustainably sourced materials, a penalty fee is imposed, ranging from a 5% to a 50% increase.

Taking the above into account, and drawing from our market research, the impact of incentivising more sustainable non-packaging paper production was assessed. This approach not only aligns with environmental sustainability goals but also ensures that the EPR fees are fair and reflect the true environmental costs associated with each product. However, it is important to note that the advanced fee modulation, while promoting eco-friendly design, may introduce complexity and additional administrative burden on both producers and PROs. The following table outlines the potential factors that impact EPR fees and costs, providing a structured framework for their calculation and modulation.

Table 16: Factors impacting EPR fees and costs

Factor	Description and potential impact on EPR fees and costs
Recyclability	The recyclability of non-packaging paper can also impact EPR fees. For example, products that are free from coating or mixed materials, making them easier to process could benefit from lower EPR fees. This encourages products that simplify recycling, aligning with circular economy goals.
Resource efficiency	Non-packaging paper products produced using fewer raw materials, or recycled materials or through energy-efficient processes could benefit from lower EPR fees. This encourages the production of non-packaging paper products to focus on reducing primary raw material and energy use throughout the production process, decreasing the overall environmental impact of such products.
Hazardous material content	Non-packaging paper products containing harmful chemicals, such as certain inks, dyes, or coatings, may incur higher EPR fees. This is due to the increased complexity and cost associated with safely recycling or disposing of these materials. Reducing or eliminating hazardous substances in paper production can lower EPR costs, incentivizing the use of safer, more sustainable materials. This promotes environmentally friendly manufacturing processes and supports the circular economy.

By carefully considering these factors, the EPR system can effectively incentivise sustainable production and consumption practices, while ensuring that producers are held accountable for the

environmental impacts of their non-packaging paper products. This approach not only supports Malta's environmental goals but also aligns with the broader objectives of the EU Waste Framework Directive.

## 6.5: Identification of potential options for waste management within the proposed EPR system

The proposed EPR system for non-packaging paper in Malta is aimed to address the island's unique waste management challenges while promoting environmental sustainability. To achieve this, an assessment of various waste management options tailored to Malta's specific needs was conducted.

Taking this into account, the following table outlines the potential operational options in regards to non-packaging paper waste management for the proposed EPR system, based on the current local separate collection systems as well as parallel drawn with the EPR system established for packaging and packaging waste.

Table 17: Potential options for the proposed EPR system

Option	Description
<b>Collection options</b>	<p>In the first stage of non-packaging paper waste management, the collection process of municipal non-packaging paper waste can be conducted through the following methods:</p> <ol style="list-style-type: none"> <li>1. <b>Collection of recyclable grey bags:</b> Non-packaging paper, along with other recyclables, can continue to be disposed of in the grey bags designated for recyclable waste. This is a common method that allows households and businesses to contribute to the recycling stream efficiently.</li> <li>2. <b>Designated paper bins at bring-in sites:</b> Specific paper bins located at bring-in sites across the country provide a targeted collection point for non-packaging paper waste. These sites are easily accessible to the public, encouraging proper disposal of paper waste in dedicated bins.</li> <li>3. <b>Designated facility or facilities for the collection of large volume of post-consumer non-packaging paper waste:</b> Non-packaging paper waste could also be disposed of at a designated facility or facilities, particularly when dealing with large quantities. This approach is ideal for businesses, offices, and other entities that generate significant volumes of non-packaging paper waste, particularly where, due to confidentiality issues, documents are shredded, thus providing a more efficient and tailored collection solution.</li> <li>4. <b>Combined approach:</b> This approach would leverage the existing infrastructure for grey bag collections, bring-in sites, and the use of a designated facility, allowing for a flexible and adaptable system that caters to different sources of municipal non-packaging paper waste. By combining these collection methods, the system can effectively handle varying volumes of paper waste from households, businesses, and bring-in sites, ensuring that waste is captured from multiple channels and reducing the likelihood of it ending up in the mixed residual stream.</li> </ol> <p>In each of these options, the collected non-packaging paper is then to be transported to the designated facility such as Wastserv's MRF for further processing.</p>
<b>Processing options</b>	<p>The following stage of the process involves the sorting and baling of non-packaging paper to prepare it for further treatment, which currently takes place abroad. This processing can be carried out through two primary options:</p>

Option	Description
	<p>1. <b>Processing at Wasteserv's MRF:</b> In this option, non-packaging paper would be processed at Wasteserv's MRF. Here, the collected non-packaging paper would undergo sorting, baling, and other necessary treatment using Wasteserv's existing infrastructure. Hence, this approach allows for streamlined processing, leveraging established processes and expertise to efficiently manage non-packaging paper waste.</p> <p><b>Processing by private authorised waste operators:</b> Alternatively, non-packaging paper waste can be processed by private authorised waste operators with specialised facilities. These operators can potentially offer tailored processing solutions, including advanced sorting and baling services that meet market specifications. For either option, the respective facility handling the preparation for export would also be required to issue a certificate, confirming that they have followed and completed the necessary waste management procedures.</p>

These potential implementation options offer a range of strategies to enhance Malta's non-packaging paper waste management system, each with its own set of advantages and challenges. By considering these options, Malta can develop an EPR system that is tailored to its specific needs and promotes effective waste management and environmental sustainability.

## 6.6 Waste Management Targets for Non-Packaging Paper in Malta

In addition to identifying the waste management option most tailored to Malta's specific needs for non-packaging paper, establishing recycling targets under the EPR scheme is also key for driving progress toward sustainable waste management. Hence, drawing on EU directives and successful models in other member states, it is being suggested that Malta's targets should balance ambition with feasibility, ensuring alignment with its capacity and environmental goals, as further set out below:

### Alignment with EU Benchmarks

- **Waste Framework Directive (WFD):** Targets for municipal waste recycling range from 55% by 2025 to 65% by 2035, serving as a foundational benchmark.
- **Packaging Directive:** Recycling rates for paper and cardboard are set at 75% by 2025 and 85% by 2030, providing an upper limit for Malta's non-packaging paper targets.

### Insights from Other EU Member States

- **France:** Whilst the target for 2025 is to recycle and prepare for reuse 55% of municipal waste, which includes non-packaging paper, France have managed to already achieve a 60% recycling rate for graphic paper, demonstrating effective integration of public engagement and robust infrastructure.
- **Netherlands:** Whilst the target for 2025 is to recycle and prepare for reuse 55% of municipal waste, which includes non-packaging paper, the Netherlands has already achieved an 82% recycling rate for non-packaging paper, emphasising comprehensive collection systems and strong regulatory frameworks.

### Potential targets

Hence, taking the above into account, and also Malta's current position, whereby 34.7% of municipal waste is collected separately and recycled<sup>51</sup>, in order to position Malta within the EU's broader sustainability framework, one potential option could be to adopt phased targets for non-packaging paper:

1. **Short-Term (2027):** Aim for a recycling target of 55%–60%, aligning with the WFD's municipal waste baseline and accounting for Malta's challenges with recycling infrastructure.
2. **Medium-Term (2030):** Increase the target to 65%–70%, reflecting gradual improvements in collection systems and public participation.
3. **Long-Term (2035):** Target 75%–80%, pushing toward the upper range achieved in high-performing EU countries like the Netherlands while considering logistical and economic constraints.

### Need for Further Consultation

Nonetheless, while these proposed targets would provide a directional framework, stakeholder consultations remain imperative for:

- Quantifying baseline waste volumes to assess the practicality of any proposed targets.
- Identifying specific challenges faced by key sectors, such as education or office use, which are significant contributors to non-packaging paper waste.
- Tailoring the targets to Malta's evolving waste management capabilities and economic context.

Overall, based on the above, establishing realistic yet ambitious recycling targets for non-packaging paper will enhance Malta's sustainability efforts under the EPR framework. By drawing on EU directives and international best practices, these targets can serve as a roadmap for building a robust and impactful waste management system.

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<sup>51</sup> <https://nso.gov.mt/municipal-waste-2023/>

## 7. Options Appraisal

The introduction of an EPR scheme for non-packaging paper in Malta, necessitates a structured approach to evaluate various policy alternatives. This EPR scheme aims to shift all the costs associated with the collection, sorting, transportation and disposal of non-packaging paper waste to the obliged industry in a cost-effective way, while potentially improving waste management performances.

The purpose of this appraisal is to identify and evaluate the selected potential policy options for the EPR scheme, also against the “do-nothing” option, on the basis of the identified criteria. Through a systematic and comparative analysis, this appraisal will guide the final recommendation for the optimal EPR scheme for non-packaging paper waste management in Malta.

### 7.1 ‘Do-nothing’ Approach

In this context, a “do nothing” approach would mean maintaining the current system, whereby producers of non-packaging paper do not have any responsibility in the waste management of the paper they place onto the market in Malta.

Hence, this approach would not address the current imbalance, where producers of packaging paper bear the costs for the management of the non-packaging paper waste collected through the separate collection systems set up for municipal packaging paper waste. Hence, the EPR fees paid by producers of packaging paper also incorporates a portion of the costs associated with the waste management of non-packaging paper waste. Thus, the ‘do-nothing’ approach would continue to unfairly charge packaging producers, since it fails to provide the necessary incentives or regulatory measures to ensure that the costs associated with non-packaging paper waste are borne by the actual producers of those materials and products.

In addition, despite the current measures to collect non-packaging paper in the grey bag and paper bins at bring-in sites, a portion of non-packaging paper waste is still being incorrectly disposed of in black bags or metal bins at bring-in sites. This matter highlights the need for better awareness and measures to ensure that non-packaging paper is diverted to the correct waste streams.

### 7.2 Products subject to EPR obligations

Table 16 in Section 5 lists the non-packaging paper products that might be potentially relevant to define the products under scope for EPR.

Considering that the majority of non-packaging paper waste found in grey bags comprises of 7.53% from office paper, 3.66% from leaflets and magazines, and 0.59% from other non-packaging paper, it would follow that office paper, advertising materials and magazines should be within scope of the non-packaging paper EPR scheme. In addition, due consideration should be given as to whether to exclude books and, potentially, other educational materials listed in sub-section 4.3.5 (market study) that are identified by the selected HS codes under Chapter 49. In this context, it is to be noted that the level of granularity of the waste characterisation surveys conducted so far was not set to determine the potential products under scope for EPR purposes, as such surveys served a different purpose. Hence, further analysis of the waste generated in Malta and consultations with key stakeholders are required to better define the products in scope and potential exclusions.

### 7.3 Recommendations on the EPR model

To determine the most suitable policy option from those outlined in Section 5, the three options are evaluated, against five key criteria considered to be key in reaching the objectives of a potential EPR for non-packaging paper. These include the below:

1. **Operational efficiency:** how efficiently each option allows the EPR system to function, considering factors like ease of coordination, administrative complexity, and the ability to achieve high collection and recycling rates;

2. **Cost-effectiveness:** the assessment of the overall cost to producers and PROs in implementing and maintaining each option, including but not limited to waste management, compliance monitoring and reporting;
3. **Market competition and innovation:** the potential for fostering competition and innovation within the EPR system. A model with PROs might encourage innovation and efficiency through competition, while an IPR model or single PRO model might benefit from unified strategies and consistency;
4. **Regulatory compliance and ease of implementation:** how easily each option aligns with existing and proposed regulations.
5. **Environmental impact:** the potential environmental benefits of each option, including the ability to reduce non-packaging paper waste, and increase recycling rates.

Taking all of the above into account, the table below assesses each option using a Likert scale ranging from 1 to 5, with 5 representing the maximum value. Hence, this evaluation facilitates the identification of the option that best aligns with the scheme's goals and the unique context of Malta.

Table 18: Assessment of EPR models

	Do-nothing	Integrate within existing packaging EPR	Set up a new dedicated EPR for NPP
Operational efficiency	1	5	2
Cost effectiveness	2	5	2
Market competition & innovation	1	4	4
Regulatory compliance & ease of implementation	2	4	2
Environmental impact	2	4	4
<b>TOTAL SCORE</b>	<b>8</b>	<b>22</b>	<b>14</b>

Based on the above evaluation, integrating an EPR for non-packaging paper within Malta's existing EPR framework for packaging would be the most practical and efficient option. Leveraging the existing system would reduce implementation challenges and operational costs while addressing non-packaging paper waste in a cost-effective manner. Given Malta's limited tonnage of such waste, establishing a dedicated EPR system would likely be economically unfeasible.

This approach would also align with EPR principles by minimising the financial burden on producers, restricting costs to those necessary for effective waste management. Financing the system through contributions from non-packaging paper producers, alongside those already participating for packaging, would ensure fair cost distribution. Hence, such an integrated model would utilise existing infrastructure, streamlining processes and avoiding duplication, which is particularly suited to Malta's small size and market characteristics.

## 7.4 Recommendations on the organisational model

In view of the assessment of the selected options carried out above, it follows that producers of non-packaging paper should be responsible for the current separate collection systems set up for municipal packaging paper waste, namely the door-to-door collection system (i.e. the grey bag) and the network of recycling points for packaging paper, according to the modalities established under the Waste Management (Packaging and Packaging Waste) Regulations, S.L. 549.43.



## 7.5 Recommendations on fee modulation

By applying either the basic or advanced modulation fee methodologies set out in Section 5, Malta can effectively manage the financial contributions from producers to cover the costs associated with non-packaging paper waste management. The choice between basic and advanced modulation depends on the desired balance between simplicity and the level of environmental incentives provided to producers. In this regard, in the below table the pros and cons of both scenarios for Malta's EPR system for non-packaging paper are set out, considering factors such as cost, administrative complexity, environmental impact, and incentivisation of sustainable practices.

Table 19: Analysis of basic vs. advanced modulation fees

Fee	Pros	Cons
Basic modulation fee	<b>Simplicity and ease of implementation:</b> basic modulation fees are straightforward to calculate and administer. Fees are based on simple criteria like unit, weight, or material, making it easier for producers and the regulatory body to understand and manage.	<b>Limited incentivisation for eco-design:</b> Basic modulation fees do not provide strong incentives for producers to place environmentally friendly products onto the market. Since all products are treated equally regardless of their environmental impact, there is less motivation for producers to improve product reusability or recyclability.
	<b>Lower administrative costs:</b> the simplicity of the basic model reduces the administrative burden on both the producers and the PRO. This can result in lower implementation and operational costs.	
	<b>Predictability for producers:</b> producers can easily predict their fees based on clear, consistent criteria, facilitating better financial planning and budgeting.	
	<b>Initial adaptation:</b> as an initial step towards EPR, a basic modulation fee system can help producers transition smoothly without overwhelming them with complex requirements.	
Advanced modulation fee	<b>Incentivisation for sustainable practices:</b> Advanced modulation fees reward producers for placing products onto the market that are easier to recycle or have a lower environmental impact. This encourages innovation and the adoption of sustainable practices.	<b>Complexity and higher administrative costs:</b> Implementing an advanced modulation fee system requires more sophisticated data collection, monitoring, and verification processes. This increases administrative complexity and costs for both producers and regulators.
	<b>Alignment with environmental goals:</b> by linking fees to environmental criteria, the advanced model directly supports Malta's sustainability and circular economy goals. Products with lower environmental impact are financially incentivised, promoting overall waste reduction and improved recycling rates.	
	<b>Cost efficiency in the long run:</b> Although initially more complex, advanced modulation can lead to long-term cost savings for producers who place eco-friendly products onto the market. Over time, the reduction in	
		<b>Initial resistance from producers:</b> Producers may initially resist the advanced fee system due to the higher complexity and potential increase in fees for non-sustainable products. It requires significant effort to educate and engage producers in the new system.
		<b>Implementation challenges:</b> Advanced modulation fees require a robust framework for assessing the environmental impact of products, which may be challenging to establish and enforce effectively.



Fee	Pros	Cons
	waste and improved recyclability can decrease overall waste management costs.	

Taking the above into account, and based on discussions with key stakeholders, it became evident that advanced modulation fees would be challenging and inefficient to implement in Malta, primarily due to the country's small size, the limited quantities of non-packaging paper waste produced, and the fact that the majority of waste management costs are tied to export expenses. It is therefore recommended to maintain a basic modulation fee structure throughout the EPR scheme.

A basic modulation fee system offers simplicity, making it more feasible to implement and manage, particularly within the Maltese context. By applying such a fee structure across all producers, administrative burdens would be minimised, and the system would remain straightforward and transparent. While advanced modulation fees could theoretically incentivise sustainable product design, the complexities associated with implementing such a system in Malta would likely outweigh the benefits, given the relatively small volumes involved.

Ultimately, adopting a basic modulation fee system ensures the EPR scheme remains efficient and manageable, while still meeting its environmental objectives. This approach recognises Malta's unique context, providing a streamlined solution that aligns with the country's waste management infrastructure and cost considerations.

## 8. Assessment of potential key success factors

The successful implementation of an EPR scheme for non-packaging paper in Malta hinges on more than just the establishment of the EPR mechanism itself. To ensure that the EPR system operates effectively and meets its sustainability objectives, a comprehensive approach involving additional legislative and other measures is essential. These measures will address key aspects of non-packaging paper waste management, enhance the efficacy of the EPR scheme, and align with broader environmental and waste reduction goals.

This section outlines the critical success factors necessary for supporting the EPR scheme's implementation in Malta. It highlights the need for complementary regulatory, and other actions that will underpin the EPR system and facilitate its success. By addressing these factors, a robust framework that not only supports the EPR scheme but also ensures its integration into Malta's broader waste management strategy would be created.

Table 20: potential key success factors

Feature	Description
<b>Collaboration with Regional Councils</b>	The current door-to-door co-mingled collection system for mixed recyclables also covers paper (both packaging and non-packaging paper), which is coupled with a harmonised collection schedule, should be retained. However, options could also be explored to reduce cross-contamination, thus improving recycling rates. To this end, an option could be to set a specific collection round for paper waste (including both packaging and non-packaging paper). In addition, this collaboration can also involve analysing local waste generation patterns to monitor the effectiveness of established collection systems and take corrective actions, if needed.
<b>Collaboration with Wasteserv</b>	Wasteserv has invested in sorting technology and operations, and is currently responsible for the sorting and sale of non-packaging paper waste. It is essential that Wasteserv continues to strive for efficient operations to effectively separate non-packaging paper from other materials, ensuring higher quality recyclables, so that it can continue to support the producers in this process, in the most cost-effective manner.
<b>Synergies with packaging paper PROs</b>	The current collection and sorting of non-packaging paper waste is being financed (i.e. collection from grey bags) and managed (i.e. recycling points) by the packaging PROs. This should therefore be factored into the establishment of an EPR scheme on non-packaging paper, so as to maximise synergies and ensure that waste management is delivered in a cost-effective manner in line with S.L. 549.141.
<b>Consumer educational campaigns</b>	Consumer educational campaigns enforced by EPR requirements can be complemented by the implementation of target measures. Educating consumers about the environmental impacts of waste and the importance of responsible disposal can lead to enhanced waste management. These campaigns can be delivered through various channels, such as social media, advertisements, and community workshops, emphasising the ease and benefits of proper disposal of paper. By increasing consumer understanding and engagement, these campaigns would ultimately increase separate collection and recycling, promote sustainable behaviours, and support the overall goals of the EPR scheme.
<b>Technology and innovation</b>	Leveraging digital platforms and technologies can streamline the collection and recycling process, making it more accessible and efficient. For example, mobile apps or online portals can be developed to help consumers easily locate nearby recycling points, schedule pickups, or access real-time information on proper

Feature	Description
	disposal practices. By adopting and promoting technological solutions, stakeholders would be able to enhance the performance of the EPR system by increasing efficiency, accountability, and transparency throughout the entire recycling chain.
<b>Incentivising waste reduction initiatives</b>	Encouraging the shift towards digital solutions, such as digital advertising and digital office note-taking, would enhance waste management performance. By offering incentives for businesses and consumers to adopt digital alternatives, such as tax benefits or grants for implementing digital tools, the demand for non-packaging paper products like brochures, flyers, and office paper can be reduced. This would lower the overall production and waste of non-packaging paper, reducing the burden on recycling systems and allowing the EPR scheme to focus on managing the remaining waste more effectively. Thus, incentivising digitalisation would support the goals of the EPR and also align with modern business practices, leading to a more sustainable reduction in paper consumption and waste.

These key success factors are essential for ensuring that the EPR scheme achieves its objectives of fostering a circular economy in a cost-effective manner. They will also ensure the engagement of all stakeholders, including producers, consumers, and waste management operators, in a unified effort to manage non-packaging paper waste effectively.

Furthermore, implementing these measures will not only enhance the effectiveness of the EPR scheme but also contribute to Malta's broader environmental goals. By addressing these foundational elements, Malta can establish a robust EPR system that supports sustainable non-packaging paper management, drives positive environmental impact, and sets a precedent for effective waste management practices.

## 9. Financial analysis

This section delves into a detailed analysis of the various activities involved in the management of non-packaging paper waste, ranging from collection, sorting and transportation, to baling and export. By examining the associated costs, this section sets out a clear picture of the financial dynamics that would underpin a potential EPR system for non-packaging paper. The analysis is based on market research, publicly available information, and consultations with key stakeholders in the industry.

Hence, this analysis would form the foundation for determining the EPR fee structure for non-packaging paper producers, should an EPR be introduced, ensuring that the scheme is both economically viable and aligned with environmental goals. Ultimately, this assessment also helps outline the financial responsibilities that need to be passed on to producers, which would provide them with a transparent and fair mechanism for managing their obligations under the EPR framework.

### 9.1 Baseline assumptions

This sub-section presents the key assumptions and factors considered in projecting the costs associated with non-packaging paper waste management in Malta should an EPR be introduced. This analysis will delve into the financial implications of non-packaging paper waste management, providing a detailed breakdown of the associated costs generated from these activities.

#### 9.1.1 Collection rate assumptions

Throughout the feasibility model, we are assuming a 66% collection rate based on 2023 data for non-packaging paper placed on the market and collected through the grey bag, black bag, paper recycling points, and the minimal amount collected via metal recycling points, as well as any non-packaging paper collected at CA sites. This is based on 11,339 tonnes of non-packaging paper placed on the market (excluding books, educational materials, as well as any imports that may encompass raw materials used for products intended for export) and 7,540 tonnes collected. By adopting this 66% rate, we are assuming that should the EPR be introduced, alongside its education and awareness campaigns, any non-packaging paper that is currently being incorrectly disposed of in the black bag or metal recycling points will be redirected to the grey recyclable bag or the designated paper recycling points. This shift is expected to increase the accuracy and effectiveness of non-packaging paper collection, aligning with the goals of the EPR system.

In addition to the above, the separate collection figures do not currently fully capture commercial and other operators who use the services of private waste collectors for non-packaging paper waste. Hence, for the purposes of this feasibility model, we are assuming that the revenue generated from the sale of this volume of non-packaging paper waste will be at least equal to the costs associated with the processes for handling it, effectively offsetting these costs. Furthermore, we are also assuming that, should the EPR be implemented, the collection of such non-packaging paper waste will be incorporated into the system accordingly. However, at this point in time, we are assuming that such collection is not expected to have a significant impact on the costs borne by the PRO, ensuring that the financial framework remains consistent.

#### 9.1.2 Sales volume assumptions

The figures used to estimate the cost or revenue associated with the sale of non-packaging paper waste were derived from publicly available data provided by Wasteserv<sup>52</sup>. Wasteserv regularly publishes information on its sales of recyclable materials, which are sold on local, European, and international markets for further processing. Using this data, we specifically focused on non-packaging paper-related

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<sup>52</sup> <https://www.wsm.com.mt/en/sales>

sales and determined the net cost of selling this waste material. Additionally, following consultation with Wasteserv, it was assumed that 85% of all collected non-packaging paper will be sold.

### 9.1.3: Collection and sorting costs

- **Collection and transportation:** The costs assumed for collection and transportation of non-packaging paper waste to Wasteserv or to authorised waste operators are based on the current system as follows:
  - **Household collection:** Using publicly available tender information for household waste collection across Malta's five regions, and considering the frequency of grey bag collection, the total collection cost pro-rated for non-packaging paper waste, based on the underlying assumption that any non-packaging paper incorrectly disposed of in the black bag, would be disposed of correctly in the grey bag following the introduction of the EPR, i.e. 22.2% of waste collected through the recycling bags, is estimated at c. €278,260 per annum.
  - **Paper bins collection:** Designated paper bins at bring-in sites also contribute to non-packaging paper waste collection. Based on stakeholder consultations, the total pro-rated cost of collection from paper bins is estimated at c. €23,180, based on a cost of €50 per tonne and the underlying assumption that any non-packaging paper incorrectly disposed of in the metal bins, would be disposed of correctly in the paper bins following the introduction of the EPR, resulting in a total of c. 4664 tonnes collected.
- **Non-packaging paper apportionment for sorting costs:** A key assumption in this study relates to the costs to be apportioned for non-packaging paper for Wasteserv's operations at the Material Recovery Facility (MRF). This, is based on 2023 data provided by ERA, which shows c. 26,036 tonnes of recyclable waste handled annually by Wasteserv (from recycling bags, paper recycling bins, glass recycling bins, plastic recycling bins and metal recycling bins). Assuming that the EPR introduction for non-packaging paper would improve proper disposal, besides shifting the incorrectly sorted non-packaging paper from the plastic and metal bins to the correct paper bins, we are also assuming a shift of incorrectly sorted non-packaging paper from the black bag, to the correct grey bag, increasing the total recyclable waste by c. 2,683 tonnes to reach a total of 28,719 tonnes. Based on this, with non-packaging paper constituting c. 6,167 tonnes of the total, we estimate that c. 21.5% of Wasteserv's recyclable waste operations would be attributed to non-packaging paper. Furthermore, since the EPR fee would cover the full costs of treatment, for the purpose of calculating such EPR costs, the applicable gate fee is not accounted for.
- **Labour:** It is understood that Wasteserv requires 40 employees to operate the MRF. Apportioning this based on the 21% non-packaging paper waste rate implies that approximately 9 employees are needed to handle non-packaging paper waste. With an average annual salary of c. €18,600, the total labour cost for non-packaging paper is estimated to be c. €159,400.
- **Electricity:** The electricity consumption for treating a tonne of non-packaging paper waste is estimated at 5.8 units. At a current electricity rate of €0.15 per unit, the total electricity cost per tonne is c. €0.54. Hence, based on the 7,540 tonnes of non-packaging paper collected in 2023, this would translate to a total cost of c. €6,557.
- **Material:** Material costs for treating non-packaging paper are estimated at c. €8 per tonne, translating to a total of c. €60,317.
- **Replacement costs:** When determining the potential EPR fee for non-packaging paper, replacement costs are also considered:
  - **MRF facility:** The MRF facility, valued at approximately €4 million, and apportioned at c. 21% for non-packaging paper, is equivalent to c. €858,900. Hence, with a useful life of 30 years, the annual replacement cost is estimated at c. €28,630.

- **Paper recycling points:** Across Malta and Gozo, there are an estimated 400 recycling points designated for paper waste collection at bring-in sites. With an estimated market price of €850 per point and a useful life of 10 years, the annual replacement cost is estimated at €34,000.
- **Repairs and maintenance:** A cost for repairs and maintenance required at the MRF facility, based on an annual rate of 3% of the portion of the facility's investment apportioned to non-packaging paper has been assumed. This results in a total cost of c. €25,770 per annum.

In summary, taking all of the above into account, the total direct waste management costs for non-packaging paper are estimated to be c. €592,933.

#### 9.1.4 PRO costs

- **Costs borne by the PROs:** Under the EPR framework for non-packaging paper, the PROs would assume responsibility for a range of activities to be factored into the EPR fee calculation. These include administrative expenses tied to compliance and reporting, such as data collection, document preparation, audits, IT infrastructure, and stakeholder engagement. Additionally, PROs would also need to carry out public awareness campaigns to educate the public on proper waste management practices. As highlighted in the options analysis, integrating the EPR for non-packaging paper with Malta's existing packaging EPR system is the most viable approach. Hence, existing packaging PROs provide a foundation that enables cost efficiencies by leveraging synergies.
- Hence, to estimate these costs, we utilised data from similar EU PROs and adjusted for Malta's specific context, by scaling down slightly due to the anticipated synergies from using the existing PROs for packaging. In this regard, administrative and publicity costs are projected at approximately €50,000 and €25,000, respectively. Such administrative costs are estimated to cover the salaries of two additional employees, one for each PRO, to manage the increased workload as a result of the non-packaging paper integration. Publicity costs are also kept relatively low, as they would build upon existing campaigns and infrastructure, requiring only a top-up to accommodate non-packaging paper awareness. Hence, this approach reflects both market rates and the reduced costs achievable through integration with the existing packaging system.

#### 9.1.5 Sales

- The sale of non-packaging paper waste<sup>53</sup> can either generate revenue or incur additional costs, depending on market conditions. To evaluate the net cost or revenue associated with the sale of non-packaging paper, publicly available data from Wasteserv, which publishes its sales information for recyclable materials sold on local, European, and international markets for further processing, was reviewed. Focusing specifically on non-packaging paper related data, it was determined that the net cost of selling non-packaging paper is c. €16 per tonne. Hence, based on the assumption that 85% of all collected non-packaging paper would be sold, this would translate to a total cost of c. €103,420.

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<sup>53</sup> Such non-packaging paper waste incorporates paper and small cardboard packaging paper (e.g. cereal boxes).

## 9.2: EPR fee calculation

Based on the costs detailed above, this sub-section outlines the total annual cost of managing non-packaging paper waste under a potential EPR framework. This cost represents the amount that would need to be covered by producers, ultimately determining the EPR fee per tonne of non-packaging paper placed on the market.

Collection and sorting costs	€592,933
PRO costs	€75,000
Sales net cost	€103,419
10% contingency	€77,135
<b>Total costs</b>	<b>€848,487</b>

<b>EPR fee per tonne placed onto the market</b>	<b>€74.83</b>
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Hence, as outlined in the table above the total cost for collecting and sorting non-packaging paper waste amounts to c. €592,930. Additionally, the costs associated with integrating non-packaging paper with the operations of existing PROs for packaging are estimated to be c. €75,000, followed by an additional net cost of c. €103,420 relating to the export of non-packaging paper waste. Furthermore, to provide a buffer for any unforeseen expenses, a 10% contingency is also applied, bringing the total cost to c. €848,487.

Taking this cost against the total number of tonnes placed onto the market (excluding books and any raw materials imported predominantly for export oriented products) in 2023 of 11,339 tonnes, would result in an EPR fee of c. €75 per tonne of non-packaging paper placed onto the market.

### 9.2.1 Practical example

Item	Average retail price (€)	Av. weight (kg)	EPR Fee	New price (€) (if fee fully passed on to consumer)	% change
Packet of printing paper	€4.75	2.40	€0.18	€4.93	4%

The table above presents potential indicative fees for a common non-packaging paper item, such as a packet of printing paper. However, it is important to note that these fees are purely indicative and calculated solely on the weight of the products. They do not take into account any eco-modulation, as discussed in Sections 5 and 6, which could further adjust the fees based on environmental criteria. Therefore, while the weight provides a basic estimate of the EPR fees, the actual costs for producers could vary depending on the implementation of eco-modulation and other potential sustainability factors.

In the following section, being the economic impact assessment of the EPR, we will also benchmark these projected EPR fees against those charged by established EPR systems in other EU nations. This comparative analysis will provide further insight into Malta's position within the broader European context, offering a deeper understanding of how these costs align with international standards and practices.



## 9.3 Key limitations of data

In conducting this feasibility study, data was gathered through consultations with key stakeholders in the industry, market research, and publicly available information. While the work has involved analysis of financial information, it has not included an audit in accordance with generally accepted auditing standards. Moreover, except where otherwise stated in the Report, the information in the Report has not been subjected to checking or verification procedures. Accordingly, no responsibility is being assumed and no representations are being made with respect to the accuracy or completeness of any information received, except where otherwise stated herein, and no assurance is given.

Below, the primary limitations encountered during the data collection process are outlined:

- 1. Import data:** A key data limitation in this study arises from using HS codes to estimate the tonnage of non-packaging paper placed on the market. One significant challenge is the mismatch between import data and waste data, particularly due to certain export-oriented production in Malta. For example, raw materials for banknotes may be imported under one HS code, but the final product, classified under a different HS code, is exported. This discrepancy may inadvertently overestimate the imported non-packaging tonnage subject to EPR regulations, as raw materials for export-focused products like manuals or pharmaceutical inserts might still be included. Despite efforts to reconcile data by excluding HS codes linked to export-oriented raw materials, the estimated figure may still capture non-packaging paper predominantly intended for export, leading to potential overestimations.
  - 2. Sales rate assumptions:** We assume that the current costs and revenue generated per tonne of non-packaging paper waste sold would remain constant. However, there could be a potential shift in sales, with a higher share of non-packaging paper being exported to nations within the EU itself, rather than to third countries. Hence, this transition creates uncertainty regarding how these changes may influence the costs and revenue associated with the sale of non-packaging paper.
  - 3. Operating cost assumptions:** The assumptions related to operating costs for sorting and baling are based on information provided by Wasteserv for the operations of the MRF and apportioned to assumed rate of non-packaging paper collected.
  - 4. Non-packaging paper apportionment:** One of the key assumptions in this study is based on 2023 data provided by ERA, detailing the annual waste volumes handled by Wasteserv, including the portion attributable to non-packaging paper. One limitation is that waste received from Civic Amenity Sites has been excluded from this calculation. Furthermore, this also assumes an increase in correctly disposed non-packaging paper following the introduction of the EPR, with mismanaged waste shifting into proper disposal streams. As a result, non-packaging paper is estimated to account for c. 21.5% of total waste handled annually by Wasteserv at the MRF. This percentage is applied to apportion costs where specific cost-per-tonne data is unavailable. While this figure provides a useful baseline for estimating the quantities and costs associated with managing non-packaging paper waste, it presents a limitation when applying this percentage uniformly across a variety of cost calculations. There may be other factors influencing specific costs, such as variations in processing needs, or operational efficiencies that are not captured by a flat percentage. As a result, using this apportionment across a variety of cost categories may not always produce accurate or fully representative financial estimates.
- 1. Cost of collection from recycling points:** As no data was available on this cost, it was based on the information provided by stakeholders in relation to the collection of waste by private operators per tonne for other waste streams.
  - 2. PRO costs:** In line with the rationale explained above, the estimated PRO costs for integrating a non-packaging paper EPR into the existing packaging EPR, are calculated with

considerations for synergy. While market research on similar EPR schemes across the EU was used to derive estimated costs for publicity and administrative expenses, these were scaled down to reflect the expected efficiencies of using existing packaging PROs in Malta. By leveraging shared resources, such as administration and awareness-raising platforms, these estimates aim to represent the reduced incremental costs associated with incorporating non-packaging paper into the packaging PRO framework. Nonetheless, a limitation remains given that actual costs may differ once the non-packaging paper EPR is actually implemented and detailed cost structures are established. Hence, these figures should be treated as indicative estimates.

## 10. High level economic impact assessment

The potential implementation of an EPR scheme in the non-packaging paper industry carries implications for the local economy. This economic impact assessment examines the potential effects of introducing such a scheme, which would shift the responsibility for the entire lifecycle of non-packaging paper products to producers of such products, in aim to promote sustainability and reduce waste. Thus, this section provides an analysis of how an EPR framework could influence the local economy, evaluating both the direct and indirect economic impacts and providing insights into broader changes in industry practices, market dynamics, and overall economic growth.

Table 21: Potential impacts on the local economy

Feature	Description
<b>Impact on consumer prices</b>	<p>The potential EPR scheme of non-packaging paper would shift the cost of non-packaging paper waste management from producers of packaging paper to producers of non-packaging paper. Thus, non-packaging paper producers would potentially experience an increase in administrative and compliance costs due adhere to the requirements of the EPR. Non-packaging paper producers would then most likely pass these costs onto consumers in the form of higher prices for non-packaging paper. With the average EPR cost per kilogram of non-packaging paper estimated at €0.07, the additional costs incurred by non-packaging paper producers would be modest when distributed across individual products. Considering that the average price of a packet of printing paper is around €4.75, the total price would increase to €4.82, having a marginal increase of 1.5%. Although the rise in cost would be expected to be minimal, consumer and business purchasing decisions or demand for non-packaging paper could be affected. The price increases may suggest that EPR can be introduced without causing inflationary pressure on non-packaging paper products. This would prevent the risk of reduced consumption, which is critical for maintaining steady revenue streams for retailers and producers. However, while the direct impact would be estimated to be a few cents increase, may seem minimal, when aggregated across large volumes of sales, these price increases may influence consumer and business spending patterns. By transferring these costs to consumers, non-packaging paper producers may maintain their profit margins while complying with the EPR regulations, but this approach may also alter market dynamics, leading to potential shifts in competition and consumer behaviour, as companies that can absorb these administrative costs may gain a competitive advantage by minimising price increases. However, the shift of non-packaging paper waste management costs from packaging producers to non-packaging paper producers may dampen the overall impact on consumer prices as the potential increase in cost for consumers of non-packaging paper may be balanced by the reduction in cost for consumers of packaging paper.</p>
<b>Comparative impact of EPR costs</b>	<p>When comparing the estimated increase in non-packaging paper prices due to the implementation of the EPR scheme in Malta with the Netherlands and France, where a similar EPR system exists, notable differences are observed. As described further in Section 1, in the Netherlands, Stichting Papier Recycling</p>

Feature	Description
	<p>Nederland (PRN)<sup>54</sup> is the PRO responsible for non-packaging paper and cardboard in the Netherlands. Producers of paper must pay a recycling management fee in periods when the international market price of waste paper is low and the producers must pay the recycling management fee to municipalities, together with once a year for PRN system costs. The recycling management fee was last paid in 2009. The annual levy for PRN system costs has been set at €3.00 per tonne of newly placed/imported paper and/or cardboard for non-packaging (excluding VAT). This low levy reflects the efficiencies of a mature EPR system and larger economies of scale. In France, for volumes of graphic paper which exceed five tonnes annually, the rate per tonne of graphic paper is updated annually. In 2023, the base rate per tonne of paper for CITEO EPR contribution stood at €74 excl. tax, which translates into €0.074 per kilo<sup>55</sup>. In contrast, the estimated potential EPR fee in Malta a €0.07 fee per kilo of non-packaging paper under its proposed EPR scheme, would be higher than the Dutch and similar to that of the French model.</p>
<p><b>Effect on overall inflation (non-packaging paper)</b></p>	<p>The potential implementation of EPR would be expected to increase non-packaging paper prices, as non-packaging paper producers would face higher compliance costs related to waste management and sustainability initiatives, which would be likely to be passed on to consumers. In 2023, the value of imported non-packaging paper stood at c. €123 million, with a total import volume of c. 20,000 tonnes, resulting in an average import price of €6,300 per tonne. These figures include raw materials for export-oriented markets as they would still be subject to EPR fees when imported to Malta. With the potential introduction of the EPR scheme, the price increase would be projected to be €0.07 per kilogram, which would lead to an estimated overall price rise of 1.18% in the non-packaging paper sector. This increase in non-packaging paper costs would directly contribute to inflationary pressures, as higher input costs for goods generally lead to higher consumer prices. According to Eurostat, newspaper, books and stationery accounted for 0.68% of the total Harmonized Index of Consumer Prices (HICP) basket in 2023. Given this relatively small share, the estimated rise in non-packaging paper prices due to EPR implementation would be estimated to result in a 0.01% increase in the overall HICP, indicating that while the EPR does exert upward pressure on non-packaging paper prices, its broader impact on inflation would be negligible. In this context, while consumers may experience slightly higher costs for non-packaging paper, the implementation of EPR would be unlikely to drive high inflationary pressures across the economy, making the inflationary effect of the policy minimal in the larger economic framework. In addition, it would be expected that the implementation of the EPR would lower the price of packaging , given that the waste management cost of non-packaging paper</p>

<sup>54</sup> <https://prn.nl/prn-en-het-prn-systeem/prn/rapportage/>

<sup>55</sup> [https://bo.citeo.com/sites/default/files/2023-12/231006\\_Guide\\_tarifs\\_papiers\\_2023\\_EN.pdf](https://bo.citeo.com/sites/default/files/2023-12/231006_Guide_tarifs_papiers_2023_EN.pdf)

Feature	Description
	would be shifted to non-packaging paper producers, dampening the overall rise in non-packaging paper prices.
<b>Effect on overall inflation (printing paper)</b>	<p>The potential effect on overall inflation due to the potential implementation of an EPR scheme for non-packaging paper can also be assessed by focusing on printing paper, as it is one of the most widely used forms of non-packaging paper. Currently, a packet of printing paper weighing 2.4 kg is sold at around €4.75, which is around €1.98 per kilogram or €1,979 per tonne. If the proposed EPR fee for non-packaging paper is set at around €31.94 per tonne, the new retail price of office paper would increase to €2,015.72 per tonne after the EPR fee is applied. This would result in an estimated price increase of 1.85% for printing paper. Given that newspaper, books, and stationery have a weight of 0.68% in the Harmonised Index of Consumer Prices (HICP), the direct inflationary effect of the EPR scheme on the overall HICP would be relatively modest. The 1.85% increase in the price of office paper would translate to an estimated overall inflationary effect of 0.01% on the HICP. While the estimated inflationary effect of the EPR scheme on non-packaging paper would be estimated to be low, the direct impact on costs of purchasing office paper would be around a 1.85% increase, which, while noticeable, remains moderate given the low weight of such products in household expenditure. However, businesses and other entities that rely heavily on such paper could experience a larger increase in operational costs, potentially leading to higher prices in other sectors that rely on printed materials, such as publishing. These indirect effects may cause small price pressures in certain areas but are unlikely to have high inflationary effects in the broader economy.</p>
<b>Penalties for non-compliance with the targets set out in the Waste Framework Directive</b>	<p>The implementation of an EPR scheme could also contribute to Malta's compliance with the applicable EU recycling targets, reducing the risk of penalties while also mitigating the environmental impact associated with non-packaging paper waste. Failure to meet these targets may result in penalties imposed by the European Union as part of infringement procedures against Member States that do not comply with the applicable targets established in the Waste Framework Directive.</p>
<b>Shifting waste management costs from packaging to non-packaging paper producers</b>	<p>The current waste management system for municipal mixed recyclables in Malta presents a challenge as municipal packaging waste is predominantly mixed with non-packaging paper waste during separate collection and sorting. The current two packaging PROs finance the collection and transport of the mixed recyclable fraction, including waste from bring-in sites, and bear the financial burden for both municipal packaging and non-packaging paper waste that is collected separately. The introduction of an EPR scheme for non-packaging paper would require producers of such materials, including office paper and other non-packaging paper products, to finance their share of the waste management process. This would relieve packaging producers from covering the costs of non-packaging paper waste, leading to a more equitable distribution of financial</p>

Feature	Description
	responsibility. Currently, one of the PROs charges packaging producers an EPR fee of around €203 per tonne. Thus, the potential implementation of an EPR scheme for non-packaging paper would likely lead to the transfer of waste management cost of non-packaging paper, which is estimated to be around €74.83 per tonne, from packaging producers to non-packaging paper producers.

In conclusion, the potential implementation of an EPR scheme for non-packaging paper in Malta would be expected to have moderate economic impacts, particularly on consumer prices and business costs. While the estimated price increase for non-packaging paper would be relatively low at €0.07 per kilogram, businesses and consumers would likely experience higher costs, which could affect demand and alter spending patterns. The direct inflationary impact on the economy would be projected to be minimal, with a 0.004% increase in the overall Harmonized Index of Consumer Prices (HICP). However, sectors heavily reliant on non-packaging paper, such as printing, publishing, and office services, may see notable increases in their operational costs, potentially affecting profitability and competitiveness.

Despite these short-term economic pressures, the EPR scheme would result in the redistribution of waste management costs between packaging and non-packaging paper producers, thus likely creating a more equitable and efficient system, which would drive better waste segregation and enhance recycling efforts in the long run. Additionally, the implementation of EPR for non-packaging paper could also offer long-term benefits by potentially encouraging more sustainable practices and improving waste management performance, thus aiding Malta in achieving the targets set in the EU Waste Framework Directive and avoiding potential penalties for non-compliance.

## 11. Conclusion

Non-packaging paper represents a significant portion of paper that is placed on the market in the form of newspapers, office paper, magazines, books, coated and uncoated paper. Waste arising from non-packaging paper products mostly constitutes municipal waste and thus, is separately collected according to the separate collection systems set up according to the WFD.

To date, non-packaging paper is not regulated under a specific Union legislation, and the Union waste acquis does not mandate the establishment of an EPR scheme for non-packaging paper. However, should a Member State opt to set up such an EPR scheme, then the general requirements in Article 8 and 8a of the WFD apply.

France and the Netherlands have implemented EPR schemes that encompass both packaging and non-packaging paper. In France, the EPR framework originally focused on graphic paper separately, requiring producers to handle the collection, recycling, and disposal of materials like office paper, newspapers, and magazines. However, based on its initial experience with separate collection systems for non-packaging paper and packaging paper, France transitioned to a more integrated approach, combining management of both under a unified EPR scheme. Similarly, the Netherlands has in place a Packaging and Paper and Cardboard Management Decree which combines non-packaging paper and packaging paper, with the aim to enhance the separate collection, reuse, and recycling of packaging and paper/cardboard through an EPR scheme.

The local non-packaging paper market is estimated to be predominantly composed of micro enterprises, which account for 91.2% of the sector. Small enterprises represent 6.7%, followed by medium-sized firms at 1.6%, and large companies at 0.5%. The highest concentration of companies operates in the retail sale of newspapers and stationery in specialised stores.

In 2023, non-packaging paper imports totalled €122.6 million reflecting c. 19,600 tonnes, with the majority of imports, both in terms of value and volume, consisting of articles of paper pulp, paper, or paperboard. Non-packaging paper imports are projected to increase to €152 million in value and around 24,313 tonnes in quantity by 2030.

In addition, when assessing the non-packaging paper placed onto the local market, the fact that certain industries in Malta are export-oriented needs to be considered. In fact, in 2022 a total of 13,583 tonnes related to products with HS Codes which are relevant to this EPR scheme were exported, equivalent to 53.9% of imported tonnes of products with these HS Codes. For example, raw materials for banknotes may be imported under one HS code (4802), but the final product, classified under a different HS code (4907), is exported. In addition, certain raw materials for export-focused products like manuals for toy products or pharmaceutical inserts could not feature within the tonnage of exported non-packaging paper products but as part of the final product, i.e. toy products or pharmaceutical product. This discrepancy may inadvertently overestimate the imported non-packaging tonnage subject to EPR regulations,

Meanwhile, non-packaging paper waste in Malta has increased over the past five years from c. 5,900 tonnes in 2018 to c. 6,700 tonnes in 2022. Non-packaging paper waste is mainly collected from grey bags, which, according to the 2022 Characterisation Survey, consist of 13% non-packaging paper waste and 87% packaging waste. Moreover, non-packaging paper exported for reuse has seen a slight decrease from c. 21,000 in 2018 to c. 19,900 in 2022, indicating a need for increased efforts in waste reduction and recycling efforts.

When considering the various activities involved in the management of non-packaging paper waste due to the implementation of the EPR scheme, ranging from collection, sorting and transportation, to baling and export, and examining the associated costs and potential revenues generated, the potential EPR fee was estimated. The analysis in the feasibility study determined that the potential EPR fee per tonne placed on the market is projected to be around €74.83 which translates to around €0.075 per kilo.



The potential introduction of the EPR would be expected to create administrative challenges for both producers and PROs. Producers will need to pay the EPR fees and meet the required reporting standards and tracking product quantities, which may require new compliance systems. For PROs, managing the waste collection process, together with data collection, processing, and reporting, along with ensuring regulatory compliance and logistics oversight, may result in complex administrative structures and increased operational costs.

Based on assessment of EPR models for non-packaging paper, the CPR model stands out as the preferred option for Malta's potential EPR for non-packaging paper. Its operational efficiency, cost-effectiveness, and ease of implementation make it particularly well-suited to Malta's size and market. In addition, the feasibility study has concluded that integrating an EPR for non-packaging paper within Malta's existing EPR framework for packaging would be the most practical and efficient option for the potential implementation of an EPR framework for non-packaging paper. Leveraging the existing system would reduce implementation challenges and operational costs while addressing non-packaging paper waste in a cost-effective manner. Given Malta's limited tonnage of such waste, establishing a dedicated EPR system would likely be economically unfeasible.

This approach would also align with EPR principles by minimising the financial burden on producers, restricting costs to those necessary for effective waste management. Financing the system through contributions from non-packaging paper producers, alongside those already participating for packaging, would ensure fair cost distribution. Hence, such an integrated model would utilise existing infrastructure, streamlining processes and avoiding duplication, which is particularly suited to Malta's small size and market characteristics.

With producers potentially bearing the costs associated with the EPR scheme, it is anticipated that these expenses would likely be transferred to consumers and businesses in the form of higher prices for non-packaging paper. As discussed, the price increases are expected to not be substantial, which may not impact purchasing decisions or overall demand. Additionally, it is expected that the implementation of the EPR for non-packaging paper would lower the price of packaging paper, given that the waste management cost of non-packaging paper would be shifted to non-packaging paper producers, dampening the overall rise in non-packaging paper prices.

However, this increase in non-packaging paper costs would directly contribute to inflationary pressures, as higher input costs for goods generally lead to higher consumer prices. According to Eurostat, newspaper, books and stationery accounted for 0.68% of the total Harmonized Index of Consumer Prices (HICP) basket in 2023. Given this relatively small share, the estimated rise in non-packaging paper prices due to EPR implementation would be estimated to result in a 0.01% increase in the overall HICP, indicating that while the EPR does exert upward pressure on non-packaging paper prices, its broader impact on inflation would be negligible.

In addition, the potential implementation of the EPR scheme would aim to increase non-packaging paper recycling which would align with the municipal waste recycling targets in the Waste Regulations, S.L. 549.63, which transpose the Waste Framework Directive into Maltese law.

Introducing an EPR scheme for non-packaging paper in Malta would also shift the cost of managing non-packaging paper waste, away from the packaging producers. Currently, packaging producers bear the financial burden for both packaging and non-packaging paper waste, but with a separate EPR for non-packaging paper, producers of these materials would take on their share of the waste management costs, relieving packaging producers of paying such costs for non-packaging paper, resulting in an equitable allocation of relevant costs.

In conclusion, the successful implementation of a potential EPR scheme for non-packaging paper in Malta relies on more than just its establishment. Whilst the EPR would mandate regular reporting and independent audits of consumer education efforts, producers can be held accountable by requiring regular reporting on their consumer education efforts, such as detailing the scope, reach, and impact of their campaigns, with penalties for non-compliance to ensure widespread distribution and success of

the EPR scheme. Leveraging digital platforms like mobile apps and online portals would streamline effective waste management practices by helping consumers locate recycling points, schedule pickups, and access disposal information, thereby enhancing the efficiency, accountability, and transparency of the potential EPR system. Lastly, encouraging digital solutions would reduce demand for non-packaging paper, lowering production and waste, easing recycling system burdens, and supporting the potential EPR scheme's sustainability goals.

In conclusion, primarily considering the imbalance in the current system whereby packaging producers are covering the waste management costs of non-packaging paper, the introduction of an EPR scheme for non-packaging paper is deemed feasible on the condition that this is integrated with the current packaging EPR scheme. It will also be essential to ensure the cost effectiveness of waste management for this waste stream, and to minimise the administrative burden to be placed on producers in complying with the scheme.

# Study to assess the feasibility of expanding Extended Producer Responsibility (EPR) obligations to additional waste streams

Request for Service: SPD8/2023/149

## SECTION C: TEXTILES

December 2024



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# 1. Introduction

The Environment and Resources Authority (ERA), that is the competent authority responsible for the environment, is seeking to assess the feasibility to expand the Extended Producer Responsibility (EPR) obligations to additional waste streams. The implementation of an EPR scheme represents a significant shift in the management of product life cycle, aiming to enhance sustainability by making producers responsible for the end-of-life stage of their products.

In this regard, ERA issued a tender for the provision of Consultancy Services to undertake a Study to assess the feasibility of expanding Extended Producer Responsibility (EPR) obligations to additional waste streams for the Environment and Resources Authority (SPD8/2023/149). The tender was awarded to PwC Malta in May 2024. This report forms part of the reform measure C1R2 of the Recovery and Resilience Plan for Malta, Milestone 1.6 Study on the feasibility of expanding Extended Producer Responsibility obligations to additional waste streams.

## 1.1 Report Contents

This report focuses on the textile waste stream and contains the following sections:

- *Section 2 - Review of national and EU policies including best practices from other EU Member States:* In this section the European and national policies that provide the framework and context for EPR schemes for textiles are reviewed. This review assesses the alignment, coherence, and potential synergies between the proposed EPR initiative and the current legislative landscape. Whilst the EPR system for this waste streams is to be tailor made for Malta, in this section, international systems were assessed to identify best practices relating to EPR solutions from other EU Member States.
- *Section 3: PESTEL Analysis:* This section contains an analysis of the external factors influencing the introduction of an EPR scheme for this waste stream, including the political, economic, social, technological, environmental and legal factors.
- *Section 4: Market Study:* This section contains a stakeholder analysis providing an overview of the key players within the textiles sector, an analysis of the related products and the estimated volumes and values of products placed on the local market that may be relevant to EPR, together with an analysis of textile waste. In addition, this section also contains an analysis of the relevant market challenges, opportunities and risks.
- *Section 5 – Ex-Ante Assessment:* This section contains an assessment of the current waste management situation for textiles, the potential impact of the introduction of the EPR scheme and alignment with key legislative provisions and national policies and strategies, and other considerations such as the impact on economic operators.
- *Section 6 – Delineation of Policy Options:* This section outlines the options considered in relation to the potential products and economic operators subject to EPR regulations, together with the potential features of the potential EPR system, the related EPR fees and the potential options for waste management for this waste stream.
- *Section 7 –Options Appraisal:* This section assesses the options outlined in Section 6 and provides recommendations on the EPR model, the organisational model and related fees.
- *Section 8 – Assessment of potential key success factors:* This section provides additional considerations that need to be in place for an EPR scheme for this waste stream to be successful.
- *Section 9 – Financial Analysis:* This section provides an analysis on the estimated costs and potential revenue related to the waste management of this waste stream, and the likely EPR fee which would need to be paid by the producers of this waste stream.
- *Section 10 – High Level Economic Impact Assessment:* This section assesses the high-level economic impacts from the introduction of an EPR scheme for this waste stream.

- *Section 11 – Conclusion:* This section provides the conclusion of the Study.

## 1.2 Methodology

The results of the study are based on the following activities which were carried out:

- Analysis of relevant EU and national legislation and policies;
- Desk-based research on EPR schemes adopted by other member states;
- Analysis of import and export data obtained from Eurostat and the National Statistics Office;
- Analysis of data relating to the economic operators within the relevant sectors obtained from the National Statistics Office;
- Analysis of collection data related to waste management for this waste stream obtained from Wasteserv and ERA;
- Consultations with economic operators within the relevant sectors through meetings carried out with members of The Malta Chamber and the Malta Chamber of SMEs;
- Consultations with the Producer Responsibility Organisations for other waste streams subject to an EPR scheme;
- Consultations with the key waste management operators for this waste stream, with a view to understanding the costs related to this waste stream; and
- Financial and economic analysis based on the assumptions gathered through stakeholder consultations and published financial information.

In conducting this feasibility study, data was gathered through consultations with key stakeholders in the industry, market research, and publicly available information. While the work has involved analysis of financial information, it has not included an audit in accordance with generally accepted auditing standards. Moreover, except where otherwise stated in the Report, the information in the Report has not been subjected to checking or verification procedures. Accordingly, no responsibility is being assumed and no representations are being made with respect to the accuracy or completeness of any information received, except where otherwise stated herein, and no assurance is given.

Some of the text in this report has been redacted to ensure that any data which may be commercially sensitive or confidential is not visible.



## 2. Review of national and EU policies including best practices from other EU Member States

### 2.1 National and EU Policies

The implementation of an Extended Producer Responsibility (EPR) scheme represents a significant shift in the management of product life cycles, aiming to enhance sustainability by making producers responsible for the end-of-life stage of their products. In this section we review the European and national policies that provide the framework and context for EPR schemes for textiles. This review assesses the alignment, coherence, and potential synergies between the proposed EPR initiative and the current legislative landscape. By examining relevant Directives, regulations and strategies at both the national and EU levels, this section aims to identify the key policy drivers, existing gaps, and potential challenges that could influence the successful implementation of an EPR scheme. Additionally, this review explores how existing policies can be leveraged to support EPR scheme's goals and how the proposed EPR measures can contribute to broader environmental and economic objectives, such as the EU's Circular Economy Action Plan and national sustainability agendas.

#### 2.1.1 Waste Framework Directive (EU Directive 2008/98EC)

The Waste Framework Directive (WFD) outlines fundamental principles and definitions for waste management. It clarifies the conditions under which waste stops being classified as waste and becomes a secondary raw material. It mandates that waste must be managed in a way that does not jeopardise human health or damage the environment. The WFD aims to improve resource efficiency and promote a circular economy where materials are kept in use for as long as possible.

The WFD is established on a waste hierarchy prioritising waste prevention, reuse, recycling, and recovery before disposal as shown in Figure 1<sup>1</sup>. The waste hierarchy is the foundation of the European waste policies and legislations. The scope of the hierarchy is to reduce negative environmental impacts which result from waste and in turn maximise the use of resources efficiently.



Figure 1: Waste hierarchy

Other key principles enshrined in the WFD are the polluter pays principle and the EPR. The polluter pays principle, which is a key environmental policy concept, stipulates that those who generate waste should bear the costs associated with its management and disposal. The second economic instrument introduced by the WFD is EPR, which is one way to implement the polluter-pays principle. EPR schemes embody a set of measures adopted by the member state such that the producer of products bears either the financial responsibility or both the financial and organisational responsibility associated with the management of the product at its end of life i.e., at its waste stage. This would entail producers to at a minimum financially support the collection, separation and sorting, and treatment operations. The producers are to fulfil their obligations either individually or collectively. Effectively, the costs paid

<sup>1</sup> European Commission. Environment – Waste Framework Directive. Accessed 26<sup>th</sup> September 2024 at: [https://environment.ec.europa.eu/topics/waste-and-recycling/waste-framework-directive\\_en](https://environment.ec.europa.eu/topics/waste-and-recycling/waste-framework-directive_en)

by the producer will reflect the cost of managing that waste whilst simultaneously reducing the financial cost which would have been borne by the public authorities and the taxpayers.

Nevertheless, EPR schemes encourage producers to consider the entire lifecycle of their products, leading to more sustainable product designs and reduced environmental impact. Hence, producers are encouraged to minimise waste by designing products that are durable, repairable, and recyclable potentially eliminating unnecessary waste. This would lead EPR schemes to meet the targets of recycling and recovery stipulated by the WFD by ensuring that producers contribute to the collection, recycling, and recovery of their products at the end of their lifecycle.

The current upcoming targets for EU countries to comply with the objectives of the WFD are as follows:

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

The above-mentioned targets are coupled with a set of mandatory calculation rules, which *inter alia* clarify the point at which recycled waste is to be measured. As part of the standing rules, Member States can report the amount of waste exported from the Union for recycling if the conditions established in the EU Waste Shipment Regulation are fulfilled.

In terms of Malta's status when it comes to these targets, in 2023, the European Commission published an early warning report<sup>2</sup> which identified Malta as being at risk of not meeting the 2025 target of 55% for the preparing for re-use and the recycling of its municipal waste.

The national Waste Regulations (S.L. 549.63) transpose the provisions of the WFD into Maltese national law including the preparing for re-use and recycling targets of municipal waste. In 2023, mandatory waste separation for paper, metal, plastic, glass, and bio-waste was introduced through this legislation for households and businesses. The Waste Regulations specify that waste which has undergone a recycling or other recovery operation is considered to have ceased to be waste if it complies with the following criteria:

- (a) The substance or object is to be used for specific purposes;
- (b) A market or demand exists for such a substance or object;
- (c) The substance or object fulfils the technical requirements for the specific purposes and meets the existing legislation and standards applicable to products; and
- (d) The use of the substance or object will not lead to overall adverse environmental or human health impacts.

Moreover, the legislation specifies that any natural or legal person intending to carry out recycling or other recovery operations in which waste ceases to be waste needs to obtain a permit from the Environment and Resources Authority, prior to any transfer of the resulting material.

The Waste Regulations (S.L. 549.63) also stipulate that without prejudice to regulation 4(3) of the EPR Framework Regulations, in accordance with the polluter-pays principle, the costs of waste management, including for the necessary infrastructure and its operations, shall be borne by the original waste producer or by the current or previous waste holders depending on who has the duty of care for the waste in accordance with the provisions of this regulation.

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<sup>2</sup><https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52023SC0195#:~:text=Based%20on%20an%20analysis%20of,65%25%20of%20its%20packaging%20waste.>

## Implementing an EPR on Textiles

Household textile and apparel clothing make up the largest share of the EU's textile consumption which has led it to become the largest source of over production and overconsumption<sup>3</sup>. Given the difference in policies across Member States coupled with the complex nature of textiles due to different composition of its waste, the transition to a circular economy within the textile industry has been hampered. In addition, poor recycling infrastructure and insufficient sorting facilities are both key factors that together are likely to lead to textile waste not being treated in accordance with the waste hierarchy as defined in the WFD<sup>4</sup>. Both the Circular Economy Action Plan (CEAP)<sup>5</sup> and the EU Strategy for Sustainable and Circular Textiles<sup>6</sup> call for fast, necessary, and enforced actions that are required to shift away from the current system of design, produce, use and discard textile products i.e., used textiles, textile-related and footwear products.

The system at present can be described as having a linear approach which has satisfied the demands of fast fashion. In order to shift from a linear to a circular economy, this strategy turns towards making producers responsible for the waste that their products generate. Hence, the EU Commission proposed a focused amendment to the WFD on textile waste. The proposal<sup>7</sup> aims to foster a circular and sustainable management system for textile waste aligning with the said EU Strategy for Sustainable and Circular Textiles by introducing EPR obligations for textiles. The EPR obligations for textile, textile-related and footwear products are aimed at ensuring a strong level of environmental and health protection within the EU by creating an economy for collection, sorting, re-use, and also to prepare for re-use and recycling. Moreover, an EPR scheme obliges producers to manage the entire lifecycle of their products, particularly at the end of their use.

The General Approach on the Proposal for a Directive of the European Parliament and of the Council amending Directive 2008/98/EC on waste defines 'producer of textile, textile-related and footwear products listed in Annex IVc' as any 'manufacturer, importer or distributor or other natural or legal person excluding those that supply used textile, textile-related and footwear products listed in Annex IVc assessed as fit for re-use and textile, textile-related and footwear products listed in Annex IVc derived from such used or waste products or their parts on the market, and self-employed tailors producing customised products, who, irrespective of the selling technique used, including by means of distance contracts as defined in Article 2(7) of Directive 2011/83/EU of the European Parliament and of the Council.' Under this proposal, producer's financial contributions will be determined by the circularity and environmental performance of their textile products, a concept known as "eco-modulation".

According to the current WFD, Member States must establish separate textile collection systems by January 1, 2025. To achieve this, it is necessary to enhance the EU's capacity for separate collection, sorting, reuse, and recycling which will require substantial investments in infrastructure and the development of new technological solutions.

Currently there are three documents that will be discussed during the Trilogue process which officially starts in September 2024. These documents include:

1. The proposal by the European Commission published on 5<sup>th</sup> July 2023<sup>8</sup>;
2. The European Parliament Mandate which proposes amendments to the Commission Proposal as the result of discussion between the Members of the European Parliament<sup>9</sup> ; and
3. The text of the General Approach on the Proposal for a Directive of the European Parliament and of the Council amending Directive 2008/98/EC on waste, which was approved by the Council (Environment) at its 4032<sup>nd</sup> meeting held on 17 June 2024<sup>10</sup>.

<sup>3</sup> <https://data.consilium.europa.eu/doc/document/ST-11300-2024-INIT/en/pdf>

<sup>4</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52023PC0420>

<sup>5</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1583933814386&uri=COM:2020:98:FIN>

<sup>6</sup> [https://environment.ec.europa.eu/publications/textiles-strategy\\_en](https://environment.ec.europa.eu/publications/textiles-strategy_en)

<sup>7</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52023PC0420&qid=1707729490112>

<sup>8</sup> [https://environment.ec.europa.eu/publications/proposal-targeted-revision-waste-framework-directive\\_en](https://environment.ec.europa.eu/publications/proposal-targeted-revision-waste-framework-directive_en)

<sup>9</sup> [https://www.europarl.europa.eu/doceo/document/TA-9-2024-0145\\_EN.pdf](https://www.europarl.europa.eu/doceo/document/TA-9-2024-0145_EN.pdf)

<sup>10</sup> <https://data.consilium.europa.eu/doc/document/ST-11300-2024-INIT/en/pdf>

A final compromise text should be reached between the European Council and the European Parliament in the first semester of 2025 during Trilogue stage. Therefore, it is expected to enter into force in the second-half of 2025, after which Member States will have 12 to 24 months to transpose into the national legislation, depending on the outcome of Trilogue negotiations.

The proposed amendment also contains new requirements for shipments of used textiles as product, complementing the EU Waste Shipment Regulation<sup>11</sup>. Shipments of used textiles, textile-related items, and footwear assessed as fit for reuse must include documentation proving that they result from a sorting or reuse preparation process and confirming their suitability for reuse. The objective is to ensure that only textiles fit for direct reuse are shipped outside the legal framework of the Waste Shipment Regulation. Accordingly, separately collected used textile, textile-related and footwear products should undergo proper sorting prior to their shipment for them to be shipped as product.

Effectively this would mean all separately collected used textile, textile-related and footwear items are regarded as waste upon collection and subject to the EU's waste regulations, including the shipments of waste, until these have undergone a sorting operation for re-use and recycling. However, used textiles that are directly handed over by end users and directly professionally assessed as fit for reuse are not considered to be waste. Furthermore, sorting should adhere to harmonised standards that produce high-quality, reusable fractions meeting the demands of second-hand textile markets in the EU and globally. This involves setting criteria to differentiate between used goods deemed fit for reuse and waste.

In addition, Producer Responsibility Organisations (PROs) and social economy entities should report on the export of waste textiles, textile-related products, and footwear, and the export of used textiles, textile-related products, and footwear assessed as fit for reuse as a means to also understand the textile value chain. In line with the General Approach, Member States are allowed to exempt social economy entities from reporting obligations, partly or wholly, where the fulfilment of such obligations cause disproportionate administrative burden on such entities. PROs are required to ensure that waste exported outside the EU is managed in facilities that meet high environmental standards. Moreover, this reporting enables Member States to monitor these exports and gain a better understanding of the textile value chain.

As part of the proposed general approach, social economy entities play a vital role in an EPR system. The proposal aims to aid these entities through the following provisions:

1. **Equal or preferential treatment in collection points:** Social economy entities will be allowed to operate their own textile collection points. They will receive equal or preferential access to locations for these points, ensuring adequate visibility and accessibility.
2. **Collaboration in collection systems:** PROs will work alongside social economy entities to establish a coordinated collection system. This will ensure a comprehensive network of collection points, including areas that may be less commercially attractive.
3. **No mandatory handover of collected textiles:** Social economy entities will not be required to transfer collected textile waste to PROs. They will retain full control over the textiles and can choose to reuse, prepare for reuse, or recycle the materials based on their capabilities and objectives.
4. **Reporting obligations:** Social economy entities managing collection points will be required to submit annual reports outlining the volume of textiles collected, the proportion of unsold goods, and the share of materials prepared for reuse, recycling, or recovery. Small entities may be exempt from these requirements if reporting imposes an excessive administrative burden.
5. **Support for collection and transport costs:** PROs will be responsible for covering the costs associated with collecting and transporting textile waste from social economy entities.

The proposal aims to encourage research and development in innovative technologies that enhance circularity within the textile sector so as to incentivise producers that design their products to respect the principles of circularity. Irrespective of the selling technique opted for, any manufacturer, importer or distributor that make such products available, for the first time on the market, are subject to an EPR

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<sup>11</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32024R1157>

scheme. Nevertheless, the proposed amendment to the WFD excludes certain economic operators who might qualify as producers from being subject to an EPR scheme, namely self-employed tailors who produce customised textile products and also those economic operators who make available on the market used textiles assessed as fit for reuse and other end-of-waste textiles.

The producers of textiles, textile-related, and footwear products are to cover the costs of collection, transportation, sorting for re-use, preparing for re-use and recycling, and also the costs of recycling and any other treatment necessary. In addition to covering the costs, producers are to be responsible for setting up collection systems that are required to collect the waste textile, textile-related and footwear products whilst also ensuring that eventually the collected items undergo re-use, some element of preparation to be re-used or recycling such that prevention of waste is prioritised.

For the EPR scheme for textiles to achieve its expected targets, the EU established the list of textile products<sup>12</sup> that any producer of such items that are being made available on the market for the first time, are subject to an EPR scheme. The products listed cover a range of textile, textile-related, and footwear items namely clothing and accessories, curtains, hats, carpets, bed linen, and footwear. In this regard, the General Approach differs from the Commission proposal in so far as the products in scope are not limited to household textiles, but also cover those textiles used for other uses where such products are similar in nature and composition to those for household use. The list itself, categorised using the Combined Nomenclature (CN) system, is split into two tables. Table 1 describes the textile products and textile articles of apparel and clothing accessories whereas Table 2 describes the footwear and articles of apparel and clothing accessories of which their main composition is not textile but fall within scope of an EPR scheme for textile, textile-related and footwear products, nonetheless.

*Table 1: Textile products, and textile articles of apparel and clothing accessories.*

<b>CN CODE</b>	<b>Description</b>
61 – all listed codes within chapter	Articles of apparel and clothing accessories, knitted or crocheted
62 – all listed codes within chapter	Articles of apparel and clothing accessories, not knitted or crocheted
6301	Blankets and travelling rugs (except 6301 10 00)
6302	Bed linen, table linen, toilet linen and kitchen linen
6303	Curtains (including drapes) and interior blinds; curtain or bed valances
6304	Other furnishing articles, excluding those of heading 9404
6500	Worn clothing and other worn articles
6504	Hats and other headgear, plaited or made by assembling strips of any material, whether or not lined or trimmed
6505	Hats and other headgear, knitted or crocheted, or made up from lace, felt or other textile fabric, in the piece (but not in strips), whether or not lined or trimmed; hairnets of any material, whether or not lined or trimmed

<sup>12</sup>[https://environment.ec.europa.eu/system/files/2023-07/ANNEX%20to%20the%20Directive%20of%20the%20European%20Parliament%20and%20of%20the%20Council%20amending%20Directive%202008\\_98\\_EC%20on%20waste\\_COM\\_2023\\_420.pdf](https://environment.ec.europa.eu/system/files/2023-07/ANNEX%20to%20the%20Directive%20of%20the%20European%20Parliament%20and%20of%20the%20Council%20amending%20Directive%202008_98_EC%20on%20waste_COM_2023_420.pdf)

Table 2: Footwear, and articles of apparel and clothing accessories whose main composition is not textile.

CN CODE	Description
4203	Articles of apparel and clothing accessories, of leather or composition leather (excl. footwear and headgear and parts thereof, and goods of chapter 95, e.g. shin guards, fencing masks)
6401	Waterproof footwear with outer soles and uppers of rubber or of plastics, the uppers of which are neither fixed to the sole nor assembled by stitching, riveting, nailing, screwing, plugging or similar processes
6402	Other footwear with outer soles and uppers of rubber or plastics
6403	Footwear with outer soles of rubber, plastics, leather or composition leather and uppers of leather
6404	Footwear with outer soles of rubber plastics, leather or composition leather and uppers of textile materials
6405	Other footwear

### 2.1.2 Landfill Directive (EU Directive 2018/850/EC)

Landfilling, as described by the EU's waste hierarchy, is the least favourable disposal method of waste and should be limited to the necessary minimum. Other than the dangerous impacts that landfilling has on both humans and the environment, namely the production of methane gas, materials which are recyclable are lost from the European economy due to landfilling. The legal framework for the landfill of waste falls under Directive (EU) 2018/850/EC of the European Parliament and of the Council of 30 May 2018 amending Directive 1999/31/EC.

The aim of this Directive is to ensure a progressive reduction in the landfilling of waste, especially waste that can be recycled or otherwise recovered. It also aims to establish measures, procedures, and guidelines to prevent or minimise negative environmental impacts. Under these regulations, by 2035, the amount of municipal waste landfilled by Member States should be reduced to 10% or less of the total amount of municipal waste generated (by weight).

Moreover, as of 2030, Member States shall endeavour to ensure that waste that is suitable for recycling or other material or energy recovery should not be accepted at landfills whilst separately collected waste which has been collected for preparing for reuse and recycling cannot be landfilled.

This directive is essential to one of the fundamental scopes of an EPR scheme i.e., to deviate waste from the landfill and reintroduce the waste into the market as a different or new product. According to the European Environment Agency's early warning assessment for Malta<sup>13</sup>, published in June 2022 but based on 2020 data, Malta's landfilling rate has remained very high and concluded that Malta is at risk for not meeting the 2035 target. As of 2021, Malta's municipal waste landfill rate is the highest in the EU as shown in Figure 2<sup>14</sup>.

<sup>13</sup> <https://www.eea.europa.eu/publications/many-eu-member-states/malta/view>

<sup>14</sup> <https://www.eea.europa.eu/en/analysis/indicators/diversion-of-waste-from-landfill>



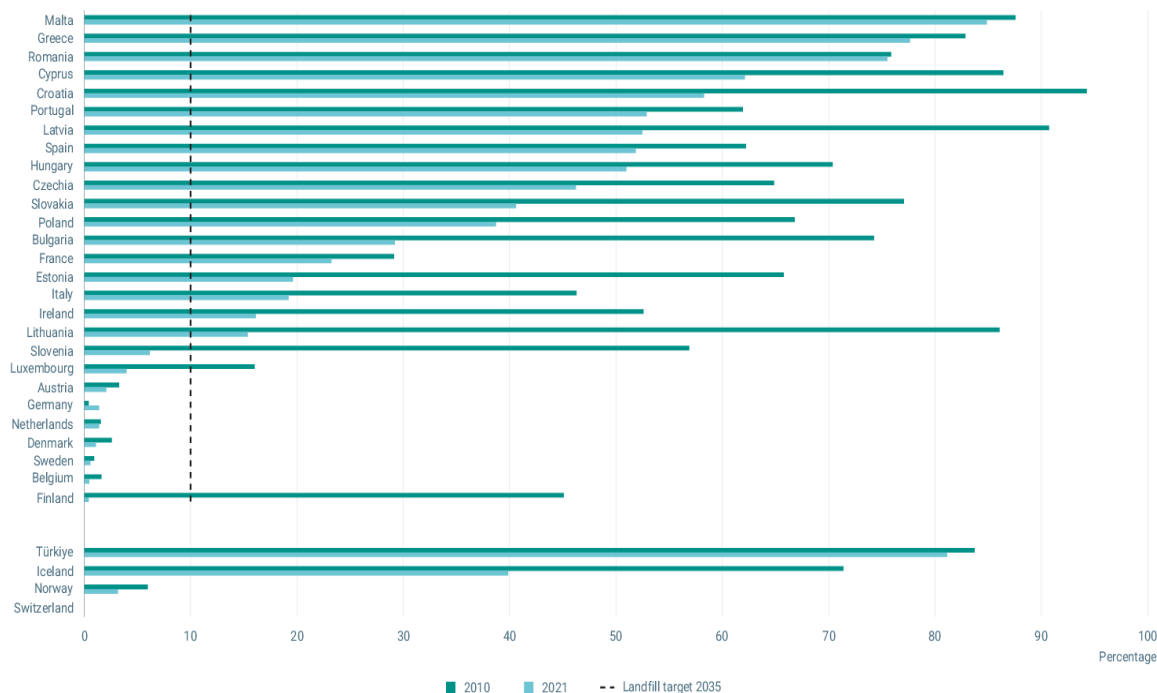


Figure 2: Municipal waste landfill rates by EU countries

There are three classes of landfills which are permitted, i.e. hazardous waste, non-hazardous waste and inert waste. The regulations specify which type of waste can be accepted at the three different landfills, as well as which waste streams cannot be accepted at landfills.

The type of non-hazardous waste that can be landfilled at a non-hazardous waste landfill include:

1. Municipal waste.
2. Non-hazardous waste of any other origin, which fulfils the criteria for the acceptance of waste at landfill for non-hazardous waste set out in accordance with Schedule 2 of this regulation.
3. Stable, non-reactive hazardous waste (e.g. solidified vitrified), with leaching behaviour equivalent to those of the non-hazardous wastes referred to in paragraph (b) which fulfils the relevant acceptance criteria set out in accordance with Schedule 2 of this regulation. These hazardous wastes shall not be deposited in cells destined for biodegradable non-hazardous waste.

The national Waste Management (Landfill) Regulations (S.L.549.29) regulate landfills and their impact, transposing the provisions of the EU Landfill Directive 2018/850. The Landfill Regulations provide measures, procedures and guidance with the goal of preventing or reducing as far as possible the adverse impacts of waste on the environment and on human health. The regulations also establish what information is necessary within an operating permit for a landfill site. Currently in Malta there are no permitted hazardous waste landfills and inert waste landfills. The only active permitted landfill is a non-hazardous landfill situated at Għallis limits of Magħtab, Malta.

As per the Waste Regulations (S.L. 549.63), textile waste falls under the definition of municipal waste. Hence, whilst separately collected textiles cannot be accepted at the national landfill (with the exception of rejects for which landfilling is the best environmental option) as per regulation 6(1) of S.L. 549.29, certain textile waste disposed of as mixed municipal waste is currently being landfilled. In this context, regulation 6(2) of the Landfill Regulations (S.L. 549.29) stipulates that, by 2030, the Competent Authority shall endeavour to ensure that waste suitable for recycling or other recovery, in particular municipal waste, shall not be accepted at a national landfill with the exception of rejects for which landfilling is the best environmental option.



### 2.1.3 Ecodesign for Sustainable Products Regulation (EU 2024/1781)

The Ecodesign for Sustainable Products Regulation (ESPR), effective from July 18, 2024, stands as a pivotal component of the EU Commission's strategy towards more environmentally sound and circular products. The ESPR replaces the existing Ecodesign Directive 2009/125/EC and creates a framework for establishing ecodesign requirements for specific product categories. As part of a comprehensive set of measures aligned with the 2020 Circular Economy Action Plan, the ESPR plays a crucial role in advancing the EU's environmental and climate objectives. It aims to double the rate of material use circularity and help achieve energy efficiency targets by 2030.

The impact of products and their usage on the environment can be profound, with consumption within the EU being a significant contributor to climate change and pollution. The ESPR operates as framework legislation, indicating that specific rules for products will be established gradually, either individually or collectively for groups of products sharing similar traits.

The process initiates with a prioritisation phase, followed by the publication of a working plan outlining the products and actions to be covered under the ESPR within a specified timeframe. Subsequently, the development of product rules commences, guided by comprehensive planning, detailed impact assessments, and ongoing consultation with stakeholders through an Ecodesign Forum.

The regulation allows for the implementation of performance and information standards, known as 'ecodesign requirements,' for nearly all types of physical goods, with some exceptions like food and feed as outlined in Regulation 178/2002. These requirements aim to:

- Enhance product durability, reusability, upgradability, and reparability
- Improve energy and resource efficiency
- Address the presence of substances that hinder circularity
- Increase the use of recycled materials
- Facilitate easier remanufacturing and recycling
- Establish rules regarding carbon and environmental footprints
- Enhance the availability of information on product sustainability

The ESPR includes a number of other new measures such as a digital product passport, rules to address destruction of unsold consumer products and green public procurement.

The Regulation mandates that in the first working plan, which shall be adopted by 19 April 2025, the Commission is to prioritise textiles, in particular garments and footwear and tyres amongst other product groups. To keep the public and stakeholders informed about the plans under the ESPR, the Commission will adopt and regularly update working plans that detail the products and measures to be assessed. This initial plan will cover a period of at least three years.

The development of eco-design requirements includes preparatory studies, impact assessments and consultation with stakeholders. Preparatory work, for certain products, such as textiles or steel, has already begun, whilst the work on other prioritised products and potential measures will be after the adoption of the first working plan.

### 2.1.4 Transboundary Movements of Waste

At a global level, transboundary movements of hazardous and other wastes is governed by the Basel Convention<sup>15</sup>. Parties to the Convention are committed to ensuring the environmentally sound management of the waste they generate. The Convention establishes a regulatory system known as the 'Prior Informed Consent Procedure', whereby all countries involved in a planned transboundary movement of waste are to provide their written consent before that movement is allowed to start. The Convention applies to hazardous waste and to four types of non-hazardous waste defined as "other wastes" – namely household waste as collected, incinerator ash, certain plastic wastes, and non-hazardous electronic and electrical wastes (the latter as from 1<sup>st</sup> January 2025).

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<sup>15</sup> Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal

The controls of the Convention do not apply to the non-hazardous, “green” waste categories listed in Annex IX. Textile wastes can be classified under the green-listed code B3030 and B3035.

The provisions of the Basel Convention and the OECD Decision C(2001)107/FINAL on the Control of Transboundary Movements of Wastes Destined for Recovery Operations are implemented in the European Union through the Regulation (EC) No 1013/2006 on shipments of waste (i.e. the WSR)

The WSR governs the transboundary movement of waste within, into, and out of the EU. The regulation aims to ensure that waste is managed in an environmentally sound manner during transport and that it does not pose risk to human health or the environment. This involves preventing illegal dumping, improper handling, and ensuring that waste is sent to facilities that can manage it safely.

In addition to the waste covered by the Basel Convention, the WSR also covers shipments of “green-listed” waste. The control regimes in the WSR depends on the origin, destination, route of the shipment, the nature of the waste (e.g. hazardous, “green-listed” non-hazardous, etc.) as well as the intended fate (i.e. whether it is for disposal or recovery).

The two main procedures for shipments of waste established under the WSR are:

- *Prior notification and consent*, which applies to wastes destined for disposal, and to hazardous wastes, “other waste” and unlisted non-hazardous waste destined for recovery; and
- *General information requirements*, which generally applies to shipments of “green-listed” wastes destined for recovery.

Exports destined for recovery of certain green-listed wastes to certain non-OECD Countries are also subject to Commission Regulation (EC) No 1418/2007.

Waste exporters and importers have specific obligations, including ensuring that waste is appropriately classified, providing necessary documentation, and complying with the conditions set out by the authorities. The notification and consent procedure, along with the general information requirements, provide a clear paper trail for waste shipments. This traceability ensures that authorities can monitor waste flows and take action against illegal activities.

Recently, the EU updated and modernised its waste shipment rules through Regulation (EU) 2024/1157 on shipment of waste. The new Regulation on waste shipments was adopted on April 11, 2024, and came into effect on May 20, 2024. Its objectives are to:

- Prevent the EU from offloading its waste issues onto third countries and promote environmentally responsible waste management.
- Enhance enforcement measures to stop illegal waste shipments within the EU and from the EU to other countries.
- Improve the traceability of waste shipments within the EU, facilitating recycling and reuse.

The provisions of the new Regulation will apply in a progressive manner, to allow for the development of an electronic system for the exchange of documents related to shipments of waste and to allow stakeholders to adapt:

- As from May 2026, (mainly for intra EU shipments), the Prior-Informed Consent (PIC) and the Annex VII procedures shall be digitalised together with other shipment procedures with the use of a central EU electronic system;
- As from 20 May 2024, waste exportation to OECD countries which is observed to undergo a trend will be monitored by the Commission. This could lead to the possibility of the exportation being suspended if proper treatment and management is not guaranteed;
- As from May 2027, for all exports outside of the EU, the exporter must carry out or commission independent audits or acquire the outcome of audits carried out by other EU exporters or commissioned by the receiving facility for waste destined to facilities outside the EU;

As from May 2027, exports of non-hazardous waste from the EU to non-OECD countries will only be permitted if these countries notify the European Commission of their willingness to accept the waste and demonstrate their capability to manage it sustainably. The regulation maintains bans on exporting waste for disposal to OECD and non-OECD countries and hazardous waste for recovery to non-OECD countries.

The EU Waste Shipment Regulation is implemented in Malta through S.L. 549.65, the Waste Management (Shipment of Waste) Regulations.

Producers under EPR schemes must ensure that the waste they collect and manage, particularly for recycling or disposal, complies with the EU Waste Shipment Regulation when transported across borders. The effect of the above mentioned measures, might result in national exporters needing to re-route waste shipments to EU Member States in order to ensure compliance with these measures.

Given that the EU Waste Shipment Regulation mandates detailed documentation and tracking of waste shipments to provide transparency and traceability, EPR schemes benefit from this by being able to monitor the flow of waste to ensure it reaches the appropriate facilities. EPR schemes often require producers to report on the quantities and types of waste collected and processed. Compliance with the EU Waste Shipment Regulation helps ensure accurate reporting and tracking of waste movements.

By ensuring compliance with these regulations, EPR schemes contribute to reducing such risks. Compliance with the EU Waste Shipment Regulation can impact the costs associated with waste management under EPR schemes. Understanding the regulations and requirements of the Waste Shipping Regulation allows EPR schemes to plan and execute more efficient waste management strategies, ensuring that waste is moved and treated in the most effective way possible.

### 2.1.5 Extended Producer Responsibility Framework Regulations (S.L. 549.141)

In 2021, the Extended Producer Responsibility Framework Regulations (S.L. 549.141) were adopted in Malta. This transposed articles 8 and 8a of the amended WFD. The core objective of the regulations is to provide a framework for EPR schemes, including those EPR schemes that Malta might set up for products for which EPR is not mandated by virtue of Union law.

To enhance waste prevention, recycling, and recovery, the Minister is authorised to implement legislative or non-legislative actions requiring producers to take extended responsibility for their products. In doing so, the technical feasibility, economic viability, and the environmental, health, and social impacts must be considered to ensure that the internal market functions properly. This responsibility does not override existing waste management obligations or specific waste-related laws.

The regulations stipulate that when EPR is introduced, producers must cover the full cost of waste management, with distributors possibly sharing these costs. If such responsibility schemes are established, the roles and responsibilities of all involved parties must be defined, including producers, waste operators, and local authorities. Additionally, waste management targets aligned with existing regulations must be set, along with a reporting system to track products placed on the market and the corresponding waste management activities. The framework ensures equal treatment of producers, avoiding undue regulatory burdens, particularly on small enterprises. Producers based in other EU Member States can appoint a representative in Malta to fulfil their obligations under these schemes, provided they meet the Authority's requirements.

The Minister, with input from relevant bodies, may require producers who manage their products' waste stages to adhere to the framework's regulations. The Authority must also ensure that waste holders are informed about prevention measures, collection systems, and the importance of proper waste disposal, with incentives provided to encourage compliance. The Minister may promote the design and production of products that reduce environmental impact, generate less waste, and facilitate reuse and recycling. These measures will consider the entire lifecycle of products and the potential for multiple recycling, supporting the implementation of the waste hierarchy.

The regulations highlight the producer's key role to design products for easier recycling, disassembly, and safe disposal. This includes using materials that are less harmful to the environment and ensuring that products can be effectively dismantled at the end of their life. Moreover, the regulations emphasise how producers must establish or participate in a waste collection system to facilitate the collection and

proper disposal of used products. The waste collection systems are to be appropriately available within the geographical area in which the product is defined. These schemes are essential for ensuring that products are returned for recycling or safe disposal.

The regulations establish the producers' financial responsibility for the entire lifecycle management of their products, including the costs of collection, transportation, and treatment. Whilst this is the minimum requirement for a producer, producers may extend their responsibility into both financial and organisational to meet their EPR obligations.

In addition, the costs paid by the producer is to cover costs associated with providing necessary information to waste holders, as well as, costs necessary to gather data and report. The fee paid by producers is to not exceed the true cost that is required to provide a cost-efficient waste management service. Moreover, depending on the individual product, fees can be modulated by taking into account the nature of the product such as its durability, repairability, re-usability, and recyclability. Furthermore, producers are bound to provide information to the public on how they expect to attain their waste management targets.

### 2.1.6 Long Term Waste Management Plan 2021 – 2030

The Long-Term Waste Management Plan for Malta 2021-2030<sup>16</sup>, issued by the Ministry for the Environment, Climate Change and Planning (MECP), acknowledges the necessity for Malta to shift from a "consume and throw away" mentality to a more resource-efficient circular economy. The plan outlines multiple strategic objectives. However, the one of key interest is to study the feasibility of an enhanced producer responsibility framework to support Malta's transition to a circular economy and better reflect the true cost of waste management.

The plan states that to support Malta's transition to a more resource-efficient and circular economy, it is essential to ensure that any waste generated is treated efficiently and effectively. This approach aims to minimise the environmental impact while maximising the potential of waste as a resource. The plan stipulates that this goal will be achieved through improving existing EPR frameworks to create a level playing field and ensure that producers bear the costs of waste management and by extending EPR obligations to additional waste streams following feasibility studies.

In the Plan, the Government proposed conducting a feasibility study to evaluate current practices and explore the necessity of establishing an EPR scheme for textiles, and potential alternative and/or additional measures (WMRO\_EPR28). This study should identify suitable methods for addressing waste textiles, where applicable, with the ultimate goal to move the management of textiles higher-up the waste hierarchy.

### 2.1.7 Recovery and Resilience Plan

The Recovery and Resilience Facility was proposed by the European Commission in May 2020 to be at the heart of NextGenerationEU which is a unique opportunity at structural transformation in EU Member States. The aim of this Facility is to provide grants and loans to support reform and investment packages, aimed at addressing short -to-medium impact which had been brought about by the Covid-19 pandemic. Member States have put forward their structural reforms and public investment packages in their national Recovery and Resilience Plans (RRPs). In addition, the measures listed in the RRP of the respective nations are to ease and accelerate the green and digital transition.

One of the components in Malta's RRP<sup>17</sup> is to address climate neutrality through enhanced energy efficiency, clean energy, and circular economy. In this regard, Reform C1-R2 relates to 'Fostering effective waste management through a robust waste governance framework including reforming the waste collection system'. To enhance the circular economy in Malta, EPR schemes are considered highly effective. As a result, Malta has chosen to assess the feasibility to extend the EPR obligations to additional waste streams. This is reflected in Milestone 1.6 which consists of the publication of a study on the feasibility of expanding EPR obligations to additional waste streams beyond those which had already been implemented. The RRP addresses textiles directly in Milestone 1.6 as one of the waste streams that is to be assessed through a feasibility study on the introduction of EPR. Milestone 1.7

<sup>16</sup> <https://era.org.mt/wp-content/uploads/2022/02/Long-Term-Waste-Management-Plan-v1.4.3-Spreads-Digital-Version.pdf>

<sup>17</sup> <https://fondi.eu/wp-content/uploads/2023/11/Malta-Recovery-and-Resilience-Plan-2023-7.11.2023.pdf>

builds on Milestone 1.6 whereby it relates to the entry into force of legislation deemed applicable by the outcomes of Milestone 1.6, expanding the EPR obligations to new waste streams.

## 2.2. EPR Practices in EU Member States

Whilst the EPR system for the waste streams is to be tailor made for Malta, international systems were assessed to identify best practices relating to EPR solutions from other EU Member States. The examples provided were obtained through a literature review and include the textile EPR schemes implemented in France and in the Netherlands.

In 2020, 121 million tonnes of CO<sub>2</sub> were generated from the production of textiles<sup>18</sup>. The EU generates 12.6 million tonnes of textile waste per year or 12 kg of waste per person every year<sup>19</sup>. The Waste and Resource Action Programme (WRAP), a climate action non-governmental organisation (NGO), summarised the proliferation of EPR systems for the textile waste stream in their report published in January 2024. The NGO assessed and summarised the scope, status, and fees of EPR schemes across the world which can be seen in Table 5<sup>20</sup>.

WRAP highlighted how the environmental impact of textiles is significant but EPR practices for textiles have been relatively uncommon for this waste stream. France has the only well-established EPR system for textile worldwide. This is expected to change during the next decade as the necessity of an EPR for textiles becomes clearer and textiles EPR systems begin to emerge.

Table 3: Overview of textile EPR systems worldwide

Country	Status	Scope	EPR Fee
France	Active	Clothing, footwear, and household textiles	Average: €0.01 per unit Maximum: €0.06 per unit
Netherlands	Active ( <i>Producer obligations from 2025</i> )	Consumer clothing, workwear, and household textiles ( <i>System does not apply to shoes, blankets, belts, curtains, etc.</i> )	€0.1 per kg (2024 fee)
Sweden	Upcoming	Clothing, household textiles and accessories	SEK 0.23 (€0.02) per unit (Expected fee for t-shirt, provided as an example)
Hungary	Active	Clothing, footwear, household textiles, accessories, and carpets	HUF 145(€0.42) per kg
Australia	Voluntary	Clothing	\$0.04 (€0.03) per unit
Spain	Pending Implementation	Clothing and footwear	To be confirmed
California (USA)	Drafted	Clothing, accessories, household textiles, and furnishings/upholstery	To be confirmed
Bulgaria	Drafted	Textiles and footwear	To be confirmed

<sup>18</sup><https://www.eea.europa.eu/publications/textiles-and-the-environment-the/textiles-and-the-environment-the>

<sup>19</sup> [https://ec.europa.eu/commission/presscorner/detail/en/ip\\_23\\_3635](https://ec.europa.eu/commission/presscorner/detail/en/ip_23_3635)

<sup>20</sup> <https://asiagarmenthub.net/resources/2024/wrap-textiles-epr-status-report-january-2024-v2.pdf>



Country	Status	Scope	EPR Fee
Italy	Drafted	Clothing, footwear, household textiles, and accessories	To be confirmed
Norway	Planned	Clothing, footwear, accessories, household textiles and healthcare textiles	To be confirmed
United Kingdom	Potential	To be confirmed	£0.10 (€0.12) per unit (estimate)

### 2.2.1 France<sup>21</sup>

France, the largest country in the EU, had set ambitious goals for textile waste collection while facing challenges in meeting the European Commission's 50% municipal waste preparing for reuse and recycling target by 2020. France aimed to collect 50% (around 300,000 tonnes or 4.6 kg per person annually) of textiles, linen, and footwear sold each year, along with achieving a material recovery rate of over 95% for the collected textiles. The recovery rate measures the proportion of collected and sorted materials diverted from landfills and incinerators. This led France to become the first EU member state to have introduced an EPR scheme for textiles, linens, and footwear in 2007.

The EPR policy for textiles was established by Article L-541-10-3 of the Code de l'Environnement, effective from January 1, 2007. According to this legislation, any legal entity introducing new textiles, clothing, footwear, and household linen to the French market is responsible for their recycling or proper disposal. These entities, including manufacturers, importers, and distributors, can fulfil their obligations either by contributing financially to an accredited PRO or by setting up an individual take-back programme approved by French authorities.

The PRO, Eco-TLC (later renamed as ReFashion), for textiles, footwear, and linen was established in December 2008 and remains the sole accredited organisation managing this sector's waste. It is a non-profit private company and as of 2022, it is composed of 31 associates representing the entire textile value chain, organised into four categories: clothing (e.g., Auchan, Decathlon, Kiabi), household linen (e.g., Carre Blanc, Casino, La Redoute), footwear (e.g., Minelli, ETS Richard Pontvert, Groupe Eram), and professional organisations (Fédération des détaillants en chaussures de France (FDCF) – Fédération Nationale de l'habillement (FNH) – Union Sport & Cycle)<sup>22</sup>. Apparel manufacturers, importers, and distributors can register as members of the PRO to meet their EPR obligations. In 2022, the PRO collected financial contributions from 6,500 members who introduced 826,935 tonnes of textiles, linen, and shoes into the French market in 2022.

As the eco-organisation for the clothing, household linen and footwear sector, Refashion supports and brings together all stakeholders from production to consumption and regeneration to reduce impacts and create value. In order to achieve this, Refashion collected eco-fees to implement actions that align with their objectives. Members' contribution tariffs are calculated annually based on the previous year's expenses. Contributions are collected in the first quarter of the year (n) and depend on the number of units (and their size) each member company introduced into the market during the previous year (n-1). A simplified declaration tariff in Euros per item is €0.48 for clothing, €0.54 for household linen, and €0.53 for footwear. In addition, Members also pay an administrative fee of €30 and an ADEME fee of €2.78. Tariffs are categorised into three categories: clothing, household linen and footwear. These are further subdivided into sizes for clothing and footwear, and linen types for household linen. Below we provide an example of the 2024 standard scale for some items in the clothing category:

<sup>21</sup> Bukhari MA, Carrasco-Gallego R, Ponce-Cueto E. Developing a national programme for textiles and clothing recovery. Waste Management & Research. 2018;36(4):321-331. doi:10.1177/0734242X18759190

<sup>22</sup> ReFashion, 2022 Activity Report, <https://refashion.fr/rapport-activite/2022/en/flipbook.pdf>

Table 4: Examples of the 2024 Refashion standard scale

Clothing items	2024 Standard scale
Footwear - excl. baby	€0.0177
T-shirt type tops - women	€0.0177
Shirt-type tops - men	€0.0397
Pullover/jumper type tops - children	€0.0397
Skirts - women	€0.0397
Every day trousers - excl. denim	€0.0697
Jackets and light jackets - men	€0.0947

To encourage and reward steps in eco-design, Refashion has implemented eco-modulations. These eco-modulations are the bonuses and penalties mentioned in the article L.541-10-3 of the Code de l'Environnement. Refashion promotes eco-design initiatives in three main areas: durability of products, obtaining certain environmental certifications and the incorporation of raw recycled materials. Eligibility for these bonuses requires producers to submit supporting documents proving the type and origin of recycled materials and their proportion in new products. Bonuses are defined as amounts per piece or per tonne, depending on the eco-modulation.

For "Durability", the bonus paid for each style corresponds to the multiplication of a reference amount (€0.07 or €0.70 depending on the volume placed onto the market) and a factor specific to each of the 10 product categories concerned.

Table 5: The bonus paid for each style under the "Durability" bonus

		Bonus (in €) per item per category	
		Quantities <100,000 items	Quantities >100,000 items
1	Top	€0.70	€0.07
2	Bottoms	€0.70	€0.07
3	Intimate products	€1.05	€0.105
4	Socks and Hosiery	€0.35	€0.035
5	Bath linen/towels	€1.05	€0.105
6	Bed linen	€0.70	€0.07
7	Table linen	€0.70	€0.07
8	Open footwear	€0.70	€0.07
9	Closed footwear	€0.70	€0.07
10	Trainer-type footwear	€0.70	€0.07

For "Environmental Certifications" bonus, finished products certified by any of the below 8 certification labels can benefit from the bonus:

1. Ecocert® Ecological & Recycled Textiles Standard (ERTS) - Level 2,
2. Oeko-tex® Made in Green,



3. Bluesign®,
4. Fairtrade® Textile,
5. Ecolabel Européen,
6. Demeter®,
7. GOTS,
8. Bioré®.

Table 6: The bonus paid for having "Environmental certification" for the three product categories.

		Bonus (in €) per item per category	
		Quantities <100,000 items	Quantities >100,000 items
1	Clothing	€0.30	€0.03
2	Household linen	€0.30	€0.03
3	Footwear	€0.30	€0.03

For "Incorporation of raw recycled materials" bonus, products incorporating recycled materials may benefit from a bonus in accordance with the criteria and amounts given in the following table. The producer will need to provide the percentage of raw recycled materials from textile waste and non-textile waste. The bonus is granted for each tonne of raw recycled material from waste collection supported by Refashion, or any other eco-organisation approved by the French public authorities, that is included in its composition.

Table 7: The bonus paid for incorporating recycled materials in the product placed onto the market.

Incorporation of Recycled Materials Bonus	Raw materials from the recycling of post-consumer textile waste collected or funded by an approved producer responsibility organisation for textile management	Recycled raw materials coming from open loop recycling of waste collected or funded by an approved producer responsibility organisation excluding food-grade plastic resin
Bonus per tonne of recycled raw material incorporated in the product placed onto the market.	€1,000/tonne	€500/tonne

In France, the collection of post-consumer textiles occurs through various channels, with on-street textile containers being the most prominent. These containers are owned by authorised charitable and commercial organisations. Some of these organisations offer door-to-door pick-up services for unwanted clothing and shoes, as well as textiles banks located in private areas such as supermarkets, shopping malls, and private parking lots. Consumers also have the option to donate their clothing to charities. Numerous flea markets exist where consumers can sell their used clothing. Clothing in good condition can be taken to thrift stores for resale. Additionally, fashion retailers like H&M provide trade-in take-back programmes, allowing customers to deposit clothing in collection boxes inside the stores in exchange for discount vouchers.

Refashion primarily monitors collection points that handle unsorted clothing and shoes, such as on-street containers, charities, authorised recycling organisations, H&M, and charity shops. However, used clothing sold through online platforms are not tracked by the PRO. The French PRO keeps track of channels requiring sorting and recycling. To educate consumers on proper clothing recycling and show them nearby collection points, the PRO has launched an interactive website. A map displaying the nearest collection points includes on-street containers, charities and their shops, and take-back collection stores. On-street containers feature a label with the owner's address and authorisation number, along with logos for the owner and the PRO.

Collected materials are sent to facilities for sorting and recycling, with container holders managing their own collection and transportation processes. Some collection operators also handle sorting. When clothing arrives at charities, it can be sold in their shops, donated to those in need, exported to international second-hand markets, or sent to sorting facilities. Upon arrival at these facilities, all items are weighed and recorded before being sorted. The materials are then classified, recycled, and stored in a warehouse, ready for dispatch. In 2022, the PRO recorded 67 authorised sorting facilities. Private organisations, independent companies, not-for profit organisations, and charity organisations own the sorting and recycling facilities. In addition, some facilities outside of France also own sorting and recycling facilities. Currently, 15 sorting and recycling facilities operate outside France.

In this context, sorting refers to the process before recycling, where textiles, clothing, and shoes are systematically classified and separated based on specific criteria. This sorting determines the destination and recycling process for the textiles. Recycling, on the other hand, involves processing sorted materials to transform them into inputs for new products. All registered recycling facilities employ mechanical processing methods such as unravelling, grinding, defibrating, and cutting. Recycling organisations can receive subsidies from the PRO if they meet certain conditions and contractual terms, ensuring they are legally authorised and provide accurate information on collection, sorting, recycling, and redistribution of materials. They must also demonstrate financial transparency and meet specific recycling performance criteria. These criteria include achieving a recovery rate of over 90%, which most organisations attain. Additionally, the recycling rate should exceed 20%, representing the fraction of non-wearable sorted materials. Finally, the amount of waste sent to landfills or incinerators without energy recovery should be less than 5% of the collected and sorted materials.

In 2022, 260,403 tonnes were collected. 59.5% of the collected and sorted quantities were deemed reusable. Of these reusable items, less than 10% are sold in France and contribute to the quantities of clothing and footwear redirected for reuse before sorting. It is estimated that between 10,000 and 30,000 tonnes per year of clothing, household linen, and footwear are primarily redirected through outlets operated by Social and Solidarity Economy companies. The remaining 95% are exported to meet the demand of clients in Europe and other parts of the world. The French PRO regards the upcoming challenge will be to enhance the appeal of reuse and develop preparation solutions (such as cleaning and repair) to optimise the reuse rate in France and Europe.

The EPR policy in France has empowered the PRO to enhance the sustainability of the national post-consumer textiles collection and recycling system. The PRO must adhere to the EPR policy and collect fees from producers of textiles, linen, and shoes to manage end-of-life textiles. To achieve this, the PRO has concentrated on several key areas: (1) increasing consumer awareness, (2) connecting stakeholders through an online communication platform, (3) enhancing the availability and accessibility of collection methods (4) improving the recycling rate, (5) encouraging repair and committing to re-use, (6) enhancing transparency of financial and material flows within the textiles industry, (7) supporting research and development in the sector, and (8) encouraging fashion producers to use pre-consumer or post-consumer textiles in new garment production.

To support these efforts, various agreements have been made with fashion retailers, local communities, collection point operators, and sorting and recycling organisations. Fashion retailers can receive discounted tariffs if they demonstrate the use of specific post- or pre-consumer materials in their new products. Local communities across France have received financial support to launch public awareness campaigns and to improve the availability and accessibility of collection points. The sorting and recycling sector has also received financial support to ensure transparency in material and financial flows, with all sorting operators' declarations verified by an independent third party. The PRO allocates part of its budget to encourage technological innovation and social integration. All activities and results of the PRO are reported annually to the State Authorities and communicated to the public.

## 2.2.2 The Netherlands<sup>23</sup>

EPR for textiles was introduced in the Netherlands by a Decree (order of law) which entered into force on 1 July 2023. The decree on EPR for textile products in the Netherlands outlines a comprehensive framework for the sustainable management of textile waste. This EPR policy mandates that all textile products, including clothing, household textiles such as bed linen and curtains, and footwear, are subject to its provisions. Whilst less binding measures such as subsidies were implemented in the past

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<sup>23</sup><https://www.government.nl/documents/decrees/2023/04/14/decreet-regels-uitgebreide-productaansprakelijkheid-van-textielproducten>

to promote recycling and reuse this did not yield the desired separation at collection, reuse, and recycling of textiles. Hence, an EPR scheme for textiles was necessary to apply clear-cut measures to producers that would allocate producers of textiles the financial and physical responsibilities of their own products during their waste phase.

Producers, defined as any entity that manufactures, imports, or sells textile products in the Netherlands irrespective as to the method of selling, must comply with the Decree's requirements. The Decree stipulates that a producer which is not established within the Netherlands must appoint a person which is established in the Netherlands as their authorised representative trusted with the implementation of the producer's duty to fulfil the Decree's responsibilities particularly within the sphere of e-commerce. The EPR Decree further argues that producers of clothing and household textiles hold the responsibility for preparing for re-use and recycling of textile products that they place on the Dutch market but also for the set up and financial support of an appropriate collection system. Preparing for re-use includes checking, cleaning, or repairing recovery operations i.e., products or components of products that have become waste are prepared such that these can be reused without any additional processing.

The producers are required to report the quantities of textile products that they have placed on the Dutch market and thus, are intended for the sale and use within the Netherlands, to the authorised ministry in the Netherlands every year. Textile products imported into the Netherlands with the scope of being exported to another country do not fall under the EPR system as the Netherlands would simply be a transit country.

Producers are bound by the Decree to set up a collection system for the textile waste streams dictated in the decree. This collection system must be available throughout the year and across the country, not only in locations where it is cost-effective. In addition, the collection system must be one whereby the individual set to discard of textile waste is able to do so free of charge. Moreover, upon reaching the collection targets, the collection cannot be terminated. In addition, there is no distinction between commercial and household waste given that producer responsibility is for all textile products. Producers to which the EPR applies, can opt for agreements with municipal authorities to collect household textile waste.

Whilst producers are allowed to fulfil their EPR obligations through a PRO which is responsible for overseeing the implementation of the EPR scheme, this is not necessary, and producers can choose to meet their obligations individually. However, should producers join a PRO, producers are required to pay a textile management fee to the PRO. For instance, in the Netherlands, the PRO Stichting UPV Textiel, the fee is determined by the board which annually sets the budget and the provisional and final rate of the textile management fee. The foundation board consists of executives from Anglo, Beddinghouse, Company Fits, HEMA, Kyra, Livera, WE fashion, Wibra, Zeeman and INretail/Modint. To finance the setting up and implementation of a collective collection and processing system, the board has set a provisional fee in 2024 of € 0.10 per kilogram. In 2024, agreements will be made with service providers on the costs required to implement a qualitative nationwide collection and processing system. Based on the expected market coverage of the foundation, experience with other EPR systems and cost research, the board is already giving an indication of € 0.20 per kilogram for the 2025 fee.

However, it is anticipated that one or more PRO will coordinate the collection and processing of textiles on behalf of the producers, initially making use of the existing collection infrastructure managed by municipal authorities. The PRO must negotiate agreements with municipal authorities and textile collectors regarding the collection infrastructure and associated fees. To meet the targets for re-use and recycling, it is crucial to organise the collection efforts effectively and efficiently. For practical and effective implementation, the PRO must collaborate with existing entities involved in collecting, sorting, and processing. As with many other EPR systems, there is a degree of interdependence between municipal authorities and producers, even though producers remain legally responsible. Additionally, the PRO will handle communication with consumers regarding collection logistics, such as drop-off points and procedures. To facilitate this, the PRO must coordinate with municipal authorities to ensure they can adequately inform citizens.

To increase the collection and recycling of business textiles, the PRO can collaborate with commercial waste collectors for separation or with suppliers of occupational clothing to establish return logistics. If producers fail to establish a PRO, each producer will need to individually meet the EPR targets, develop their own collection infrastructure, handle communications, and negotiate arrangements with other parties, such as municipal authorities and textile collectors.

The Decree sets specific targets for the collection and recycling of textile waste. The targets will apply as of the year 2025, so that producers still have plenty of time to prepare for implementation. Producers must ensure the availability and accessibility of collection points for post-consumer textiles. These collection points include on-street containers, retail drop-off locations, and municipal facilities. Producers are financially supported to establish and maintain these collection points, ensuring widespread coverage. The targets for the period 2025-2030 are set such that each year the percentage of textiles collection for re-use and recycling increases.

The targets for 2025 are:

- 50% of the textile products placed on the market must be prepared for reuse or recycled. At least two fifths of this amount (i.e. 20% of the textile products placed on the market) must be prepared for re-use; the other three fifths of that target may be achieved through either recycling or preparing for re-use.
- 10% of the textile products placed on the market must be intended for re-use in the Netherlands. (This 10% is therefore part of the 20% that is prepared for re-use as referred to above.)
- Of the recycled amount, 25% must be recycled fibre-to-fibre.

The targets for 2030 are:

- 75% of the textiles placed on the market must be prepared for re-use or recycled. At least a third of this amount must be prepared for re-use; the other two thirds of that target may be achieved through either recycling or preparing for re-use.
- 15% of the textile products placed on the market must be intended for re-use in the Netherlands.
- Of the recycled amount, 33% must be recycled fibre-to-fibre.

The measures are designed to incentivise producers to introduce high-quality textile products to the market. High-quality textiles have extended lifespans, reducing the need for new textile products and decreasing the consumption of primary raw materials. Additionally, promoting the reuse of products can further minimise the demand for new items. In addition, the Decree stipulates that producers must also take all necessary measures to make sure that the products they place on the market utilise a high percentage of recycled textile fibres. Moreover, the decree allows for a PRO to take into account the entire lifespan of a product, emphasising on its sustainability, reparability, re-usability, and recyclability of the substances, mixtures, or products within the textile products.

Transparency and accountability are key components of the EPR scheme. The PRO must submit annual reports to state authorities, detailing the quantities of textiles collected, sorted, recycled, and disposed of, as well as the financial aspects of the scheme. These reports are made available to the public, providing transparency, and allowing stakeholders to assess the scheme's effectiveness. Regular audits of the PRO's financial and operational activities ensure that funds are used appropriately and that the scheme operates efficiently. The Human Environment and Transport Inspectorate, which is in charge of implementing EPR rules in the Netherlands, carried out an enforceability, feasibility, and fraud resistance assessment to determine the capacity required with the implementation by individual producers and implementation by producers collectively. Whilst the enforceability was noted to be insufficient if no producer organisation is set up, the Inspectorate observed that a complete assessment of the enforceability is difficult as certain points required further elaboration in a ministerial regulation. Its main concern was that individual producers are not sufficiently equipped to be subject to monitoring and thus, the Inspectorate would not be able to report on it.

The EPR scheme for textiles in the Netherlands is still in its infancy and producers are obliged to start meeting targets in 2025. Thus, at present, reports on its successes and limitations in implementation are not available.

## 3. PESTEL Analysis

The nature of the EPR for textiles depends on multiple external factors that influence the feasibility and design of the scheme. For a comprehensive understanding and to thoroughly evaluate these factors, a PESTEL analysis was undertaken. By implementing this strategic tool, a deeper understanding of the waste scenario in Malta is explored.

Understanding the external factors influencing the project is fundamental to making well-informed decisions. By examining political, economic, social, technological, environmental, and legal factors the opportunities and challenges that may arise during the setting up and implementation of an EPR can be determined.

### 3.1 Political

Malta's waste management industry is influenced by the country's political environment including key stakeholders at a national level and EU-level position towards EPR for textile waste. The management of textile waste is a growing concern due to the rise of fast fashion and an increase in consumption, as outlined further in Section 4.

#### 3.1.1. European Commission

On 5 July 2023, the European Commission proposed amendments to the Waste Framework Directive<sup>24</sup> that will require textile producers to take responsibility for the entire lifecycle of textile products, supporting sustainable textile waste management across the EU. This initiative is designed to boost the development of systems for the separate collection, sorting, reuse, and recycling of textiles, aligning with the EU Strategy for Sustainable and Circular Textiles. Moreover, in its EU Strategy for Sustainable and Circular Textiles, the Commission emphasises the importance of implementing EPR schemes to ensure that producers take responsibility for the lifecycle of their products. This includes collecting, recycling, and managing textile waste to reduce environmental impact and promote resource efficiency. The proposal introduces mandatory, harmonised EPR schemes for textiles across all EU member states.

#### 3.1.2 European Parliament

On 13 March 2024, the European Parliament adopted its position in relation to the proposals for the amendments to the Waste Framework Directive for better prevention and reduction of textile waste across the EU through the introduction of extended producer responsibility for textiles. The Members of the European Parliament (MEPs) adopted their first reading on the proposed revision<sup>25</sup> of the Waste Framework Directive with 514 votes in favour, 20 against, and 91 abstentions.

#### 3.1.3 European Council

On 17 June 2024, the European Council adopted its position ('General Approach') on the targeted revision of the Waste Framework Directive, with a focus on textile waste<sup>26</sup>. The Council also agreed to consider setting specific targets for waste prevention, collection, preparation for re-use, and recycling of textile waste by the end of 2028.

#### 3.1.4 European Environment Agency

In their report<sup>27</sup> titled "Accelerating the Circular Economy in Europe: State and Outlook 2024," the European Environment Agency (EEA) emphasised the need to extend EPR schemes to more product categories, particularly those with significant environmental impacts and high potential for material recovery. The agency highlighted that by incorporating future environmental costs across a product's life cycle into its market price, EPR schemes have effectively encouraged improved waste collection

<sup>24</sup> . [https://ec.europa.eu/commission/presscorner/detail/en/ip\\_23\\_3635](https://ec.europa.eu/commission/presscorner/detail/en/ip_23_3635)

<sup>25</sup> [https://eur-lex.europa.eu/resource.html?uri=cellar:05b634bd-1b4e-11ee-806b-01aa75ed71a1.0001.02/DOC\\_1&format=PDF](https://eur-lex.europa.eu/resource.html?uri=cellar:05b634bd-1b4e-11ee-806b-01aa75ed71a1.0001.02/DOC_1&format=PDF)

<sup>26</sup> <https://data.consilium.europa.eu/doc/document/ST-11300-2024-INIT/en/pdf>

<sup>27</sup> <https://www.eea.europa.eu/publications/accelerating-the-circular-economy>



and processing. Although some administrative hurdles exist, expanding these schemes to additional product streams supports the broader objectives of the Ecodesign for Sustainable Products Regulation (ESPR). The EEA also advocates that new EPR initiatives should also incorporate eco-modulated fees from the beginning, incentivising producers to create more repairable and durable products.

### 3.1.5 European Economic and Social Committee

The European Economic and Social Committee (EESC) is the voice of organised civil society in Europe. It represents employers, workers and civil society organisations. The expertise of its 329 members helps optimise the quality of EU policies and legislation.

In 2019, in its opinion on the Eco-Design Work Programme<sup>28</sup>, the EESC reaffirmed its support for using EPR as a tool to drive the transition toward circular economy business models. The Committee highlights the importance of focusing on the entire product lifecycle, including factors such as durability, ease of maintenance and repair, potential for reuse and digitisation, upgradeability, recyclability, and the product's actual uptake after use.

In the EESC's opinion<sup>29</sup>, issued in 2022, in response to the EU's textile strategy, the Committee expressed concern that less than 1% of textiles globally are recycled into new textiles and stressed that the EPR scheme must provide incentives for fibre-to-fibre recycling, rather than promoting false circularity practices such as using polyester made from recycled plastic bottles. In response to the proposed revision of the Waste Framework Directive the EESC, expressed its opinion<sup>30</sup>. The society supports the circular revision of the Waste Framework Directive for addressing textile waste, recognising it as a strategic priority for the EU. However, the Committee recommended reconsidering the stance that prioritises the protection of micro-enterprises over the polluter-pays principle.

### 3.1.6 Government and Regulatory Bodies

The Maltese government is the primary stakeholder, interested in enforcing environmental regulations, reducing waste, and promoting sustainable practices. It is responsible for setting the legal framework within which the EPR scheme operates. The Maltese Government can influence the scope and stringency of the EPR scheme, including penalties for non-compliance and incentives for participation. It also has the power to shape public policies that align with environmental goals.

In the Long-Term Waste Management Plan 2021-2030<sup>31</sup>, Government committed to strengthen and expand Malta's Extended producer responsibility frameworks, responsabilising producers for the waste management of the products they place on the market. In this plan, the Government is proposing a feasibility study to assess current practices and identify a feasible EPR scheme for textiles in Malta (WMRO\_EPR28). The study aims to identify effective methods for managing textile waste, with the goal of advancing its treatment within the waste hierarchy.

Malta's Recovery and Resilience Plan<sup>32</sup> includes measures for climate neutrality, focusing on energy efficiency, clean energy, and the circular economy. Reform C1-R2 aims to improve waste management through better governance, with a focus on EPR. Milestone 1.6 involves a study on expanding EPR to additional waste streams, while Milestone 1.7 calls for legislation based on the study's findings. The RRP directly addresses textiles in Milestone 1.6, identifying them as one of the waste streams to be evaluated in a feasibility study for potential inclusion under EPR. The study's outcomes will inform Milestone 1.7, which will involve enacting legislation to establish an EPR scheme for textiles in Malta.

The Environment and Resources Authority (ERA) is the national regulator on the environment including waste management.

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<sup>28</sup> <https://www.eesc.europa.eu/en/our-work/opinions-information-reports/opinions/eco-design-work-programme-2016-2019>

<sup>29</sup> <https://www.eesc.europa.eu/en/our-work/opinions-information-reports/opinions/textile-strategy>

<sup>30</sup> <https://www.eesc.europa.eu/en/our-work/opinions-information-reports/opinions/revision-eu-waste-framework-directive>

<sup>31</sup> <https://era.org.mt/wp-content/uploads/2022/02/Long-Term-Waste-Management-Plan-v1.4.3-Spreads-Digital-Version.pdf>

<sup>32</sup> <https://fondi.eu/wp-content/uploads/2023/11/Malta-Recovery-and-Resilience-Plan-2023-7.11.2023.pdf>

### 3.1.7 Textile Producers

Textile producers are directly impacted by EPR regulations for textile waste and they will be required to be responsible for the waste management of textiles. This stakeholder is focused on minimising the costs associated with these obligations and has an impact on optimising production and waste management processes. These companies also need to consider how to incorporate these costs into their pricing strategies without negatively affecting profitability or consumer demand, and they may explore passing costs onto consumers or negotiating with suppliers to share the financial burden.

In an eco-conscious market, textile producers may view participation in EPR schemes as a competitive advantage, potentially allowing them to attract environmentally conscious consumers and charge premium prices for sustainable products. They also see EPR efforts as integral to their broader Corporate Social Responsibility (CSR) goals, enhancing their reputation and mitigating risks related to public perception. By positioning themselves as leaders in sustainability, they can influence industry norms and drive the adoption of eco-friendly practices across the sector. By working closely with policymakers and participating in public consultations, these companies aim to ensure that EPR regulations are fair, economically viable, and aligned with business growth, while also promoting sustainable industry-wide practices.

In this regard, consultations were held to discuss the topic with a number of stakeholders involved in the textiles sector. These involved discussions on key topics such as the definition of 'producers' under the EPR system. One key point raised by the producers was the challenge of traceability, particularly for imported textiles from global retail brands. Producers emphasised the importance of understanding where and how waste derived from these products would be managed. Finally, the key role of social economy entities within the EPR system was also highlighted.

### 3.1.8 Consumers

Consumers are an important stakeholder due to their interest in the availability of sustainable textile options, cost implications, and the convenience of disposing of used textiles. Their purchasing decisions can drive demand for sustainable products as many consumers become more eco-conscious, seeking out textile producers that prioritise sustainability in their offerings.

EPR may lead to higher prices for textiles, as producers pass the added costs of managing waste, recycling, and disposal onto consumers. While some companies might absorb these costs to remain competitive, price-sensitive brands like fast fashion retailers may still raise prices slightly, while higher-end brands could see more significant increases due to complex recycling processes. The extent of price hikes will depend on how producers handle the financial burden of EPR obligations. Whilst many consumers support sustainability, they expect affordable options that align with their budget making price competitiveness essential for the success of eco-friendly textiles.

Consumer awareness and behaviour directly affect the success of an EPR scheme. Their purchasing decisions drive demand for sustainable products, putting pressure on manufacturers to innovate and offer environmentally responsible options. As consumer awareness of environmental issues grows, companies are increasingly held accountable to provide transparency in their practices. This consumer influence can shape the market by forcing brands to adopt eco-friendly materials, improve recycling initiatives, and adjust to sustainable production methods.

Consumers also have the potential to take action by shifting their purchasing habits toward more sustainable choices. By supporting brands that align with their environmental values and pushing for stronger EPR policies, consumers can encourage greater accountability across the textile industry and contribute to the broader goals of reducing waste and promoting sustainability.

### 3.1.9 Waste management companies

Waste management companies are stakeholders which are key to the operational success of the EPR scheme, focusing on the collection, sorting, and recycling of textile waste. Stakeholders involved in the collection and sorting of textile waste are critical to the operational success of any EPR scheme. Their role is central because the effectiveness of the EPR system largely depends on how well they manage



the volume and quality of textile waste generated. These organisations, ranging from local waste collectors to waste sorting companies, need to ensure efficient logistics and sorting processes to maximise re-use rates and minimise the amount of waste sent to landfills.

Their business models may depend on the volume and quality of waste generated by the scheme. Moreover, these stakeholders' business models are directly tied to the success of the EPR scheme, as they rely on a steady and manageable flow of textile waste to maintain profitability. Their capacity and technology influence the feasibility and efficiency of waste management processes under the EPR scheme.

[REDACTED]

### 3.1.10 Social enterprises

The amendments to the Waste Framework Directive acknowledge the key role of social economy entities (including charities, social enterprises and foundations) in the existing textile collection systems. It allows them to maintain and operate their own separate collection points. According to the Council's position, member states can exempt them from certain reporting requirements to avoid disproportionate administrative burden. There is also the requirement for producer responsibility organisations to support these social enterprises such as charity shops and thrift shops in the collection of textiles.

### 3.1.11 Environmental NGOs

Non-governmental organisations (NGOs) play a pivotal role in the success of EPR schemes, focusing on reducing the environmental impact of industries, promoting sustainable practices, and ensuring that the EPR initiative remains robust and effective. Their overarching goal is to hold companies and governments accountable for the environmental footprint of textile waste. These groups often act as watchdogs, monitoring how effectively businesses comply with EPR obligations and how governments enforce regulations.

The influence of NGOs and advocacy groups is significant, with their ability to shape public opinion and lobby for more stringent environmental regulations. Their advocacy can pressure governments to adopt more ambitious EPR policies, ensuring that textile producers are fully responsible for the post-consumer waste management. These organisations often engage in public campaigns to raise awareness about the environmental harm caused by textile waste and fast fashion, encouraging consumers to support sustainable brands and behaviours. Through this combination of advocacy and public engagement, NGOs can influence the design, implementation, and continuous improvement of the EPR framework, ensuring that it remains effective in reducing textile waste and promoting a circular economy. Locally environmental NGOs such as Friends of the Earth Malta and Fashion Revolution Malta have engaged with the community to raise awareness on the impact of textiles on the environment. Friends of the Earth Malta have organised a yearly clothes swap session inviting the public to declutter their wardrobe, donate washed clothing during the event and go home with pre-loved items. On the other hand, Fashion Revolution Malta, which is part of the global movement of Fashion Revolution, strives to raise awareness on fast fashion. Their campaign runs for seven days every April and aims to bring awareness around the importance of making clothes last longer. The campaign encourages consumers to consider the lifespan of clothing and the impacts that short lifespans may have on the environment and the people making them.

### 3.1.12 Trade Unions and Employers' Associations

Trade unions and employers' associations play a vital role in shaping the EPR scheme by representing the interests of businesses and workers alike.

Employers' associations, representing textile producing businesses, are primarily concerned with minimising the regulatory and financial burdens of EPR schemes. Their focus is on influencing policymakers to ensure that EPR regulations are cost-effective and practical, advocating for flexible compliance, tax incentives, and subsidies. They may push for voluntary industry standards, self-regulation, and seek exemptions for small businesses. Additionally, they are wary of the impact EPR could have on international trade and competitiveness. Given their strong political influence, these

associations actively lobby governments, negotiate favourable terms for businesses, and collaborate across sectors to shape environmental regulations.

Trade unions represent the workforce in the textile industry, with concerns focused on job security, working conditions, and potential disruptions caused by EPR schemes. They advocate for the protection of jobs, reskilling programmes, and fair labour practices as businesses transition to sustainable production. Unions are also focused on worker safety, particularly in waste management and recycling. Their influence comes through collective bargaining, social dialogue with employers and policymakers, and cooperation with environmental groups to ensure that EPR schemes balance sustainability with workers' rights and well-being.

## 3.2 Economic

Malta's waste management industry is influenced by the country's limited land resources and high population density. The management of waste, especially textile waste, is a growing concern due to increasing consumption and the rise of fast fashion.

### 3.2.1 General economic indicators

The current economic context for the Maltese Islands sets out the existing backdrop against which this Project is being proposed. These figures are based on the latest publicly available data issued by the National Statistics Office (NSO) and Eurostat. In this respect, the indicators for 2020 include the impact of the COVID-19 pandemic and therefore should be analysed within this context.

Some key economic indicators for both Malta are outlined and compared below:

Economic Indicator	2020	2021	2022	2023
Population	514,564	516,100	520,971	542,051
GDP at market prices (€ bn)	11.9	13.8	15.7	17.7
Real GDP growth (%)	-10.9%	11.9%	5.2%	2.6%
Real GDP per capita (€)	20,850	23,340	24,570	25,200
Average disposable income (€)	31,266	32,590	34,814	37,275
Total consumption expenditure (€m)	2,756	3,009	3,189	3,403
Tourism expenditure (€m)	455	871	2,013	2,671
Consumption expenditure: clothing (€m)	259	272	353	361
Clothing expenditure per capita (€)	503	527	678	666
Purchase of clothing expenditure as % of total consumption	9.4%	9.0%	11.1%	10.6%
Annual overall HICP Inflation rate (%)	0.8%	0.7%	6.1%	5.6%
Annual inflation rate: clothing (%)	0.0%	1.2%	3.4%	3.3%

Source: Eurostat and NSO

### 3.2.2 Economic developments and their impact on textile waste generation

The recent economic developments in Malta have significantly influenced waste generation patterns, particularly in the textiles sector. One of the most notable changes is the increase in population, which rose from 514,564 in 2020 to 542,051 in 2023. This growth, has inevitably led to a higher demand for goods and services, including clothing. As the population expands, so does the consumption of textiles,

resulting in a corresponding increase in textile waste. This demographic change is a critical factor that contributes to the overall growth in waste generation in the country.

Additionally, Malta's economic prosperity has been reflected in the increase in GDP per capita, which grew from €20,850 in 2020 to €25,200 in 2023. This rise in economic output per person suggests an improvement in living standards and a greater capacity for consumption. As individuals enjoy higher income levels, their purchasing power increases, leading to more frequent and diverse purchases, particularly in non-essential sectors such as fashion. Consequently, the surge in textile consumption driven by higher GDP per capita directly correlates with an increase in textile waste, as more clothing items are bought, used, and eventually discarded.

The rise in disposable income further amplifies this trend. The average disposable income in Malta increased from €31,266 in 2020 to €37,275 in 2023, which indicates that individuals have more financial resources available for discretionary spending, including on clothing. This higher disposable income has likely fuelled a greater demand for textiles, contributing to a significant uptake in clothing purchases. As consumers buy more, the rate at which clothing is disposed of also rises, resulting in an accumulation of textile waste. This economic factor plays a crucial role in driving the volume of waste generated, as the lifecycle of clothing items becomes shorter, with consumers often discarding garments to keep up with trends.

Moreover, consumption expenditure on clothing in Malta saw a substantial increase, rising from €259 million in 2020 to €361 million in 2023, marking a 39% increase. This significant growth in expenditure outpaced the 5% increase in population during the same period, highlighting a shift in consumer behaviour, with more money being allocated to apparel purchases. The increased spending on textiles not only reflects the growing affluence of the Maltese population but also points to a higher turnover of clothing items, whereby more garments are being bought, worn, and subsequently disposed of. This pattern contributes to the escalating levels of textile waste, as higher consumption leads to a faster accumulation of discarded clothing.

In summary, the combination of population growth, rising GDP per capita, increased disposable income, and higher consumption expenditure on clothing has created a situation where textile waste generation in Malta is on the rise. As the economic landscape continues to evolve, these factors will likely continue to drive the increase in textile waste, posing challenges for waste management systems and highlighting the need for sustainable practices to mitigate the environmental impact.

### 3.2.3 Economic implications of textile waste management in Malta

The introduction of an EPR scheme for textiles in Malta will have a number of economic implications for businesses across various sectors. Currently, textile producer responsibility is not yet mandatory, which means that many businesses do not bear the financial and operational responsibility associated with waste management practices. However, once the EPR is introduced, businesses will need to comply with new regulations, fundamentally altering the economic landscape of waste management in the country. The forthcoming regulatory framework is expected to increase the cost of doing business, as companies will have to allocate financial and other resources to meet their EPR obligations.

Producers of textiles across the value chain placing products on the Maltese market will be required to pay for EPR fees to cover the collection, sorting, and preparing for re-use of textile waste. In addition to the increase in costs from the EPR fees, one of the key challenges that will arise with the introduction of the EPR scheme is the complexity of regulatory enforcement. Companies will need to develop systems for monitoring, reporting, and adhering to these new regulations, which may require hiring additional staff, investing in compliance software, or dedicating more resources to regulatory affairs. This increased administrative burden will likely lead to higher operational costs, particularly for smaller businesses that may struggle with the complexity and financial demands of compliance.

In addition to regulatory complexities, Malta faces technological and infrastructural limitations that could hinder the effective implementation of textile waste management under the EPR scheme. The current infrastructure may not be adequately equipped to handle the anticipated increase in textile waste volumes. Upgrading existing facilities or constructing new ones to accommodate these needs will require considerable financial investment. Moreover, the development and deployment of advanced sorting processes will be necessary to ensure that the waste is processed efficiently and in an environmentally sustainable manner. These infrastructural challenges will impose additional costs on

businesses, particularly those directly involved in the textile industry, as they may need to contribute to funding these upgrades or incur higher fees for waste disposal services.

Another economic consideration is the cost associated with educating consumers about their role in the EPR system. The success of EPR in reducing textile waste depends heavily on public participation in proper disposal practices. Businesses will be required to contribute to undertake public awareness campaigns to ensure consumers are informed about how to dispose of their textiles responsibly. This could involve significant marketing and outreach expenses, adding to the overall cost of compliance with the EPR regulations. Without effective consumer education, the EPR scheme may not achieve its intended outcomes, potentially leading to inefficiencies and higher costs in the long run.

Despite these challenges, the introduction of an EPR scheme for textiles in Malta also offers potential economic benefits that could offset some of the associated costs. For instance, the need for expanded infrastructure and more sophisticated waste management systems could stimulate job creation in these sectors. Additionally, the focus on sustainability may drive innovation and technological advancements within the industry, leading to the development of new products and processes that could enhance Malta's competitive edge. Furthermore, by promoting environmental sustainability, the EPR scheme could improve Malta's reputation as a responsible and forward-thinking economy, potentially attracting investment and fostering long-term economic growth.

Moreover, the introduction of an EPR scheme for textiles in Malta will also ensure compliance with the European Union's broader regulatory framework, where EPR for textiles is becoming mandatory across Member States. By implementing this scheme, Malta will not only align itself with EU standards but also avoid potential fines and penalties that could be imposed for non-compliance. Being on par with other EU nations in adopting EPR regulations will enhance Malta's standing within the Union, contributing to a consistent and unified approach to textile waste management across Europe. This alignment will also safeguard Malta's access to EU markets and funding opportunities, further supporting the country's long-term economic stability and growth.

In conclusion, while the introduction of the EPR for textiles in Malta is expected to increase the cost of doing business due to regulatory, infrastructural, and educational challenges, it may also present opportunities for economic growth through job creation, innovation, and enhanced sustainability. Hence, businesses will need to carefully navigate these changes to remain competitive while contributing to the country's environmental goals.

### 3.2.4 Concluding insights

Opportunities	Challenges
<p><b>Job creation:</b> The textile waste management sector has the potential to create jobs in collection, sorting, and recycling processes. As the industry grows, it can provide employment opportunities, particularly in green jobs.</p>	<p><b>Compliance costs:</b> businesses will be required to pay fees and may face upfront costs to comply with EPR regulations. This includes the administrative burden and training to ensure proper reporting obligations are followed. Hence, this can be particularly challenging for small and medium-size enterprises (SMEs).</p>
<p><b>Revenue from exports:</b> Exporting used textiles assessed as fit for reuse and textile waste for preparation for re-use or recycling generates revenue and contributes to the local economy. The global market for recycled textiles is expanding, providing opportunities for Maltese businesses to tap into this sector.</p>	<p><b>Strain on waste management systems:</b> As textile consumption rises, the resulting increase in waste could strain existing waste management systems. Malta may need to invest in expanding and upgrading its infrastructure to handle the growing volume of textile waste, which could pose both logistical and financial challenges.</p>

Opportunities	Challenges
<p><b>Local re-use industry:</b> Developing further the local re-use industry for textiles can reduce dependency on imports and exports, keeping more value within the country. This can stimulate economic growth, decrease environmental impact, and create a more sustainable economic model.</p>	<p><b>Consumer participation:</b> Shifting public behaviour towards more sustainable practices might be difficult, especially in a culture accustomed to convenience and low-cost options. Without widespread public support, the effectiveness of EPR could be limited, making it challenging to achieve the desired environmental outcomes.</p>

Taking all of the above into consideration, the textile waste management industry in Malta presents both economic opportunities and challenges. In this regard, the successful development of a robust textile re-use industry would benefit from the introduction of an EPR scheme for textiles, given that such a scheme would provide the necessary regulatory framework and financial incentives to drive investment in the required systems and enhance consumer participation. Hence, by establishing this foundation Malta can effectively promote sustainability and create long-term economic benefits within the textile sector.

## 3.3 Social

### 3.3.1 Consumption patterns

- **Fast fashion and disposable culture:** The rise of fast fashion has led to an increase in the consumption of inexpensive, trendy clothing. This trend is evident in Malta, where consumers frequently purchase new clothes, leading to higher volumes of textile waste. Eurostat reports that the average Maltese household spends around 4% of its total final consumption expenditure on clothing and footwear<sup>33</sup>.
- **Shift towards sustainability:** Despite the fast fashion trend, there is a growing movement towards sustainability among Maltese consumers. Increasingly, people are becoming aware of the environmental impact of their consumption habits and are seeking more sustainable options, such as buying second-hand clothes or supporting brands that promote ethical practices.

### 3.3.2 Education and awareness

- **Public awareness campaigns:** Several initiatives have been launched to raise awareness about the importance of recycling and reducing textile waste. Campaigns by organisations like Wasteserv Malta aim to educate the public on the benefits of recycling and proper waste management practices.
- **School programmes:** Environmental education is also being integrated into school curricula. Programmes designed to teach children about the impact of waste and the importance of recycling are gaining traction, are helping to instil sustainable habits from a young age.

### 3.3.3 Cultural perception

- **Fashion as a cultural element:** Clothing and fashion hold significant cultural value in Malta. Traditional Maltese attire and the prominence of local designers showcase the importance of fashion in Maltese culture. This cultural element influences how textile waste is perceived and managed.
- **Influence of expats and tourists:** The influx of expatriates and tourists has diversified fashion trends in Malta, increasing demand for a variety of clothing styles. This has contributed to the

<sup>33</sup> Household budget survey (2020) – Eurostat

rise in textile waste, but also presents an opportunity to promote sustainable fashion practices among a broader audience.

### 3.3.4 Community engagement

- **Local initiatives and charity shops:** Community-driven initiatives, such as charity shops and clothing donation drives, play a crucial role in managing textile waste. Organisations like The Malta Community Chest Fund Foundation collect and redistribute used clothing, helping to reduce waste and support those in need. Additionally, local events like the Thrift Pop-Up Malta, where second-hand clothing is sold with proceeds benefiting the Richmond Foundation, and monthly thrift markets like Free-Thrifty, organised by Clothing for All, offer affordable clothing options and engage the public through workshops, further promoting sustainable fashion practices in the community.

### 3.3.5 Social impact and public acceptance of a textile EPR

- The introduction of an EPR scheme in Malta could be met with social resistance, particularly from low-income households and young consumers. Low-income households might view the scheme as an added financial burden, while younger consumers, focused on affordability and fashion trends, may resist due to potential price increases or reduced access to low-cost clothing. The impact on society is likely to be mixed, with some groups viewing it as a positive step toward sustainability, while others may oppose it if they perceive it as costly without clear benefits. To ensure broad public support, targeted outreach strategies are crucial. Communication efforts should emphasise long-term savings, potential support programmes for low-income households, and the environmental benefits of sustainable fashion to engage young consumers. Collaborating with community leaders and influencers to advocate for the initiative will be key in building widespread acceptance.

## 3.4 Technological

Technological advancements are revolutionising textile waste management, driving improvements in sorting, recycling, and overall sustainability. Automation, smart recycling systems, advanced recycling technologies, and digital platforms are key innovations that enhance the efficiency and effectiveness of textile waste management. By embracing these technologies, Malta can significantly reduce textile waste, promote sustainable practices, and move towards a more circular economy. The continued development and adoption of these technologies will be essential for addressing the growing challenges of textile waste and achieving long-term environmental and economic benefits.

### 3.4.1 Automation in sorting and recycling

- **Automated sorting systems:** Advanced robotics and automation are increasingly being used in waste management facilities. Automated sorting systems utilise sensors and AI algorithms to identify and separate different types of textiles based on material composition, colour, and condition. This streamlines the recycling process and improves the accuracy and efficiency of sorting operations. While these technologies are promising, widespread adoption requires further investment in infrastructure, regulatory support and collaboration across the textile value chain. These systems are not currently in use in Malta.
- **Robotic disassembly:** Robotics technology is being employed to disassemble complex textile products, such as shoes and garments with mixed materials. This process facilitates the recovery of different materials for recycling, reducing manual labour and increasing throughput. This technology is however still an emerging technology and is not yet widely adopted. It is not currently in use in Malta.

### 3.4.2 Energy-efficient processing

- **Eco-friendly dyes and treatments:** Technological advancements have led to the development of eco-friendly dyes and treatments that require less water and energy. These innovations not



only reduce the environmental footprint of textile production but also make recycling processes more sustainable.

- **Renewable energy integration:** Recycling facilities are increasingly integrating renewable energy sources, such as solar and wind power, to reduce their reliance on fossil fuels. This shift towards renewable energy supports the overall sustainability of the textile waste management sector.

### 3.4.3 Smart recycling bins

- **IoT-enabled bins:** The development of Internet of Things (IoT)-enabled recycling bins allows for real-time monitoring of bin usage and fill levels. These smart bins can notify collection services when they need to be emptied, optimising collection routes and reducing operational costs. These bins are already available in Malta and being used for other waste streams.
- **User engagement:** Smart bins can also provide feedback to users on their recycling habits through connected apps, encouraging more responsible disposal practices and increasing public participation in textile recycling programmes.

### 3.4.4 Advanced recycling technologies

- **Chemical recycling:** Chemical recycling technologies are being developed to break down synthetic fibres, such as polyester, into their basic monomers, which can then be re-polymerised into new fibres. This technology allows for the recycling of textiles that are difficult to process using traditional mechanical methods. Despite its potential, chemical recycling faces several barriers, including high costs, the need for specialised infrastructure, concerns as to its overall environmental performance compared to other recycling technologies, and the complexity of dealing with different types of textile waste.
- **Biodegradable fibres:** Research and development in biodegradable fibres offers the potential to create textiles that can decompose naturally, reducing the environmental impact of textile waste. Innovations in this area are paving the way for more sustainable textile products. While the adoption of biodegradable fibres is growing, further advancements and investments are needed to make them a mainstream choice across all industries.

### 3.4.5 Digital platforms and marketplaces

- **Online second-hand marketplaces:** Digital platforms and apps for buying and selling second-hand clothing are gaining popularity. These marketplaces facilitate the reuse of textiles, reducing waste and promoting a circular economy.
- **Recycling incentive programmes:** Digital platforms can also be used to implement incentive programmes for recycling. Users can earn rewards or discounts for participating in textile recycling initiatives, encouraging more widespread adoption.

### 3.4.6 Technological readiness and barriers to adoption in Malta's textile waste management

Several factors must be considered regarding the readiness and accessibility of these technologies within the local context. Currently, the availability of advanced sorting and recycling technologies in Malta and even across the EU is limited, with significant barriers to adoption, including high costs and a lack of technical expertise. Many of these technologies require substantial investment, which could be challenging for smaller waste management operators. Additionally, the integration of automation, IoT-enabled systems, and advanced recycling methods may necessitate specialised training and knowledge, which are not yet widespread in Malta. Addressing these challenges will be crucial for the successful implementation and scaling of technological innovations in textile waste management in Europe. Considering the limited size of the national market, it is important to ensure that sorting techniques are both accessible and effective in the Maltese context.



## 3.5 Environmental

Household textile and apparel clothing make up the largest share of EU textile consumption which has also led it to become the largest source of over production and overconsumption<sup>34</sup>. Both the Circular Economy Action Plan (CEAP) and the EU Strategy for Sustainable and Circular Textiles call for fast, necessary, and enforced actions that are required to shift away from the current system of design, produce, use and discard textile products namely used textiles, textile-related and footwear products. From an environmental perspective, the current environmental challenges due to textile and textile waste will be assessed.

### 3.5.1 Climate Change

According to the European Environment Agency (EEA)<sup>35</sup>, in 2020, the fashion industry was estimated to be the 5<sup>th</sup> highest in use of raw materials and greenhouse gas emissions. Textile purchases in the EU in 2020 generated about 270 kg of carbon dioxide equivalent (CO<sub>2e</sub>) emissions per person. This means textile products consumed in the EU generated greenhouse gas emissions of 121 million tonnes carbon dioxide equivalent (CO<sub>2e</sub>).

### 3.5.2 Resource Consumption and Chemical Pollution

The environmental impact of textiles is significant and multifaceted, affecting various stages of the production, use, and disposal of fabrics. Textile production, especially for cotton, is extremely water-intensive. It takes about 2,700 litres of water to produce a single cotton T-shirt<sup>36</sup>. Water-intensive crops deplete local water supplies, affecting ecosystems and communities. Moreover, the cultivation of natural fibres like cotton, wool, and flax requires vast amounts of land, sometimes leading to deforestation or displacement of local food crops. On the other hand, synthetic textiles (polyester, nylon) are derived from petroleum and require a substantial amount of energy during manufacturing. This energy often comes from non-renewable sources, contributing to carbon emissions.

The production of textiles also contributes to chemical pollution. Cotton cultivation accounts for about 6% of global pesticide use and 16% of insecticide use<sup>37</sup>. These chemicals can leach into soil and waterways, harming ecosystems and contaminating drinking water. Textile dyeing and finishing involve chemicals such as formaldehyde, chlorine, and heavy metals (like chromium and cadmium). When discharged untreated into water bodies, these chemicals can cause water pollution, impacting aquatic life and human health. When it comes to synthetic fibres, these shed microplastics during washing, which end up in rivers and oceans. Microplastics are now pervasive in marine environments, affecting marine organisms and entering the food chain.

### 3.5.3 Circular Economy

The EU Strategy for Sustainable and Circular Textiles<sup>38</sup> addresses the production and consumption of textiles, whilst recognising the importance of the textiles sector. This strategy brings into action the EU Circular Economy Action Plan. We are experiencing a shift in people's behaviour where items are being thrown away rather than donated to be reused<sup>39</sup>. According to a study by Ellen MacArthur Foundation, it is estimated that less than 1% of used clothes are recycled into new clothes worldwide<sup>40</sup>.

To mitigate the environmental and climate impacts of textiles, adopting circular business models is essential, as they conserve resources like raw materials, energy, water, and land, while minimising

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<sup>34</sup> <https://data.consilium.europa.eu/doc/document/ST-11300-2024-INIT/en/pdf>

<sup>35</sup> <https://www.eea.europa.eu/publications/textiles-and-the-environment-the/textiles-and-the-environment-the>

<sup>36</sup> [https://www.europarl.europa.eu/RegData/etudes/ATAG/2020/656296/EPRS\\_ATA\(2020\)656296\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/ATAG/2020/656296/EPRS_ATA(2020)656296_EN.pdf)

<sup>37</sup> <https://sustainfashion.info/the-worlds-dirtiest-crop-pesticide-use-in-cotton-production/>

<sup>38</sup> [https://environment.ec.europa.eu/publications/textiles-strategy\\_en](https://environment.ec.europa.eu/publications/textiles-strategy_en)

<sup>39</sup> <https://www.europarl.europa.eu/topics/en/article/20201208STO93327/the-impact-of-textile-production-and-waste-on-the-environment-infographics>

<sup>40</sup> <https://emf.thirdlight.com/link/2axvc7eob8zx-za4ule/@/preview/1?o>

emissions and waste. Circular design is pivotal within these models, aiming to enhance product quality, extend lifetimes, optimise material usage, and facilitate reuse and recycling<sup>41</sup>.

Improvements in terms of circular economy are expected through the implementation of the new design requirements that will be established under the ESPR.

Closing the loop through recycling and material reuse completes the circularity cycle. Designing products with recyclability in mind and improving collection rates are key challenges. Policy measures such as tax incentives for recycled content and EPR schemes can incentivise manufacturers to adopt these practices<sup>42</sup>.

### 3.5.4 Environmental Impact of Landfill

At a European level, approximately 12% of textile waste is collected, which suggests that the rest ends up in the landfilled or incinerated<sup>43</sup>. In Malta, part of the unwanted and waste textiles are collected by a private company, sorted, and exported to be sold in other countries. In addition, textiles disposed of in the black bag are likely to be contaminated and end up being disposed of in the landfill. Landfills may, if not properly managed, contribute to soil and water contamination through leachate and produce greenhouse gases<sup>44</sup>. These environmental impacts are expected to be mitigated through the implementation of EPR, since such a scheme is aimed to reduce the amount of textile waste disposed of as mixed municipal waste.

### 3.5.5 Textile Waste Exports

An ongoing problem is the export of second-hand textiles of poor quality to third countries. In 2019, 46% of used textiles from the EU ended up in Africa<sup>45</sup>. Whilst this goes primarily towards reuse, for which there is low demand in Europe, in actual fact the majority of textiles exported are in reality of poor quality and therefore not fit for reuse, thus ending up in open dumpsites and informal waste streams<sup>46</sup>. In addition, in 2019, 41% of the used textiles were sent to Asia. The majority of these textiles are brought to special economic zones on the continent, where they undergo sorting and processing. A significant portion is downcycled into industrial rags or filler materials, while others are re-exported for recycling in other Asian nations or sent for reused in Africa. Textiles that cannot be recycled or re-exported often end up in landfills.

This can lead to environmental degradation in recipient countries, if waste is mishandled or disposed of in environmentally harmful ways. Ensuring that textile waste is managed within the EU and avoiding such exports is a significant challenge.

## 3.6 Legal

The legal landscape plays a crucial role in shaping EPR schemes. Understanding the legal aspects is essential for ensuring compliance and achieving the intended environmental and economic benefits of the scheme.

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<sup>41</sup> ETC/WMGE, 2019, Report No 6/2019: Textiles and the environment in a circular economy,, European Topic Centre for Waste and Materials in a Green Economy. Access: <https://www.eionet.europa.eu/etcs/etc-wmge/products/etc-wmge-reports/textiles-and-the-environment-in-a-circular-economy>

<sup>42</sup> ETC/WMGE, Report No 2/2021: Business Models in a Circular Economy, European Topic Centre on Waste and Materials in a Green Economy. Access: <https://www.eionet.europa.eu/etcs/etc-wmge/products/etc-wmge-reports/business-models-in-a-circular-economy>

<sup>43</sup> <https://www.eea.europa.eu/publications/management-of-used-and-waste-textiles>

<sup>44</sup> Vaverková, Magdalena. (2019). Landfill Impacts on the Environment-Review. Geosciences. 9. 2-16. 10.3390/geosciences9100431.

<sup>45</sup> <https://www.eea.europa.eu/publications/eu-exports-of-used-textiles>

<sup>46</sup> <https://www.eea.europa.eu/publications/eu-exports-of-used-textiles>

### 3.6.1 Waste Regulations (S.L.549.63)

The Waste Regulations (S.L. 549.63)<sup>47</sup> transpose the Waste Framework Directive 2008/98/EC<sup>48</sup> into Maltese law. They establish essential waste management principles, emphasising a hierarchy that prioritises prevention, reuse, recycling, and recovery, with disposal as a last resort. In 2023, these regulations introduced mandatory waste separation for paper, metal, plastic, glass, and bio-waste. However, textiles are not currently identified as a stream subject to mandatory waste separation.

Key principles include the polluter pays principle and EPR, which require producers to manage the costs of their products throughout their lifecycle, particularly at the end of use. The Regulations set ambitious recycling targets for municipal waste: 55% by 2025, 60% by 2030, and 65% by 2035, for which a report issued by the EU Commission in 2023, indicates Malta might miss the 2025 target.

The EU faces challenges in transitioning to a circular economy due to inconsistent policies, complex textile waste, and inadequate recycling infrastructure. To address this, the EU Commission has proposed an amendment to the WFD to introduce EPR obligations for textiles, including clothing, textile-related products, and footwear, aiming to establish a sustainable management system and make producers responsible for their products' entire lifecycle.

The Waste Regulations will need to be amended to be aligned with the amendments to the Waste Framework Directive which are expected to be adopted at the end of 2024.

### 3.6.2 Waste Management (Landfill) Regulations (S.L.549.29)

The Waste Management (Landfill) Regulations (S.L. 549.29)<sup>49</sup> transpose the EU Landfill Directive 2018/850/EC into Maltese law, setting measures to minimise the environmental and health impacts of landfills. These regulations outline the requirements for landfill operating permits. By 2035, landfill disposal of municipal waste should not exceed 10% of total municipal waste generated whereas from 2030, Member States should aim to ensure that waste suitable for recycling or other forms of material or energy recovery is not sent to landfills. Additionally, separately collected waste intended for preparation for reuse and recycling must not be disposed of in landfills.

### 3.6.3 Waste Management (Shipments of Waste) Regulations (S.L. 549.65)

The EU Waste Shipment Regulation (2024/1157)<sup>50</sup> is implemented in Malta by S.L. 549.65<sup>51</sup>, the Waste Management (Shipment of Waste) Regulations as published by Legal Notice 285 of 2011, as amended by Legal Notices 440 of 2011 and 194 of 2024. This regulation governs the transboundary movement of waste to ensure it is managed in an environmentally sound manner and does not harm human health or the environment. The regulation aligns with the EU Waste Framework Directive and international agreements like the Basel Convention, aiming to prevent illegal dumping, improper handling, and ensure safe waste management.

Key updates in the 2024 Regulation include digitalisation of shipment procedures, export monitoring to OECD countries, independent audits of waste sent to non-EU countries, and approval requirements when exporting waste to non-OECD countries. EPR schemes must comply with these regulations by ensuring waste is managed properly during cross-border transport.

### 3.6.4 Extended Producer Responsibility Framework Regulations (S.L. 549. 141)

The general EPR rules established in S.L. 549.141 are to be adhered during the transposition process of the revised WFD and during the setting up of the related EPR schemes.

<sup>47</sup> <https://legislation.mt/eli/si/549.63/eng/pdf>

<sup>48</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32008L0098#>

<sup>49</sup> <https://legislation.mt/eli/si/549.29/eng/pdf>

<sup>50</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32024R1157>

<sup>51</sup> <https://legislation.mt/eli/si/549.65/eng/pdf>

### 3.7 Concluding remarks

As highlighted throughout the analysis of each PESTEL factor, and summarised in the table below, the introduction of an EPR scheme for textiles presents a range of benefits across various areas, including environmental sustainability, economic growth, and improved regulatory compliance. However, it also brings several challenges that must be carefully considered and addressed. These challenges include potential financial burdens on producers, consumers, and the need for continuous support and stakeholder collaboration. These pros and cons will be further explored and detailed analysis provided in the upcoming sections of this study, providing a more comprehensive understanding of the EPR scheme's potential impact.

Factor	Pros	Cons
<b>Political</b>	EU and national institutional stakeholders and related policies are putting forward proposals for the introduction of EPR for textiles.	Dependence on government and various stakeholders may result in inconsistent enforcement or policy shifts.
<b>Economic</b>	The introduction of an EPR can lead to job creation, boost revenue from textile exports, and promote local reuse initiatives.	The financial burden on producers could be substantial, especially for small and medium enterprises in the sector.
<b>Social</b>	An EPR can raise public awareness about sustainable textile use, encouraging more eco-conscious consumption.	There may be resistance from consumers to higher product prices, as costs may be passed down from producers.
<b>Technological</b>	An EPR can incentivise advancements in textile recycling technologies which would improve the efficiency and effectiveness of textile waste management.	Limited access to advanced sorting technology for textiles may result in higher operational costs.
<b>Environmental</b>	An EPR can significantly reduce textile waste, contributing to improved environmental sustainability.	If improperly managed, the environmental benefits of an EPR scheme may be offset by inefficient waste handling.
<b>Legal</b>	The introduction of an EPR for textiles will be mandated through the approval of the amendments to the Waste Framework Directive.	Legal disputes or uncertainties may arise regarding the scope of responsibilities between stakeholders.

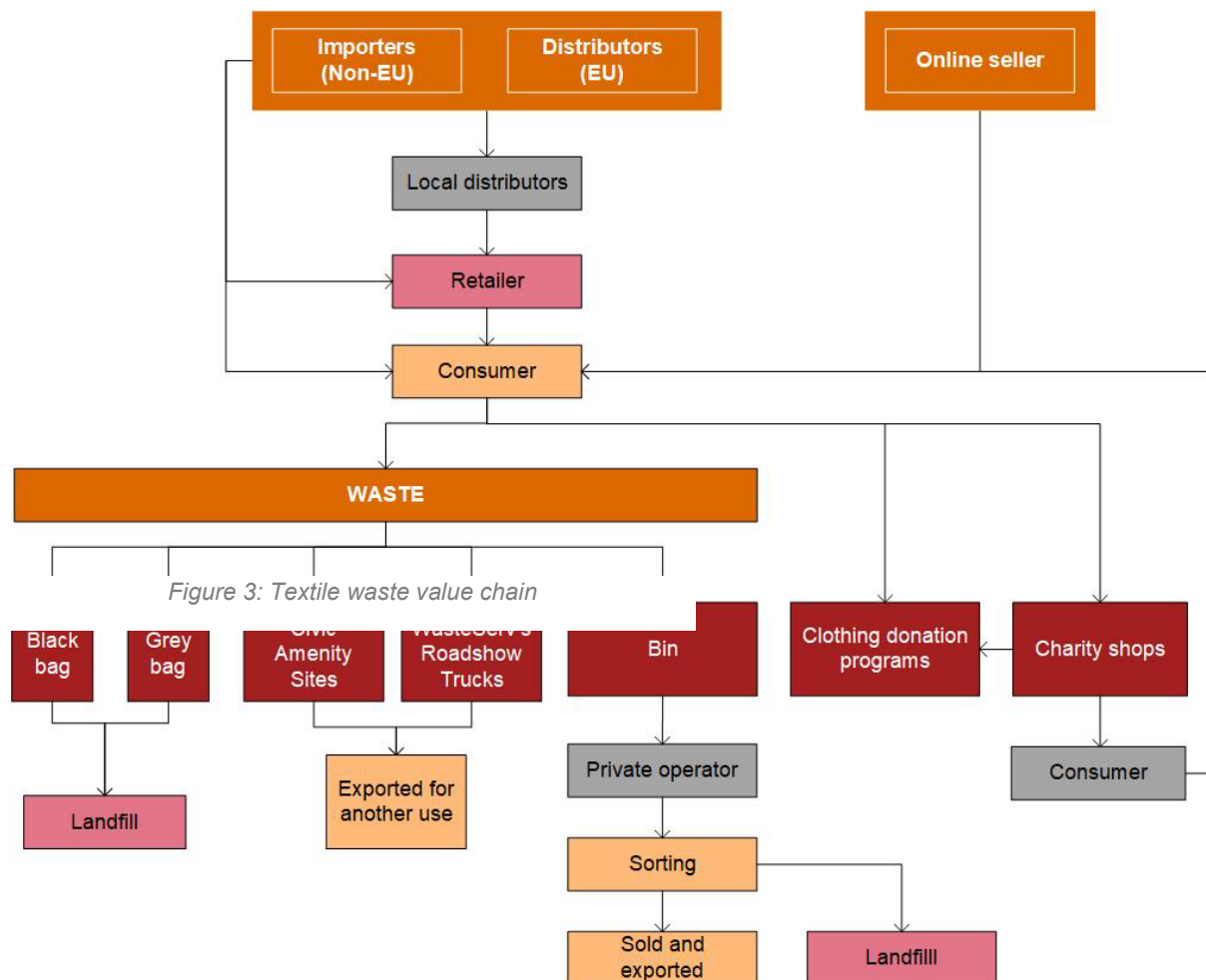
## 4. Market study

### 4.1 Stakeholder analysis

To effectively analyse the textile market, a stakeholder analysis offers an overview of the key players within the industry. This analysis encompasses all entities in the textile supply chain, including importers, distributors, retailers, consumers, and waste management organisations as shown in Figure 3 below. Textiles are placed on the local market through three primary channels: imports from non-EU countries (imports), intra-community acquisitions from the EU (distributors), as well as, purchases from online sellers both within and outside the EU. These textiles are then either supplied to local distributors, who sell to local retailers, or directly to retailers or consumers. Once available in the market, consumers may purchase textiles from local distributors.

Textiles are then discarded due to wear and tear or other reasons. In Malta, textiles are primarily disposed of in the black bags and the local bins distributed across the Maltese islands or at Civic Amenity Sites. Textiles are also found in the grey bags. Additionally, some shops offer used clothing donation programmes, collecting garments for donation, reuse, or recycling. Textile waste is also collected via WasteServ's Roadshow Trucks, which visit all localities and feature dedicated compartments for textile disposal. Additionally, consumers or retailers can opt to donate their used textiles which are still in good quality to charity shops.

The collection of black and grey bags is managed by the Regional Councils, the Civic Amenity Sites are managed by Wasteserv, while the bins are managed by a private operator.



Textiles disposed of in black and grey bags are landfilled. Textile waste collected from the Roadshow trucks or sites is subsequently transferred to an economic operator which sorts it and then the items suitable for reuse (reaching end-of-waste) are exported. Meanwhile, textiles collected in the bins are mainly exported for re-use by the private operator after sorting and reaching the end-of-waste status, with some reject items sent to the landfill.

The following sections of this market study provide an overview of the textile market in Malta, examining key local stakeholders. This includes an analysis of textile companies based on their primary activities. The study then explores textile import values and volumes to assess the scale and types of textiles entering the local market. Finally, it will address the management and collection of textile waste. The market study does not analyse the amount of textiles donated to thrift shops due to the lack of data.

## 4.2 Analysis of the textiles market by NACE code

EPR shifts waste management responsibility from municipalities to producers. Under the Extended Producer Responsibility Framework Regulations (S.L. 549.141), a producer is defined as any natural or legal person who professionally develops, manufactures, processes, treats, sells, or imports specific products.

The new proposal issued by the European Commission on 5 July 2023 relating to the Directive of the European Parliament and of the Council amending Directive 2008/98/EC on waste, outlines the textile products subject to EPR obligations, as detailed in Annex IVc of the proposal. We have therefore utilised that list of products to identify the relevant NACE codes of companies that are likely to be involved in developing, manufacturing, processing, treating, selling, or importing such textile products.

This market study is relevant for the assessment of the EPR in relation to textiles as it provides key insights into historic current, and projected import volumes and market size, and an understanding of the existing ecosystem in relation to the management of textile waste. This data provides the basis for identifying the impacted companies from the introduction of an EPR for textiles, and the expected volumes and value of textiles which will be subject to EPR, and on which EPR fees will need to be paid.

The analysis below is based on NACE codes of companies responsible for the lifecycle of textiles and resulting waste of their products. This section provides an overview of the distribution of companies categorised by size (large, medium, small, and micro) in the textile industry from 2018 to 2022, based on relevant NACE codes listed below. The completeness of this list of identified NACE codes was confirmed with ERA prior to performing the analysis. It must be noted that NACE codes 13, 14 and 15 capture the manufacture of textiles in Malta, most of which are exported outside of Malta. Therefore, as only textile products placed onto the local market would be subject to EPR in Malta, the economic operators under these categories may not necessarily be subject to the introduction of the EPR. However, for completeness, they are still included in this section of the market study.

*Table 8: NACE codes of companies in relation textiles*

NACE code	Description
13	Manufacture of textiles
14	Manufacture of wearing apparel
15	Manufacture of leather and related products
46.16	Agents involved in the sale of textiles, clothing, fur, footwear and leather goods
46.41	Wholesale of textiles
46.42	Wholesale of clothing and footwear
47.51	Retail sale of textiles in specialised stores
47.71	Retail sale of clothing in specialised stores
47.72	Retail sale of footwear and leather goods in specialised stores
47.82	Retail sale via stalls and markets of textiles, clothing and footwear



## 4.2.1 Number of companies by NACE code

Table 9: Number of companies by NACE code. (Source: NSO)

NACE	Description	2018	2019	2020	2021	2022
13	Manufacture of textiles	51	48	57	55	66
14	Manufacture of wearing apparel	93	85	90	91	108
15	Manufacture of leather and related products	3	4	4	3	3
46.16	Agents involved in the sale of textiles, clothing, fur, footwear and leather goods	13	13	11	15	18
46.41	Wholesale of textiles	25	25	24	23	20
46.42	Wholesale of clothing and footwear	91	84	80	77	79
47.51	Retail sale of textiles in specialised stores	61	62	64	63	65
47.71	Retail sale of clothing in specialised stores	637	592	567	559	556
47.72	Retail sale of footwear and leather goods in specialised stores	94	84	84	80	78
47.82	Retail sale via stalls and markets of textiles, clothing and footwear	59	56	58	58	59
<b>Total</b>		<b>1,127</b>	<b>1,053</b>	<b>1,039</b>	<b>1,024</b>	<b>1,052</b>

The table above presents the total number of companies categorised by their respective NACE codes. It is clear that each year, the highest concentration of companies falls under NACE codes 47.71 and 47.72. Additionally, there has been a marginal decline in the overall number of companies, decreasing from 1127 in 2018 to 1052 in 2022.

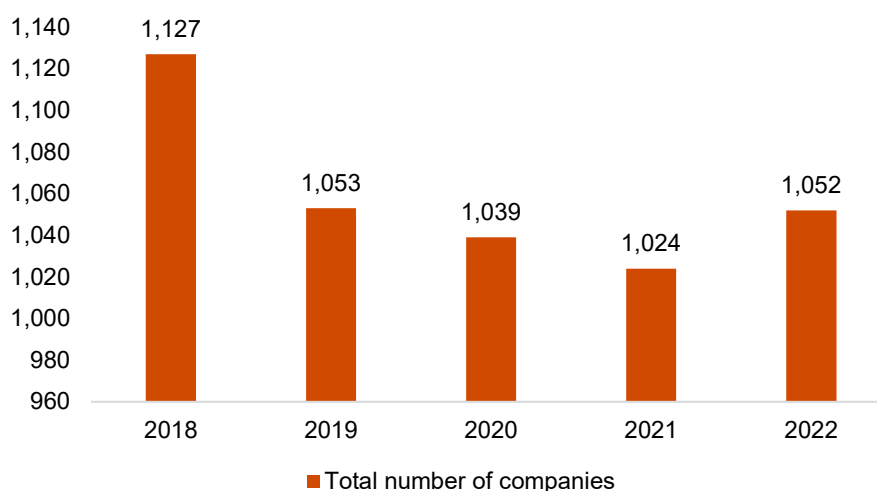


Figure 4: Total number of companies

## 4.2.2 Total number of companies of all NACE codes by company size

Table 10: Total number of companies of all NACE codes by company size. (Source: NSO)

Company size	2018	2019	2020	2021	2022
Micro	1,043	960	956	950	973
Small	57	67	59	51	55
Medium	26	24	24	21	21
Large	1	2	0	2	3
<b>Total</b>	<b>1,127</b>	<b>1,053</b>	<b>1,039</b>	<b>1,024</b>	<b>1,052</b>



The table above displays the total number of companies by size across all relevant NACE codes. Notably, micro-sized companies are the most common across all NACE codes (92.4%), while large companies are the least represented (0.3%).

### 4.3 Analysis of textiles import trends by HS code

The new proposal issued by the European Commission on 5 July 2023 relating to the Directive of the European Parliament and of the Council amending Directive 2008/98/EC on waste, outlines the textile products subject to EPR obligations, as detailed in Annex IVc of the proposal. The following analysis therefore examines data relating to the imports of textiles to Malta from 2018 to 2022 by the relevant Harmonised System (HS) Codes, from Eurostat, based on the product categories listed in Annex IVc. These HS Codes are aligned to the latest regulatory framework to maintain consistency and compliance with European standards.

HS Codes are standardised numerical codes used to classify traded products for customers and tariff purposes. Eurostat data was used for the historical demand analysis of textiles as it captures Special Trade data which takes into consideration imports of textiles to the local market.

#### 4.3.1 Analysis of total imports for all HS codes relating to textiles subject to EPR obligations

Imports to Malta under all HS codes which would be subject to the textiles EPR obligations rose from c. €155.9 million in 2018 to c. €203.8 million in 2022, representing growth of c.30% over the 5 year period under review, more or less in line with overall nominal GDP growth in Malta of c.33% over the same period. In terms of tonnage, imports increased from c. 9,000 tonnes in 2018 to c. 11,400 tonnes in 2022.

*Methodological note: From our discussions with the NSO, we understand that the observed one-off spike in volume of tonnes of imports in 2021 reflects a data-input oversight relating to HS Code 61, which at the time of writing has not been rectified yet on the Eurostat website.*

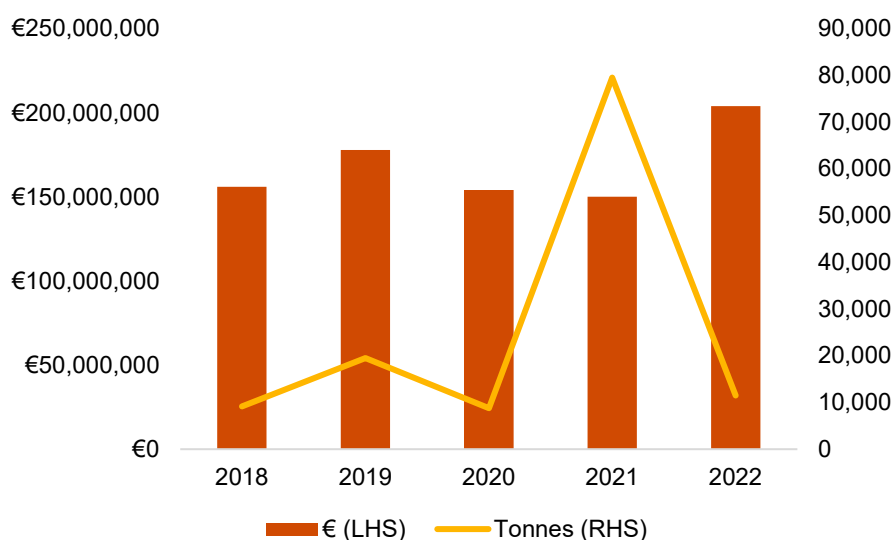


Figure 5: Imports of all HS Codes by € and tonnes. (Source: Eurostat)

### 4.3.2 Analysis of HS Code 61

HS Code 61	Articles of apparel and clothing accessories, knitted or crocheted
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Imports to Malta under HS Code 61 increased from c. €62 million in 2018 to c. €79 million in 2022. Meanwhile, the tonnage remained relatively stable, showing a modest rise from c. 3,700 tonnes in 2018 to 3,800 tonnes in 2022.

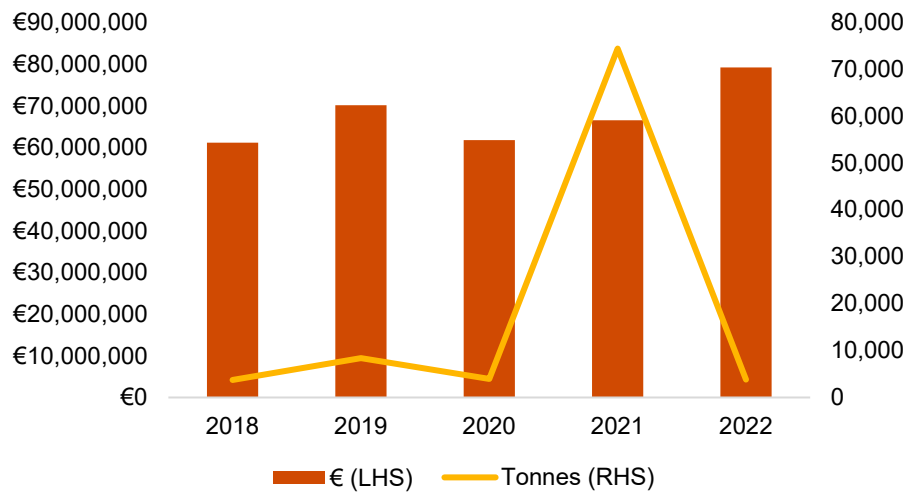


Figure 6: Imports of HS Code 61 by € and tonnes. (Source: Eurostat)

*Methodological note: from our discussions with the NSO, we understand that the observed one-off spike in volume of tonnes of imports in 2021 reflects a data-input oversight relating to HS Code 61, which at the time of writing has not been rectified yet on the Eurostat website.*

### 4.3.3 Analysis of HS Code 62

HS Code 62	Articles of apparel and clothing accessories, not knitted or crocheted
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Imports for HS Code 62 rose from c. €53 million and 1,900 tonnes in 2018 to about €68.5 million and 2,300 tonnes in 2022. Similar to HS Code 61, both categories encompassing knitted and non-knitted clothing respectively, exhibited parallel trends: increases in 2019, declines in 2020 likely due to the COVID-19 pandemic, and a return to normal trends by 2022. This suggests that the pandemic broadly affected the textile import market, but both sectors resumed their growth trajectories.

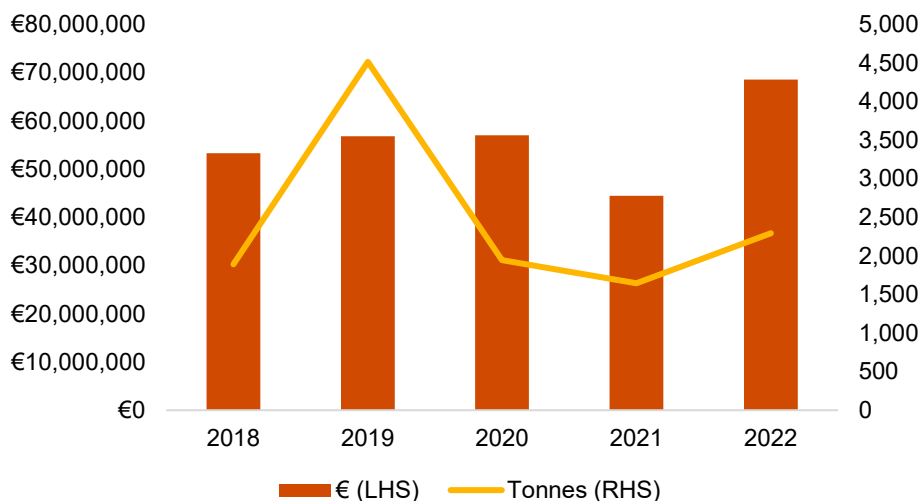


Figure 7: Imports of HS Code 62 by € and tonnes. (Source: Eurostat)

#### 4.3.4 Analysis of HS Code 63

HS Code 6301	Blankets and travelling rugs (except 6301 10 00)
HS Code 6302	Bed linen, table linen, toilet linen and kitchen linen
HS Code 6303	Curtains (including drapes) and interior blinds; curtain or bed valances
HS Code 6304	Other furnishing articles, excluding those of heading 9404
HS Code 6309	Worn clothing and other worn articles

The following analysis of HS Code 63 focuses on selected subcategories, specifically HS codes 6301, 6302, 6303, 6304, and 6309, rather than the entire code as in the previous analyses. These subcategories pertain to various textiles. The below graph (Figure 5) illustrates the combined total imports for these codes. The value of imports increased from c. €7.7 million in 2018 to c. €12.4 million in 2022, while the tonnage slightly decreased from 1,470 tonnes in 2018 to 1,460 tonnes in 2022. Thus, compared to the previous analyses of HS Codes 61 and 62, this analysis covers fewer subcategories, so the values are naturally lower.

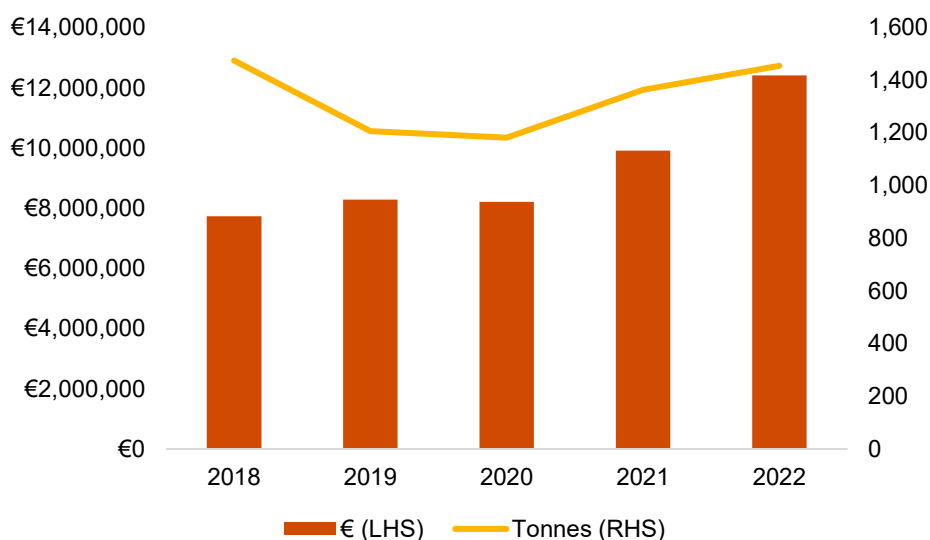


Figure 8: Imports of HS Code 6301, 6302, 6303, 6304, 6309 by € and tonnes. (Source: Eurostat)

### 4.3.5 Analysis of HS Code 64

HS Code 6401	Waterproof footwear with outer soles and uppers of rubber or of plastics, the uppers of which are neither fixed to the sole nor assembled by stitching, riveting, nailing, screwing, plugging or similar processes
HS Code 6402	Other footwear with outer soles and uppers of rubber or plastics
HS Code 6403	Footwear with outer soles of rubber, plastics, leather or composition leather and uppers of leather
HS Code 6404	Footwear with outer soles of rubber, plastics, leather or composition leather and uppers of textile materials
HS Code 6405	Other footwear

The following analysis of HS Code 64 focuses on selected subcategories, specifically HS codes 6401, 6402, 6403, 6404, and 6405, that pertain to textiles. The below figure illustrates the combined total imports for these five codes. The value of imports increased from c. €31.4 million in 2018 to c. €38.5 million in 2022, while the tonnage rose from 1,900 tonnes in 2018 to 3,200 tonnes in 2022. Despite covering only a few subcategories of HS Code 64, the value and quantity of imports remain high. The import trends for these codes are also comparable to those observed for HS Codes 61 and 62.

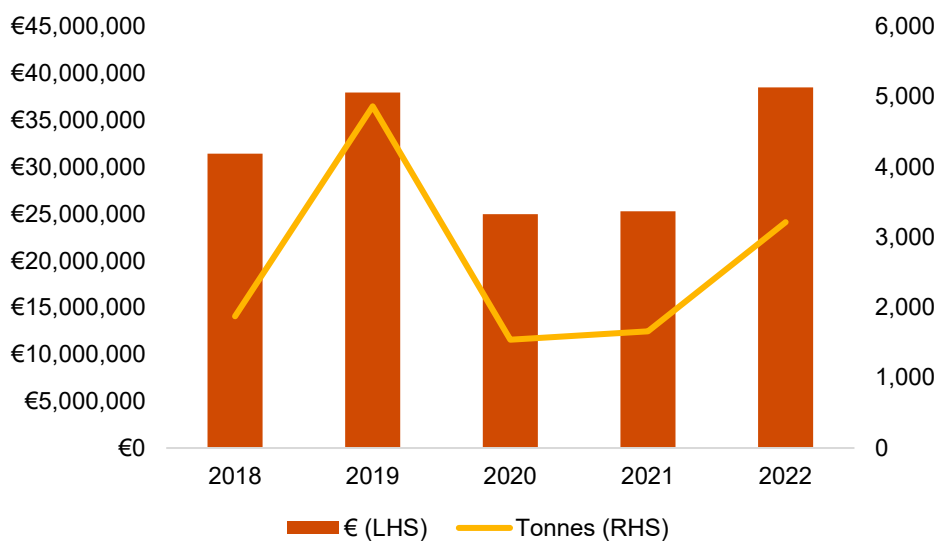


Figure 9: Imports of HS Code 6401, 6402, 6403, 6404, 6405 by € and tonnes. (Source: Eurostat)

### 4.3.6 Analysis of HS Code 65

HS Code 6504	Hats and other headgear, plaited or made by assembling strips of any material, whether or not lined or trimmed
HS Code 6505	Hats and other headgear, knitted or crocheted, or made up from lace, felt or other textile fabric, in the piece (but not in strips), whether or not lined or trimmed; hairnets of any material, whether or not lined or trimmed

The analysis of HS Code 65 focuses solely on subcategories 6504 and 6505, which pertain to textiles. Graph 5 below displays the combined total value in euros and quantity in tonnes for these two codes. The value of imports increased from c. €1.3 million in 2018 to c. €3.7 million in 2022, and the quantity rose from c. 100 tonnes in 2018 to c. 670 tonnes in 2022. These figures are significantly lower in both quantity and value compared to the previous analyses, as this analysis covers only two subcategories under HS Code 65. In addition, these two categories also indicate a rise in both € and tonnage, indicating a return to normal trends, and a likely influence of a rise in inflation rates.

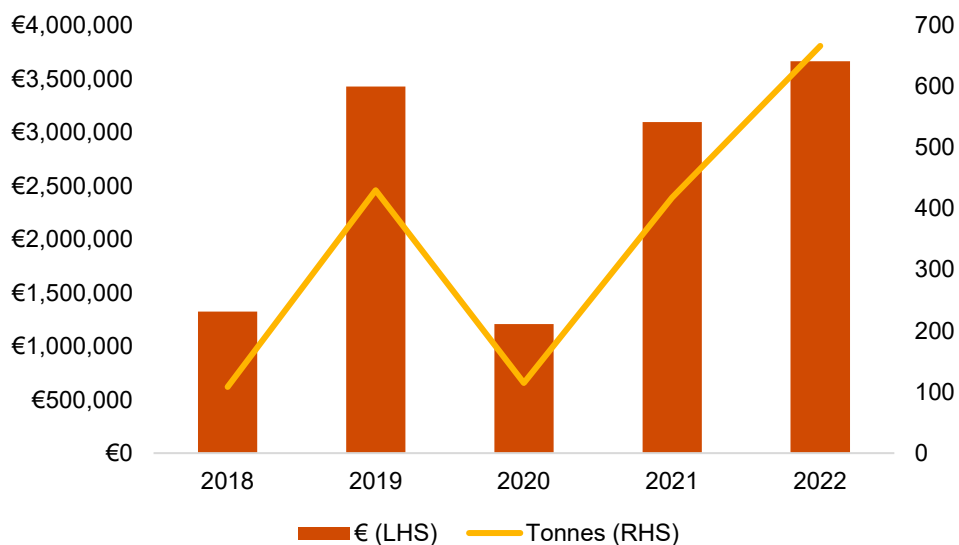


Figure 10: Imports of HS Code 6504, 6505 by € and tonnes. (Source: Eurostat)

### 4.3.7 Analysis of HS Code 4203

<b>HS Code 4203</b>	Articles of apparel and clothing accessories, of leather or composition leather (excl. footwear and headgear and parts thereof, and goods of chapter 95, e.g. shin guards, fencing masks)
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The graph below pertains exclusively to HS Code 4203, showing that imports under this code increased from c. €1.1 million in 2018 to c. €1.6 million in 2022, while the quantity decreased from c. 40 tonnes in 2018 to c. 36 tonnes in 2022. This indicates a rise in the value per tonne, suggesting a shift towards higher-value items or increased prices within this category over the analysed period, likely influenced by the rise in inflation rates in 2021.

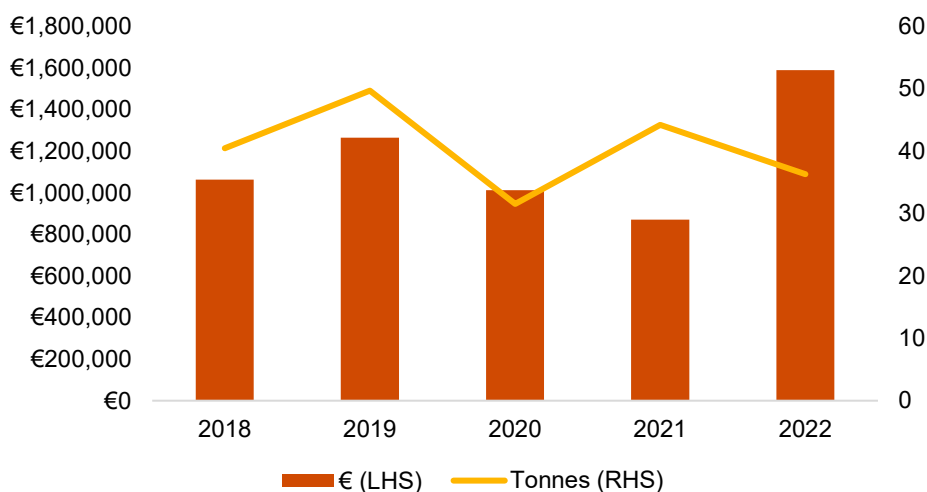


Figure 11: Imports of HS Code 4203 by € and tonnes. (Source: Eurostat)

### 4.3.8 Overall tonnage analysis of textile imports

The analysis below shows that the bulk of textile imports relates to HS Codes 61 and 62.

HS Code 61 relating to articles of apparel and clothing accessories, knitted or crocheted, recorded the highest tonnage, with a modest increase from c. 3,700 tonnes in 2018 to 3,800 tonnes in 2023. Conversely, HS Code 4203, covering articles such as leather bags and briefcases, represents the smallest category in terms of tonnage, decreasing from 40 tonnes in 2018 to 36 tonnes in 2022. HS Code 62, which includes non-knitted clothing like suits and dresses, saw an increase from 1,900 tonnes in 2018 to 2,300 tonnes in 2022, while HS Code 64, encompassing various textile products such as blankets and bed linens, rose from 1,900 tonnes in 2018 to 3,200 tonnes in 2022, reflecting substantial growth. Lastly, HS Code 65, which covers hats and other headgear, experienced a significant rise from 100 tonnes in 2018 to 670 tonnes in 2022, demonstrating considerable growth despite its more limited scope.

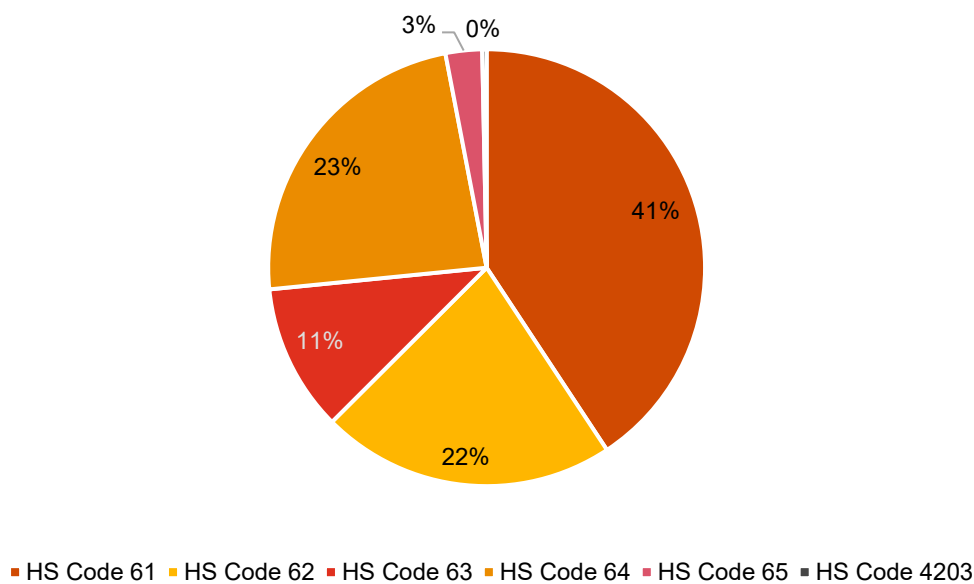
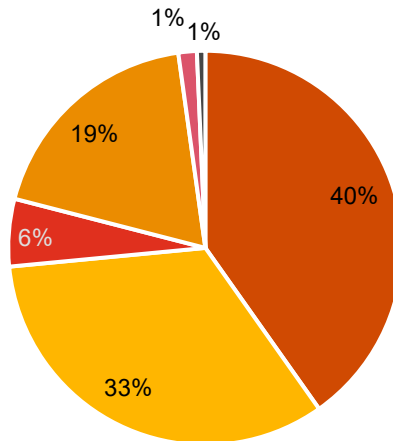


Figure 12: Imports in tonnes over 2018 – 2022 (percentage share by HS code) (Source: Eurostat)

*Methodological note: Due to the existence of one-off erroneous data for 2021 (as highlighted in the previous methodological note), for the above analysis we have removed the data in tonnes for 2021, with the above chart therefore representing the aggregate of data in tonnes for the years 2018, 2019, 2020 and 2022.*

HS Code 61, which includes knitted or crocheted apparel and clothing accessories such as sweaters, and socks, saw a significant increase from c. €61 million in 2018 to c. €79 million in 2022, making it one of the highest in value. Conversely, HS Code 65, which covers subcategories 6504 and 6505 related to headgear, recorded much lower values, increasing from around €1.3 million in 2018 to €3.7 million in 2022. The lowest value was observed under HS Code 4203, which pertains to articles of apparel and clothing accessories made of leather, with imports rising from €1.1 million in 2018 to €1.6 million in 2022. Despite covering fewer subcategories, the trends in these values suggest a broad impact of market factors, including a shift towards increased prices due to a rise in inflation.





■ HS Code 61 ■ HS Code 62 ■ HS Code 63 ■ HS Code 64 ■ HS Code 65 ■ HS Code 4203

Figure 13: Imports in € in over 2018 – 2022 (percentage share by HS code). (Source: Eurostat)

## 4.4 Projections

To project textile imports for Malta, this section analyses the relationship between total textile imports (based on the specified HS codes) and final consumption of semi-durable goods. This relationship is then utilised to forecast textile imports up to 2030 through regression analysis.

### 4.4.1 Historical analysis: main variables of interest

The graph illustrates the imports of textiles to Malta in millions of euros versus nominal GDP, nominal consumption, final consumption of semi-durable goods and population from 2005 to 2023<sup>52</sup>. A priori, all three variables can be expected to drive the demand for imports of textiles in Malta.

Over this period, imports of textiles increased from €114.5 million in 2005 to €261.1 million in 2023, a CAGR of 4.7%, compared with a CAGR of 7.4% for GDP, 6.0% for consumption, 3.7% for consumption of semi-durable goods and 1.7% for population.

<sup>52</sup> The analysis begins from 2005 and not earlier in order to avoid any potential distortions to the data in the year 2004, which could have arisen as a result of Malta's accession into the EU and therefore the removal of certain tariffs that would directly affect trade in goods

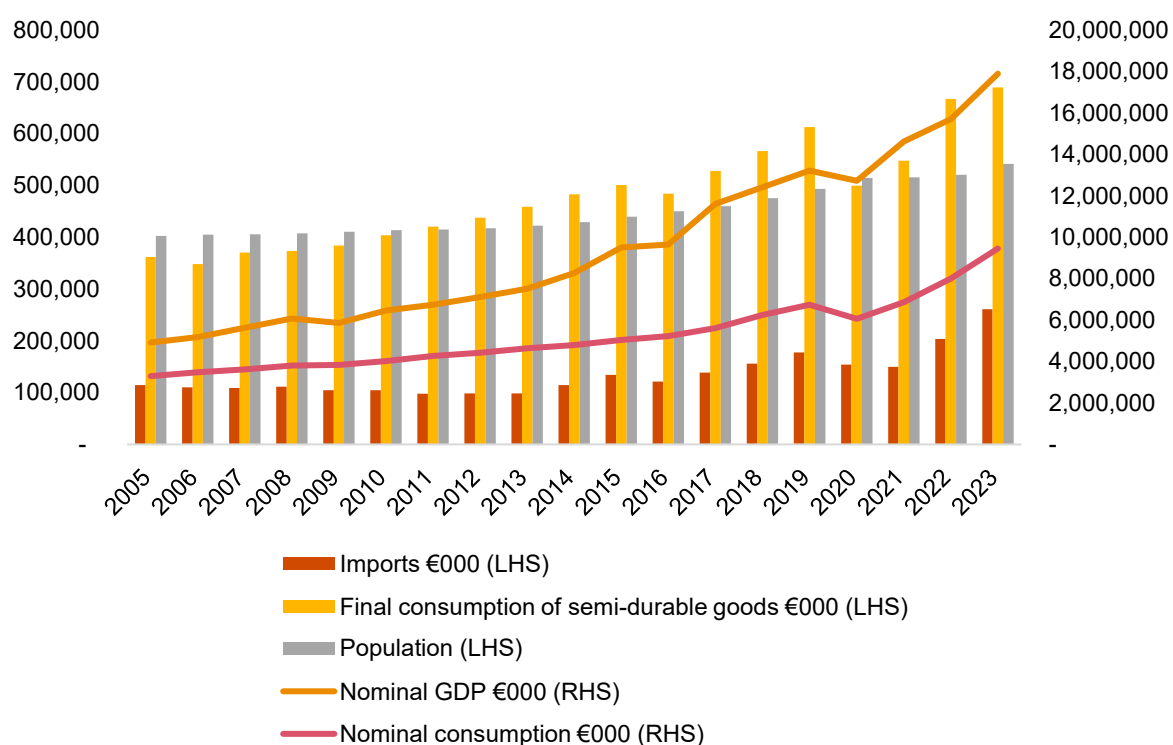


Figure 14: Historic data in levels. [Source: Imports € (Eurostat); Population (Eurostat); Nominal GDP (Central Bank of Malta); Nominal consumption (Central Bank of Malta); Final consumption of semi-durable goods (Eurostat)]

#### 4.4.2 Historical analysis: percentage change

The graph below illustrates the percentage changes in the value of imports, nominal GDP, nominal consumption, final consumption of semi-durable goods and population in Malta over the period 2006 to 2023. It would appear that in terms of percentage changes, the movements in imports are more closely correlated with the movements in GDP, consumption and final consumption of semi-durable goods (upward and downward), compared to growth in population (which has been more consistently upward, at a relatively slower pace, less variable and never negative). In fact, the correlation coefficient over the period under review between imports and population is only 0.28, compared with 0.56 for imports vs GDP, 0.72 for imports vs consumption and 0.67 for imports vs final consumption of semi-durable goods.

Table 11: Correlation coefficients of x variables against the growth of value in imports

X variable	Correlation coefficient
Nominal GDP	0.56
Nominal consumption	0.72
Population	0.28
Final consumption of semi-durable goods	0.67

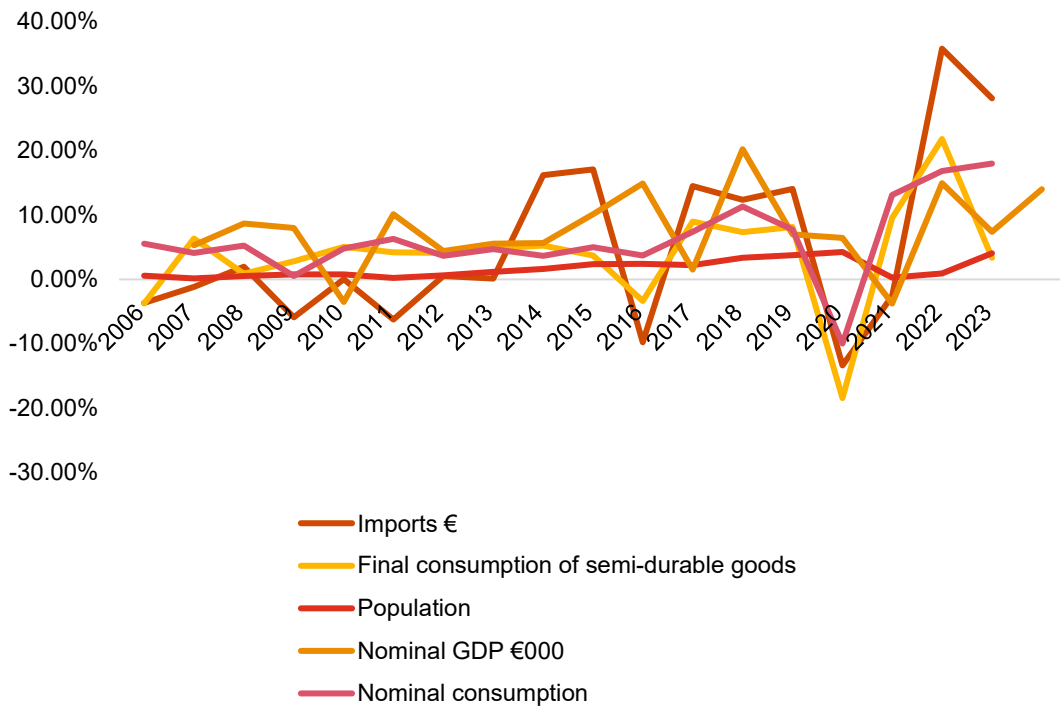


Figure 15: Historical data in percentage change [Source: Imports € (Eurostat); Population (Eurostat); Nominal GDP (Central Bank of Malta); Nominal consumption (Central Bank of Malta); Final consumption of semi-durable goods (Eurostat)]

#### 4.4.3 Historical analysis: in tonnes

The figure below depicts the volume of imports of textiles in terms of tonnes, as sourced from Eurostat. The large fluctuations in terms of tonnes imported per year, as shown in the chart, imply that this data should be treated with caution.<sup>53</sup>

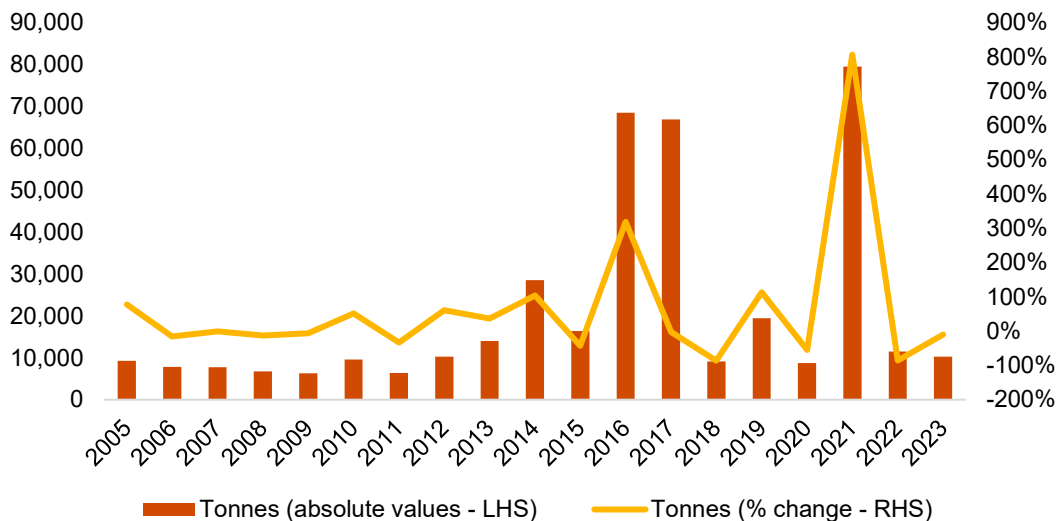


Figure 16: Historic data of textiles imports in tonnes. (Source: Eurostat)

<sup>53</sup> Methodological note: from our discussions with the NSO, we understand that the observed one-off spike in volume of tonnes of imports in 2021 reflects a data-input oversight relating to HS Code 61, which at the time of writing has not been rectified yet on the Eurostat website.

#### 4.4.4 Estimate of projections for imports of textiles: Regression analysis

To project changes in the total value of textile imports, an error correction model (ECM) was initially referred to in order to analyse and correct deviations from the long-term equilibrium between the value of textile imports vs (i) nominal GDP (ii) nominal consumption (iii) nominal final consumption of semi-durable goods and (iv) population.

However, the results of these four regressions were found to be statistically insignificant implying that a long run relationship between the value of textile imports vs the aforementioned variables does not exist.

Therefore, an Autoregressive distributive lag (ARDL) model was used to take into consideration both short-run dynamics and long-run equilibrium. It combines the benefits of autoregressive and distributed lag models to provide insights into how variables influence each other dynamically and in the long run.

ARDL regression analyses were performed according to the following specification:

$$d\log(M) = c^0 + c^1 \cdot d\log(M(-1)) + c^2 \cdot d\log(X)$$

where:

- d - first differences to transform the variables from non-stationary to stationary
- log - logarithmic form to analyse the elasticities
- M – value of imports of textiles
- X – nominal GDP or nominal consumption or nominal final consumption of semi-durable goods or population
- $c^0$  – intercept
- $c^1$  – coefficient of the value of imports of textiles lagged one period
- $c^2$  – coefficient of nominal GDP or nominal consumption or nominal final consumption of semi-durable goods or population

*NB: The regression analysis was done by individual explanatory variable and not with all four variables combined in one equation in order to avoid issues of multicollinearity, given the likely close relationship between GDP and consumption.*

From the four specified ARDL regression analyses, only the final consumption of semi-durable goods was found to have a statistically significant relationship with the value of textile imports. This produced the following regression:

$$d\log(M) = -0.02 + 1.37d\ln M(-1) + 0.58d\ln(\text{Semi\_Dur})$$

where *Semi\_Dur* represents final consumption of semi-durable goods

The results of the above regression analysis are summarised in the below table:

Table 12: Summary of regression analyses

Imports € (y-variable)	Intercept	Imports € lagged one period (X variable)	Final consumption of semi-durable goods (X variable)
<b>Coefficient</b>	-0.02	0.58	1.37
<b>t statistic</b>	-1.05	3.27	5.29
<b>p value</b>	0.31	0.01	0.00
<b>R<sup>2</sup></b>	0.7		

Based on the above results, the value of imports of textiles lagged one period and the final consumption of semi-durable goods both have t-statistics greater than 2 and p-values below 0.05, indicating that they have a statistically significant relationship with the value of imports of textiles. However, the t-statistic of the intercept is lower than 2 and the p-value is higher than 0.05, indicating that the intercept is not statistically significant and thus, there is not enough evidence to prove that the intercept is different from zero.

The dynamic effect is captured by the coefficient on the lagged term,  $\ln M(-1)$ . The coefficient of 1.37 shows the impact of past changes in the log of the value of imports of textiles [ $\log(M)$ ] on the current period's change, indicating how previous movements influence future values. The coefficient 1.37 on the lagged change in  $\log(M)$  [ $\ln M(-1)$ ] suggests that a 1% increase in the previous period's change in the value of imports (M) leads to a 1.37% increase in the current period's change in the value of imports (M), showing a strong positive relationship over time.

In addition, the immediate effect is captured by the coefficient on  $\ln(\text{Semi\_Dur})$ . The coefficient 0.58 reflects the direct or contemporaneous impact of changes in financial consumption (Semi\_Dur) on the current period's change in M. The coefficient 0.58 on  $\ln(\text{Semi\_Dur})$  indicates that a 1% increase in the change of financial consumption (Semi\_Dur) results in a 0.58% increase in the change of M.

On this basis, we have estimated the projected growth in imports over the 2024-2030 period based on the results of this ARDL regression model. These results are presented in the table and chart below.

Table 13: Projected imports (€)

Projected years	2024	2025	2026	2027	2028	2029	2030
Consumption expenditure projections	4.9%*	4.0%*	3.7%*	3.0%**	2.5%**	2.0%**	2.0%**
Estimate of projected imports	€314.0m	360	400	431	456	472	483

\* Central Bank of Malta (CBM) projections

\*\* Internal assumption<sup>54</sup>

To project the change in the value of textile imports in euros up to 2030, the Central Bank of Malta's (CBM) consumption projections for 2024 to 2026 were referred to. These projections were then applied to the ARDL regression to estimate the value of textile imports for the period 2024 to 2030.

## 4.4.5 Projections of textile imports

### 4.4.5.1 Projections of textile imports – in euro

The graph below displays the historical and projected values of textile imports to Malta. It indicates that the value of textile imports can be expected to increase from c. €261 million in 2023 to €483 million by 2030, on the basis of the anticipated growth in consumption as outlined above. This would represent a CAGR of 7.4% over the projected 6 year period, compared with a historical CAGR of 11.1% over the last historic 6 year period.

<sup>54</sup> Since the CBM's projected consumption growth rate is available till 2026, the projections for 2027-2030 are internal assumptions, based on historical trends of projected consumption growth rates.

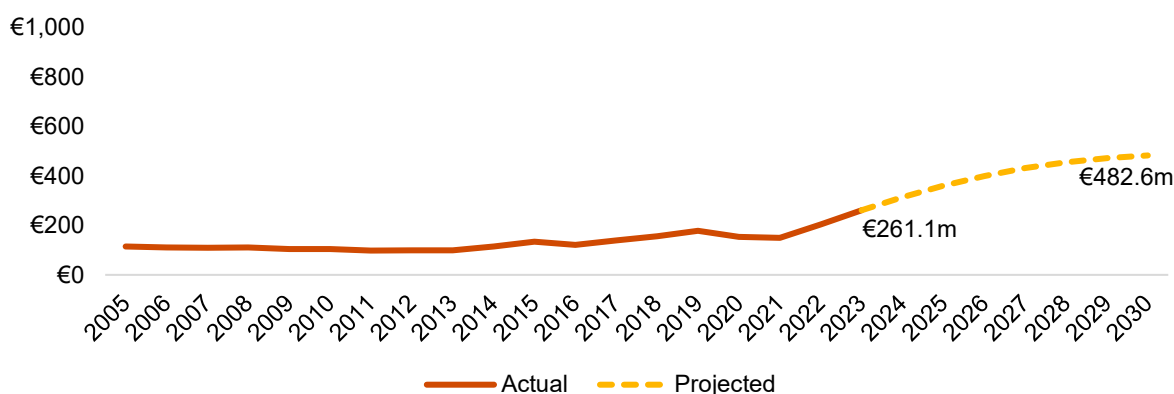


Figure 17: Historical and projected of textile imports in €m [Source: Actual (Eurostat); Projected (PwC workings)]

However, it is important to note that there are various downside risks to this projection, especially in light of the EU Strategy for Sustainable and Circular Textiles and the implementation of the EPR on textiles, both of which will likely have a dampening effect on projected imports of textiles going-forward, as outlined in section 4.4.6.

#### 4.4.5.2 Projections of textile imports – in tonnes

Since historical import data in tonnes has been identified as volatile in Section 4.4.3, our approach to projecting future imports in tonnes involved calculating the euro per tonne rate of the latest historical year, 2023. This rate was then applied to estimate tonnes imported annually from 2024 to 2030. Specifically, this involved dividing the projected textile import value for each year by the 2023 euro per tonne rate of €25,372 to derive the projected tonnes imported during this period. The calculations of the projections of textile imports in tonnes are expressed in the table below.

Table 14: Projected imports (tonnes) based on real GDP

Projected years	2024	2025	2026	2027	2028	2029	2030
Estimate of projected imports (€m)	314	360	400	431	456	472	483
<i>Estimate of 2023 euro per tonne: €25,317</i>							
Estimate of projected imports (tonnes)	12,376	14,184	15,747	17,006	17,955	18,586	19,020

On this basis, imports of textiles are set to increase from 10,290 tonnes in 2023 to around 19,020 tonnes in 2030, representing a CAGR of 7.4% over the period.

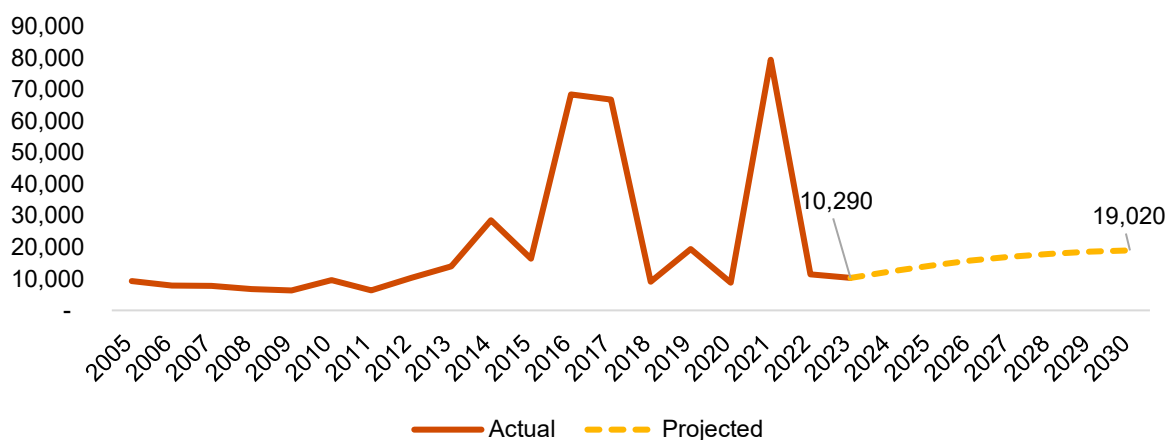


Figure 18: Historical and projected of textile imports in tonnes [Source: Actual (Eurostat); Projected (PwC workings)]

#### 4.4.6 Downside considerations in connection with the projections

##### 4.4.6.1. Policy changes to reduce textile consumption – the introduction of the EPR

To evaluate whether the implementation of the EPR effectively reduces textile demand and, consequently, textile imports, reference can be made to data from France, which adopted an EPR system for textiles back in 2007.

The charts below illustrate (i) the volumes of imports of textiles into France, compared with the nation’s GDP and (ii) the percentage annual change in these two variables. From this analysis, the extent to which the introduction of the EPR in 2007/2008 had a downward impact on the imports of textiles is unclear. In fact, growth and contraction of imports of textiles over the period would appear to be more correlated with movements in GDP (the two variables have correlation coefficient of 0.68 over the period) – with the decline in 2009 coinciding with the recession experienced in that same year, and not necessarily reflecting the introduction of the EPR. Furthermore, the pickup in 2010 and 2011 would imply that the EPR did not seem to necessarily curb consumption patterns.

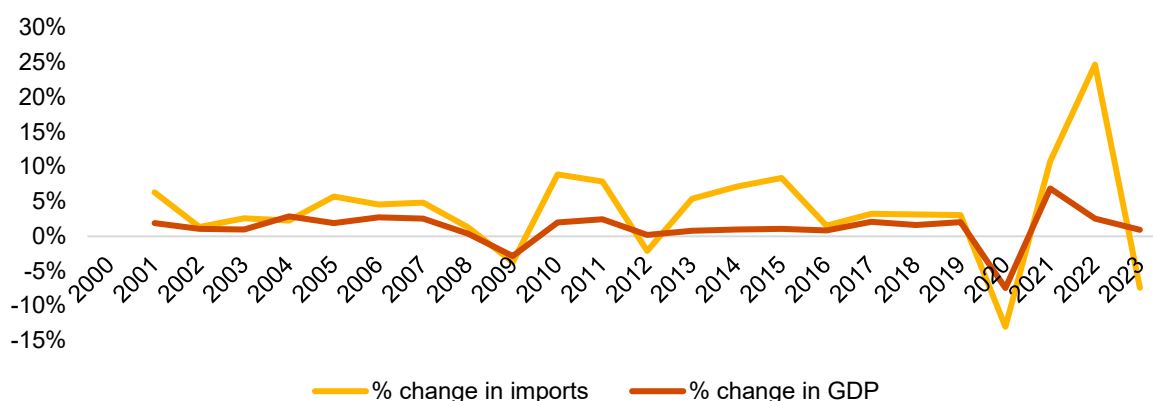


Figure 19: Historical data in percentage change (France). (Source Eurostat)



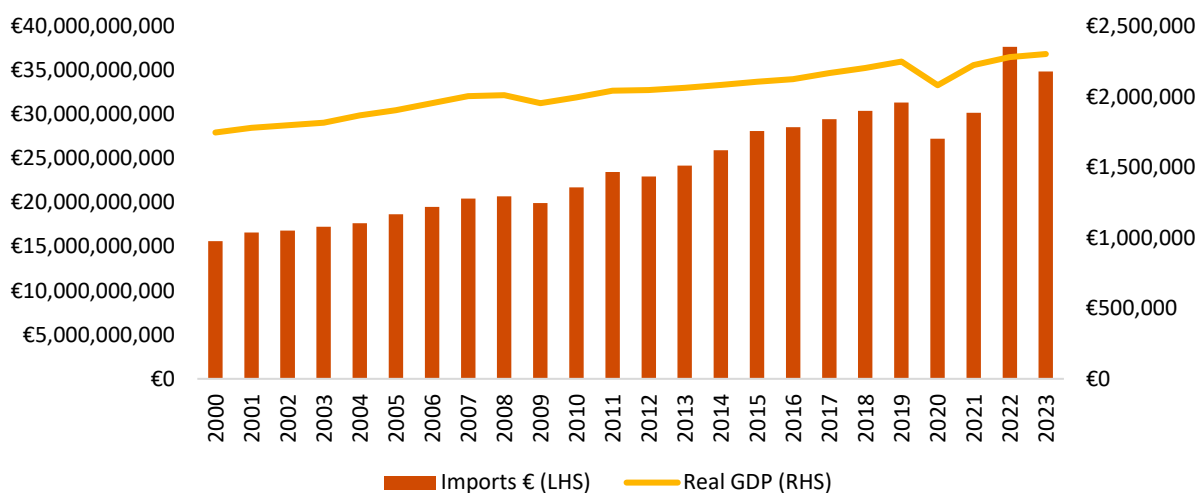


Figure 20: Historical data in absolute terms (France). (Source: Eurostat)

Furthermore, the ‘Status report summarising the proliferation of Extended Producer Responsibility (EPR) systems for the textiles waste stream’ by WRAP (an NGO) also states that the EPR has not had a significant impact on consumer behaviour vis-a-vis textiles, as outlined on page 12 and reproduced below:

*“Whilst the French population declared that they buy less clothes than before, the number of items placed on the market increased by 21% since the inception of the system, so buying habits have not been curbed.”*

#### 4.4.6.2. Policy changes to reduce textile consumption – EU Strategy for Sustainable and Circular Textiles

The Proposal for a Directive of the European Parliament and of the Council amending Directive 2008/98/EC on waste makes reference to the EU Strategy for Sustainable and Circular Textiles (the ‘Strategy’). The Strategy proposes actions to change the production and consumption of textiles. The Ecodesign for Sustainable Products Regulation (ESPR), in regards to this Strategy entered into force on 18 July 2024. The Commission envisions the following for textiles by 2030:

- All EU market textiles are durable, repairable, and mostly made from recycled fibres, free from harmful substances, and produced sustainably;
- "Fast fashion" is obsolete, ensuring textiles are longer-lasting, affordable and of high-quality textiles;
- Accessible reuse and repair services are profitable and widespread;
- The textiles sector is competitive, innovative, and resilient, with producers taking full responsibility across the value chain, prioritising recycling over incineration and landfilling.

As a result of this Strategy, it can be argued that demand for textile imports should be expected to decline. The increased durability and sustainability of textiles will extend their lifespan, reducing the frequency of replacements needed. Consequently, this shift towards longer-lasting, high-quality textiles is expected to lead to a decrease in textile imports. Thus, in theory, consumer patterns will evolve to prioritising value and sustainable choices over the high turnover associated with fast fashion. This change is anticipated to support a more self-sufficient textiles sector within the EU and encourage a more responsible approach to consumption and production.

The extent to which this potential behavioural shift amongst consumers (as a result of the Strategy) will decrease the imports and consumption of textiles in Malta is difficult to quantify at this stage. As a result,

for the purpose of this market study, we have not sought to estimate this effect on the projections for textiles.

## 4.5 Textile waste

This section examines textile waste to assess the volume of textile waste in Malta and to understand how it is being collected and managed. At present, textiles such as clothes, rugs, and carpets are accepted at Civic Amenity Sites managed by Wasteserv in Malta. Additionally, clothes and shoes can be disposed of in bins located across the Maltese Islands, operated by a private company. Textiles are also found in the black disposal bags collected as municipal waste and grey disposal bags.

Second-hand textiles can be donated at charity shops. However, given that such social enterprises are mostly voluntary organisations, to our knowledge, there is no data available on the size of this second-hand market niche.

The table below outlines the textile waste data from 2018 to 2022, collected through waste bag collections. Textile waste in black bags decreased slightly from c. 7,600 tonnes in 2018 to c. 7,000 tonnes in 2022. Conversely, textile waste in grey bags increased from c. 400 tonnes in 2018 to c. 500 tonnes in 2022. Moreover, textiles collected through the bins also saw an increase from c. [REDACTED] tonnes in 2018 to c. [REDACTED] tonnes in 2022. Consequently, the estimated total textile waste decreased from c. [REDACTED] tonnes in 2018 to c. [REDACTED] tonnes in 2022.

A private operator collects textiles and, after sorting and reaching the end-of-waste status, exports them as products. The textiles exported for re-use totaled approximately [REDACTED] tonnes in [REDACTED], increasing to about [REDACTED] tonnes by [REDACTED].

In addition, the total exports of textile waste exported for further treatment according to the databases held by the Environment and Resources Authority (ERA) amounted to c. [REDACTED] tonnes in [REDACTED] and to c. [REDACTED] tonnes in [REDACTED].

*Table 15: Summary of textile waste data. (Source: Black bag and grey bag (ERA); Bins (private operator); exported textiles by private operator (private operator); Textile waste exported for preparing for reuse and recycling (Annual Environment reports submitted to ERA)*

Years	Estimate of total textile waste collected (tonnes)				Total exports of textile waste and end-of-waste used products (tonnes)	Total exports of textile waste (tonnes)
	Black bag	Grey bag	Textile waste bins	Total	Textiles exported by private operator	Textile waste exported for recycling or preparation for reuse by the private operator
2018	7,554	417	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
2019	6,665	567	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
2020	6,267	534	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
2021	6,348	514	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
2022	6,990	505	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

These figures are explained in further detail in the following sections.

### 4.5.1 Analysis of textile waste: insights from waste bags collection

Wasteserv conducts an annual Characterisation Survey which estimates the annual mass of waste per waste bag and its separate components by waste stream. Textile waste is found in both the black and grey bags collected, comprising 4.2% of black bags in tonnes as of 2023 and 1.82% of grey bags in tonnes as of 2022, as sourced from ERA. The total annual mass of textile waste collected through the black bags decreased from 7,554 tonnes in 2018 to 6,990 tonnes in 2022. In contrast, textiles found in the grey bags increased from 417 tonnes in 2018 to 505 tonnes in 2022.

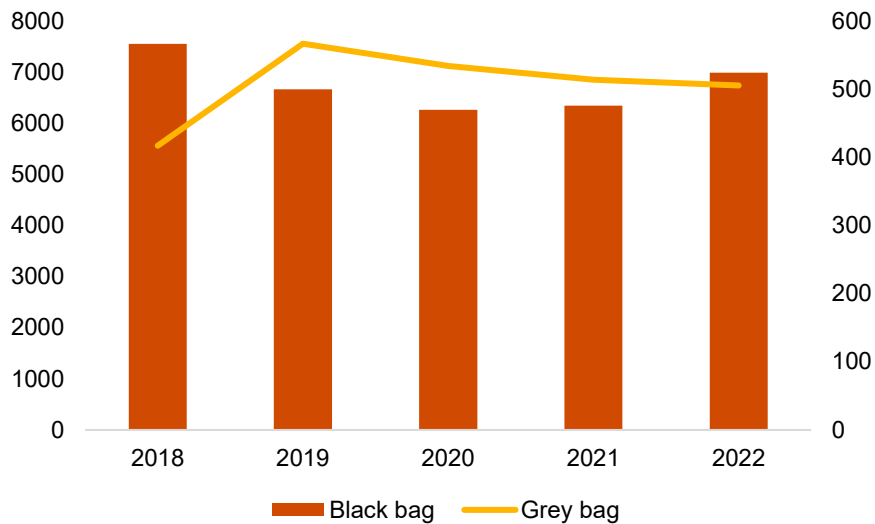


Figure 21: Textile waste in tonnes for the period 2018 – 2022. (Source: WasteServ)

### 4.5.2 Analysis of textile waste collection and exports as product by a private operator

[REDACTED]



Figure 22: [REDACTED]

### 4.5.2.1 EWC codes and recovery operations analysis: textiles exports trends

The following analysis examines data relating to the exports of textiles from Malta from 2018 to 2022 by the relevant European Waste Catalogue (EWC) codes and recovery operations, according to the databases held by ERA.

#### European Waste Catalogue code and the Basel convention code

EWC codes are a classification system used to identify different types of waste within the European Union (EU) which aims to ensure proper waste management. The recovery operations refer to the various processes aimed at reclaiming materials or energy from waste. The following analysis provides an overview of textile-related exported waste, classified under the relevant EWC codes, and its recovery according to Basel recovery options codes.

The analysis will cover the following recovery operations with relevance to exported waste of textiles:

R3	Recycling / reclamation of organic substances which are not used as solvents
R12	Exchange of wastes for submission to any of the operations numbered R1 – R11
R13	Accumulation of material intended for any operation in Section B

#### Analysis of 19 12 08

EWC code 19 12 08 refers to waste derived from the mechanical treatment of waste, such as sorting, crushing, and compaction, which primarily consists of textiles.

19 12 08	19 - wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use
	12 - wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
	08 – textiles

19 12 codes are used when the output of a mechanical sorting operation has a different composition to the input composition. In the case of textiles, given that the output has a similar composition to the input and that limited sorting is carried out in Malta, no tonnes of exported waste under this code were processed through R3, R12, or R13 between 2018 and 2022.

#### Analysis of 20 01 11

EWC code 20 01 11 encompasses waste primarily made up of discarded textiles from households, commercial establishments, and other municipal sources.

20 01 11	20 - municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions
	01 - separately collected fractions (except 15 01)
	11 – textiles

Although this waste was not exported for the specified recovery codes between 2018 and 2021, in 2022, 21 tonnes were exported for R3, and 41 tonnes were exported for R12 recovery.

Table 16: Analysis of EWC code 20 01 11. (Source: AER by ERA)

EWC code	Year	Exported for R3 (tonnes)	Exported for R12 (tonnes)	Exported for R13 (tonnes)	Exported for R12/13 (tonnes)	Total (tonnes)
20 01 11	2022	21	41	0	0	62
	2021	0	0	0	0	0
	2020	0	0	0	0	0
	2019	0	0	0	0	0
	2018	0	0	0	0	0

#### Analysis of 20 01 10

EWC code 20 01 10 includes waste made up of discarded clothing from municipal sources	20 - municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions
	01 - separately collected fractions (except 15 01)
	10 – clothes

From 2018 to 2022, waste under this code was exported for R3 recovery, starting at 90 tonnes in 2018 and declining to 20 tonnes by 2022. Additionally, in 2018, 382 tonnes were exported for R13 recovery, which increased to 611 tonnes in 2019. [REDACTED] This trend reflects a shift in the management of discarded clothing, with a notable decrease in R3 recovery and a temporary increase in R13 recovery before it was discontinued.

Table 17: [REDACTED]

EWC code	Year	Exported for R3 (tonnes)	Exported for R12 (tonnes)	Exported for R13 (tonnes)	Exported for R12/13 (tonnes)	Total (tonnes)
20 01 10	2022	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
	2021	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
	2020	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
	2019	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
	2018	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

### 4.5.3 Benchmarking

In order to assess how the introduction of EPR for textiles may impact waste disposal trends in Malta, this section examines the effects of the EPR in select countries.

**France:** In 2007, France became the first country to establish a legal framework specifically designed to manage textile waste through EPR policy. The EPR aimed to address the challenge of managing used textiles, initially estimated at 600,000 tonnes of textiles sold per year (10 kg per person). The programme has increased the volume of textile waste collected, from 100,000 tonnes in 2007 to 260,403 tonnes in 2022. However, the implementation of the EPR did not decrease the tonnes of textiles placed on the market, since the amount of textiles introduced increased from 600,000 tonnes in 2007 to 827,000 in 2022, which may be due to several reasons such as an increase in registered producers, and enhanced compliance and enforcement. Thus, the results from France demonstrate that the EPR increased the volume of textile waste collected and directed it towards sorting and recycling through authorised channels.

Table 18: The impact of EPR on France's textile industry

	2007	2022 <sup>55</sup>	% change
Tonnes of textiles placed onto the market	600,000	827,000	+37.8%
Tonnes of textiles collected	100,000	260,403	+160%
% collected	16.7%	31.5% (Target is 50%)	
Tonnes of textiles sorted	N/A	188,000	
Recovery % of textiles sorted	N/A	<ul style="list-style-type: none"> <li>• 59.5% - reuse</li> <li>• 31.3% recycling</li> <li>• 8.2% solid recovered fuel</li> <li>• 0.5% energy recovery</li> <li>• 0.5% disposal</li> </ul>	

**Netherlands:** The Netherlands implemented an EPR system for textiles on July 1st, 2023. As of now, reports on its implementation successes and limitations are not yet available as the system will take effect in 2025. However, the annual targets for reuse and recycling provide an indication of the expected impact of the EPR on textile waste disposal. By 2025, 50% of textile waste must be recycled or reused, rising to 75% by 2030. Thus, the introduction of the EPR system in the Netherlands is expected to increase the amount of textile waste directed towards recycling and reuse.

**Finland:** Finland has not implemented an EPR system for textiles. However, in 2019, it launched an incentive-based system for recycling textiles in the Finnish city of Lahti with the aim of changing consumer behaviours. This system allows residents to exchange a bag of textiles for vouchers for local services. The Lahti textile recycling programme has been successful in diverting textile waste from landfills. In 2020, the city achieved a textile recycling rate of 60%, exceeding the national average. This success is attributed to the programme's accessibility, convenience, and incentives. Thus, the results from Lahti show an increased the volume of waste collected to be recycled, diverting amounts of textile waste from landfills.

Thus, from the above results of France, Netherlands and Finland, it is expected that the implementation of the EPR scheme for Malta should increase the volume of textile waste collected to be reused or recycled, which would promote a more sustainable approach to waste management. This will however depend on a number of factors outlined below.

## 4.6 Market opportunities and challenges

The implementation of EPR in the textile industry presents various market opportunities and challenges, detailed as follows:

### 4.6.1 Market opportunities for implementing textile EPR

**Environmental sustainability:** the implementation of an EPR for textiles would reduce waste and promote recycling which would lead to a decrease in landfill use and environmental pollution. This shift

<sup>55</sup> Refashion 2022 Activity Report - [https://refashion.fr/pro/sites/default/files/rapport-etude/REFASHION-RA22\\_ENG\\_WEB.pdf](https://refashion.fr/pro/sites/default/files/rapport-etude/REFASHION-RA22_ENG_WEB.pdf)

towards a more sustainable waste management system would aim to meet national and international environmental goals, improving the overall ecological footprint.

**Job creation:** the expansion of waste collection and processing infrastructure would create employment opportunities. This may stimulate the local economy and support the growth of green industries, contributing to broader economic development.

**Increased innovation:** adopting sustainable textile practices may encourage innovation, enhance local industry capabilities and foster collaborations that support the placing on the market and use of sustainable materials.

## 4.6.2 Market challenges to implementing textile EPR

**Administrative burden:** the introduction of EPR can place an administrative burden on producers and PROs. Producers may face increased reporting requirements, such as tracking the quantities of products placed on the market, collecting data on waste management. This could require new systems for compliance monitoring. For PROs, the need to collect, process, and report detailed data, manage logistics, and ensure alignment with legal requirements can lead to complex administrative structures, higher operational costs, and increased oversight. Balancing these burdens with environmental objectives is essential for the system's efficiency and success.

**Cost transfer to consumers:** producers may pass on the costs associated with EPR compliance to consumers. This could result in higher prices for textile products, which might be met with reluctance or dissatisfaction from price-sensitive consumers. Such cost increases could also affect consumer purchasing decisions and overall market demand.

**Technological and infrastructural limitations:** the current infrastructure may need significant upgrades to accommodate increased volumes of textile waste. Developing and implementing advanced and expanded sorting facilities would involve technical and financial challenges.

**Educating consumers:** effective EPR implementation relies on public participation in proper waste disposal practices. Educating consumers and encouraging their active involvement in these practices can be difficult. Without widespread public support and understanding, the success of EPR initiatives may be limited, impacting their overall effectiveness and potential benefits.

**Producer push-back:** textile producers may resist initiatives promoting eco-design and longer-lasting textiles. These efforts could potentially reduce their sales volumes if consumers opt for fewer but more durable products. Suppliers might prefer to maximise short-term sales rather than invest in sustainable practices that may yield slower financial returns or require significant operational changes.

**Parallel trading challenges:** parallel trading can cause double counting issues. Imported goods from a MS where such goods are subject to EPR that are then resold in Malta without the original producer's knowledge might be subject to EPR fees both in the MS of origin and in Malta, resulting in higher prices for local consumers.

## 4.7 Market risks

The implementation of EPR in the textile industry faces several market risks that could affect its success, as outlined below:

**Economic downturns:** the higher costs associated with sustainable practices may become a burden for producers experiencing financial strain. Additionally, consumers may shift their purchasing priorities towards more affordable options, leading to reduced demand for these higher-cost textiles. This economic pressure could result in non-compliance or a decrease in the market availability of sustainable products.

**Cost of implementation: the higher costs of the EPR** could be prohibitive to small and medium-sized enterprises, leading to potential non-compliance or a competitive disadvantage against larger firms with more resources.



**Shifts in consumer behaviour:** the success of EPR relies heavily on consumer engagement for sustainable products. If consumer interest in sustainability reduces, possibly due to changing trends, perceptions, or economic pressures, the demand for eco-friendly textiles may decline.

**Lack of consumer education:** the EPR's effectiveness also relies on consumers understanding the importance of proper disposal. If consumers are not adequately informed to participate in EPR-related activities, such as disposing appropriately, returning used garments for recycling, the EPR's impact will be limited.

## 4.8 Conclusion

In conclusion, the textile market is primarily composed of micro companies, with the highest concentration under NACE codes 47.71 (retail sale of clothing in specialised stores) and 47.72 (retail sale of footwear and leather goods in specialised stores). The market of imported textiles amounted to €261.1 million in 2023 with the majority of imports, both by value and volume, relating to HS Codes 61 (articles of apparel and clothing accessories, knitted or crocheted) and HS Code 62 (articles of apparel and clothing accessories, not knitted or crocheted). The demand for textile imports could be influenced by the EU Strategy for Sustainable and Circular Textiles which came into effect in July 2024. This Strategy is designed to enhance the durability and sustainability of textiles, with the aim of reducing the frequency of garment replacements and, consequently, lowering import volumes. However, the actual impact of the Strategy remains uncertain, as the rapid economic growth might counterbalance its intended effects. Strong economic activity could sustain or even increase demand, potentially diminishing the Strategy's influence on reducing textile imports. Meanwhile, textile waste in Malta has slightly decreased over the past five years from [REDACTED] tonnes in [REDACTED] to [REDACTED] tonnes in [REDACTED], while textiles exported for reuse have seen [REDACTED] from [REDACTED] tonnes in [REDACTED] to c. [REDACTED] tonnes in [REDACTED], indicating progress in waste reduction and recycling efforts.

In addition, France became the first country to establish a legal framework specifically designed to manage textile waste through EPR policy in 2007. The Netherlands also implemented an EPR system for textiles on July 1st, 2023, although the system will take effect in 2025. Finland launched an incentive-based system for recycling textiles in the Finnish city of Lahti in aim of changing consumer behaviours. Implementing an EPR for textiles in Malta is expected to enhance textile waste collection for preparation for reuse or recycling, promoting sustainable waste management.

EPR implementation offers market opportunities in environmental sustainability, job creation, and technological advancement. However, challenges include administrative burdens, infrastructural limitations, consumer awareness, cost transfer to consumers, supplier push-back and parallel trading challenges. Risks involve economic downturns, regulatory changes, shifting consumer behaviours, implementation costs, and insufficient consumer education.

## 5. Ex-Ante Assessment

The objective of this ex-ante assessment is to evaluate the rationale for an Extended Producer Responsibility (EPR) in light of key objectives of relevant waste management policies in Malta. Through an ex-ante assessment, the local context is assessed to anticipate the potential impacts that the implementation of an EPR scheme for textiles would have and its contribution or otherwise towards the achievement of Malta's objectives and targets in relation to waste management.

In developing the ex-ante assessment for the introduction of an EPR scheme we have assessed the following:

- Current waste management situation for textiles;
- The potential impact of the introduction of the EPR scheme and alignment with key legislative provisions;
- The potential impact of the introduction of the EPR scheme and alignment with national policies and strategies;
- Other considerations such as the impact on economic operators.

### 5.1 Current waste management situation for non-packaging paper

As outlined in Section 4, textiles are made available on the market, consumers may purchase textiles from local distributors or retailers. Imports to Malta under all HS codes which would be subject to the textiles EPR obligations increased from c. 9,000 tonnes in 2018 to c. 11,400 tonnes in 2022.

Textiles are then discarded due to wear and tear or other reasons. In Malta, textiles are disposed of primarily in the black bags, the bins distributed across the Maltese islands or at Civic Amenity Sites. Textiles are also found in the grey bags. Additionally, some shops offer used clothing donation programmes, collecting garments for donation, reuse, or recycling. Textile waste is also collected via WasteServ's Roadshow Trucks, which visit all localities and feature dedicated compartments for textile disposal. Additionally, consumers or retailers can opt to donate their used textiles which are still in good quality to charity shops. The collection of black and grey bags is managed by the Regional Councils, the Civic Amenity Sites are managed by Wasteserv, while the bins are managed by a private operator.

In 2022, textile waste in black bags is estimated to have amounted to c. 7,000 tonnes and that in grey bags to c. 500 tonnes. Moreover, textiles collected through the bins amounted to [REDACTED] tonnes in [REDACTED]. Consequently, the total tonnage of textile waste generated is limited to [REDACTED].

These figures also indicate the high % of textile waste which is not being separately collected, with only about 10% of tonnes of textiles placed on the market separately collected, and 66% disposed of in the grey and black bags.

The textiles reaching the end-of-waste status and exported as products for re-use totalled [REDACTED] tonnes in [REDACTED]. In addition, the total exports of textile waste exported for further treatment amounted to [REDACTED] in [REDACTED]. Consequently, the estimated total textile export from these activities amounted to [REDACTED] in [REDACTED].

## 5.2 Impact and alignment with key legislative provisions

### 5.2.1 Extended Producer Responsibility Framework Regulations (S.L. 549.141)<sup>56</sup>

Key Objectives	Potential Impacts of an EPR scheme
<p>The core objective of these regulations is to provide the framework for EPR schemes in Malta including definitions of producers, their roles, and the financial and organisational responsibilities of producers, in order to strengthen the re-use and the prevention, recycling and other recovery of waste</p>	<p>The introduction of an EPR scheme for textiles in Malta would be aligned to this regulation which implements the extended producer responsibilities on producers of a product in order to strengthen the re-use, prevention, recycling and other recovery of waste. An amendment to these regulations such that these extend to textiles, as well as the enactment of other subsidiary legislation similar to the Waste Management (End of Life Vehicles) Regulations, the Waste Management (Packaging and Packaging Waste) Regulations, the Waste Management (Waste Batteries and Accumulators) Regulations and the Waste Management (Electrical and Electronic Equipment) Regulations will be required. These regulations would apply to waste textiles in accordance with the proposed amendment to the Waste Framework Directive (WFD) establishing an EPR for textiles upon transposition of the Directive into Maltese law under Waste Regulations (S.L. 549.63).</p>

### 5.2.2 Waste Regulations (S.L. 549.63)

Key Objectives	Potential Impacts of an EPR scheme
<p>The Waste Regulations, S.L. 549.63<sup>57</sup> transpose the provisions of the Waste Framework Directive (WFD) 2008/98/EC<sup>58</sup> into Maltese national law. These regulations establish guidelines aimed at safeguarding the environment and human health. They focus on minimising waste generation, mitigating its environmental and health impacts, and enhancing resource efficiency. These regulations play a pivotal role in facilitating the shift towards a circular economy.</p> <p>These regulations set the following targets:</p> <ul style="list-style-type: none"> <li>• by 2025, the preparing for re-use and the recycling of municipal waste shall be increased to a minimum of 55% by weight;</li> <li>• by 2030, the preparing for re-use and the recycling of municipal waste shall</li> </ul>	<p>The EPR scheme would ensure that producers are responsible for the entire lifecycle of their products, including collection, preparation for re-use, recycling, and disposal. This would help mitigate the negative environmental and health impacts associated with textile waste. Moreover, an EPR scheme for textiles would incentivise producers to design products that are more durable, recyclable, and easier to manage at the end of their life cycle. This would lead to a reduction in the overall generation of textile waste and thus, support in meeting these targets.</p> <p>An EPR scheme can support Malta's EU targets by improving the collection system and the quality of the sorting process for textiles. The introduction of an EPR scheme for textiles will require that the collection system caters for a high share of the population. In addition to the</p>

<sup>56</sup> <https://legislation.mt/eli/si/549.141/eng>

<sup>57</sup> <https://legislation.mt/eli/si/549.63/eng/pdf>

<sup>58</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32008L0098>

Key Objectives	Potential Impacts of an EPR scheme
<p>be increased to a minimum of 60% by weight;</p> <ul style="list-style-type: none"> <li>by 2035, the preparing for re-use and the recycling of municipal waste shall be increased to a minimum of 65% by weight.</li> </ul> <p>The proposed amendment to the EU WFD aims to tackle textile waste by promoting a circular economy, reducing environmental harm, and enhancing waste management. Key goals include introducing EPR schemes for textiles, and encouraging reuse and recycling. These initiatives support the EU's broader strategy to reduce textile waste and foster sustainability in both production and disposal processes. Additionally, the EPR scheme requires producers to take responsibility for managing their products throughout their lifecycle, especially at the end of use.</p> <p>The European Environment Agency released an Early Warning Assessment for Malta<sup>59</sup> based on the analysis of several factors which are affecting Malta's recycling performance. The scope of the assessment was to assess whether Malta is at risk of not meeting its targets for municipal waste and which are set to be achieved by 2025.</p> <p>The assessment found that in Malta, the recycling and reuse of textiles remain underdeveloped. This is due to how low the capture rate of textile waste is in Malta. The capture rate is a good performance indicator of the effectiveness of the separate collection system. The capture rate is calculated by dividing the separately collected weight of a certain material for recycling by the weight of the material in total municipal waste. The capture rate for textile waste in Malta was at 15% in 2019. The early warning assessment mentions how a low share of the population is covered by high convenience collection services for textiles.</p> <p>Most textile waste ends up in landfills, contributing to the growing municipal waste problem.</p> <p>The assessment concluded that Malta's recycling rate stands at 10.5 % (2020) which is 44.5% less than the 2025 municipal solid waste recycling target (55%) and Malta is at risk of not</p>	<p>collection system, the sorting quality would need to be improved. Investing in sorting facilities for textiles will increase the preparing for re-use rate.</p> <p>The implementation of an EPR in Malta would ensure meeting the objectives of the amendment of the WFD namely its introduction and separation of textile waste supporting the drive towards circular economy. Furthermore, the successful implementation of EPR scheme would drive progress towards achieving the recycling and reuse targets.</p> <p>An impact assessment<sup>60</sup>, as part of the European Commission's proposal to amend the Waste Framework Directive to mandate separate collection and EPR schemes for textiles, highlights that these measures could reduce environmental harm by increasing recycling, reuse, and lowering textile waste.</p> <p>In France, an EPR scheme for textiles has been in place since 2007. A survey conducted by OpinionWay<sup>61</sup> in 2022 amongst 1,000 members of the French population found the below behavioural changes following the implementation of the EPR system:</p> <ul style="list-style-type: none"> <li>49% declared that they buy less clothes than before. This % stood at 38% in 2021.</li> <li>50% of the surveyed population sort their waste in comparison to 46% in 2021.</li> <li>59% of the surveyed population recycle their clothing, compared to 55% in 2021.</li> </ul> <p>The number of items placed on the market increased by 0.5 tonnes in 2022<sup>62</sup> compared to 2020. However, as the number of self-deposit points increased by over 2,700 in 2022 compared to 2020, France saw the collection rate for textiles increase by 56,112 tonnes in 2022, compared to 2020 figures. This translated to 0.8 kg more per inhabitant. The textile waste collected underwent a 99.5% recovery split as follows:</p> <ul style="list-style-type: none"> <li>Reuse 59.5% (56.5% in 2020)</li> <li>Materials for garneting 22.3% (23.6% in 2020)</li> <li>Cleaning cloth 9% (9.7% in 2020)</li> </ul>

<sup>59</sup> <https://www.eea.europa.eu/publications/many-eu-member-states/malta/view>

<sup>60</sup> [https://environment.ec.europa.eu/document/download/b251b83b-d1e9-4ce7-8aba-b8ca993828c8\\_en?filename=IMPACT%20ASSESSMENT%20REPORT\\_SWD\\_2023\\_421\\_part4.pdf](https://environment.ec.europa.eu/document/download/b251b83b-d1e9-4ce7-8aba-b8ca993828c8_en?filename=IMPACT%20ASSESSMENT%20REPORT_SWD_2023_421_part4.pdf)

<sup>61</sup> [https://refashion.fr/pro/sites/default/files/rapport-etude/REFASHION-RA22\\_ENG\\_WEB.pdf](https://refashion.fr/pro/sites/default/files/rapport-etude/REFASHION-RA22_ENG_WEB.pdf)

<sup>62</sup> [https://refashion.fr/pro/sites/default/files/rapport-etude/REFASHION-RA22\\_ENG\\_WEB.pdf](https://refashion.fr/pro/sites/default/files/rapport-etude/REFASHION-RA22_ENG_WEB.pdf)

Key Objectives	Potential Impacts of an EPR scheme
meeting the 2025 municipal solid waste recycling target	<ul style="list-style-type: none"> <li>• Solid recovered fuel 8.2% (9.1% in 2020)</li> </ul> <p>Similar to France, an EPR scheme in Malta could lead to an increase in the collection rate by increasing collection points and thus, preventing textile waste from being sent to landfills and instead reused and recycled.</p>

### 5.2.3 Waste Management (Landfill) Regulations (S.L.549.29)<sup>63</sup>

Key Objectives	Potential Impacts of an EPR scheme
These Regulations, transpose EU Landfill Directive 2018/850 and provide measures, procedures, and guidance with the goal of preventing or reducing the adverse impacts of waste on the environment and human health.	By diverting textile waste from landfills, the EPR scheme would reduce environmental pollution and potential health risks associated with landfill sites, such as soil contamination, water pollution, and greenhouse gas emissions.
<p>These regulations stipulate that by 2035 the amount of municipal waste landfilled is to be reduced to 10% or less of the total amount of municipal waste generated (by weight).</p> <p>Moreover, as of 2030, Member States shall endeavour to ensure that waste that is suitable for recycling or other material or energy recovery should not be accepted at landfills and waste that is separately collected for preparing for reuse and recycling cannot be landfilled. Presently, textiles including clothes, rugs, and carpets are accepted at Civic Amenity Sites managed by WasteServ.</p> <p>As described in Section 2.2, the EU released an early warning assessment for Malta based on the analysis of several factors which are affecting Malta's waste management performance. One of the key objectives of the assessment is to conclude whether Malta is at risk of not meeting its 2035 target for reducing municipal waste sent to landfills.</p> <p>The assessment found that in Malta, most textile waste ends up in landfills, contributing to the growing municipal waste problem. Given that this capture rate stands at 15% this indicates that there are opportunities to grow and push for a significant increase in textile reuse or recycling which is necessary to meet EU targets. However, current infrastructure and public awareness remain insufficient.</p> <p>Malta's landfill rate in 2020 stood at 82.5% yet the EU target for 2035 is 10% or less</p>	<p>One of the primary objectives of an EPR scheme is to reduce the amount of waste going to landfills. With textiles being one of the many components of municipal solid waste, introducing an EPR for textiles would likely lead to a decrease in the volume of textile waste being landfilled, ensuring that by 2030 textile waste which is suitable for recycling or other form of recovery is not landfilled.</p> <p>As mentioned in Section 2.2, the introduction of EPR schemes for textiles would significantly enhance Malta's ability to meet its targets including the landfill target for 2035, through an efficient nationwide collection system and by investing and improving the sorting facilities in Malta. As previously mentioned in Section 2.2 an impact assessment, as part of the European Commission's proposal to amend the Waste Framework Directive to mandate separate collection and EPR schemes for textiles, highlighted that these measures could reduce environmental harm by increasing recycling, reuse, and lowering textile waste.</p> <p>The impacts of an EPR textile scheme in France and the potential impacts on Malta based on France's experience was addressed in Section 2.2.</p>

<sup>63</sup> <https://legislation.mt/eli/sl/549.29/eng/pdf>

Key Objectives	Potential Impacts of an EPR scheme
concluding that Malta is at risk of not meeting the 2035 landfill target.	

## 5.3 Impact and alignment with national policies

### 5.3.1 Long Term Waste Management Plan 2021 – 203064

Key Objectives	Potential Impacts of an EPR scheme
<p><b>WMRO_EPR28:</b> The Government proposed conducting a feasibility study to</p> <ul style="list-style-type: none"> <li>• Evaluate current practices;</li> <li>• Explore the necessity of establishing an EPR scheme for textiles; and</li> <li>• Identify potential alternative and/or additional measures.</li> </ul> <p>This study should identify suitable methods for addressing waste textiles, where applicable.</p>	<p>The implementation of an EPR scheme for textiles in Malta relies on conducting the feasibility assessment. The completion of this feasibility study in relation to the implementation of an EPR scheme for textiles in Malta results in the successful achievement of WMRO_EPR28.</p>
<p>The Government aims to divert waste textiles away from landfills.</p>	<p>Introducing an EPR scheme for textiles in Malta would support diversion of textiles away from landfills through producer responsibility, better design, re-useability, and recycling of textiles.</p>

### 5.3.1 Recovery and Resilience Plan (RRP)<sup>65</sup>

Key Objectives	Potential Impacts of an EPR scheme
<p><b>Reform C1-R2:</b> To foster an effective waste management through a robust waste governance framework, including reforming the waste management system</p>	<p>An EPR scheme for textiles would support reaching this objective by implementing a waste management system that targets the collection, sorting and treatment of textiles.</p>
<p><b>Milestone 1.6:</b> This milestone focuses on assessing the feasibility of extending the EPR obligations to waste streams beyond those currently covered. Textile waste is an identified waste that is to be assessed through this feasibility study.</p>	<p>The focus has shifted from assessing the feasibility of expanding the EPR obligations to textile waste to now assessing which type of EPR scheme would be feasible to implement for Malta. This is in light of the mandatory introduction of an EPR scheme for textiles resulting from the expected amendments to the Waste Framework Directive.</p>
<p><b>Milestone 1.7:</b> This milestone builds on Milestone 1.6 whereby the target is the enactment of legislation based on the outcomes of Milestone 1.6. This would expand EPR obligations to textile waste.</p>	<p>Following the implementation of milestone 1.7 through the enactment of legislation expanding the EPR obligations to textile waste, Milestone 1.7 would be achieved.</p>

<sup>64</sup> <https://era.org.mt/wp-content/uploads/2022/02/Long-Term-Waste-Management-Plan-v1.4.3-Spreads-Digital-Version.pdf>

<sup>65</sup> <https://fondi.eu/wp-content/uploads/2023/11/Malta-Recovery-and-Resilience-Plan-2023-7.11.2023.pdf>



## 5.4 Conclusion

The introduction of an EPR scheme for textiles should be further considered as it will be mandatory once the amendments to the Waste Framework Directive are adopted. In addition, the EPR scheme for textiles meets the following criteria:

- **Relevance:** The introduction of the EPR scheme is aligned to the need it aims to address, i.e. the increasing generation of textile waste and the misalignment to the Waste Framework Directive's waste hierarchy (prioritising waste prevention and preparation for re-use; followed by recycling; and then treatment of residual waste).
- **Effectiveness:** The strategic objectives of the proposed amendments to the Waste Framework Directive are to reduce textile waste generation (through circular consumption, increased re-use and preparation for re-use); and to increase recycling of textile waste and reduce the amount of residual textile waste. The EPR scheme aims to ensure that producers are responsible for the entire lifecycle of their products, including collection, preparation for re-use, recycling, and final disposal, thus leading to improvements in the reduction of textile waste generated.
- **Efficiency:** The EPR schemes are considered to be an efficient way to achieve the EU waste targets as by making producers responsible for the entire lifecycle of their products, they are incentivised to place products on the market that are easier to manage at the end of their lifecycle. The harmonisation of regulations relating to the textile EPR schemes across member state is also expected to improve the transparency and cost efficiency of EPR schemes.

It is to be noted that as indicated in the Extended Producer Responsibility Regulations (S.L. 549.141), the EPR fees paid by producers to comply with an EPR scheme are to not exceed the costs that are necessary to provide waste management services in a cost-effective manner, while ensuring that quantitative and, potentially, qualitative targets are achieved. In addition, the requirement to not place disproportionate regulatory burden on producers of small quantities of products in S.L. 549.141 needs to also be addressed.

As will be outlined further in Section 7, the limited tonnage of textile waste generated justifies the selected EPR model with one PRO. In addition, the fact that a significant share of it ends up in the black bag justifies the need for further measures to increase the separate collection rate as outlined in Section 9. The limited tonnage of textile waste generated in Malta does not justify the investment required to establish local recycling infrastructure. This makes such an approach economically unfeasible, necessitating reliance on exporting waste to regions with established recycling systems.



## 6. Delineation of policy options

Throughout this Section we outline the various policy options identified through comprehensive qualitative and quantitative analysis conducted during our study. By leveraging insights and data gathered from the market study in Section 4, we propose a number of potential policy options that can effectively accelerate the implementation and maintenance of the proposed Extended Producer Responsibility (EPR) schemes. These options are designed to address Malta's unique waste management challenges, promote sustainability, and ensure compliance with EU regulations. Through a detailed examination of existing infrastructure, demographic behaviour, financial frameworks, and stakeholder engagement, we present a range of strategic approaches to optimise the EPR system for textiles in Malta.

In this regard, while considering various policy options for the proposed EPR for textile waste, the options we present will be guided by the provisions outlined in three key documents: Proposal for a Directive of the European Parliament and of the Council amending Directive 2008/98/EC on waste (the 'European Commission's Proposal'), European Parliament legislative resolution of 13 March 2024 on the proposal for a directive of the European Parliament and of the Council amending Directive 2008/98/EC on waste (the 'European Parliament's Mandate'), and Proposal for a Directive of the European Parliament and of the Council amending Directive 2008/98/EC on waste – General approach (the 'General Approach'). These documents, which propose and refine amendments to Directive 2008/98/EC on waste, establish the framework within which our policy options are delineated.

### 6.1 Establishing the products subject to EPR obligations

To ensure the effective implementation of the Extended Producer Responsibility (EPR) system for textiles in Malta, it is crucial to define the specific products that will be subject to EPR obligations. Our recommendations are based on extensive desk research and consultations with the Environment and Resources Authority (ERA). These are also aligned to the latest regulatory framework to maintain consistency and compliance with European regulations. Notably, the new proposal issued by the European Commission on 5 July 2023 outlines the textile products subject to EPR obligations, as detailed in Annex IVc of the Proposal for a Directive of the European Parliament and of the Council amending Directive 2008/98/EC on waste. By adhering to these guidelines, we can ensure that the EPR scheme targets the appropriate range of textile products, facilitating a standardised and effective approach to textile waste management.

The following tables provide a comprehensive list of textile articles within the scope of the EPR, in accordance with the EU directive. These are specified by Combined Nomenclature (CN) codes, an 8-digit numerical classification used in the EU to identify goods in international trade, extending the global Harmonised System (HS) with additional EU-specific details.

*Table 19: Textile products, and textile articles of apparel and clothing accessories for household use or other uses, where such products are similar in nature and composition to those for household use, that fall within the scope of Article 22a*

HS Code	Description
61	Articles of apparel and clothing accessories, knitted or crocheted
62	Articles of apparel and clothing accessories, not knitted or crocheted
6301	Blankets and travelling rugs (except 6301 10 00)
6302	Bed linen, table linen, toilet linen and kitchen linen
6303	Curtains (including drapes) and interior blinds; curtain or bed valances
6304	Other furnishing articles, excluding those of heading 9404
6309	Worn clothing and other worn articles
6504	Hats and other headgear, plaited or made by assembling strips of any material, whether or not lined or trimmed

HS Code	Description
6505	Hats and other headgear, knitted or crocheted, or made up from lace, felt or other textile fabric, in the piece (but not in strips), whether or not lined or trimmed; hairnets of any material, whether or not lined or trimmed

Table 20: Footwear, and articles of apparel and clothing accessories for household use or other uses, where such products are similar in nature and composition to those for household use whose main composition is not textile, that fall within the scope of Article 22a

HS Code	Description
4203	Articles of apparel and clothing accessories, of leather or composition leather (excl. footwear and headgear and parts thereof, and goods of chapter 95, e.g. shin guards, fencing masks)
6401	Waterproof footwear with outer soles and uppers of rubber or of plastics, the uppers of which are neither fixed to the sole nor assembled by stitching, riveting, nailing, screwing, plugging or similar processes
6402	Other footwear with outer soles and uppers of rubber or plastics
6403	Footwear with outer soles of rubber, plastics, leather or composition leather and uppers of leather
6404	Footwear with outer soles of rubber, plastics, leather or composition leather and uppers of textile materials
6405	Other footwear

## 6.2 Establishing the economic operators subject to EPR requirements

The General Approach on the Proposal for a Directive of the European Parliament and of the Council amending Directive 2008/98/EC stipulates that Member States shall ensure that producers have extended producer responsibility for [...] textile, textile-related and footwear products as listed in Annex IVc [...] that they make available on the market for the first time within the territory of a Member State, in accordance with Articles 8 and 8a. It also defines 'producer of textile, textile-related and footwear products listed in Annex IVc' as any manufacturer, importer or distributor or other natural or legal person excluding those that supply used textile, textile-related and footwear products listed in Annex IVc assessed as fit for re-use and textile, textile-related and footwear products listed in Annex IVc derived from such used or waste products or their parts on the market, [...] and self-employed tailors producing customised products, who, irrespective of the selling technique used, including by means of distance contracts as defined in Article 2(7) of Directive 2011/83/EU of the European Parliament and of the Council.

In this regard, to determine which economic operators should be subject to EPR requirements, we conducted a thorough analysis considering the various stakeholders involved in the lifecycle of textile products. These include producers, such as importers, local manufacturers, and online professional sellers, as well as supply chain actors like local distributors and retailers. Each of these entities will play a vital role in ensuring the responsibilities of the EPR system are effectively met, particularly in the collection, sorting, and proper disposal of textile waste.

Our approach is informed by market research, identifying the members of the value chain that are responsible for the majority of textile items imported and placed on the market. While it might seem beneficial to exclude economic operators that place negligible amounts of textiles on the national market to support small businesses and local artisans, this is not feasible for the textiles EPR. This is based on the General Approach on the Proposal for a Directive of the European Parliament and of the Council amending Directive 2008/98/EC on waste, which states that the EPR system must apply uniformly to all economic operators, ensuring a non-discriminatory approach.

Based on the above, the following table outlines the specific economic operators which would be subject to EPR requirements for textiles, ensuring comprehensive coverage and adherence to the legislative framework. This selection was based on NACE codes, which classify companies according to their

primary activities. This method ensures a precise and systematic identification of relevant economic operators involved in the production, importation, distribution, and retail of textiles. Hence, by leveraging these NACE codes, we can accurately target the appropriate economic operators, thereby enhancing the efficiency and effectiveness of the EPR system. It must be noted that NACE codes 13, 14 and 15 capture the manufacture of textiles in Malta, some of which are exported outside of Malta. Thus, only textile manufacturers who place their products on the local market are subject to EPR requirements.

Table 21: Economic operators by NACE code

NACE	Description
13	Manufacture of textiles
14	Manufacture of wearing apparel
15	Manufacture of leather and related products
46.16	Agents involved in the sale of textiles, clothing, fur, footwear and leather goods
46.41	Wholesale of textiles
46.42	Wholesale of clothing and footwear
47.51	Retail sale of textiles in specialised stores
47.71	Retail sale of clothing in specialised stores
47.72	Retail sale of footwear and leather goods in specialised stores
47.82	Retail sale via stalls and markets of textiles, clothing and footwear

## 6.3 Potential features of the proposed EPR system

In developing the potential features of the proposed EPR system for textiles, in line with the European Commission’s Proposal, the European Parliament’s Mandate, and the Council’s General Approach, we examined models where producers are mandated to fulfil their obligations collectively through Producer Responsibility Organisations (PROs), without the option for self-compliance. Consequently, a high-level analysis of various models was conducted to determine the most effective framework for this collective fulfilment between producers and PROs, which could involve either a single PRO or multiple competing PROs, as further defined below:

1. **Single producer responsibility organisation (PRO):** This model involves a single PRO fulfilling EPR obligations on behalf of all producers. A centralised PRO can achieve economies of scale, streamline operations, and simplify compliance monitoring. This model is efficient and can reduce administrative burdens for producers.
2. **Multiple competing PROs:** In this model, multiple PROs operate within the market, competing to provide waste management services. This competition can drive efficiency, lower costs, and foster innovation in recycling processes. Producers can choose the PRO that best meets their needs, which can increase service quality and responsiveness. However, this model requires robust regulatory oversight to prevent market fragmentation and ensure all producers meet their obligations.

As highlighted in the table below, each model was then evaluated against a range of critical factors, including legal requirements, cost-effectiveness, market size, administrative efficiency, and the level of competition. These criteria are essential in determining the most appropriate approach for Malta’s unique context. The goal was to identify a framework that not only meets regulatory obligations but also enhances the sustainability of waste management practices. By carefully balancing these considerations, we aimed to select a model that drives innovation, promotes efficient resource use, and

ensures economic feasibility for producers, while also safeguarding the interests of consumers and the environment.

Table 22: Potential features of the proposed EPR system

Feature	Description
<b>Legal requirements</b>	The chosen EPR model must comply with national and EU regulations, ensuring alignment with directives like the Waste Framework Directive. Legal mandates, such as those requiring collective responsibility through a PRO, are crucial in shaping the model's framework.
<b>Cost effectiveness</b>	The model should balance the financial impact on producers with the operational costs of waste management. It should promote economic efficiency, minimising costs while still achieving environmental objectives without overburdening producers, particularly smaller businesses.
<b>Market size</b>	Considering Malta's relatively small textile market, the model must be scalable and adaptable. A single PRO might offer economies of scale, while a larger market might benefit from multiple PROs to drive competition and efficiency.
<b>Administrative efficiency</b>	The model should be easy to implement, with streamlined processes and effective monitoring mechanisms. High administrative efficiency reduces the burden on both producers and regulators, ensuring smooth operation and compliance.
<b>Competition</b>	The model must decide between a single PRO for streamlined operations or multiple PROs to foster competition. Competition can drive innovation and efficiency, but it must be balanced against the need for operational simplicity in a smaller market like Malta.
<b>Environmental impact</b>	The model should contribute to sustainability goals by promoting recycling, re-use, and eco-friendly product design. It should align with the waste hierarchy, prioritizing waste prevention and minimizing the environmental footprint of textile waste.

## 6.4 Establishing EPR fees or costs

In the development of a comprehensive EPR system for textiles in Malta, it is essential to consider a range of factors that influence EPR fees and costs. The EPR framework mandates that producers bear the environmental costs associated with their products throughout their lifecycle, from production to post-consumer disposal. Key considerations in setting these fees include the design characteristics of the products, such as durability, ease of reuse, repairability, and recyclability. Products designed for longevity reduce the frequency of replacements and waste generation, while those that can be easily reused minimise resource consumption. Similarly, products that are easy to repair can extend their useful life, and those that are easy to recycle reduce environmental impacts at the end of their life cycle.

In this regard, in collective EPR schemes, Producer Responsibility Organisations (PROs) must establish criteria and methods for setting fees to determine the amount each producer must pay to recover costs.

The General Approach on the Proposal for a Directive of the European Parliament and of the Council amending Directive 2008/98/EC on waste, approved by the Council (Environment) stipulates that Member States shall require the producer responsibility organisations to ensure that the financial contributions paid to them by producers of textile, textile-related and footwear products listed in Annex IVc: (a) are based on the weight and, where appropriate, quantity of the products concerned and, for textile, textile-related and footwear products listed in [...] Annex IVc, are modulated on the basis of the ecodesign requirements adopted pursuant to the Regulation (EU) 2024/1781 of the European Parliament and of the that are most relevant for the prevention of [...] waste generated from textile, textile-related and footwear products and for [...] their treatment [...] in line with the waste hierarchy and

the corresponding measurement methodologies for those criteria adopted pursuant to that Regulation or on the basis of other Union law establishing harmonised sustainability criteria and measurement methods for textile, textile-related and footwear products, and that ensure the improvement of environmental sustainability and circularity of [...] these products. In addition to the ecodesign requirements adopted pursuant to the Regulation (EU) 2024/1781, it also stipulates that Member States may require the producer responsibility organisations to modulate the financial contribution on the basis of criteria that take into account producers' practices that lead to the overproduction and overconsumption of textile, textile-related and footwear products, resulting in the overgeneration of related waste, including the amount of textile reference numbers made available on the market for the first time per producer and per unit of time or the frequency of renewal of textile collections, coupled with the number of items per collection.

In this regard, the EPR's fee would be modulated using the advanced fee modulation methodology. This entails modulating fees according to a more diverse, advanced set of criteria, providing targeted incentives for product design. Fee modulations that offer bonuses or penalties based on criteria such as recyclability or reusability may more accurately reflect the end-of-life or environmental costs of textile products. This approach encourages producers to design products that are easier to recycle or reuse, thereby reducing their overall environmental impact.

Taking the above into account, and drawing from our market research, we have assessed the impact of incentivising products with extended lifespans and durable designs. This approach not only aligns with environmental sustainability goals but also ensures that the EPR fees are fair and reflect the true environmental costs associated with each product. However, it is important to note that the advanced fee modulation, while promoting eco-friendly design, may introduce complexity and additional administrative burden on both producers and Producer Responsibility Organisations (PROs). The following table outlines the potential factors that impact EPR fees and costs, providing a structured framework for their calculation and modulation. The following table outlines the potential factors that impact EPR fees and costs, providing a structured framework for their calculation and modulation.

Table 23: Factors impacting EPR fees and costs

Factor	Description and potential impact on EPR fees and costs
<b>Design for durability</b>	Products that are designed to last longer will have lower EPR fees, as they reduce the frequency of replacements and waste generation. This encourages producers to focus on creating durable goods.
<b>Ease of reuse</b>	Products that can be easily reused help minimise waste and resource consumption. EPR fees can be adjusted to incentivise designs that facilitate reuse, thereby extending the product lifecycle.
<b>Repairability</b>	Easy-to-repair products can significantly extend their useful life, reducing waste. EPR fees can be lowered for products with accessible repair options, encouraging producers to design products that can be maintained and repaired by consumers.
<b>Recyclability</b>	Products that are easy to recycle at the end of their life cycle have lower environmental impacts. EPR fees can be reduced for products designed with recyclable materials and components, promoting environmentally friendly design practices.
<b>Resource efficiency</b>	Products designed to use resources efficiently, minimising material and energy inputs during production, may incur lower EPR fees. This encourages producers to optimise resource use and reduce the overall environmental footprint of their overall processes.
<b>Content of substances of very high concern</b>	Products containing substances of very high concern may incur higher EPR fees due to the increased complexity and cost of proper disposal. This factor encourages producers to minimise or eliminate hazardous substances in their products.

Factor	Description and potential impact on EPR fees and costs
Product longevity	Longer-lasting products reduce the frequency of replacement and, therefore, the overall waste generated. EPR fees can be adjusted to reflect this, with lower fees for products designed for durability and extended use, thereby incentivising producers to focus on creating longer-lasting, more sustainable products.

By carefully considering these factors, the EPR system can effectively incentivise sustainable production and consumption practices, while ensuring that producers are held accountable for the environmental impacts of their products. This approach not only supports Malta’s environmental goals but also aligns with the broader objectives of the EU Waste Framework Directive.

## 6.5 Identification of potential options for waste management within the proposed EPR system

The proposed EPR system for textiles in Malta is aimed to address the island's unique waste management challenges while promoting environmental sustainability. To achieve this, we conducted an assessment of various waste management options tailored to Malta's specific needs.

The General Approach on the Proposal for a Directive of the European Parliament and of the Council amending Directive 2008/98/EC on waste, approved by the Council (Environment) stipulates that producers should be responsible for setting up collection systems for the collection of all used and waste textile, textile-related and footwear products and ensuring that they are subsequently subject to sorting for re-use, [...] preparing for re-use and recycling to maximise the availability of second-hand clothing and footwear and reduce the volumes for types of waste treatment that are lower in the waste hierarchy. The collection network should be organised in cooperation with other actors active in the waste management and re-use sectors, such as municipalities and [...] social economy entities.

The textile waste management system would therefore need to cover the following:

- Collection – separate collection as from 1 January 2025;
- Sorting – by type of clothes, size, colour, gender, material composition;
- Preparing for re-use;
- Re-use – for items which are fit for re-use;
- Recycling – for items not fit for re-use.

Taking this into account, the following table outlines the potential options for the proposed EPR system. These scenarios were assessed based on the Waste Hierarchy established in the Waste Framework Directive, ensuring that waste prevention, reuse, and recycling were prioritised.

Table 24: Potential options for separate collection and treatment within the proposed EPR system

Option	Description
Producers to set up new separate collection systems or use existing systems based on bins	In this option, producers would establish new collection points or use existing collection points (i.e. bins) specifically for textiles, ensuring full coverage of the Maltese islands as well as convenient access for consumers. Coordination with local authorities and stakeholders, including social economy entities such as charity shops, retailers and other operators involved in the management of textiles, would be crucial to determine optimal locations for these collection points to maximise convenience and efficiency. This option aligns with the Waste Framework Directive by emphasising separate collection and preparation for reuse or recycling through an orchestrated effort by all relevant stakeholders. Ensuring close collaboration with social economy entities is also vital for maximising the re-use potential of textiles and meeting the broader objectives of the Directive. The primary advantage of this option is its potential cost-effectiveness in line with standing EPR rules. In this context, the level of investments by producers as well as the readiness of such systems would also depend on whether producers collectively opt to make use of



Option	Description
	existing separate collection and sorting systems or to set up new dedicated systems, taking into proper account the limited tonnage of textiles generated in Malta and the fact that such systems already exist. Whichever the case, further investments in sorting capacity would be needed to accommodate the expected increased volumes of separately collected textiles and adherence to the requirements of the revised Waste Framework Directive in relation to collection, sorting for re-use, preparing for re-use and recycling to maximise the availability of second-hand clothing and footwear and reduce the volumes for types of waste treatment that are lower in the waste hierarchy. For example within the new textile EPR requirements, items need to be sorted and prepared for use reflecting the most detailed granularity such as type of clothes, size, colour, gender, and material composition.
<b>Producers to also set up an additional door-to-door collection system</b>	This option expands on the first one above by also encompassing two door-to-door collection rounds per year dedicated to textiles. Besides the crucial points highlighted above, collaboration with Regional and Local Councils would be key to determine appropriate collection routes and ensure smooth and effective integration in existing door-to-door collection systems. The primary advantage of this approach is that it might theoretically increase separate collection rates by offering a further alternative to households besides the set collection points. On the other hand, the setting of such door-to-door collection system might not be cost-effective, noting that collection points would be available to the public and further considering the limited tonnage of textiles generated in Malta.

These potential implementation options offer a range of strategies to enhance Malta's textile waste management system, each with its own set of advantages and challenges. By considering these options, Malta can develop an EPR system that is tailored to its specific needs and promotes effective waste management and environmental sustainability.

## 6.6 Identification of potential targets

The Impact Assessment accompanying the European Commission's proposal does not recommend the immediate setting of specific targets in relation to the EPR for textiles. This cautious approach is due to the current lack of complete and robust data on textile waste, as well as the need to scale up recycling technologies. Establishing precise targets without reliable data and the necessary infrastructure could lead to unrealistic expectations and ineffective policy measures. The absence of established recycling technologies further complicates the situation, making it challenging to achieve meaningful progress through target-setting alone at this stage.

This consideration is particularly pertinent for Malta, the smallest nation in the European Union. Malta faces unique challenges due to its limited size, which restricts its ability to establish economies of scale necessary for effective waste management. The country's small market and logistical constraints make it difficult to justify the setting of specific waste management or PRO targets for textiles currently. These challenges underscore the need for a more cautious and adaptive approach, allowing for the development of more robust data and the scaling up of recycling technologies before imposing formal targets.

This position is further reinforced by the Council mandate, which stipulates that the European Commission must consider the feasibility of setting targets by 31 December 2028. The Commission is obliged to submit a report to the Council and the European Parliament and, if deemed appropriate, to accompany this report with a legislative proposal.

Hence, considering the above and the specific challenges faced by Malta, it is clear that the setting of national waste management and PRO targets for textiles is not considered feasible at this stage. Such targets should be re-evaluated as more data becomes available and as recycling technologies advance.



## 6.7 Potential measures and considerations for the setting up of the EPR

In determining the potential measures and considerations for setting up the EPR system for textile waste in Malta, several critical factors were taken into account. Desk research and market analysis was conducted to understand the specific requirements and challenges associated with textile waste management. Our focus included assessing the existing infrastructure and identifying the necessary upgrades or new facilities required to handle textile waste effectively. This involved evaluating the capacity and efficiency of current collection, sorting, and recycling systems, as well as exploring potential improvements or expansions needed to support the EPR system.

By addressing these factors, we aimed to develop a comprehensive and effective EPR system tailored to Malta's specific needs, promoting efficient waste management and environmental sustainability. In this regard, based on a similar approach to the previous activities, we have outlined the various potential measures and considerations for setting up the EPR system for textiles. However, the final selection of these measures will be aligned with the final text of the Directive of the European Parliament and of the Council amending Directive 2008/98/EC on waste.

*Table 25: Potential measures and considerations for the proposed EPR system*

Aspect	Description
<b>Existing infrastructure and required infrastructure</b>	In evaluating the EPR system options for textiles, we considered Malta's current waste management infrastructure, particularly focusing on how textile waste is currently handled. The existing system involves a private collection company managing bins distributed across localities, which sorts and exports the textiles either as products or as waste for further treatment in other EU Member States. Textiles that are unsuitable for either of these options are sent to WasteServ for landfilling. Additionally, household textile waste is also collected through the black disposal bags, which are also sent to WasteServ for landfill. Furthermore, while the grey bag is not specifically intended for the collection of textiles, it is not uncommon for textiles to be found in these bags. In such circumstances, these are also typically sent to landfill. Clothes and textiles are also accepted at Civic Amenity Sites. We took into account the capacity and efficiency of these sorting facilities and the need for infrastructure improvements. This includes assessing the current state of collection points, sorting technologies, and recycling capabilities to identify areas where upgrades or expansions are necessary to support a more effective EPR system. Based on the expected increase in volumes of textile waste which will be separately collected as from 2025, and sorting in line with the provisions of the finalised text of the Amendments to the WFD, investment would need to be made on facilities, operations and resources to meet these requirements.
<b>Geographical constraints</b>	Malta's small size and high population density present unique challenges for waste management. The island's limited land availability for new facilities necessitates efficient use of existing infrastructure and careful planning for potential expansions. Emphasising the need for effective utilisation of current spaces, we considered how to integrate the EPR system with existing waste management operations to maximise efficiency. These constraints require innovative approaches to optimise the available resources while ensuring that the proposed EPR system remains practical and sustainable within Malta's spatial and demographic limitations.
<b>Demographic behaviour</b>	Understanding the local population's habits and attitudes towards textile disposal is crucial for the successful implementation of the EPR system. Based on the market study and initial stakeholder consultations, it would seem that only a small proportion of textile waste is currently collected

Aspect	Description
	<p>through the current bins located across the island for the purpose of textile collection. This highlights the need for a significant increase in local engagement with the disposal system. To address this, the proposed EPR shall also emphasise on the importance of public education campaigns and incentives designed to promote appropriate collection, recycling and re-use. These initiatives would aim to familiarise and encourage more residents to use the existing collection bins or other alternative collection mechanisms, thereby improving the overall effectiveness of the textile waste management system. By aligning with consumer behaviour and fostering a culture of recycling, we can ensure that the EPR system is user-friendly, well-received by the public, and achieves its intended waste management goals.</p> <p>In addition to these initiatives, the enactment of the EPR legislation could also be paired with a targeted amendment to the mandatory waste separation obligation. Specifically, this amendment would update regulation 12A of the Waste Regulations (S.L. 549.63) to explicitly include textiles. This regulatory change would formalise the separation of textiles as part of the mandatory waste separation process, reinforcing the EPR system's objectives and ensuring that textile waste is properly managed across all stages of disposal.</p>
<b>Fee structure</b>	<p>The financial model for the EPR scheme must ensure that producers bear a fair share of the cost of waste management while promoting sustainable practices. As highlighted in Section 6.4, we evaluated various factors relevant for the fee structure, including product-related fees and the overall cost of waste management, to incentivise producers to design for recyclability and support end-of-life management of their products. The fee structure should be transparent and equitable, reflecting the true costs associated with collection, sorting, and recycling, while encouraging producers to minimise their environmental impact. This approach aims to create a balanced financial framework that drives compliance, fosters continuous improvement, and supports the overall goals of the EPR system.</p>
<b>Collection system</b>	<p>The PRO or PROs must actively collaborate with existing waste management operations and share responsibility for the effectiveness of the EPR system. This includes working within Malta's current collection infrastructure while also contributing to its improvement. The PRO or PROs are encouraged to engage in initiatives such as increasing the number of collection points and enhancing sorting processes to achieve higher recovery rates. Additionally, it is crucial that the EPR system supports social economy entities, such as charity and thrift shops, which play a key role in textile reuse and recycling. The Council's General Approach, emphasises the importance of aiding these social economy entities in their operations. To align with this directive, the EPR system can potentially integrate and bolster the efforts of these organizations. For instance, PROs can collaborate with charity shops by providing logistical support, ensuring that textiles that are still usable are diverted from waste streams and given a second life through resale or donation. Finally, we also explored the integration of new collection methods, such as collection at retailers-, to complement and enhance the existing system. By working together with waste collectors, social economy entities and other stakeholders, PROs can help create a seamless and efficient collection network that supports the EPR system's objectives. This approach not only ensures comprehensive waste management and effective resource</p>

Aspect	Description
	recovery but also strengthens the role of social economy entities in achieving sustainability goals

## 6.8 Potential measures to ensure compliance from producers and PROs

Ensuring compliance from producers and Producer Responsibility Organisations (PROs) is crucial for the success of the EPR system. As part of developing a comprehensive EPR system, below we set out a number of potential effective and reasonable compliance measures. These measures would be designed to promote transparency, fairness, and accountability among all participants in the EPR system. By fostering a collaborative environment and clearly defining the roles and responsibilities, the aim is to build a system that all parties could trust and commit to.

Overall, these compliance measures would be designed to create a robust and transparent EPR system that encourages responsible behaviour among all stakeholders. By fostering cooperation and accountability, such measures would contribute to ensure the successful implementation and operation of the EPR system for textiles in Malta. This comprehensive approach not only supports the achievement of waste management goals but also builds a sustainable framework for ongoing environmental stewardship. Through these efforts, Malta would be committed to creating an effective EPR system that benefits the environment and society at large.

In this regard, the following table outlines the potential measures designed to ensure compliance from producers and PROs within the proposed EPR system.

*Table 26: Potential measures and considerations for the proposed EPR system*

Aspect	Description
<b>Full disclosure of responsibilities and obligations</b>	Producers and PROs should receive comprehensive guidelines from the competent authority detailing their specific responsibilities and obligations. This includes clear instructions on reporting, record-keeping, and adherence to environmental standards. Regular updates and training sessions can help ensure that all parties remain informed about any changes in regulations or procedures.
<b>Identification of free-riders and penalty fees</b>	To prevent free-riders, producers who benefit from the EPR system without contributing financially, there should be a system to identify and penalise such entities. This could include cross-referencing market data, import records, and sales information to spot discrepancies. Penalty fees for free-riders should be substantial enough to deter non-compliance and ensure fairness.
<b>Regular compliance audits</b>	Conducting regular compliance audits of producers will help ensure that they are adhering to the EPR requirements. These audits can be commissioned by the PROs and carried out by independent third-party auditors to ensure objectivity and transparency. Given that the General Approach already mandates that PROs report to the competent authority, this additional obligation on producers would ensure comprehensive oversight within the EPR system. However, to balance this requirement with the need to avoid placing an undue burden on micro, small and medium-sized enterprises, a quantitative threshold can be established. This threshold is in line with the EPR Framework Regulation (S.L. 549.141), which ensures equal treatment of producers regardless of size or origin, would exempt micro and small-to-medium enterprises (SMEs) from this auditing requirement. This approach reduces the regulatory

Aspect	Description
	burden on smaller producers, while still maintaining the integrity and transparency of the EPR system.
<b>Reporting standards and transparency</b>	While PROs are already mandated to publish data on their activities, it is important to enhance the quality and detail of these reports. PROs should be encouraged to provide quality data, such as the types of textiles collected, specific recycling processes used, and end destinations for disposed textiles. Additionally, ensuring that this information is easily accessible and understandable to the public can further increase transparency and allow stakeholders to track progress against EPR targets more effectively. This approach would not only comply with existing mandates but also promote greater accountability and informed decision-making.
<b>Public awareness and education campaigns</b>	Whilst carrying out and financing public awareness campaigns would be a legal obligation under the EPR scheme for textiles, to ensure compliance from PROs, it is proposed to establish that a minimum percentage of the collected fees be allocated to such campaigns.. These campaigns would be aimed at educating the public on proper textile disposal methods, the benefits of recycling and reusing textiles, and the roles of producers and PROs within the EPR system. Setting a clear target for the percentage spending of collected fees towards campaigns ensures consistent public engagement and supports the overall effectiveness of the EPR system.

## 7. Options Appraisal

The introduction of an EPR scheme for textile waste in Malta, necessitates a structured approach to evaluate various policy alternatives. This EPR scheme aims to shift the costs associated with the collection, sorting, and treatment of textile waste to the producers. The objective is to incentivise better product design, reduce waste generation, and enhance recycling rates.

The purpose of this appraisal is to identify and evaluate potential policy options for the EPR scheme, drawing on best practices from other EU member states. By considering criteria such as environmental impact, economic feasibility, ease of implementation, stakeholder acceptance, and regulatory compliance, we aim to determine the most feasible and effective approach for Malta. Through a systematic and comparative analysis, this appraisal will guide the final recommendation for the optimal EPR scheme for textile waste management in Malta.

### 7.1 'Do-nothing' Approach

The Proposal for a Directive of the European Parliament and of the Council amending Directive 2008/98/EC on waste aims to foster a circular and sustainable management system for textile waste aligning with the said EU Strategy for Sustainable and Circular Textiles by introducing EPR obligations for textiles. The EPR obligations for textile, textile-related and footwear products are aimed at ensuring a strong level of environmental and health protection within the EU by creating an economy for collection, sorting, re-use, and also to prepare for re-use and recycling. Moreover, an EPR scheme obliges producers to manage the entire lifecycle of their products, particularly at the end of their use.

In this regard, a 'Do-Nothing Approach' for the introduction of an EPR for textiles is not a potential option.

### 7.2 Options for organisational model

In accordance with the General Approach on the Proposal for a Directive of the European Parliament and of the Council amending Directive 2008/98/EC on waste, the implementation of extended producer responsibilities must be exercised collectively through Producer Responsibility Organisations (PROs). Therefore, our options appraisal will be confined to this framework, limiting the scope to collective measures as stipulated by the mandate.

Hence, given the regulatory constraints, the consideration of options will be tailored to align with the established mandate, ensuring that the proposed measures adhere to the collective fulfilment requirement set out in the directive, referred to as the Collective Producer Responsibility (CPR) model.

This model involves producers collectively fulfilling their EPR obligations through a Producer Responsibility Organisation (PRO). This PRO would handle the collection, sorting, recycling, and disposal of textile waste on behalf of all participating producers. By sharing costs and infrastructure, the CPR model achieves economies of scale in waste management operations and simplifies compliance for individual producers. This approach draws from successful implementations in countries like France and the Netherlands, where producers manage their textile waste collectively, allowing producers to share the responsibilities and costs of textile waste management with other producers accordingly. In this regard, the CPR model provides a unified framework for producers, making it easier to monitor and ensure compliance while promoting sustainable waste management practices across the industry.

Taking this into account, below we outline three potential options for the implementation of the CPR model for the textiles EPR. These options are designed to comply with the mandate, ensuring that extended producer responsibilities are fulfilled collectively through Producer Responsibility Organisations (PROs), as required by the directive.

Table 27: Potential CPR models

Option	Description
<b>Organisational and financial responsibility</b>	This option assigns both the organisational and financial responsibilities to the producers through the PRO. Here, the PRO would manage both the financial contributions from producers and also take on an active role in organising the collection, transportation, and processing of textile waste. This could involve coordinating with local authorities, waste management companies, and other stakeholders to ensure that the EPR system operates efficiently and meets its targets. This approach requires a more hands-on involvement from producers and the PRO, ensuring that they have greater control over the entire waste management process.
<b>Combined approach</b>	In this model, the PRO would still assume both organisational and financial responsibility as explained above. However, the PRO would also finance collection systems managed by public entities, such as Regional Councils, which would oversee household door-to-door collection and related logistics. This approach would leverage the expertise of public entities while ensuring that the PRO finances the system and maintains compliance oversight. Hence, by blending these responsibilities, this approach would offer flexibility and optimise resource use for effective textile waste management.

In addition to the assignment of responsibilities, another key structural option for implementing the CPR model is deciding between a single PRO or multiple PROs, as further defined below:

1. **Single PRO Model:** Under this model, all producers would be required to join a single, centralised PRO responsible for fulfilling EPR obligations on behalf of all producers. This model would allow for streamlined operations, with unified strategies and consistent standards across the industry. It can lead to economies of scale, reducing overall costs and simplifying the management of the EPR system. However, this model could also result in a lack of competition, potentially leading to inefficiencies or reduced innovation over time.
2. **Multiple PROs Model:** In this scenario, producers have the option to choose from several competing PROs, each offering different services and strategies for fulfilling their EPR obligations. This model fosters competition among PROs, which can drive innovation, efficiency, and potentially lower costs as each PRO strives to offer better solutions to attract producers. However, the existence of multiple PROs may also lead to complexities in coordinating efforts, ensuring consistent standards, and managing the overall system's performance. It requires careful regulation and oversight to prevent gaps in coverage and ensure all producers meet their obligations.

### 7.3 Recommendations on the organisational model

As highlighted above, the CPR model has been selected as the recommended organisational approach, as it aligns with the requirement for collective compliance stipulated by the General Approach on the Proposal for a Directive of the European Parliament and of the Council amending Directive 2008/98/EC on waste. To determine the most suitable implementation option within this framework, we evaluate each of the three CPR options outlined earlier, along with the consideration of whether a single or multiple PRO approach should be adopted, against five key criteria considered to be key in reaching the EPR's objectives. These include the below:

1. **Operational efficiency:** how efficiently each option allows the EPR system to function, considering factors like ease of coordination, administrative complexity, and the ability to achieve high collection and recycling rates;
2. **Cost-effectiveness:** the assessment of the overall cost to producers and PROs in implementing and maintaining each option, including but not limited to waste management, compliance monitoring and reporting;



3. **Market competition and innovation:** the potential for fostering competition and innovation within the EPR system. A model with multiple PROs might encourage innovation and efficiency through competition, while a single PRO model might benefit from unified strategies and consistency;
4. **Regulatory compliance and ease of implementation:** how easily each option aligns with existing and proposed regulations, including the mandates set forth by the European Commission, European Parliament, and Council;
5. **Environmental impact:** the potential environmental benefits of each option, including the ability to reduce textile waste, increase recycling and reuse rates.

Taking all of the above into account, the table below assesses each option using a Likert scale ranging from 1 to 5, with 5 representing the maximum value. Hence, this evaluation facilitates the identification of the option that best aligns with the scheme's goals and the unique context of Malta.

	Organisational & financial responsibility (Single PRO)	Organisational & financial responsibility (Multiple PRO)	Combined approach (Single PRO)	Combined approach (Multiple PROs)
Operational efficiency	5	3	4	2
Cost effectiveness	5	3	4	3
Market competition & innovation	3	4	3	4
Regulatory compliance & ease of implementation	4	3	3	2
Environmental impact	5	5	5	5
<b>TOTAL SCORE</b>	<b>22</b>	<b>18</b>	<b>19</b>	<b>16</b>

Based on the evaluation, the organisational and financial responsibility approach with a single PRO stands out as the preferred option, offering the highest potential for operational efficiency, ensuring that resources are managed effectively, and processes are streamlined. Additionally, it provides significant environmental impact benefits, as it enables more coordinated and effective waste collection and reuse efforts, leading to better outcomes in terms of reducing textile waste and promoting sustainability.

Furthermore, given Malta's small size, a single PRO model is particularly well-suited for the initial introduction of the EPR system. It simplifies coordination and oversight, ensuring that responsibilities are managed effectively and that resources are allocated efficiently, minimising administrative costs. The single PRO can provide a unified structure, minimising complexity and fostering a more streamlined rollout of the EPR scheme.

This preference is further emphasised due to Malta's small size and the limited amount of textile waste produced locally. Introducing a combined approach, including separate dedicated door-to-door collection systems managed by local entities such as regional councils, may not be considered feasible at the initial stages of the EPR system. To address this, a running-in period will be allowed, giving time to monitor collection rates, where should these rates not meet the envisaged targets, the feasibility of implementing additional collection systems may be reconsidered to enhance performance and compliance with EPR objectives.



## 7.4 Recommendations on fee modulation

As set out in Section 5.4 and in line with the General Approach, advanced fee modulation shall be applied within the EPR system for textiles. The advanced fee modulation methodology incorporates a more detailed and nuanced set of criteria, designed to incentivise eco-friendly product design. This approach modulates fees based on factors such as recyclability, reusability, and the overall environmental impact of textile products. Hence, producers would be rewarded with lower fees for incorporating sustainable materials or design features that facilitate recycling. Conversely, products that are difficult to recycle or that carry a higher environmental footprint could incur higher fees, encouraging producers to prioritise sustainable practices. By aligning economic incentives with environmental objectives, this advanced methodology promotes innovation and sustainable development within the textile industry.

However, to balance these requirements and avoid placing an undue burden on micro, small, and medium-sized enterprises (SMEs), the introduction of flat rates for such producers could be considered. A quantitative threshold could be established to exempt or simplify the obligations for micro enterprises and SMEs. This approach would be in line with the EPR Framework Regulation (S.L. 549.141), which ensures equal treatment of producers regardless of size or origin, without imposing disproportionate regulatory burdens on smaller producers, particularly those handling small quantities of products. Hence, by introducing flat rates or thresholds, the regulatory and administrative burden on smaller producers would be reduced, while still maintaining the integrity and objectives of the EPR system. This balance ensures that both environmental goals are achieved and smaller-scale businesses are supported.

## 7.5 Operational feasibility of the selected CPR model for a textiles EPR in Malta

In addition to setting out the most recommended option, being the Collective Producer Responsibility (CPR) model, the following sub-section will also assess the operational feasibility of the chosen option at a high level. This evaluation will consider various operational aspects, including infrastructure requirements, cost implications, and the potential for local re-use and recycling. The aim is to ensure that the selected CPR model can be effectively implemented in Malta, addressing both logistical and economic factors while promoting sustainable waste management practices.<sup>66</sup>

In addition, the General Approach on the Proposal for a Directive of the European Parliament and of the Council amending Directive 2008/98/EC on waste sets out key objectives for the textiles EPR. These objectives include effectively treating and preparing textile waste for re-use and recycling.

Hence, this high-level operational feasibility assessment will examine the logistical, financial, and environmental implications of both scenarios, i.e. carrying out each of the waste management activities in Malta or outside of Malta. By comparing these two approaches, our aim was to identify the most practical and effective strategy for implementing the CPR model under the given mandate, ensuring that the EPR scheme for textile waste in Malta is both operationally feasible, meeting regulatory obligations and aligned with sustainability goals.

### 7.5.1 High-level data analysis

Taking all of the above into account, and as highlighted in the table below, Malta imported an average of c. 12,200 tonnes of textiles annually, based on data from 2018, 2019, 2020 and 2022<sup>67</sup>.

Furthermore, in 2022, 6,990 tonnes and 505 tonnes of household textile waste were collected through the black and grey disposal bags respectively, which were sent to WasteServ for landfill. In addition, during the same year, the current textile waste management company in Malta managed to collect [REDACTED] of textile waste through its deployment of disposal bins across the island, representing

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<sup>66</sup> It is important to note that this analysis is based on policy analysis and insights gathered from high-level stakeholder discussions.

<sup>67</sup> The 2021 Eurostat data was excluded from consideration as it was identified as an outlier, displaying significantly higher values compared to other years. This suggests the data is likely overestimated and not representative of typical trends.

[REDACTED] of the average total textiles that are imported in Malta annually, or [REDACTED] of textile waste collected. Out of the [REDACTED] tonnes collected, [REDACTED] tonnes were exported by the Company either as products or as waste for further treatment in other EU member states, while [REDACTED] of collected textiles were sent to Wasteserv for landfilling.

Table 28: Textile import, collection and export data

Years	Textiles imported (tonnes)	Estimate of total annual textile waste (tonnes)			
		Black bag	Grey bag	[REDACTED]	[REDACTED]
Average of 2019, 2020, 2021	12,200	6,990	505	[REDACTED]	[REDACTED]

Year	Separately collected textile waste by current textile waste management company (tonnes)	% of collected textiles exported	Exported textiles by current textile waste management company (tonnes)	% of textiles sent to Wasteserv by current textile waste management company	Textiles sent to Wasteserv by current textile waste management company (tonnes)
2022	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

Hence, this data indicates that the current system predominantly relies on exporting collected textiles that reach the end-of-waste status locally as products for re-use, with no significant re-use occurring locally in Malta. Given this scenario, the collected textiles in Malta are primarily re-used abroad, with negligible quantities being recycled or landfilled locally.

Nonetheless, an initial high-level assessment of the market for re-used textiles in Malta suggests that there is a potential niche market. Malta and Gozo host around 25 charity shops, vintage shops, and thrift shops, stocking second-hand textiles, indicating a potential demand for such re-usable products. We understand that these textiles are directly collected by the charity shops. Hence, this existing market may present an opportunity to develop a local re-use sector for textiles, reducing reliance on exports and contributing to a circular economy within Malta. Besides this, the potential for development will be further amplified by the key role that social economy entities will play in the EPR system. In line with the General Approach mandate, social economy entities will be integrated into the textile waste management framework by managing collection points and participating in collection systems alongside PROs. This involvement will ensure that their operations are streamlined and supported, through measures such as equal or preferential treatment in setting up collection points and cooperation in collection systems. Additionally, social economy entities will retain control over collected textiles, allowing them to prioritise re-use and preparation for re-use before deciding whether to recycle. This synergy between the growing market and the obligations of the EPR scheme provides a solid foundation for the local re-use sector, driving the circular economy forward and maximising environmental and economic benefits.

Taking this into account, implementing a model where a percentage of collected textiles is earmarked for local re-use could be a feasible option. This would align with the goals of the EPR scheme by promoting sustainability and reducing waste. Furthermore, local re-use not only supports the economy but also minimises environmental impact by reducing the carbon footprint associated with exporting textiles.

In this regard, the below table set outs a high-level analysis of the pros and cons of carrying out the key waste management activities for textiles in Malta versus carrying them out outside of Malta, focusing on costs, infrastructure, demand, and other relevant factors.

Table 29: Recycling and re-using textiles in Malta

Waste activities	Malta	Outside Malta
Collection	Yes ( <i>in Malta</i> )	Not applicable
Sorting and preparing for re-use	Yes ( <i>in Malta</i> )	<p><b>No</b></p> <p>The General Approach stipulates that in view of the objective to ensure the sustainable management of post-consumer textiles and tackle illegal shipments of waste, it should be provided that all separately collected used textile, textile-related and footwear products undergo a sorting operation prior to their shipment. However, it is important to clarify that while sorting is encouraged to be done locally in Malta before shipment, the export of textile waste as waste is still permitted, provided it complies with the relevant waste shipment rules.</p>
Re-use	<p><b>Minimum volume (<i>re-used in Malta</i>)</b></p> <p><b>Pros:</b></p> <ul style="list-style-type: none"> <li>• <b>Cost savings on export fees:</b> reducing the volume of textiles exported can save significant costs related to shipping and export fees.</li> <li>• <b>Local socio-economic benefit:</b> developing a local re-use industry can create jobs and stimulate the economy by supporting local businesses such as charity shops, vintage shops, and thrift shops.</li> <li>• <b>Environmental impact:</b> re-using textiles locally reduces the carbon footprint associated with transportation, aligning with sustainability goals.</li> <li>• <b>Circular Economy:</b> Establishing a local market for second-hand textiles supports the circular economy by keeping resources within the local loop and reducing the need for new textile production.</li> </ul> <p><b>Cons:</b></p> <ul style="list-style-type: none"> <li>• <b>Limited market demand:</b> while there is a niche market for second-hand textiles, the overall demand may not be sufficient to absorb all the collected textiles, potentially leading to excess supply and storage issues.</li> </ul>	<p><b>Majority of volumes (<i>re-used outside Malta</i>)</b></p> <p><b>Pros:</b></p> <ul style="list-style-type: none"> <li>• <b>High demand:</b> larger markets than Malta exist abroad for re-use of textiles</li> </ul> <p><b>Cons:</b></p> <ul style="list-style-type: none"> <li>• <b>Dependence on foreign markets:</b> relying on external markets can be risky due to potential trade restrictions, market fluctuations, and changing international regulations</li> <li>• <b>Higher costs of export fees:</b> the volume of textiles exported can result in significant costs related to shipping and export fees.</li> </ul>

Waste activities	Malta	Outside Malta
Recycle	<p><b>Limited and only in the long-term (recycling in Malta)</b></p> <p><b>Pros:</b></p> <ul style="list-style-type: none"> <li>• <b>Cost savings on export fees:</b> reducing the volume of textiles exported can save significant costs related to shipping and export fees.</li> <li>• <b>Environmental impact:</b> recycling locally reduces the carbon footprint associated with transportation, aligning with sustainability goals.</li> <li>• <b>Local economic benefit:</b> developing a local recycling industry can create jobs and stimulate the economy</li> </ul> <p><b>Cons:</b></p> <ul style="list-style-type: none"> <li>• <b>Infrastructure:</b> The limited tonnage of textile waste generated in Malta does not justify the investment required to establish local recycling infrastructure. This makes such an approach economically unfeasible, necessitating reliance on exporting waste to regions with established recycling systems.</li> <li>• <b>Technical expertise:</b> local facilities may lack the advanced technology and expertise available in larger, more established recycling centres abroad, potentially resulting in lower efficiency and quality of recycled materials.</li> <li>• <b>High capital and operational costs:</b> Setting up and maintaining local recycling facilities will require significant investment.</li> <li>• <b>Limited demand:</b> The expected demand for recycled textiles in Malta is expected to be low</li> </ul>	<p><b>Yes (recycling outside Malta)</b></p> <p><b>Pros:</b></p> <ul style="list-style-type: none"> <li>• <b>Established infrastructure:</b> Some countries have well-established, technologically advanced recycling facilities that can efficiently process large volumes of textiles.</li> <li>• <b>Cost-effectiveness:</b> exporting textile waste can be more cost-effective due to economies of scale and lower operational costs in countries with specialised recycling industries.</li> <li>• <b>Opportunities for recycling:</b> The Impact Assessment<sup>68</sup> accompanying the Proposal for a Directive of the European Parliament and of the Council amending Directive 2008/98/EC on waste shows that the current demand for textile recycling in the EU may not be as high as desired, with around 32% of separately collected textile waste being recycled. Furthermore, only a limited amount (700,000 to 850,000 tonnes per year) can be handled by existing EU recycling facilities. However, there is growing opportunity for increased demand due to recent EU legislative initiatives, such as the new Waste Shipment Regulation (WSR), the Ecodesign for Sustainable Products Regulation (ESPR), and the revised Waste Framework Directive (WFD). These regulations aim to boost the demand for high-quality recycled and reused textiles within the EU.</li> </ul> <p><b>Cons:</b></p> <ul style="list-style-type: none"> <li>• <b>Economic leakage:</b> exporting textile waste means that economic benefits, such as job creation and business opportunities, are realised abroad rather than locally.</li> <li>• <b>Dependence on foreign markets:</b> relying on external markets, particularly those in third countries, can be risky due to potential trade restrictions, market fluctuations, and changing international regulations</li> <li>• <b>Higher costs of export fees:</b> the volume of textiles exported can result</li> </ul>

<sup>68</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52023SC0421>

Waste activities	Malta	Outside Malta
		in significant costs related to shipping and export fees.

Hence, considering the factors above, the most feasible option for Malta appears to be a hybrid approach, as set out below:

1. **Continue local sorting and preparation for re-use:** Textile waste is currently being sorted locally. In this regard, as set out above, based on Malta’s limited textile tonnage and the need for cost-effective waste management, the current preferred approach for collection is by relying on strategically placed collection bins. Furthermore, household collection is not being considered as a viable option at this stage. However, if bin collection proves insufficient to sustain increased rates, household door-to-door collection could be reconsidered as a supplementary option in the future. In addition, whilst it is expected that investment in facilities, equipment, resources and upskilling would be needed to meet increased volumes and also to ensure adherence with the expected finalised text of the Proposal for a Directive of the European Parliament and of the Council amending Directive 2008/98/EC on waste, the carrying out of these activities in Malta is deemed to be operationally feasible.
2. **Continue exporting textiles for re-use:** Given the local market for re-used clothing would not be able to absorb all textile waste expected to be collected, at least in the medium term, it would appear feasible to continue to sort textile waste locally, prepare for re-use locally and then to export such used textiles for re-use.
3. **Carrying out recycling activities abroad:** given the cost-effectiveness and advanced infrastructure of foreign recycling facilities, and further noting the very limited amounts of textile generated in Malta, exporting the majority of collected textile waste not fit for re-use remains a practical choice. This approach takes advantage of established, efficient processing systems abroad.
4. **Develop the local re-use market:** Foster the niche market for second-hand textiles by promoting charity shops, vintage shops, and thrift shops. This will help create a circular economy within Malta and provide additional re-use opportunities for textiles that might otherwise be exported. In this regard, the inclusion of social economy entities in the EPR scheme for textiles will significantly contribute to this development. By offering these entities preferential treatment in collection points, supporting collaborative collection systems, and covering collection and transport costs, the EPR scheme will enhance their capacity to effectively manage textile waste. This support will allow charity shops, vintage shops, and thrift shops to expand their operations and increase the volume of textiles they can process and reuse locally. These conditions will not only reduce operational and financial burdens but also strengthen their role in the circular economy, directly contributing to a more robust and sustainable local re-use market. This approach aligns with a key objective of the General Approach, ensuring that social economy entities are well-integrated and pivotal in achieving Malta’s circular economy goals. Furthermore, this strategy is also expected to be supported through the implementation of the Ecodesign for Sustainable Products Regulation (ESPR), which entered into force on 18 July 2024.

By balancing these approaches, Malta can optimise its textile waste management system, aligning with sustainability goals while remaining cost-effective and leveraging local capabilities. This strategy ensures compliance with the EU mandate and promotes environmental stewardship through a pragmatic, scalable EPR model for textiles.

In addition to the above, it is crucial for the proposed EPR scheme for textiles to address the issue of waste exports to ensure that the EPR implementation in Malta aligns with stringent environmental protection standards. As previously outlined, currently, a significant portion of collected textiles in Malta is exported for reuse. However, it is essential to strengthen efforts to combat illegal shipments of waste to third countries, which are often disguised as non-waste, a widespread issue across the EU.

By enhancing monitoring and regulatory measures, the EPR scheme can help prevent illegal waste shipments, ensuring that textiles intended for recycling or reuse abroad meet all legal and environmental requirements. This will involve maintaining the close collaboration with customs authorities, implementing stringent documentation and tracking processes, and engaging with international partners to ensure compliance with global waste management standards. Strengthening these efforts not only aligns with EU regulations but also promotes responsible global waste management practices, ensuring that the environmental benefits of the EPR scheme are fully realised.

### **Concluding remarks**

While a high-level analysis of the operational feasibility of the proposed Collective Producer Responsibility (CPR) model for an EPR for textiles in Malta has been provided, a more detailed assessment is required to fully determine its feasibility. This evaluation will involve, amongst others, analysing the capacity of local infrastructure to handle and process re-used textiles, utilising market demand insights from the market study presented in Section 4, and evaluating the economic implications for producers and consumers. Consequently, the following activities of this study will delve deeper into the feasibility assessment, examining the logistics, financial viability, and potential benefits of establishing an EPR for textiles in Malta. This assessment will aim for a robust and practical implementation of the EPR scheme for textiles in Malta, aligning with the country's sustainability goals and regulatory requirements.



## 8 Assessment of potential key success factors

The successful implementation of an EPR scheme for textiles in Malta hinges on more than just the establishment of the EPR mechanism itself. To ensure that the EPR system operates effectively and meets its sustainability objectives, a comprehensive approach involving additional legislative and regulatory measures is essential. These measures will address key aspects of textile waste management, enhance the efficacy of the EPR scheme, and align with broader environmental and waste reduction goals.

This Section outlines the critical success factors necessary for supporting the textile EPR scheme's implementation in Malta. It highlights the need for complementary regulatory, and other actions that will underpin the EPR system and facilitate its success. By addressing these factors, a robust framework that not only supports the EPR scheme but also ensures its integration into Malta's broader waste management strategy will be created.

Table 30: Potential key success factors

Feature	Description
<b>Expanding waste separation obligations</b>	<p>A key measure for ensuring the EPR system's effectiveness is expanding Malta's current waste separation regulations. Amending Article 12A of the Waste Regulations (S.L. 549.63) to explicitly include textiles would institutionalise the responsibility to separate textile waste at source across both commercial and residential sectors. This formal requirement would improve textile collection and recycling rates by legally obliging households and businesses to separate textiles from general waste. Such a move would enhance compliance with the EPR's aims and streamline waste sorting, making it easier to meet the EPR targets. Additionally, this amendment could also be tied to specific penalties for non-compliance, further promoting adherence to the system. The regulation should also cover the entire lifecycle of textiles, ensuring that waste generated in production and post-consumer stages is handled effectively.</p>
<b>Ensuring that separate collection points are installed in all Local Councils</b>	<p>As outlined in previous sections, the primary method for collecting used textiles in Malta involves the placement of bins across various localities in Malta and Gozo. Currently, there are [REDACTED] set up by a private company that are established through collaborations with multiple local councils. However, out of approximately [REDACTED] local councils, [REDACTED] do not have any such bins installed. To enhance the success of the EPR scheme and facilitate the collection of more textiles, it would be essential to that bins for the separate collection of textiles are installed in all Local Councils. This could be achieved through legislation requiring all localities to provide space for the installation of such bins by the PRO, similar to the current obligations in the Waste Regulations, whereby Local Councils are obliged to provide space for the installment of recycling points for municipal packaging waste according to the quota established therein. Ensuring that separate collection bins are installed in all Local Councils will not only improve accessibility for residents but also boost collection rates, thereby strengthening the overall effectiveness of the EPR for textiles in Malta. This strategic action will contribute to a more comprehensive waste management system, ensuring that the EPR</p>



Feature	Description
	framework is effectively integrated into the country's broader sustainability objectives.
<b>Encouraging repair to reduce textile waste</b>	Based on discussions with key stakeholders in the textiles industry, a critical success factor for the EPR scheme is incentivising consumers to repair damaged textiles instead of turning to fast fashion, where they discard or replace damaged clothing items. Promoting repair and reuse is essential for reducing textile waste and fostering a more sustainable approach to textile consumption. One way to achieve this is by creating consumer incentive programs that encourage the repair of textiles. For example, introducing vouchers or discounts for repair services could motivate consumers to extend the lifespan of their clothing. Such initiatives would help shift consumer behavior away from disposal and replacement, towards more sustainable practices like repairing garments, thereby reducing the overall volume of textile waste.
<b>Increasing the local demand for reused textiles</b>	In addition to promoting repair, increasing the demand for reused textiles locally is essential to reduce Malta's reliance on exporting used textiles for reuse. A key strategy is fostering a local market for purchasing second-hand or reused textiles. Social enterprises play a crucial role in this aspect, as they can serve as intermediaries, facilitating the sale of second-hand textiles and promoting the value of reused clothing. By strengthening local demand through awareness campaigns, and collaborations with retailers, Malta can create a sustainable circular economy within the textiles sector. Encouraging consumers to purchase reused textiles locally will not only support the EPR scheme but also provide economic opportunities for social enterprises, making the textile reuse process more economically viable. Over time, this shift can help Malta decrease its dependence on exports and build a robust local market for reusing textiles.

In conclusion, the successful establishment and operation of the EPR scheme for textiles in Malta depends on a range of supportive regulatory and other measures beyond the EPR framework itself. These key success factors are essential for ensuring that the EPR scheme achieves its objectives of reducing textile waste, promoting reusability and recycling, and fostering a circular economy. They will provide the necessary regulatory support and financial incentives to engage all stakeholders, including producers, consumers, and waste management operators, in a unified effort to manage textile waste effectively.

Furthermore, implementing these measures will not only enhance the effectiveness of the EPR scheme but also contribute to Malta's broader environmental goals. By addressing these foundational elements, Malta can establish a robust EPR system that supports sustainable textile management, drives positive environmental impact, and sets a precedent for effective waste management practices.

## 9. Financial analysis

This Section delves into a detailed analysis of the various activities involved in the management of textile waste, ranging from collection, transportation, and sorting to export. By examining the associated costs and potential revenues generated, this Section sets out a clear picture of the financial dynamics underpinning the EPR system. The analysis is based on market research, publicly available information, and consultations with key stakeholders in the industry.

Hence, this analysis will form the foundation for determining the EPR fee structure for textile producers, ensuring that the scheme is both economically viable and aligned with environmental goals. Ultimately, this assessment will help outline the financial responsibilities that need to be passed on to producers, providing them with a transparent and fair mechanism for managing their obligations under the EPR framework.

### 9.1 Baseline assumptions

This sub-section presents the key assumptions and factors considered in projecting the costs and revenues associated with textile waste management in Malta following the introduction of the EPR for textiles. This analysis will delve into the financial implications of textile waste management, providing a detailed breakdown of the associated costs and the potential revenues generated from these activities. The assumptions are mainly based on an analysis of the publicly available financial information of the current textile waste management private operator (for 2021), and consultations with stakeholders in relation to the operational requirements for collection, sorting, preparing for re-use, export, together with the operational requirements for the PRO.

#### 9.1.1 Collection rate assumptions

Currently, the private textile waste operator separately collects [REDACTED] tonnes of textiles placed on the market. As outlined in the table below, an average [REDACTED] of textile imports into Malta was collected by the private textile waste management operator between [REDACTED] and [REDACTED] ([REDACTED]).

Table 31: Tonnes of textile imported and separately collected by a private textile collector from 2019 to 2023

	Textile Imports (tonnes)	[REDACTED]	[REDACTED]
<b>2019</b>	19,459	[REDACTED]	[REDACTED]
<b>2020</b>	8,768	[REDACTED]	[REDACTED]
<b>2021</b>	79,488	[REDACTED]	[REDACTED]
<b>2022</b>	11,454	[REDACTED]	[REDACTED]
<b>2023</b>	10,290	[REDACTED]	[REDACTED]
<b>Total</b>	129,459	[REDACTED]	[REDACTED]
<b>Total exc. 2021</b>	<b>49,971</b>	[REDACTED]	[REDACTED]

Source: Data from Eurostat for textile imports and data from [REDACTED]

The analysis in this section assumes that the collection rate would increase to between 25% and 40% as the EPR is introduced. The selection of 25% and 40% collection rates is based on a cautious and comprehensive approach. While the Impact Assessment accompanying the Proposal for a Directive of the European Parliament and of the Council amending Directive 2008/98/EC on waste (the 'European Commission's Proposal'), initially indicated that a 50% target would enhance textile waste management, it ultimately refrained from recommending specific targets due to insufficient robust data on textile waste and the necessity to scale up recycling technologies. Therefore, similarly, we have opted for a conservative adjustment, setting a maximum target of 40%. Furthermore, considering the current collection rate of c. 10% in Malta, an intermediate scenario at a collection rate of 25% was included.

## 9.1.2 Export assumptions

The [REDACTED] exports on average [REDACTED] of the textiles it collects as outlined in the table below.

Table 32: Tonnes of textile waste collected and exported from 2019 to 2023

	Collection (tonnes)	Export (tonnes)	% Exported
2019	[REDACTED]	[REDACTED]	[REDACTED]
2020	[REDACTED]	[REDACTED]	[REDACTED]
2021	[REDACTED]	[REDACTED]	[REDACTED]
2022	[REDACTED]	[REDACTED]	[REDACTED]
2023	[REDACTED]	[REDACTED]	[REDACTED]
<b>Total</b>	[REDACTED]	[REDACTED]	[REDACTED]

Source: [REDACTED]

However, due to the increase in collection rate, the assumed export rate is as follows:

- when 25% collection rate is achieved, 90% will be able to sold for re-use. Under this scenario it is being further assumed that for the remaining 10% not sold for re-use, 60% will be exported for recycling. This is considered to be cost-neutral in the feasibility model, as it is being assumed that shipping costs equate to the revenue generated from selling this fraction. The remaining 40%, is assumed to consist of rejects for which landfilling represents the only viable treatment option until Malta's Waste-to-Energy facility becomes operational;
- when 40% collection rate is achieved, 80% will be able to be sold for re-use. Similar to the above, in this case, it is being assumed that for the remaining 20% not sold for re-use, 75% will be exported for recycling, and the remaining 25% will be landfilled. This improved recycling rate is attributed to the fact that achieving a 40% collection scenario is likely to materialise at a later stage. Hence, by that time, further enhancements in infrastructure, sorting technology, and stakeholder experience in managing textile waste are anticipated, leading to better recovery rates and reduced reliance on landfilling.

## 9.1.3 Waste management operator costs and revenue

**Direct costs:** The management of textile waste involves several direct costs that are essential to the overall process for collection, sorting, preparing for re-use and export. These include expenses related to shipping, transport, and fuel, as well as costs for purchasing materials such as packaging and carrying out maintenance and repairs. Collectively, and based on an analysis of the publicly available financial information of the current textile waste management private operator (for 2021), these direct costs are estimated to be c. [REDACTED] per tonne of textile waste collected. A significant portion of these expenses is driven by the costs associated with shipping used textiles for export.

### Operational and administrative costs:

- A significant portion of these costs is attributed to salaries, particularly due to the expected staffing levels to accommodate higher collection rates. As collection activities intensify and the requirements for sorting are expanded, the number of employees required for collection of textiles from the bins, sorting, preparing for re-use and exporting is projected to grow. [REDACTED] This increase is primarily driven by the need for more frequent collection operations and more specialised sorting processes required to manage the larger volumes of textile waste effectively in accordance with the requirements of the amendments to the Waste Framework Directive. Automatic sorting is still in the initial stages (<1% of post-consumer textiles sorting at EU level) and needs considerable investments to scale up and improve. Sorting of textiles is a highly manual process, and it is being assumed that this will remain the case in the short-term.

- Additionally, warehouse rent constitutes another major component of administrative expenses. Based on an analysis of general market rates for rent locally this is being assumed at an average rate of c. €68 per m<sup>2</sup>. The space required reflects the need for more extensive storage and processing areas as the volume of textiles increases from the current levels, and the sorting required becomes more specialised.
- Other administrative costs include auditor fees, insurance premiums, legal expenses, office utilities, and other operational overheads. In line with the publicly available financial information of the current textile waste management private operator (for 2021), these are estimated to be around [REDACTED] of the total revenue generated.

**Landfilling costs:** as set out above, under a 25% collection scenario, it is being assumed that 40% of the fraction of textiles not exported for re-use will be landfilled, resulting in a total of 103 tonnes to be landfilled. In comparison, under a 40% collection scenario, it is being assumed that 25% of the fraction of textiles not exported for re-use will be landfilled, amounting to 206 tonnes. Hence, this translates into a cost for landfilling, which was calculated based on the 2025 landfill gate fee of €50 per tonne<sup>69</sup>.

**Replacement costs:** With the introduction of an EPR for textiles and the anticipated expansion of textile waste management activities, various replacement costs have been factored in, considering current market prices and the lifespan of essential equipment. Based on consultations [REDACTED], key items are expected to include:

- **Bins for textile collection:** The introduction of EPR and accompanying legislative initiatives is expected to result in the need for the deployment of additional bins in localities. This is based on the indication that there are presently [REDACTED] bins distributed across [REDACTED] of Malta's [REDACTED] local councils, averaging approximately [REDACTED] per locality. In this regard, it is being assumed that with the EPR implementation, bins will be deployed across all [REDACTED] local councils. Consequently, the number of bins is projected to increase from [REDACTED] for both collection rate scenarios. Each bin is estimated at a market price of [REDACTED] with a useful life of [REDACTED] years.
- **Forklifts:** To handle the increased volume and more specialised sorting needs, [REDACTED] forklifts are expected to be required at a 25% collection rate and [REDACTED] forklifts at a 40% collection rate. Each forklift is assumed to have an average market price of [REDACTED] with a useful life of [REDACTED] years.
- **Vans:** The number of vans used for collecting textiles from bins and transporting them to sorting facilities is anticipated to be [REDACTED] vans under a 25% collection rate and [REDACTED] under a 40% collection rate. This reflects the need for more frequent trips as the volume of collected textiles grows. Each van is priced at c. [REDACTED] with a useful life of [REDACTED] years.

**Revenue from exports:** In determining the final EPR cost to be passed on to producers, the potential revenues generated from the export of textiles to specialised and authorised companies for re-use or further treatment is considered. [REDACTED] This revenue helps offset some of the costs associated with textile waste management, thereby reducing the financial burden on producers under the EPR system.

**Estimated increase in waste management costs:** Given the anticipated increase in collection rates and the more specialised sorting required under the amendments to the Waste Framework Directive, it is expected that waste management costs will increase, potentially rendering the waste management system for textiles not self-financing. Therefore, in the agreement between the PRO and any potential private operator engaged in collecting, sorting, preparing for re-use and exporting, this shortfall would need to be covered by the PRO to the waste management operator, to ensure that the private operator maintains its target profit margin. This is being assumed to be [REDACTED]. This revenue stream from the PRO would help offset the expected increased operational costs and maintain financial viability for the operator.

<sup>69</sup> <https://www.wsm.com.mt/en/gate-fees>

## 9.1.4 PRO costs

**Costs borne by the PRO:** Under the EPR framework, the PRO is responsible for various activities that must be factored into the EPR fee calculation. The PRO will be responsible for publicity and awareness-raising campaigns aimed at educating the public on proper textile waste management practices. Additionally, the PRO will also incur administrative costs related to compliance and reporting obligations, such as data collection and management, preparation of compliance documents, audits, IT and software systems. Based on market research of similar PROs<sup>70</sup> across the EU and general market rates for such costs, these publicity and administrative expenses are estimated at c. [REDACTED] and c. [REDACTED], per annum respectively.

## 9.2 Scenario analysis

Below we present a scenario analysis to assess the expected EPR fees based on the two scenarios for textile waste collection rates in Malta under the EPR framework. By examining these scenarios, an overview of the financial implications of enhanced textile waste management, including the corresponding adjustments in operational costs, PRO costs, revenue generation, and other related activities are provided.

Based on the projected costs and revenues for each scenario, this section will also outline the estimated recommended EPR fee per tonne of textiles placed on the market, offering insight into the potential financial obligations for producers under varying levels of waste collection. This analysis aims to support stakeholders in understanding the financial feasibility and the impact on the overall EPR fee structure.

	25% collection rate	40% collection rate
<b>Collection and export</b>	Based on the 10,290 tonnes of textiles placed on the market in 2023, achieving a 25% collection rate would result in the collection of c. 2,573 tonnes of textiles. Of this collected amount, it is estimated that c. 2,315 tonnes would be prepared for export.	Based on the 10,290 tonnes of textiles placed on the market in 2023, achieving a 40% collection rate would result in the collection of c. 4,116 tonnes of textiles. Of this collected amount, it is estimated that c. 3,293 tonnes would be prepared for export.
<b>Direct costs for operator</b>	Based on the projected collection and export figures, and an assumed cost of [REDACTED] per tonne, the total direct costs would amount to c. [REDACTED], with most of these expenses related to shipping activities for export.	Based on the projected collection and export figures, and an assumed cost of [REDACTED] per tonne, the total direct costs would amount to c. [REDACTED], with most of these expenses related to shipping activities for export.
<b>Operational and Admin costs for operator</b>	Based on the assumed need for [REDACTED] full-time employees, the total salary costs would rise to c. [REDACTED]. Additionally, warehouse space would need to increase to around [REDACTED]. At a rate of [REDACTED] per m <sup>2</sup> , rent costs would hence increase to c. [REDACTED]. Other administrative costs, including auditors' remuneration, insurance premiums, legal fees, and office utilities, would amount to c. [REDACTED]. These combined expenses would total c. [REDACTED].	Based on the assumed need for [REDACTED] full-time employees, the total salary costs would rise to c. [REDACTED]. Similar to the scenario under a [REDACTED] collection rate, the total warehouse space required would stand at around [REDACTED]. At a rate of [REDACTED] per m <sup>2</sup> , rent costs would hence total to c. [REDACTED]. Other administrative costs, including auditors' remuneration, insurance premiums, legal fees, and office utilities, would amount to c. [REDACTED]. These combined expenses would total c. €[REDACTED].

<sup>70</sup> These costs were based using published figures from the French textiles PRO 'Refashion' for 2024, showing 4.5% of revenue attribute to publicity and 14% attributed to operating expenses and development of tools to monitor stakeholders. (<https://refashion.fr/pro/en/what-are-eco-fees>).

	25% collection rate	40% collection rate
<b>Landfill costs for operator</b>	Based on the assumption that [REDACTED] tonnes would be landfilled, the total cost, against a €50 per tonne gate fee for 2025, would amount to c. [REDACTED].	Based on the assumption that [REDACTED] tonnes would be landfilled, the total cost, against a €50 per tonne gate fee for 2025], would amount to c. [REDACTED].
<b>Replacement costs for operator</b>	<p>Based on the assumptions for replacement costs outlined above, the estimated costs would be as follows:</p> <p><b>Collection bins:</b> [REDACTED] bins at [REDACTED] each ([REDACTED]-year lifespan), leading to annual replacement costs of c. [REDACTED].</p> <p><b>Forklifts:</b> [REDACTED] units at [REDACTED] each ([REDACTED] -year lifespan), resulting in annual costs of c. [REDACTED].</p> <p><b>Vans:</b> [REDACTED] vans at [REDACTED] each ([REDACTED]-year lifespan), with annual costs of c. [REDACTED].</p> <p><b>Total annual replacement costs:</b> [REDACTED].</p>	<p>Based on the assumptions for replacement costs outlined above, the estimated costs would be as follows:</p> <p><b>Collection bins:</b> [REDACTED] bins at [REDACTED] each ([REDACTED] year lifespan), leading to annual replacement costs of c. [REDACTED].</p> <p><b>Forklifts:</b> [REDACTED] units at [REDACTED] each ([REDACTED] -year lifespan), resulting in annual costs of c. [REDACTED].</p> <p><b>Vans:</b> [REDACTED] vans at [REDACTED] each ([REDACTED] -year lifespan), with annual costs of c. [REDACTED].</p> <p><b>Total annual replacement costs:</b> €[REDACTED].</p>
<b>PRO costs</b>	The PRO would incur costs related to publicity and administrative activities, estimated at c. [REDACTED] and c. [REDACTED] respectively.	The PRO costs related to publicity and administrative activities are projected to be retained at c. [REDACTED] and c. [REDACTED] respectively.
<b>Revenue from exports</b>	At a 25% collection rate, and a [REDACTED] export rate, c. [REDACTED] tonnes of textile waste would be exported annually. At an average rate of [REDACTED] per tonne, this translates to a total projected revenue of [REDACTED] per year.	At a 40% collection rate, and an [REDACTED] export rate, [REDACTED] tonnes of textile waste would be exported annually. At an average rate of [REDACTED] per tonne, this translates to a total projected revenue of c. [REDACTED] million per year.
<b>Estimated increase in waste management costs</b>	Based on the costs and revenues generated under a [REDACTED] collection rate, the expected payment by the PRO to the waste management operator is estimated to be c. [REDACTED], ensuring the operator can approximately maintain a profit margin of c. [REDACTED]	Based on the costs and revenues generated under a [REDACTED] collection rate, the expected payment by the PRO to the waste management operator is estimated to be c. [REDACTED] ensuring the operator can approximately maintain a profit margin of c. [REDACTED]

### 9.3 EPR fee calculation

Based on the costs and revenues detailed above, the following section outlines the total annual cost of managing textile waste under the proposed EPR framework for both scenarios. This total cost will be partially offset by the expected revenue from textile exports, with the net remaining cost to be covered by producers. This will determine the EPR fee per tonne of textiles placed on the market.



**25% collection rate:** As outlined in the table below, the net costs for managing textile waste with a 25% collection rate, including direct waste management, landfilling costs PRO costs, and a 10% contingency, are estimated to be c. [REDACTED]. Hence, with c. 10,290 tonnes of textiles placed on the market in 2023, such costs would translate to an EPR fee of c. €89 per tonne of textiles placed onto the market.

Waste management costs	[REDACTED]
PRO costs	[REDACTED]
10% contingency	[REDACTED]
<b>Total costs</b>	[REDACTED]

**Waste management cost per tonne collected** [REDACTED]

**EPR fee per tonne placed onto the market** €88.70

**40% collection rate:** As indicated in the table below, the net overall cost for managing textile waste in a scenario with a 40% collection rate, covering direct waste management, landfilling costs, PRO costs, and a 10% contingency, are projected to increase to c. [REDACTED]. Consequently, with c. 10,290 tonnes of textiles placed on the market in 2023, such costs would translate to an EPR fee of c. €104 per tonne of textiles placed onto the market.

Waste management costs	[REDACTED]
PRO costs	[REDACTED]
10% contingency	[REDACTED]
<b>Total costs</b>	[REDACTED]

**Waste management cost per tonne collected** [REDACTED]

**EPR fee per tonne placed on the market** €104.38

When comparing both scenarios, the EPR fee for a 40% collection rate is higher than that of a 25% collection rate. This can be attributed to the increased complexity and resource demands that arise when managing larger volumes of collected textiles. As collection rates rise, there is a need for more sorting, more employees, and increased transportation requirements, amongst others, which contribute to higher operational costs. Hence, these factors offset potential economies of scale, resulting in a higher fee per tonne of textiles placed on the market under the 40% collection rate.

### 9.3.1 Practical examples

Item	Av. weight (kg)	Cost of EPR (25% collection)	Cost of EPR (40% collection)
T-shirt	0.20	€0.02	€0.02
Jeans	0.60	€0.05	€0.06
Jacket	1.00	€0.09	€0.10
Shoes	0.80	€0.07	€0.08
Curtains	2.50	€0.22	€0.26



The table above presents potential indicative fees for common textile items based on the 25% and 40% collection rates. However, it is important to note that these fees are purely indicative and calculated solely on the weight of the products. They do not take into account any eco-modulation, as discussed in Sections 5 and 6, which could further adjust the fees based on environmental criteria. Therefore, while the weight provides a basic estimate of the EPR fees, the actual costs for producers could vary depending on the implementation of eco-modulation and other potential sustainability factors.

In the following section, being the economic impact assessment of the EPR, we will also benchmark these projected EPR fees against those charged by established EPR systems in other EU nations. This comparative analysis will provide further insight into Malta's position within the broader European context, offering a deeper understanding of how these costs align with international standards and practices.

## 9.4 Key limitations of data

In conducting this feasibility study, data was gathered through consultations with key stakeholders in the industry, market research, and publicly available information. While the work has involved analysis of financial information, it has not included an audit in accordance with generally accepted auditing standards. Moreover, except where otherwise stated in the Report, the information in the Report has not been subjected to checking or verification procedures. Accordingly, no responsibility is being assumed and no representations are being made with respect to the accuracy or completeness of any information received, except where otherwise stated herein, and no assurance is given.

Below, the primary limitations encountered during the data collection process are outlined:

**Revenue rate assumptions:** The revenue rate per tonne of textile exported is based on the financial statements of the private operator for 2021. It is further being assumed that the revenue rate per tonne of textiles exported will remain constant. However, with the implementation of the new design requirements that will be set under the Eco-design for Sustainable Products Regulation, it may be assumed that, potentially, the economic value of used textiles assessed as fit for reuse and textile waste prepared for reuse might increase.

**Separate textile waste collection costs:** The costs of collection through the bins for separate collection are based on the publicly available data from the 2021 financial statements of the private textile waste operator, and stakeholder consultations.

**PRO costs:** While market research on PRO costs, particularly concerning publicity and administrative expenses for established textiles EPRs in other EU member states was conducted, a complete understanding of these costs in the local context is not available. Therefore, an estimate of these costs using findings from other textiles EPRs across the EU, as well as general market rates, and consultations with stakeholders was taken.

## 10. High level economic impact assessment

The implementation of an EPR scheme in the textile industry carries implications for the local economy. This economic impact assessment examines the potential effects of introducing such a scheme, which would shift the responsibility for the entire lifecycle of textile products to producers, with the aim to promote sustainability and reduce waste. Thus, this section provides an analysis of how an EPR framework could influence the local economy, evaluating both the direct and indirect economic impacts and providing insights into broader changes in industry practices, market dynamics, and overall economic growth.

Table 33: Potential impacts on the local economy

Feature	Description
Impact on consumer prices	<p>The EPR scheme will shift the cost of textile waste management from public bodies to the producers. Thus, producers will experience an increase in costs from fees payable to the PRO, as well as, internal administrative and compliance costs to adhere to the requirements of the EPR. As also stated in the Commission Staff Working Document – Impact Assessment Report accompanying the Directive of the European Parliament and of the Council amending Directive 2008/98/EC on waste Annex 11 (the ‘Impact Assessment Report’) producers would either have to absorb these costs which would lower their profitability or increase the costs to consumers. Producers are therefore most likely to pass these costs onto consumers in the form of higher prices for textiles. The waste management costs of used clothing and household textiles are not currently addressed in the price of new products. With the average EPR cost per kilogram of textile estimated at €0.09-€0.10 depending on the resulting collection rate, the additional costs incurred by producers are modest when distributed across individual products. For instance, according to the weight of the garment, the price of a T-shirt would increase by c. €0.02, jeans by c. €0.05-€0.06, jackets by c. €0.09-€0.10, shoes by c. €0.07-€0.08, and curtains by €0.22-€0.26, depending on the achieved collection rate. Considering that the average price of a pair of jeans is around €30, the total price would increase to a maximum of €30.06, having a marginal increase of 0.2%. The fees are based on product weight and exclude eco-modulation, which could adjust costs based on environmental factors. The Impact Assessment Report estimates an increase in costs per item of around 0.3% of the total price. Although the rise in cost is minimal, the EPR could have direct effects on consumer purchasing decisions and thus, demand for textiles. The negligible price increases may suggest that EPR can be introduced without causing inflationary pressure on textile products. This would prevent the risk of reduced consumption, which is critical for maintaining steady revenue streams for retailers and producers. However, while the direct impact on individual items, such as a few cents increase per garment, may seem minimal, when aggregated across large volumes of sales, these price hikes may influence consumer spending patterns. By transferring these costs to consumers, producers may maintain their profit margins per item, while complying with the EPR regulations, but this approach may also alter market dynamics, leading to potential shifts in competition and consumer behaviour, as companies that effectively manage their increased compliance costs may gain a competitive advantage by minimising price increases.</p>

Feature	Description
<b>Comparative impact of EPR costs</b>	<p>When comparing the estimated increase in textile prices due to the implementation of the EPR scheme in Malta with France, where a similar EPR system exists, notable differences are observed. In France, price increases for textiles remain relatively low, whereby the price of t-shirts increased by €0.0177, jackets by €0.0947, and shoes by €0.0177. The low price increases reflect an established recycling infrastructure and potentially more efficient waste management systems. In contrast, Malta anticipates higher increases in prices, highlighting the early-stage nature of its EPR framework and the potential for higher compliance and operational costs in adapting to the new system. However, over time, the EPR system could stimulate the local economy by encouraging the development of a recycling industry, fostering green jobs, and promoting growth in imports of sustainable textiles. Additionally, Malta could experience long-term environmental benefits as reduced textile waste lessens pressure on local landfills, contributing to a more circular economy that aligns with broader EU sustainability goals.</p>
<b>Effect on overall inflation</b>	<p>The implementation of the EPR scheme is expected to increase textile prices, as producers will potentially face higher compliance costs related to waste management and sustainability initiatives, which they are likely to pass on to consumers. In 2023, the value of imported textiles stood at c. €261 million, with a total import volume of c. 10,000 tonnes, resulting in an average import price of €26.1 per kg. With the introduction of EPR, the price increase of textiles is projected to be around €0.09 per kilogram, leading to an estimated overall price rise of 0.4% in the textile sector. This increase in textile costs directly contributes to inflationary pressures, as higher input costs for goods generally lead to higher consumer prices. According to Eurostat, clothing and footwear accounted for 4.20% of the total Harmonized Index of Consumer Prices (HICP) basket in 2023. Given this relatively small share, the estimated rise in textile prices due to EPR implementation is estimated to result in a 0.01% increase in the overall HICP, indicating that while the EPR does exert upward pressure on textile prices, its broader impact on inflation is negligible. In this context, while consumers may experience slightly higher costs for textiles, the implementation of EPR is unlikely to drive high inflationary pressures across the economy, making the inflationary effect of the policy minimal in the larger economic framework.</p>
<b>Development of the local re-use market</b>	<p>The implementation of the EPR scheme for textiles will aim to promote the growth of the local re-use market, particularly for charity shops, vintage shops, thrift shops, and other social enterprises. These entities play a role in extending the lifecycle of textiles and contributing to the circular economy in Malta. The EPR will provide social enterprises with key support such as preferential treatment at collection points, collaborative collection systems, and financial coverage for collection and transport costs. This support will enable charity and second-hand shops to expand their operations, increasing their capacity to collect, process, and reuse textiles locally rather than relying on exporting these materials. With reduced operational and logistical costs, these shops would be able to handle larger volumes of textiles, thereby preventing waste, fostering sustainability, and driving economic growth in the second-hand market. This would strengthen their role in the circular economy and help diversify the local economy by creating jobs and</p>

Feature	Description
	<p>providing affordable clothing options for consumers. Furthermore, the EPR scheme will help integrate these social entities into Malta's waste prevention systems, positioning them as key players in achieving the country's circular economy targets. The strategy also aligns with the Ecodesign for Sustainable Products Regulation (ESPR), which came into force in July 2024, further reinforcing the development of a sustainable textile economy. Thus, these initiatives aim to contribute to the growth of the local re-use market, ensuring that social enterprises are well-equipped to manage textile waste effectively and play a pivotal role in Malta's transition toward a circular and sustainable economy.</p>
<p><b>Penalties for non-compliance with the targets on municipal waste set out in the Waste Framework Directive</b></p>	<p>By enhancing Malta's collection and sorting processes for textiles, the EPR scheme would enhance the country's capacity to meet its municipal waste management targets for 2025. Furthermore, the implementation of this scheme will support the objectives of the Waste Framework Directive amendment, driving progress toward the recycling and reuse targets essential for fostering a circular economy in Malta. Failure to meet these targets may result in fines imposed by the European Union as part of infringement procedures against Member States that do not comply with the directive.</p>
<p><b>Enhancing compliance with landfill targets</b></p>	<p>The Impact Assessment Report accompanying the Proposal to amend the WFD states that the introduction of the EPR would ensure that greater volumes of textiles are removed from the mixed waste stream and processed for reuse and recycling, thus diverting textile waste from landfill. Hence, the introduction of EPR for textiles will enhance Malta's capacity to meet its landfill targets for 2035 through an efficient nationwide collection system and improvements in sorting facilities.</p>
<p><b>Job creation</b></p>	<p>The implementation of the EPR scheme in the local textile industry may also lead to job creation, particularly in the collection and preparation for reuse sectors. As the scheme increases textile collection rates, the local private operator responsible for collecting and processing textile waste for export would need to expand its workforce to meet growing demand. Currently, the private operator employs c. [REDACTED] Should the collection rate increase to [REDACTED], the operator would have to increase its headcount to a c. [REDACTED] to manage the increased volume of textiles together with the enhanced sorting that is required. Should the collection rate reach [REDACTED], it is expected that the operator expects would need to expand further, employing up to c. [REDACTED] to efficiently handle the additional responsibilities of collection and sorting. This workforce expansion would generate direct employment opportunities and stimulate economic activity across related industries, such as transportation and textile processing. Over time, this job growth would help strengthen the local economy and contribute to broader economic development, while promoting environmental sustainability.</p>

In conclusion, the implementation of an EPR scheme for textiles in Malta is expected to have a range of economic impacts. Job creation in sectors like textile collection and preparation for reuse will stimulate economic activity, with workforce expansion needed to handle increasing volumes of textile waste. This growth will help strengthen the local economy while promoting sustainability. Furthermore, the development of the re-use market, particularly through charity and second-hand

shops, will be a key factor in driving a circular economy, providing affordable clothing options and supporting social enterprises.

While the EPR scheme will lead to modest price increases for textile products, these increases are unlikely to exert high inflationary pressures, with an estimated 0.01% impact on the overall HICP. However, these price hikes could influence consumer purchasing decisions and market dynamics, potentially benefiting companies that can manage costs effectively.

In the long run, the EPR scheme will foster sustainability and environmental responsibility, aligning Malta with EU waste management and landfill reduction targets. By holding producers accountable for the lifecycle of their products, the scheme will encourage sustainability and resource efficiency. This will support Malta's progress toward reducing landfill usage and increasing recycling rates, helping the country meet its EU obligations.

# 11. Conclusion

The EU's textile consumption, particularly household textiles and clothing has led to overproduction and overconsumption. To address this, the European Commission has proposed an amendment to the WFD, mandating the harmonised implementation of EPR schemes for textiles across all Member States, including Malta. This amendment requires producers of textiles, footwear, and related products to take responsibility for managing the entire lifecycle of their products, including waste generated at the end of use. Although currently an EPR scheme for textiles is implemented in France and the Netherlands, the WFD will now mandate all member states to implement such a scheme.

The EPR scheme aims to promote reuse, improve collection, sorting, preparation for reuse, and recycling processes, aligning with the EU Strategy for Sustainable and Circular Textiles. Malta, like other Member States, will be legally required to implement this system to ensure that textile waste is managed in a way that promotes environmental sustainability and supports the transition to a circular economy.

The local textile market is predominantly composed of micro enterprises, which account for 92.4% of the sector. Small enterprises represent 5.2%, followed by medium-sized firms at 2.0%, and large companies at 0.3%. The highest concentration of companies operates in the retail sale of clothing, footwear, and leather goods through specialised stores.

In 2023, textile imports totalled €261.1 million reflecting c. 10,300 tonnes, with the majority of imports, both in terms of value and volume, consisting of apparel and clothing accessories, both knitted or crocheted, as well as non-knitted or crocheted items. Textile imports are projected to increase to €483 million in value and around 19,020 tonnes in quantity by 2030.

However, the local demand for textile imports may be impacted by the EU Strategy for Sustainable and Circular Textiles, which took effect in July 2024. This strategy aims to improve the durability and sustainability of textiles, reducing the need for frequent garment replacements and, as a result, potentially decreasing import volumes.

Meanwhile, textile waste collected has slightly decreased over the past five years from c. [REDACTED] tonnes in 2018 to c. [REDACTED] tonnes in 2022, while textiles exported for reuse have seen a [REDACTED] from c. [REDACTED] in 2018 to c. [REDACTED] in 2022, indicating progress in waste reduction and recycling efforts.

In accordance with the General Approach on the Proposal for a Directive of the European Parliament and of the Council amending Directive 2008/98/EC on waste, the implementation of extended producer responsibilities must be exercised collectively through PROs. Hence, given the regulatory constraints, the EPR scheme will adhere to the collective fulfillment requirement set out in the directive, referred to as the CPR model. Based on the options analysis, the organisational and financial responsibility model with a single PRO stands out as the preferred option, offering the highest potential for operational efficiency, ensuring that resources are managed effectively, and processes are streamlined.

When considering the various activities involved in the management of textile waste due to the implementation of the EPR scheme, ranging from collection, transportation, and sorting to export, and examining the associated costs and potential revenues generated, the potential EPR was estimated. The analysis in the feasibility study determined that the EPR fee per tonne placed on the market is projected to range from €89 to €104 which translates to a range of €0.09 to €0.10 per kilo. This range is contingent upon the textile collection rate, with the lower fee applicable at a 25% collection rate and the higher fee at a 40% collection rate.

Moreover, the introduction of the EPR is expected to create administrative challenges for both producers and PROs. Producers will need to meet the required reporting standards, tracking product quantities and collecting waste management data, which may require new compliance systems. For PROs, managing data collection, processing, and reporting, along with ensuring regulatory compliance and logistics oversight, may result in more complex administrative structures and increased operational costs.

With producers bearing the costs associated with the EPR scheme, it is anticipated that these expenses will likely be transferred to consumers in the form of higher prices for textiles. As discussed, the price increases are expected to be minimal, which may not impact consumer purchasing decisions or overall demand.

However, the negligible price hikes may still influence consumer spending patterns, potentially altering market dynamics and competition as companies that effectively manage costs may gain a competitive edge. Moreover, according to Eurostat, clothing and footwear accounted for 4.20% of the total Harmonized Index of Consumer Prices (HICP) basket in 2023. Given this relatively small share, the estimated rise in textile prices due to EPR implementation is around a 0.01% increase in the overall HICP, indicating that while the EPR does exert upward pressure on textile prices, its broader impact on inflation is negligible.

In addition, the implementation of the EPR scheme for textiles is expected to enhance the local reuse market by supporting social enterprises through preferential collection treatment and financial assistance, thereby increasing their capacity to process and reuse textiles locally. Moreover, the EPR scheme will aim to increase textile reuse which would align with the municipal waste preparing for reuse and recycling targets in the Waste Regulations, S.L. 549.63, which transpose the Waste Framework Directive into Maltese law. It will also help divert textile waste from landfills, which will support Malta in meeting targets in relation to the reduction of the municipal waste landfilled, in line with the Waste Management (Landfill) Regulations (S.L.549.29), which transposes the EU Landfill Directive. The EPR scheme may also lead to job creation, as the increase in textile collection rates may result in a need for the local private operator to expand its workforce to meet growing demand in managing textile waste collection.

In conclusion, the successful implementation of a mandatory EPR scheme for textiles in Malta relies on more than just its establishment. Expanding waste separation obligations to include textiles would ensure the separation of textile waste at source, improve recycling rates, and enhancing compliance with the EPR system. Additionally, ensuring that separate collection points are installed in all Local Councils would increase accessibility, boost collection rates, and strengthen the EPR framework in Malta. Furthermore, should this system of bin collection points fail to improve textile collection rates, alternative systems may also be explored and assessed to boost these rates. This could include the introduction of separate household collection systems managed by local entities such as regional councils. Such measures would align with the Council mandate amending Directive 2008/98/EC on waste, which requires PROs to implement corrective measures if separate collection rates do not improve over time, ensuring compliance and fostering increased collection, re-use and recycling. Finally,, it is recommended to create consumer incentive programmes to encourage and reward individuals for reusing or donating used textiles.



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