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Plastic materials sector analysis

Republic of Moldova



EU4GREEN RECOVERY EAST (700002623)

RECOVERY THROUGH A CIRCULAR ECONOMY AND POLLUTION REDUCTION IN THE EASTERN PARTNERSHIP
COUNTRIES

Implementing partners:





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About this report

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About EU4Green Recovery East

The EU4Green Recovery East programme is a regional programme supporting the EU's Eastern Partnership countries on their path towards a greener, more resilient, and competitive economy.

With an EU-contribution of EUR 21.3 million (2025-2028), it builds on the results of a decade of EU support for better water management and green economy adoption and focuses on five key components:

- (1) promoting a circular economy,
- (2) ensuring water is managed as a critical resource,
- (3) advancing legal approximation with EU environmental legislation,
- (4) strengthening integration into EU-wide environmental cooperation and data exchange, and
- (5) fostering cross-border environmental cooperation.

The programme is implemented by five partners: Expertise France with the French International Office for Water (OiEau), OECD, UNECE, UNIDO, and the Environment Agency Austria (UBA), as the consortium coordinator.

<https://www.eu4greenrecoveryeast.eu>

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List of abbreviation

CAEM – Classification of Economic Activities of Moldova
CE – Circular Economy
CPC – Central Product Classification
DRS – Deposit-Return Scheme
EPR – Extended Producer Responsibility
EU – European Union
EU4GRE – EU4Green Recovery East
FMCG – Fast-Moving Consumer Goods
GPP – Green Public Procurement
HDPE – High-Density Polyethylene
HORECA – Hotels, Restaurants and Cafés
HS – Harmonized System (trade classification)
MDL – Moldovan Leu
NBS – National Bureau of Statistics
NIR – Near-Infrared (sorting technology)
OECD – Organisation for Economic Co-operation and Development
PE – Polyethylene
PET – Polyethylene Terephthalate
PP – Polypropylene
PPA – Power Purchase Agreement
PPWR – Packaging and Packaging Waste Regulation (EU)
PRE – Plastics Recyclers Europe
PV – Photovoltaic
PVC – Polyvinyl Chloride
REP – Răspunderea Extinsă a Producătorului (Moldova's national EPR scheme)
rPET – Recycled Polyethylene Terephthalate
UBA – Umweltbundesamt / Environment Agency Austria
UNECE – United Nations Economic Commission for Europe
UNIDO – United Nations Industrial Development Organization
USD – United States Dollar
VET – Vocational Education and Training

1. Executive Summary

This report was developed to provide the evidence base for Component 1 of the EU4Green Recovery East (EU4GRE) Programme "Promote Circular Economy & Resource Efficiency" in the Republic of Moldova.¹ The plastic materials sector was identified as one of Moldova's priority sectors for circular economy intervention based on the sector screening. Its selection reflects the sector's economic weight, its heavy and growing import dependence, and the potential for circular solutions to retain more material value inside the country.

CORE CIRCULAR ECONOMY BOTTLENECK — weak retention of plastic materials in the domestic economy. Moldova consumes over 116,000 tonnes of plastic annually, yet only around 1.5% is recovered after use. Collection is fragmented, EPR covers only part of the market, and no Deposit Return System is not operational yet, even the one working recycling stream (PET) exports virtually all its output instead of feeding it back into domestic manufacturing.

The sector remains an important part of Moldova's industry. Between 2020 and 2024, the number of reporting enterprises grew from 328 to 334 and turnover rose from MDL 2,923 million to **MDL 3,981 million (+36.2%)**, while average annual employment fell from 4,380 to **3,587 persons (-18.1%)**². As in other manufacturing sectors, this points to structural transformation rather than genuine growth: output is expanding nominally while the sector sheds jobs, following a 2022 peak and a 2023 contraction linked to the energy crisis.

The sector is strongly import-dependent. In 2025, Moldova imported plastic and rubber materials and products worth approximately USD 448.5 million (106,413 tonnes), while exports remained comparatively low at approximately USD 41.3 million (12,155 tonnes), confirming that plastics play a major role in the national economy, especially in packaging, household use, trade logistics and construction.³

Official production data captures just 4,548 tonnes in 2024, under 4% of consumption, confirming that most of what is used is either imported outright or produced by enterprises that fall outside product-level statistics. The main circularity gap is structural rather than incidental as most post-consumer plastic is disposed of with municipal waste or leaves the country after collection, which prevents the development of domestic secondary raw material markets and keeps recovered value flowing outward instead of back into local manufacturing.

To translate the sector-level diagnosis into a more focused intervention pathway, the analysis identified plastic construction products as the most relevant value chain for deeper assessment. Its selection reflects economic weight, the concentration of import-substitution and recycling potential, and the scale of material flows at stake.

¹ <https://www.eu4greenrecoveryeast.eu/>

² https://statbank.statistica.md/pxweb/pxweb/en/40%20Statistica%20economica/40%20Statistica%20economica_14%20IND_IND020/?rxid=9a62a0d7-86c4-45da-b7e4-fecc26003802

³ UN Comtrade (HS chapters 39–40, 25 headings incl. 3917, 2023–2025); NBS Value of Fabricated Production for CAEM C2200 production totals, https://statistica.gov.md/files/files/serii_de_timp/industrie/principali_indicatori_Val_Prod_Fabricate_2019-2025.xlsx

Overall, the Moldovan plastics sector has sufficient industrial weight to justify targeted circular economy interventions, but it is still operating in a predominantly linear model: import-dependent, fragmented, weakly integrated internally, and poorly connected to domestic reuse of secondary raw materials. The strongest opportunities for transition lie where economic scale and circular potential overlap most clearly: plastic construction products, packaging, and the PET sub-chain. The transition should focus first on creating stronger market conditions through recycled-content requirements, eco-modulated EPR fees and Green Public Procurement; and supporting producers and recyclers in retaining secondary materials domestically rather than exporting them.

DRAFT

2. Introduction

2.1. Purpose

This report is developed as a foundational document to support Component 1 of the [EU4Green Recovery East](#) (EU4GRE) Programme “Promote Circular Economy & Resource Efficiency” in the Republic of Moldova. It aims to provide a comprehensive analysis of the plastic materials sector, identifying the product groups and value chains with the highest potential for circular economy (CE) intervention. By establishing a robust, evidence-based understanding of the sector’s economic profile, material flows, trade dependence and circularity bottlenecks, the report serves as a critical reference point for guiding technical assistance, investment support and policy measures that help Moldovan businesses adopt circular models, reduce production costs and decrease reliance on imports. The findings herein will feed into the further activities of Component 1 – value chain mapping, pilot project design and policy recommendations ensuring that future interventions are grounded in robust evidence and tailored to the national context.

2.2. Main Objectives

The primary objective of this report is to map and evaluate the plastic materials sector in the Republic of Moldova in order to identify where circular economy intervention can deliver the greatest impact. Specifically, the report seeks to:

- map and evaluate the current status of the plastic materials sector – market size, enterprise structure, production and trade flows – building on official statistics and trade data;
- identify the priority product groups with the highest circular economy potential through a CPC-based screening (CPC 369 – plastic construction products, CPC 364 – plastic packaging / PET sub-chain, CPC 363 – semi-manufactures, CPC 361/362 – rubber products);
- identify the main circularity bottlenecks and define core circularity priorities with concrete entry points and scaling methods relevant to Moldovan market conditions;
- support the objectives of Component 1 – helping businesses adopt circular models, create new jobs, reduce costs and decrease reliance on imports by providing a decision-ready evidence base for pilot interventions and policy recommendations.

2.3. Methodology

The analysis draws on the evidence base developed under UNIDO’s framework within EU4Green Recovery East. The selection of priority sectors for the circular economy was carried out through a participatory Multi-Criteria Decision Analysis of the national economic sectors, and the plastic materials sector was identified and validated as a national priority together with key sector actors and the Ministry of Environment and the Ministry of Economic

Development and Digitalisation⁴. Building on this sector-level selection, a detailed product-level analysis was conducted for each priority sector, applying the UN Central Product Classification (CPC) methodology⁵ to identify the product groups with the highest circular economy potential. The analysis was complemented by field work: discussions and interviews with economic operators from the sector, grounded in 15 survey responses and semi-structured interviews. The preliminary results were examined in a working session⁶ held in an interactive circular canvas format, with the participation of sector stakeholders, to jointly analyse and validate the value chain canvas and the proposed circular economy interventions. Building on this evidence, the present report provides the full sector-specific analysis: the structural diagnosis, the priority product groups, the circularity bottlenecks, and the core circularity priorities with entry points and scaling methods, supplemented by the value chain canvas and trade annexes.

3. Core sector diagnosis

The plastics sector, defined as the manufacture of rubber and plastic products, comprises 317 enterprises and approximately 3,286.7 million lei in production value in 2025, representing 3.46% of the total industry.

Table 1. CAEM C22 — Key indicators of reporting enterprises, 2020–2024

Year	Reporting units	Avg. annual employees	Turnover (MDL mil.)	Production value (MDL mil.)
2020	328	4,380	2,923.1	2,710.3
2021	336	4,278	3,483.1	3,372.0
2022 (peak)	325	4,115	4,180.1	4,054.9
2023	272	3,631	3,502.0	3,532.7
2024	334	3,587	3,980.9	3,689.7
Δ 2020→2024	+1.8%	−18.1%	+36.2%	+36.1%
Δ 2022→2024 (post-peak)	+2.8%	−12.8%	−4.8%	−9.0%

Source: NBS, *Structural Business Statistics 2014–2024* (table “Main indicators of enterprise activity by economic activity”). CAEM C22 covers both rubber (22.1) and plastic (22.2); rubber represents a marginal share, so indicators reflect predominantly the plastics sub-sector.

Three observations are critical for policy design:

- Decoupling of nominal output and employment — turnover grew by 36.1% in nominal terms between 2020 and 2024, while employment fell by 18.1%. After deflation, this points to limited real expansion combined with mechanisation.
- 2022 peak and partial recovery — both turnover (MDL 4,180 m) and employment (4,115 persons) maxed out in 2022. The 2023 contraction (−16.2% turnover)

⁴ <https://www.eu4greenrecoveryeast.eu/index.php/news-opportunities-eu4greenrecoveryeast/78-moldova-identifies-priority-regions-and-sectors-to-advance-circular-economy-activities-with-eu-support>

⁵ <https://unstats.un.org/unsd/classifications/Econ/cpc>

⁶ <https://e-circular.org/economie-circulara/cartografierea-lanturilor-valorice-pentru-accelerarea-tranzitiei-moldovei-catre-economia-circulara-in-cadrul-programului-eu4green-recovery-east/>

coincided with the regional energy crisis, reduced construction activity and post-COVID normalization of packaging demand. 2024 recovered nominal turnover by +13.7%, but employment continued to decline (–1.2% vs 2023).

- Reporting volatility — the number of reporting units dropped from 325 in 2022 to 272 in 2023 (a 16% one-year fall, partly attributable to administrative re-classification) and rebounded to 334 in 2024. The producer base in the Mediu.gov.md dashboard (388 firms) is broader because it includes some CAEM 20.16 enterprises.

Within the sector, plastic-related activities clearly dominate (C2220⁷), representing 311 enterprises and 3,273.2 million lei, whilst rubber articles account for a marginal share.

The plastic materials sector in the Republic of Moldova is economically relevant but structurally unbalanced. It supports domestic consumption, construction and packaging markets, yet remains highly dependent on imports and only partially reflected in official statistics. In 2025, Moldova imported plastic and rubber materials and products worth approximately USD 448.5 million (106,413 tonnes) across the CPC-relevant HS headings (chapters 39 and 40; UN Comtrade), while exports remained comparatively low at approximately USD 41.3 million (12,155 tonnes), confirming that plastics play a major role in the national economy, especially in packaging, household use, trade logistics and construction.⁸

Available statistics confirm a significant domestic manufacturing base for plastic products, although product-level data provide only a partial picture of sector output.

Structural Business Statistics for CAEM C22 used as the closest available statistical proxy and covering both rubber and plastic products report 334 enterprises, turnover of MDL 3,980.9 million and production value of MDL 3,689.7 million in 2024. A separate industrial production dataset reports 317 enterprises and manufactured output of MDL 3,286.7 million in 2025. As these datasets differ in scope and methodology, the figures should not be interpreted as a directly comparable time series.

At product level, the NBS Industrial Production Series provides comparable physical-output data only for a limited number of plastic product categories. Among the products tracked, production of plastic tubes and pipes increased from 2,790.7 tonnes in 2020 to 4,188.5 tonnes in 2025, while plastic boxes and crates increased from 129.2 to 211.0 tonnes. Output of plastic windows and doors also increased over the period, from 210.7 thousand units to 266.3 thousand units. These data indicate growth in selected product segments but should not be interpreted as representing total domestic plastics production.⁹

⁷ Code CAEM

⁸ UN Comtrade (HS chapters 39–40, 25 headings incl. 3917, 2023–2025); NBS Value of Fabricated Production for CAEM C2200 production totals, https://statistica.gov.md/files/files/serii_de_timp/industrie/principalii_indicatori/Val_Prod_Fabricate_2019-2025.xlsx

⁹ BNS, Structural Business Statistics 2014–2024 („Principalii indicatori ai activității întreprinderilor pe activități economice”), statistica.md

Table 2. Industrial Production Series — Product volumes, 2020–2025

Product (unit)	2020	2021	2022	2023	2024	2025	Δ 2020→2025
Plastic tubes and pipes (tonnes)	2,790.7	2,295.6	2,766.9	2,881.4	3,251.8	4,188.5	+50.1%
Plastic boxes, crates, racks (tonnes)	129.2	179.5	175.2	298.9	123.5	211.0	+63.3%
Windows, doors, glazing (thousand pcs)	210.7	287.2	245.3	218.3	234.6	266.3	+26.4%

Source: NBS, Industrial Production Series. Of the three tracked product lines, the two reported by weight (tubes/pipes and boxes/crates) sum to approximately 4,399.5 tonnes in 2025, up from 3,375.3 tonnes in 2024; windows are reported by unit count and are not included in this sum. These NBS Industrial Production Series lines cover only a narrow slice of CAEM C22 output and should not be read as total sector production.

Trade patterns also show that Moldova is moving toward greater dependence on imported semi-finished and finished plastic goods rather than strengthening domestic material transformation. This is especially visible in packaging, tubes and pipes, construction items and PVC coverings.

A particularly important signal comes from the PET chain: imports of primary PET fell sharply, while imports of preforms increased significantly. This suggests that part of the beverage packaging value chain has shifted abroad. Although Moldova retains some recycling activity, especially in PET, the recycled material is largely exported instead of being reintroduced into domestic manufacturing. As a result, material value is recovered only partially, while most higher-value transformation remains outside the country.

Overall, the Moldovan plastics sector has sufficient industrial weight to justify targeted circular-economy intervention, but it is still operating in a predominantly linear model: import-dependent, fragmented, weakly integrated internally, and poorly connected to domestic reuse of secondary raw materials. The strongest opportunities for transition lie where economic scale and circular potential overlap most clearly: plastic construction products, packaging, and the PET sub-chain.

4. Priority products group for circular economy interventions

The plastics sector comprises several distinct value chains that differ in terms of market size, domestic production capacity, import dependence and circularity potential. Prioritising these value chains helps direct policy measures, investment and technical support to where they can generate the greatest impact.

To move from a sectoral to a value-chain level of analysis, the Central Product Classification (CPC) codes within CAEM C22 were screened against three quantitative criteria: production value (2024), number of active enterprises, and availability of a consistent product-level series

for 2020–2024, combined with a qualitative assessment of circular economy potential, strategic relevance and feasibility of enterprise-level data collection. Four CPC codes were retained for in-depth analysis: CPC 369– Other plastic products / builders' ware of plastics, CPC 364 – Plastic packaging products, CPC 363 – Semi-manufactures of plastics / tubes, pipes and profiles and CPC 361/362 – Rubber tyres and other rubber products.

Table 3. Quantitative profile of plastic CPC codes (2025)

CPC	Product/service	CAEM	Enterprises	Production value, million lei	Share in industry, %	Combined score
369	Other plastic products / builders' ware of plastics	C2223/C2229	261	1 923.9	2.02	1.00
364	Plastic packaging products	C2222	35	980.8	1.03	0.32
363	Semi-manufactures of plastics / tubes, pipes and profiles	C2221	15	368.4	0.39	0.12
361/362	Rubber tyres and other rubber products	C2210/C2219	10	22.3	0.02	0.02

Source: National Bureau of Statistics (NBS)

4.1.1. Priority product group 1: CPC 369 – Plastic Construction Products

This chain covers HS codes 3918 (floor and wall coverings), 3922 (sanitary ware), 3924 (tableware/household articles), 3925 (builders' ware) and 3926 (other plastic articles), corresponding to CAEM 22.23/22.29; HS 3917 (tubes, pipes, hoses) belongs to CPC 363 below, not this group. It is the largest segment of Moldova's plastic industry by both producer count (269 enterprises, 69% of all plastic-producers in the Mediu.gov.md dashboard) and economic value (approximately MDL 1,923.9 million in 2025, ~58.5% of CAEM C22 production value). National production of tubes and pipes (tracked under CPC 363, see below) reached 4,188.5 tonnes in 2025, up from 3,251.8 tonnes in 2024 (+50.1% over 2020–2025) — the only product class with a continuous positive growth trajectory. Imports of tubes/pipes and PVC floor/wall coverings grew strongly (+54.4% and +133.3% by volume over 2023–2025 respectively), now confirmed against the complete HS 3917/3918 Comtrade series. Window production, previously stable at ~220,000–235,000 units/year, rose to 266,300 units in 2025 (+13.5% vs 2024), breaking out of that range.¹⁰

¹⁰ BNS, Industrial Production Series (tuburi/țevi, ferestre), statistica.md; UN Comtrade HS 3917 and 3918 (import volumes) for tubes/pipes and PVC coverings growth

4.1.2. Priority product group 2: CPC 364 (PET sub-chain) / Beverage Containers

PET is the only Moldovan plastic stream with a functioning national recycling capacity, generating 1,787 tonnes of rPET exports in 2025 (+35% vs 2023). However, the value chain is “leaky”: all recyclate is exported, primary PET imports collapsed by 93.9% (738 t in 2025 vs 12,115 t in 2023), and PET preform imports surged 66% (7,979 t in 2025 vs 4,797 t in 2023). This means that the bottling stage is increasingly served by foreign preforms while domestic recyclers cannot place rPET in Moldova-made bottles. The PET chain is therefore both the highest-circularity opportunity and the highest-risk for further value-chain erosion if no policy intervention takes place by 2028¹¹.

4.1.3. Other products group

This is the largest single import category (21,040 tonnes in 2025, +18.4% vs 2023) and the largest consumer-facing flow. The national packaging industry counts 45 enterprises (CAEM 22.22, Mediu.gov.md) with a share of ~30% of CAEM C22 production value (~MDL 980.8 million in 2025). National production of plastic bags and sacks reached approximately 4.1 million kg in 2025, up from 3.9 million kg in 2024, with 89% destined for the domestic market. EPR coverage on this stream remains under 20% of the real market in volume. Box/crate production, which collapsed –58.7% in 2024 vs 2023, rebounded strongly in 2025 (+70.9% vs 2024, to 211.0 tonnes) though still below the 2023 peak of 298.9 tonnes — suggesting this sub-segment remains volatile rather than in structural decline.¹²

4.1.4. Trade exposure of the priority product groups

Direct trade data (UN Comtrade, HS 4/6-digit; see Annex 2) confirm that Moldova runs a persistent and widening trade deficit across all four priority CPC groups. CPC 363 (semi-manufactures — tubes, pipes and profiles) shows the largest deficit in 2025 (USD 155.5 million), driven overwhelmingly by imports of HS 3917 (tubes, pipes and hoses); despite continuous growth in domestic tube/pipe production (Table 4), the sector remains unable to meet demand without substantial imports. CPC 361/362 (rubber articles, dominated by tyre imports) follows closely (USD 101.3 million deficit), against a domestic production base of just MDL 22.3 million — confirming this sub-sector is served almost entirely by imports. CPC 369 (construction and other plastic products) shows a USD 96.9 million deficit, and CPC 364 (packaging) the smallest in absolute terms (USD 37.1 million) but the fastest-widening in relative terms (+69.6% since 2023), consistent with the growing packaging import volumes discussed in Section 4.1.3.

Combined, the four priority groups’ trade deficit widened from USD 311.1 million in 2023 to USD 390.7 million in 2025 (+25.6%), reinforcing the economic case for the import-substitution-oriented circular interventions proposed in Section 6: every tonne of recycled plastic or rubber that displaces an equivalent import also reduces the sector’s external trade deficit.

¹¹ UN Comtrade, HS 390761/390769 (PET primary/other) and 392330 (PET preforms/bottles), 2023–2025

¹² UN Comtrade HS 3923 (import volumes) and NBS Industrial Production Series (bags/sacks, boxes/crates), statistica.md

Table 4. Net trade position of the priority CPC groups, 2023–2025 (thousand USD)

CPC group	Exp. 2023	Exp. 2024	Exp. 2025	Imp. 2023	Imp. 2024	Imp. 2025	Net 2025
CPC 369 — Construction / other plastic products	11,141.4	10,946.2	13,987.5	89,738.1	99,716.2	110,893.3	–96,905.7
CPC 364 — Plastic packaging products	31,914.4	25,336.4	24,339.5	53,777.2	56,046.5	61,426.5	–37,087.0
CPC 363 — Semi-manufactures of plastics	1,056.9	759.5	646.1	130,687.5	140,183.9	156,112.7	–155,466.6
CPC 361/362 — Rubber articles	361.8	306.8	299.5	81,413.4	97,104.5	101,581.9	–101,282.5

Source: UN Comtrade, Moldova, Partner = World, HS 4/6-digit codes, 2023–2025. Exp. = Export, Imp. = Import, thousand USD. See Annex 2 for the full HS-code-level breakdown.

5. Circularity bottlenecks

The main circularity gap in Moldova's plastics sector is the weak retention of plastic materials within the domestic economy. Annual plastic consumption exceeds 116,000 tonnes, yet only around 1.5% of these materials are recovered after use.¹³ Most valuable plastic resources are either disposed of together with municipal waste or leave the country after collection, preventing the development of domestic secondary raw material markets. Although Extended Producer Responsibility (EPR) has been introduced, its current coverage remains limited and the system continues to focus primarily on collection and recycling rather than waste prevention, reuse and higher-value circular solutions.

A second structural bottleneck concerns the organisation of plastic value chains. Moldova remains highly dependent on imported plastic products and raw materials, while several higher-value processing stages have gradually shifted abroad. This is particularly visible in the PET value chain, where imports of primary PET have almost disappeared and imports of ready-made PET preforms have increased significantly. At the same time, virtually all recycled PET produced domestically is exported as granules, meaning that the environmental benefits of recycling are achieved domestically while most of the economic value is captured elsewhere.

A third constraint relates to enabling infrastructure and market conditions. The country still lacks a fully operational Deposit Return System (DRS), collection and sorting systems remain fragmented, and investments in high-quality recycling, closed-loop manufacturing and reusable packaging infrastructure are still limited. As a result, manufacturers have only restricted access to reliable domestic supplies of secondary raw materials, while demand for recycled plastics remains weak.

Institutional and information gaps further constrain the sector's transition. Significant discrepancies between official production statistics, market data and reported waste flows make it difficult to accurately assess material flows, monitor circularity performance and design evidence-based policies. In parallel, the predominance of micro-enterprises limits the sector's

¹³ <https://statistica.md/>

capacity to invest in eco-design, recycled-content manufacturing and other circular business models without targeted financial and technical support.

Despite these challenges, Moldova has a significant strategic opportunity. The country already possesses a functioning plastic recycling industry, growing domestic demand for plastic products and an emerging policy framework based on EPR, the future Deposit Return System and alignment with new EU legislation. If secondary materials can be retained within the national economy and supported through stronger market incentives, investment in collection and recycling infrastructure, and circular procurement policies, plastics could become one of the sectors with the highest potential for domestic value creation under the circular economy transition.

6. Core circularity priorities

The sector's circular transition should be explicitly structured around the three strategic priorities presented in Table 5. As visible in the table, each row links one priority to a corresponding barrier and a corresponding opportunity, forming a clear intervention logic: Priority → Barrier → Opportunity. This table should be treated as a central organizing framework in the summary, not merely as supporting material.

Table 5. Top 3 priorities, barriers and opportunities in Plastic material sector

#	Priority	#	Barrier	#	Opportunity
P1	Increase separate collection and recovery of plastic waste to secure feedstock for local recycling industries	B1	Separate collection rates remain very low, with only an estimated 3–4% of plastic waste recovered for recycling. Collection infrastructure is insufficient, recyclable fractions are contaminated, and large volumes of plastic packaging continue to be disposed of with municipal waste.	O1	Expand separate collection infrastructure, strengthen EPR implementation, introduce DRS for beverage packaging, improve sorting capacity, and create stable domestic supply streams for recyclers.
P2	Strengthen the competitiveness and circular transition of local plastic producers (CPC 364 and CPC 369)	B2	High electricity prices remain one of the largest production cost drivers. Adoption of renewable energy is limited. Local producers face strong competition from imported low-cost products, while retailers often prioritize the lowest price over locally produced sustainable alternatives. At the same time, recycling companies do not benefit from dedicated state-aid schemes or fiscal	O2	Support energy-efficiency measures and renewable energy deployment in plastics manufacturing; introduce fiscal incentives and state-aid mechanisms for recycling and circular investments; promote green public procurement and minimum recycled-content requirements to strengthen demand for locally produced circular products.

			incentives supporting investments in circular technologies.		
P3	Develop circular business models and secondary markets for plastics beyond recycling	B3	Circular solutions such as reuse, refill and industrial symbiosis remain underdeveloped. Most EPR systems focus on collection targets, while eco-modulation and incentives for reuse and eco-design are not effectively implemented. Cross-sector demand for recycled plastics remains weak.	O3	Scale up reuse and refill systems for packaging; introduce eco-modulated EPR fees that reward reusable and recyclable packaging; develop cross-sector synergies by using recycled plastics in construction materials, pipes, profiles, builders' ware and other CPC 369 products; strengthen cooperation between manufacturers, recyclers, retailers and municipalities.

6.1. Main entry points for a realistic circular transition

The sector and CPC-level assessment indicates that the transition toward a circular plastics economy should focus on product groups where material flows, economic significance and circularity potential are greatest. Rather than proposing generic measures for the entire sector, this report identifies targeted circular entry points for the two priority value chains, plastic packaging products (CPC 364) and construction / other plastic products (CPC 369), where coordinated policy, investment and market interventions can deliver the highest impact.

Circular entry points for plastic packaging products (CPC 364):

- National Deposit-Return System (DRS) for PET, glass and aluminium beverage containers, aligned with PPWR requirements, paired with mandatory minimum recycled-PET (rPET) content in beverage bottles placed on the Moldovan market.
- Investment support for domestic food-grade rPET production and bottle-manufacturing capacity to reduce dependence on imported preforms, anchored by long-term off-take agreements between domestic rPET recyclers and beverage producers as a condition for Circular Transition Fund or EPR support.
- Eco-modulation of EPR fees based on recyclability and material composition across all packaging formats (PET, HDPE, PP, films), paired with mandatory reuse targets for transport and selected commercial packaging (HORECA, retail, events) and restrictions on non-recyclable or unnecessary single-use formats, all aligned with PPWR.
- Investment in regional recycling capacity for HDPE, PP and flexible plastic films, alongside development of refill and bulk-distribution infrastructure and piloting of

refillable PET and glass bottle systems for dairy products, water and beer in partnership with retailers and beverage producers.

Circular entry points for construction / other plastic products (CPC 369):

- Minimum recycled-content requirements for PVC pipes and fittings used in publicly procured drinking water, sewerage and irrigation infrastructure, integrated into the future Green Public Procurement framework.
- Investment in domestic recycled-PVC compounding capacity, supported by the Circular Transition Fund, to increase the use of secondary PVC in pipe extrusion and substitute rapidly growing imports of PVC products.
- Industrial symbiosis between PVC pipe manufacturers, window producers and recyclers to establish closed-loop recycling of production offcuts and high-quality post-industrial PVC waste.
- Design-for-disassembly standards for PVC windows and doors, ensuring separable frames, glazing and hardware to improve future recycling and material recovery.

6.2. Preliminary outlook for scaling methods

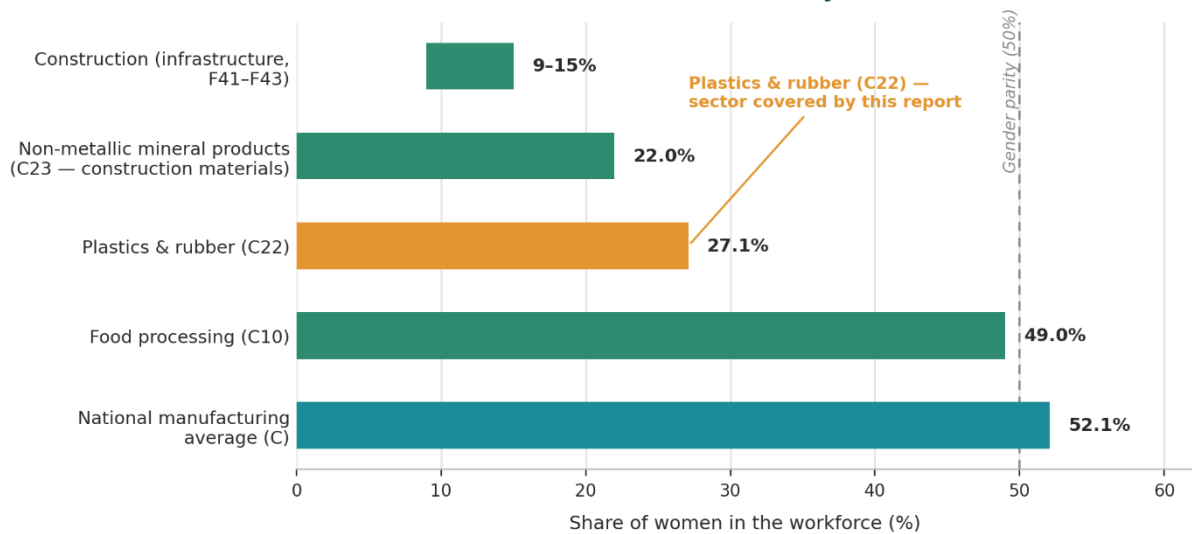
To assess the transition potential of the two priority value chains, the analysis distinguishes between three complementary scaling pathways: scaling out (replication of business models), scaling up (system-level changes in policy and market conditions), and scaling deep (changes in behaviour, trust, and social norms). Together, these dimensions show not only whether a circular model can work, but also how it can spread, be supported, and become socially embedded.

SECTOR: Plastic materials		
Scaling method	Value Chain #1 Plastic packaging products (CPC 364)	Value Chain #2 Construction / other plastic products (CPC 369)
Scaling Out (replication)	Expand Deposit Return System (DRS) collection network; replicate refill and reusable packaging models across retailers, HORECA and food producers; increase recycled-content packaging manufacturing.	Replicate the use of recycled plastics in pipes, profiles and PVC products across manufacturers; expand closed-loop recycling of production off-cuts.
Scaling Up (system change)	Strengthen EPR through eco-modulated fees; implement mandatory recycled-content requirements for beverage packaging; create stable markets for secondary plastics through Green Public Procurement and fiscal incentives.	Introduce Green Public Procurement requirements for recycled-content construction products; extend EPR to relevant construction plastics; stimulate domestic demand for recycled polymers through standards and public investment.
Scaling Deep (cultural change)	Encourage consumers to return beverage containers, choose reusable packaging and products with recycled content; strengthen trust in circular packaging systems.	Increase market acceptance of recycled plastic construction materials among designers, contractors and public authorities; promote plastics as a long-term circular resource rather than disposable waste.

Scaling Out = replication of a circular model across firms, markets, or regions.
Scaling Up = policy and market reforms that allow circular models to grow.
Scaling Deep = changes in values, behaviours, and trust that support long-term circular adoption

6.3. Gender inclusion in the sector

Plastics and rubber manufacturing (C22) has a notable gender disparity – 27.1% women against a 52.1% manufacturing average, placing the sector in an intermediate position: less imbalanced than construction (12.8%) or construction materials (22.3%), yet still well short of



gender balance. The screening methodology identifies meaningful inclusion potential in recycling-related roles. Production and extrusion activities remain heavily equipment- and shift-based, with limited female participation.

Figure 1. Share of women in the workforce: plastics & rubber compared with other circular-economy-relevant sectors, Moldova (2024)

Source: NBS

By contrast, circular functions emerging across the value chain – such as sorting and quality control, laboratory testing and certification of recycled materials, and eco-design and compliance roles – represent occupational areas that are less embedded in the sector’s existing gender patterns. This creates an opportunity to promote more balanced participation, provided that training pathways, recruitment practices and workplace conditions are designed accordingly. Realising this potential will require deliberate inclusion measures; otherwise, the growth of circular employment may simply replicate existing gender disparities.

Annex 1. Value Chain Canvas for the plastic material sector¹⁴

STAGE	STAKEHOLDERS	KEY RESOURCES	LOSSES & PROBLEMS	SOLUTIONS & OPPORTUNITIES
1. DESIGN <i>Product, packaging & colorant design</i>	• Plastic product manufacturers (CPC 369, 364) • Packaging designers and engineers • Environment Agency (regulatory body) • Consumer associations • Brand owners (FMCG) commissioning packaging design • Colorant and additive suppliers	• Existing product design capacity within plastic manufacturers • Consumer demand for natural / non-toxic colorants and safe packaging • Environment Agency as the regulatory anchor for safety norms • Brand owners' interest in eco-design for compliance with EU markets	• Lack of regulatory requirements for the use of colorants and plastic materials based on product end-use (food-contact, children's articles) • No effective control mechanism for verifying compliance with safety norms • Strong import competition from cheap, non-eco-designed plastic products • Lack of specialists — no dedicated training schools for plastic packaging design • No data systems for design-stage assessment of recyclability and toxicity • Multi-layer / multi-polymer packaging designs not recyclable (food packaging)	• Design for the widest possible reuse and recyclability — mono-material specifications • Adopt mandatory food-contact and children's-article safety norms for colorants and additives • Use of natural / non-toxic colorants at the request of designers and consumers • Design-for-Recyclability (DfR) guidelines — adopt CEFLEX / PRE protocols at national level • Eliminate problematic design choices (black plastic, multi-layer non-recyclable laminates) • Strengthen vocational training for plastic design and packaging engineering

¹⁴ ¹⁴ This Value Chain Canvas was developed based on a participatory mapping exercise conducted with key stakeholders from the plastic materials sector during the National Kick-off Workshop on Value Chains Mapping, held in Chişinău on 19.05.2026.

Implementing partners:



			• Black plastic designs not detectable by NIR sorting equipment	
2. MATERIALS <i>Polymers, additives, recycled feedstock</i>	• Resin importers (PVC, PE, PP — 100% imported) • Plastic manufacturers (CPC 369, 364, 363) • Recycled plastic traders (limited) • Colorant and additive suppliers • Customs authority (import control)	• Virgin polymers — PVC, PE, PP, mostly imported from EU and Türkiye • Limited but emerging recycled feedstock (rPET, rPE) from local collection • Skilled industrial workforce (where retained) • Existing relationships with resin suppliers	• Low wages in the sector driving workforce emigration abroad • Workforce shortage — skilled operators leaving for higher-paying EU jobs • Difficult-to-recycle products placed on the market due to design choices upstream • Weak academia–business–society communication on responsible material sourcing • No mandatory recycled-content requirements in production specifications • Insufficient public awareness of the link between material choice and recyclability • 100% import dependency on virgin resin — exposed to oil price and geopolitical volatility • Lack of organised separate collection by waste type limits secondary feedstock availability	• Use of harmless (food-safe, non-toxic) raw materials • Mandatory use of natural materials (biodegradable + reusable) where technically and economically feasible • Mandatory recycled-content quota for non-food applications (CPC 369, 364) — aligned with EU PPWR • Strengthen separate collection of plastics by type to secure domestic recycled feedstock • Wage and skills support measures to reduce workforce emigration • Academia–business platforms for joint R&D on bio-based and recycled polymers
3. PRODUCTION <i>Extrusion, injection moulding, thermoforming</i>	• Plastic construction products manufacturers (CPC 369 — ~261 enterprises, the largest sub-sector) • Plastic packaging manufacturers (CPC 364 — ~35 enterprises) • Plastic sheets / films / profiles producers (CPC 363 — ~15 enterprises)	• Manufacturing equipment — extruders, injection moulding, thermoforming lines • Electricity as primary energy input • Possibility to produce safe-for-food packaging that does not contaminate the product • Potential for strategic business activities — creation	• Very high electricity consumption in production processes — significantly inflates final product unit cost • Most expensive resource: electricity — directly erodes price competitiveness against imports • Low adoption of renewable energy in production facilities	• Substitute grid electricity with renewable energy (solar PV on industrial roofs, PPA arrangements) • Energy-efficiency retrofits for extruders, injection moulders and thermoformers (CPC 369, 364) • Establish accredited national laboratories for plastic and recycled-material testing

	• Rubber product manufacturers (CPC 361/362 — ~10 enterprises) • Technical universities and R&D laboratories (where available) • Equipment suppliers (extruders, injection moulders, thermoformers)	of dedicated laboratories, technology testing, import substitution • Specialised national laboratories (need to be created) • Existing workforce of technicians and operators	• Lack of teaching staff in disciplines where demand exists (polymer technology, recycling engineering) • No accredited domestic laboratories for testing new polymer technologies and recycled materials • Outdated machinery in some segments → losses during processing and lower-quality output • Retailers prioritise low import prices over superior quality/durability of local products → discourages local producers	• In-line regrind systems to reuse production scrap directly in the same process line • Engage business in strategic activities: laboratory creation, new-technology testing, import substitution • VET programme for polymer technologists and recycling engineers • GPP and quality-based procurement to counterbalance retailers' low-price bias
4. DISTRIBUTION <i>Logistics, retail channels, refill networks</i>	• Plastic manufacturers operating own distribution • Retail chains (large-format and proximity) • B2B converters and FMCG brand owners • Logistics and transport operators • Refill / bulk-sale retailers (e.g., 'detergent on tap' format)	• Refill / bulk-sale distribution model — products distributed in reusable containers (e.g., detergent on tap) • Existing retail network covering urban and proximity areas • Logistics fleet and warehousing capacity • Human resources for sales and distribution	• Labour shortage in distribution and retail operations • Refill / bulk distribution network too small — present in only a few urban locations • Single-use secondary packaging dominant in B2C logistics • Limited reverse logistics for reusable containers • Retailers' low-price bias disadvantages locally produced sustainable packaging	• Expand the refill / bulk-sale distribution network — present in every neighbourhood of major cities • Engage distributors of interested product categories (cleaning, cosmetics, food staples) in refill schemes • Reusable B2B transport packaging schemes — cross-sector synergy with Agri-food and Construction • Eco-modulated EPR fees that reward refill/reuse distribution formats • Green Public Procurement prioritising local sustainable producers

5. USE <i>Consumer behaviour and product lifespan</i>	• End consumers (urban and rural) • Consumer associations • Refill-shop customer base (early adopters) • B2B users (food sector, construction sector, agriculture) • Environment Agency (consumer information mandate)	• Responsible use practices by environmentally conscious consumers • Demand for responsible recycling to enable repair or recovery • Emerging refill/reuse culture among urban consumers • Institutional buyers as a stable demand segment	• Lack of collection infrastructure after use • No effective control mechanism verifying correct sorting by consumers • No sanctions for non-compliance with separate-collection rules • Single-use dominance in food, beverage and personal-care packaging • Reusable models marginal outside the refill-shop niche • Low consumer awareness of plastic types and how to sort them	• Reduce, Recycle, Reuse — three-pillar consumer campaign (CPC 364, 369) • Mandatory separate-collection rules + verification + sanctions • National DRS (Deposit-Return Scheme) for beverage containers (PET, glass, aluminium) • Eco-labelling identifying polymer type and recyclability route for consumers • Consumer education on plastic types, sorting rules, and refill-shop options • Refill-shop incentives — fiscal discount for consumers using own containers
6. REPAIR & REFURBISHMENT <i>Reuse cycles for plastic packaging & products</i>	• Refill and bulk-sale operators • B2B reusable-packaging service providers • Industrial container reconditioning operators • Plastic builders' ware repair specialists (windows, doors — CPC 369) • Spare-parts suppliers for plastic profile systems	• Existing reusable industrial packaging (pallets, IBCs, crates) — partly operational • Refill-shop containers as a consumer-facing reuse channel • Repair workforce for PVC windows and doors (CPC 369) • Cleaning and sanitisation services for reusable food-grade containers	• Repair stage almost invisible in the national plastic value chain — no formal recognition or support • No reusable-packaging certification scheme (sanitary, structural) • Limited B2B reusable packaging penetration — most industrial packaging single-use • No fiscal incentives for repair / reconditioning of plastic products • Spare parts for plastic profiles (CPC 369) difficult to source for older systems	• Reusable B2B packaging pool — cross-sector (agri-food, construction, plastics) with shared standards • Sanitary certification scheme for reused food-grade packaging (CPC 364) • Repair vouchers / fiscal incentives for PVC window/door refurbishment (CPC 369) • Industrial container reconditioning hubs — washing, inspection, recertification • Scale up refill-shop containers as the consumer-facing reuse channel
7. RECOVERY & COLLECTION	• Collective EPR (REP) operators • Municipal waste operators	• National EPR (REP) scheme for packaging, currently in implementation	• Only 2 types of plastic are recycled in Moldova — most polymer streams (PVC, multi-	• Expand EPR coverage to complex polymer streams: construction plastics (CPC 369),

<i>Separate collection, sorting, EPR coverage</i>	• Informal collectors (functional in practice for PET/HDPE) • Domestic plastic recyclers (limited capacity) • Training centres for waste-sector specialists • Producers and importers covered by EPR obligations	• Recovered materials from collection points • Existing collection infrastructure (geographically uneven) • Trained personnel and training centres for sorting and recycling • Simulation laboratories and consumables for VET	layer, mixed) have no domestic outlet • EPR system is oriented mainly toward simple packaging — waste from construction, automotive, household appliances and large industrial packaging remain outside the system • No statistical data on quantities produced, imported, or waste generated by economic agents — major data gap • Lack of dedicated collection points for sector-specific plastic streams • Low population participation in separate collection • Inefficient law implementation for plastic waste obligations • Specialised equipment and dedicated territories required for sorting and recycling — both missing • No information dissemination to importers and producers about CE obligations • Recovery costs higher than landfilling — economically unviable without subsidies	automotive, appliances, large industrial packaging • National DRS (Deposit-Return Scheme) for PET, glass and aluminium beverage containers • Build national plastic waste statistical database — quantities produced, imported, type of waste generated • Eco-modulated EPR fees that penalise non-recyclable design • NIR-based sorting upgrade at main Material Recovery Facilities (MRFs) • Information campaigns for importers and producers on EPR obligations and CE opportunities • Regional plastic sorting plants producing certified secondary materials • Public-private partnerships between mayoralities, EPR operators and recyclers
8. END-OF-LIFE / NEXT USE <i>Mechanical recycling, secondary markets, energy recovery</i>	• Mechanical recyclers (PET, HDPE) • Energy-recovery operators (cement co-processing — cross-sector synergy with CPC 374)	• Existing recycling capacity (limited, mostly PET and HDPE) • Plastic waste streams suitable for downstream applications	• Outdated recycling equipment producing lower-quality recyclate • No domestic food-grade rPET production, fully dependent on virgin imports	• Refuse single-use products at the source (consumer pillar) • Use personal / reusable bags and containers (textile bags, glass bottles)

	• Producers using recycled feedstock (CPC 364, 369) • Public procurement authorities purchasing recycled-content products • Environment Agency • Foreign chemical recyclers (EU)	• Demand from EU chemical recyclers for sorted polymer streams • Cement kilns as co-processing hosts for non-recyclable plastics (cross-sector with CPC 374) • Examples of replacing single-use with reusable: glass bottles instead of plastic, textile bags instead of plastic bags	• No chemical recycling capacity for complex polymer streams • Public procurement does not require recycled content — limited pull for recycled-content products • Innovative recycled materials cannot be certified locally and are replaced by imports • Most plastic waste landfilled or littered outside the two recyclable streams	• Refilling glass with glass — promote glass-bottle reuse (cross-sector with Agri-food CPC 242) • Food-grade rPET production pilot — strategic import substitution (CPC 364) • Mechanical recycling pilot anchored in CPC 369 (construction profiles) and CPC 364 (packaging) • Recycled-content quota for public works (CPC 369 builders' ware) • Modernise recycling equipment through co-financing schemes • Establish certification laboratories for recycled-content plastics • Cross-sector co-processing of non-recyclable plastics in cement kilns (CPC 374 synergy)
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Annex 2. Direct Trade in Plastic and Rubber Products

This annex presents the HS-level detail underlying the trade figures discussed in Section 3 (import/export totals) and Section 4 (priority value chain narratives). All 25 HS headings associated with the sector's priority CPC groups are listed below, grouped by CPC, with 2025 export and import values and the percentage change in import value since 2023. HS 3917 (tubes, pipes and hoses) is classified here under CPC 363, consistent with the correction made elsewhere in this report.

HS code	Description	Export 2025 (th. USD)	Import 2025 (th. USD)	Import change 2023–25
CPC 369 — Other plastic products / builders' ware				
3918	Floor and wall coverings of plastics	34.6	9,327.3	+85.9%
3922	Sanitary ware (baths, sinks) of plastics	29.6	8,477.2	+25.5%
3924	Tableware, kitchenware, household articles	1,236.0	18,273.6	+20.8%
3925	Builders' ware of plastics n.e.c.	11,470.4	21,244.9	+40.4%
3926	Other articles of plastics n.e.c.	1,216.9	53,570.2	+12.3%
CPC 364 — Plastic packaging products				
3923	Articles for conveyance/packing of goods, of plastics	24,339.5	61,426.5	+14.2%
CPC 363 — Semi-manufactures of plastics				
3916	Monofilament, rods, profile shapes of plastics	91.2	29,029.8	+13.0%
3917	Tubes, pipes and hoses, and fittings, of plastics	49.1	53,411.1	+22.0%
3920	Plates, sheets, film, foil, strip, non-cellular	360.8	45,225.2	+25.8%
3921	Plates, sheets, film, foil, strip, other	145.0	28,446.6	+12.6%
CPC 361/362 — Rubber articles				
4008	Plates, sheets, strip, rods of vulcanised rubber	6.3	2,161.2	+22.3%
4009	Tubes, pipes and hoses of vulcanised rubber	19.9	4,326.5	+36.3%
4010	Conveyor or transmission belts, of rubber	22.6	5,093.9	-11.6%
4011	New pneumatic tyres, of rubber	69.4	60,894.9	+32.5%
4012	Retreaded or used pneumatic tyres, of rubber	0.0	223.5	+14.2%
4013	Inner tubes, of rubber	1.6	657.6	+21.0%
4014	Hygienic or pharmaceutical articles, of rubber	17.3	2,138.3	+19.5%
4015	Apparel and clothing accessories, of rubber	1.0	5,005.1	+45.1%
4016	Other articles of vulcanised rubber	160.2	21,037.9	+12.2%
4017	Hard rubber (ebonite) articles	1.1	42.8	+58.2%
PET sub-chain — 6-digit detail				
390761	PET, primary form (viscosity ≥ 78 ml/g)	0.0	859.3	-94.3%
390769	PET, primary form, other (incl. recycled/rPET)	1,770.9	0.0	n/a
392330	Carboys, bottles, flasks (incl. PET preforms)	115.3	17,577.2	+47.8%
391510	Ethylene polymer waste, parings, scrap	84.1	0.0	n/a
391590	Other plastics waste, parings, scrap	17.7	0.0	-100.0%

Source: UN Comtrade, Moldova, Partner = World, HS 4/6-digit codes, 2023–2025 (Trade_export_import_plastics.xlsx).

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