

White paper

Making the Waste Shipment Regulation Work for EU Circular Economy

The Waste Shipment Regulation (WSR) is a key instrument for supporting the EU's circular economy objectives and for integrating recycling into European supply chains. To unlock its full potential, the WSR requires an enabling framework for intra-EU shipments of recyclable plastics that diverts valuable materials away from incineration and landfill, improves access to specialised recycling capacity, and supports investment in innovative recycling technologies

Against this background, the following priorities should guide the implementation of the WSR:

- Green-listing of all sorted, non-hazardous plastic waste is essential to streamline intra-EU shipments for recycling purposes and reduce administrative burdens.
- Harmonised classification and contamination thresholds across Europe should be applicable to all Member States without exceptions.
- A more streamlined and simplified Prior Informed Consent (PIC) procedure for EU48 waste will contribute to a more consistent and transparent approach to waste classification and will foster investment in all recycling technologies. This is particularly relevant for bulk non-hazardous mixed plastic waste, especially when recovered from incineration streams, as it supports higher recycling rates and contributes to reducing environmental impacts.
- Digitalisation and the use of pre-consented facilities should be implemented to streamline shipment procedures which will expedite shipments to recycling plants.
- Consistent classification and treatment standards across Member States, particularly for plastic waste including e-waste, are needed to reduce fragmentation and improve the quality of the recycled materials.
- Strengthening Extended Producer Responsibility (EPR) schemes will ensure consistent financing and enforcement of producers' obligations across the EU, supporting a more effective circular economy.

At the same time, green-listing should not be treated as a standalone solution. It should be accompanied by fit-for-purpose waste codes, clear end-of-waste criteria, strong market pull measures for recycled outputs, and effective controls to prevent illegal shipments and maintain confidence in the system. A dynamic, flexible and technology neutral approach will be essential to ensure that the WSR remains aligned with innovation, supports economies of scale, and delivers real environmental benefits across sectors, including packaging, automotive, textiles, durable goods, and e-waste.

1. Introduction and current trends

The Clean Industrial Deal, through the provisions that will be part of the Circular Economy Act, aims to establish the EU as a global leader in the circular economy by 2030. To achieve this goal, the EU must scale both existing and emerging recycling technologies through targeted R&D and a fit-for-

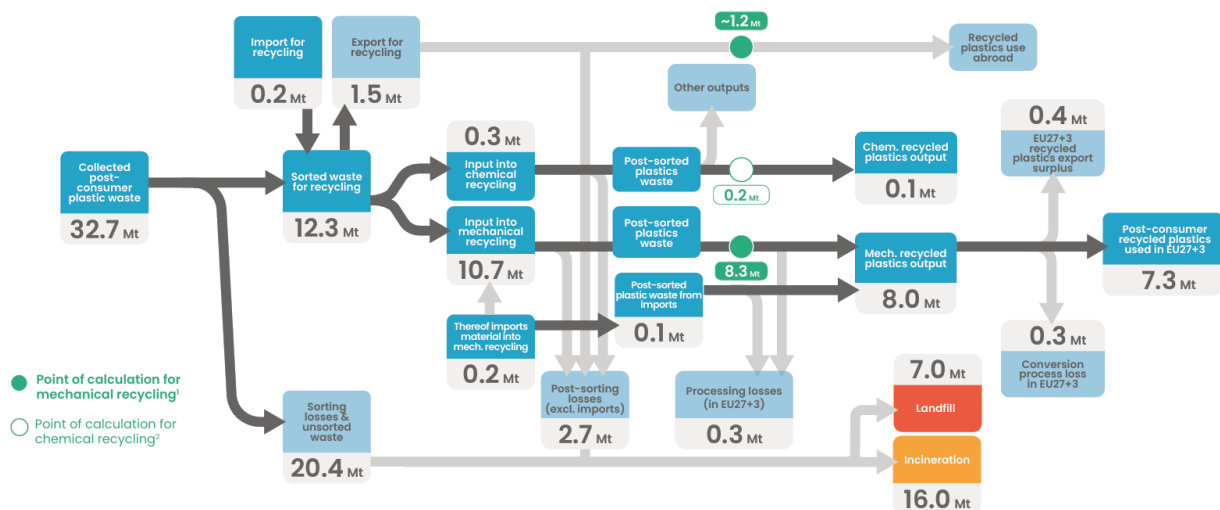
purpose approach to waste streams. With proof-of-concept solutions already in place, Europe can now build a smarter waste framework that boosts recycling and recycled material output.

In the absence of well-functioning intra-EU shipment pathways, recyclable materials remain fragmented along national borders, leading to inefficiencies, fragmentation across Member States, losses of valuable resources and opportunities, as well as significant environmental repercussions.

Plastics Europe's recent Circular Economy for Plastics 2026 report shows that, in 2024, more than 70% of Europe's collected plastic waste was still sent to incineration (16.0 Mt, 48.9%) and landfill (7.0 Mt, 21.5%)¹. This significantly limits the availability of material for recycling and weakens the EU's ability to keep valuable resources within a circular economy. At the same time, 12.2% (equivalent to 1.5 Mt.) of waste sorted for recycling is exported outside the EU due to competitiveness issues (e.g. energy costs) and lacking EU recycling capacity. Additionally, 19% (1.5 Mt.) of Europe's circular plastics demand relied on imports.

Graph 1: Untapped recycling potential in Europe's plastic waste streams

From plastic waste collection to recycled plastics



Source: [Plastics Europe \(2026\): The Circular Economy for Plastics - A European Analysis, Brussels](#)

Plastic waste suitable for recycling should be directed to recycling instead of being lost to incineration or landfill. Green-listing can facilitate the intra-EU aggregation of plastic waste streams, which is particularly important as specialised recycling technologies, including chemical recycling, are not available in every Member State.

Fostering strong demand for circular plastics produced in Europe requires ambitious market pull measures and other robust enabling policies to attract investment and strengthen the

¹ Plastics Europe (2026): The Circular Economy for Plastics - A European Analysis, Brussels, link: https://plasticseurope.org/wp-content/uploads/2026/05/Circular-Economy-Report-2026-full-report.pdf?utm_campaign=406326506-Circular%20Economy%20Report%202026&utm_source=dedicated_page&utm_medium=dedicated_page

competitiveness of the European economy. By improving the availability of recyclable feedstock across borders, green-listing supports economies of scale, strengthens investment conditions, and accelerates the shift from conventional to circular feedstocks.

2. Consequences of Limited Green Listing

The absence of green listing for eligible non-hazardous plastic waste streams means these materials remain subject to the PIC procedure, causing significant delays to intra-EU shipments and hindering timely access to appropriate recycling facilities. Operators must submit extensive documentation and provide a bank guarantee or insurance to cover potential return, storage or disposal costs. Even in best case scenarios, the PIC process can take 4 to 6 months, and delays are frequent. Even where shipments are fully compliant, the handling and release of these guarantees can add administrative complexity, tie up financial resources and create uncertainty for operators, particularly where confirmation of recycling must be provided within strict timeline. This increases costs, risks and uncertainty, and can make investment in innovative recycling technologies economically unviable.

These bureaucratic processes and the related delays and uncertainties discourage investment in recycling capacity, especially for complex or low-volume plastic waste streams, by limiting the availability of consistent recyclable feedstock and undermining economies of scale. Where recyclable waste cannot move efficiently, it is more likely to be diverted to incineration or landfill rather than recycling, as recent data shows². The resulting shortfall in recycled feedstock also increases reliance on virgin raw materials, including fossil-based resources, weakening both resource efficiency and the EU's long-term industrial competitiveness.

Another key challenge is the lack of clarity on and shared understanding across Member States regarding hazardous and non-hazardous waste classification, as well as the interpretation of by-product and end-of-waste criteria. These divergences can lead to fragmentation in how recyclable waste streams are classified and moved within the EU, preventing a fully harmonised EU-wide approach.

The requirement to comply with a maximum contamination threshold of 6% by weight constitutes a major hurdle for many plastic waste streams, despite the fact that certain streams exceeding this threshold can still be effectively recycled through appropriate technologies. In practice, a number of plastic waste streams that have already undergone sorting, pre-treatment, or other preparation steps still contain limited proportions of non-hazardous non-plastic materials or other polymer fractions above this threshold. This is particularly the case for bulk mixed plastic waste, including streams recovered from complex sources such as, automotive shredder residue, textiles, mattresses, or plastics fractions recovered from depolluted WEEE after processing. Although such materials may not meet the current purity criteria for green-listing, they can nevertheless be effectively recycled by facilities equipped with appropriate technologies. Sorting facilities, particularly those handling household or post-consumer plastic waste, may struggle to consistently achieve the 94% purity level required for green-listing, despite producing streams for which there is established demand from EU-

² Ibid.

based recyclers. Recycling feasibility varies significantly by sector, as some industries can tolerate higher levels of non-plastic content while others cannot.

Depending on the recycling technology applied, including mechanical, dissolution, and chemical recycling, plastic waste streams containing higher levels of non-hazardous contamination can still be processed in an environmentally sound manner. In such cases, limited amounts of materials such as paper, cardboard, glass, metals, rocks, organic solubles, or other non-hazardous polymers do not necessarily prevent recycling, provided that the composition of the waste stream is controlled and compatible with the selected process.

3. The benefits of green listing for a circular economy in Europe

One significant advantage of green listing is the speed with which arrangements and initial shipments can be made after securing a recycler or outlet and finalising a contract. Shipments under the green-listed process can typically be organised within a few days. As no prior approval is required and no financial guarantee is needed, movements can take place quickly.

Green-listed shipments go along with streamlined but clear documentation compared to the PIC process, which requires detailed information such as description of all processes involved, lists of fixed carriers, annual volumes, financial guarantees, approved routes, as well as multi-country approvals. The lack of harmonised definitions and the level of information requested by the member states lead to tremendous effort in application and huge delays in approval processes. A simplified process provides the necessary flexibility, which is essential for circularity and efficient recycling or waste treatment. The green-listing system adjusts changes in outlets, plant incidents, and capacity constraints. In contrast, PIC's rigid process locks in volumes, routes, and designated facilities, severely restricting the ability to redirect waste to different recyclers when operational circumstances shift.

Green-listing also facilitates access to economies of scale. Smaller countries often rely on imports to sustain the operations of their larger recycling facilities, which are unlikely to exist in every Member State due to high capital costs, technical complexity and limited national volumes. In this context, facilities located near internal EU borders are particularly well placed to support the use of locally generated plastic waste, as their proximity can facilitate efficient intra-EU cross-border shipments to nearby recycling capacity. Therefore, EU-wide aggregation of waste through intra-EU shipments is essential to achieve sufficient scale for recycling.

Green-listing could strengthen the single market for recyclable waste by enabling materials to flow to the most suitable treatment facilities, regardless of location, and improving access to specialised recycling technologies. A more inclusive green-listing definition could therefore divert more recyclable waste from landfill and incineration, increase recovery of secondary and critical raw materials, and support a more competitive circular EU economy.

4. Waste streams that should benefit from green listing

Each recycling technology, whether mechanical, dissolution, or chemical, has specific characteristics and feedstock requirements. It is therefore crucial that dedicated plastic waste streams are not mixed with incompatible materials, as doing so compromises the effectiveness of the selected technology.

To reflect technological progress, the types of plastic waste eligible for green-listing should be maintained on a dynamic, regularly updated list. At present, several feedstock items, or parts thereof, that are suitable for recycling are instead being incinerated or sent to landfill. These include, among others, recyclable plastic waste from mixed plastic waste streams, PET covers from mattresses, polycondensate-rich cloths and other textile waste, and household textiles such as curtains.

As a general principle, sorted plastic waste from separate collection that is ready for recycling should be green-listed, provided that its composition is controlled, there are established recycling pathways within the EU, and the waste is managed in an environmentally sound manner.

- **Plastic packaging waste:** In the case of plastic packaging waste, green-listing of this waste is essential, as meeting the EU's circularity targets under the Packaging and Packaging Waste Regulation requires a recycling industry that is robust, efficient, and scalable. Achieving this vision is conditional to specialization and economies of scale, both of which require adequate sourcing to materials and therefore the ability to transport plastic waste in a traceable and streamlined way across EU Member State borders.

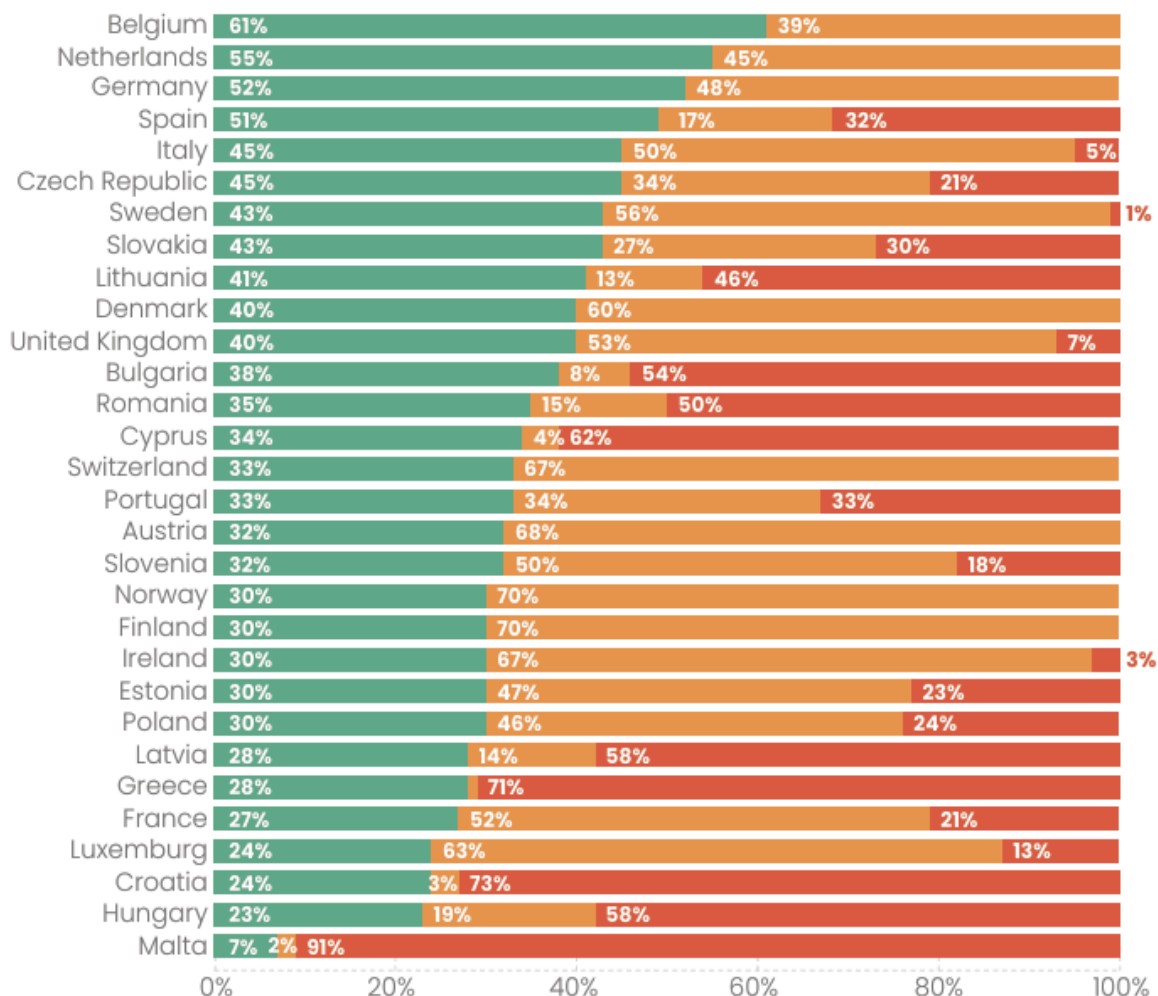
As cross-border shipments of plastic packaging waste remain restricted, Member States are pushed to develop their own recycling infrastructure, creating inefficiencies such as regional overcapacity and small-scale facilities with higher processing costs. Under existing rules, plastic packaging waste may be shipped under the green-listed code EU3011 only if it contains more than 94% commonly used plastics (e.g. PP, PE and PET), a threshold many household packaging sorting facilities struggle to meet consistently. As a result, sorted waste that could be recycled elsewhere in the EU is often sent to landfill or incineration instead due to the administrative burden of PIC procedures for EU48 waste and continued differences in national shipment rules, for example, on waste classification, contamination thresholds, documentation requirements and acceptance of recycling destinations.

In 2024, a total of 18.4 million tonnes (Mt) of post-consumer plastic packaging waste was collected across the EU 27+3³. Of this, approximately 7.45 Mt, representing 40.5 % of the total collected, was sent for recycling. This means that almost 11 Mt was directed to incineration or landfill. Allowing a significant portion of this 11 Mt to be shipped under the green-listing category would make it more attractive to divert such waste from energy recovery and landfill towards recycling.

³ Ibid.

Graph 2. Plastics waste treatment - Packaging

Post-consumer plastic waste management by country



Source: [Plastics Europe \(2026\): The Circular Economy for Plastics - A European Analysis](#)

- **Polyamide (PA) fraction from Automotive Shredder Residue (ASR).** Currently, the shipment of the PA fraction requires Prior Informed Consent (PIC) procedure. Technology progress shows that PA can be recovered from ASR by advanced sorting technologies. The non-hazardous PA fraction obtained from sorting ASR should therefore be included as a separate entry in Annex IIIA (4) and green-listed. This is equally relevant for other polymer types, e.g. polypropylene (PP) and polyethylene (PE).

Volumes of PA, sorted out from ASR, are not available for Europe, today. In 2024, plastics converters demanded a total of 4.3 Mt of automotive plastics. Polyamides (PA6 and PA6.6)

accounted for around 890 kt of total plastics conversion in Europe⁴. During the same year, 1.3 Mt of post-consumer plastic waste was collected from the automotive sector, potentially corresponding to around 100-110 kt of polyamide (PA6 and PA6.6) waste. This suggests that recovering PA waste from ASR alone could prevent more than 100 kt per year from being landfilled or incinerated.

- **Specialised and low-volume plastics waste streams**, such as composite materials used across energy, construction, or other complex durable goods applications (such as PVC window profiles, for example), should also be considered for green-listing where they are non-hazardous, separately collected or pre-treated, and destined for suitable authorised recycling facilities. These materials often require specialised treatment technologies that are not available in every Member State, while national waste volumes may be too limited to support treatment at country level. Facilitating intra-EU shipments would allow such waste to reach facilities equipped with technologies capable of processing it, support the scaling of recycling solutions, and reduce the risk of diversion to landfill or incineration, while maintaining traceability and environmental safeguards.
- **Sorted plastic fraction from textiles**. Currently, shipment of textile waste does not require PIC procedure (waste code B3030). As of now, no code is available for the sorted plastic fraction. However, the plastic fraction with a purity below 94% requires PIC procedure. That plastic fraction (if still considered waste) should be green listed.
- **Plastic fraction from mattresses**: for mattresses, no suitable waste code exists yet (they are unlisted). The corresponding waste code should be included in Annex III, therefore green-listed.
- **Plastics from e-waste and durable goods**: for the durable sector, a process is needed to identify and assess waste products and assemblies as candidates for green-listing destined for recycling based on defined criteria, including the creation of new codes if needed. Applying an 'assembly groups approach' could strengthen the implementation of the assembly group concept. Green-listing specific end-of-life products and sub-assemblies, such as e.g. automotive headlamps (assembly group code 160119), headlamp waste from Automotive Shredder Residue (ASR, code 191204), and mattresses (code 191204), would help generate cross-border demand for recyclable materials and support economically viable dismantling operations across the single market. The introduction of dedicated codes for clearly defined product categories could facilitate this process. To ensure adaptability, a mechanism is needed to dynamically identify and assess additional product candidates for green-listing based on transparent and consistent criteria.
 - Plastics recovered from WEEE streams (explicitly: PS, ABS, PP, and mixed plastic fractions with high styrene content),

⁴ Ibid.

- Non-hazardous e-waste fractions including dismantled plastic components recovered from: small domestic appliances (SDA), large household appliances, IT equipment, end-of-life vehicles (ELV).

5. The solutions – what is needed to enhance green listing

Adopting an enabling framework for intra-EU waste shipments can play a decisive role in unlocking the EU market for secondary raw materials. EU-wide harmonised classification and contamination thresholds increase predictability of cross-border recycling flows and reduce administrative barriers and transaction costs, allowing recyclable feedstock to circulate more efficiently within the Union. There is also a need for a simplified and streamlined PIC procedure for plastic waste streams that remain subject to notification, such as bulk non-hazardous mixed plastics. Certain recycling technologies can handle bulk mixed plastic waste streams with significantly higher non-plastic content than the EU3011 threshold of 94%. To enable a more specialised and economically viable recycling network across Europe, these streams should benefit from a harmonised and simplified PIC process for EU48 waste, provided the material remains classified as non-hazardous waste.

In addition, green listing must be complemented by market pull measures, such as recycled content requirements, to ensure demand for recycled outputs. However, an effective waste management system cannot rely on the WSR alone. It requires alignment with other EU waste policy instruments, notably the Waste Framework Directive and harmonised Extended Producer Responsibility (EPR) schemes, so that the movement of recyclable waste is supported by consistent financing, collection, sorting, reporting and enforcement obligations across Member States. EPR schemes can play a key role in this enabling framework by ensuring that producer fees are transparently reinvested into waste management services, recycling infrastructure, data systems and incentives for the uptake of recycled materials.

Together with EU-wide end-of-waste criteria, fit-for-purpose waste codes, recognition of pre-consented and well-audited facilities, digitalised procedures and robust enforcement, this would improve traceability and confidence in legitimate recycling routes, reduce compliance costs, limit bureaucratic burdens and ensure that simplified shipment rules deliver high environmental performance.