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# Enabling EU industrial policy through improved circular material flows: A proportionate green-list route for non-hazardous intra-EU e-waste shipments

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 European Recycling Platform  
by Landbell Group

 FEAD  
European Waste Management Association

 ITI  
Promoting Innovation Worldwide

 Recycling Europe

## Executive summary

The European e-waste value chain calls on the European Commission to ensure that non-hazardous e-waste destined for recovery within the EU continue to benefit from the green-list procedure under the Waste Shipment Regulation (EU) 2024/1157 beyond 1 January 2027.

This is essential to preserve efficient intra-EU circular material flows and support European circular value chains. The EU's circular economy, competitiveness and industrial resilience objectives depend on a functioning Single Market for secondary raw materials. Non-hazardous e-waste is a valuable circular resource, supporting recycling, remanufacturing and critical raw material recovery for Europe's digital, clean-tech and industrial value chains. These flows depend on predictable movement across the Single Market to reach the specialised facilities best placed to recover their value.

From 2027, the broad application of Prior Informed Consent (PIC) procedures to intra-EU e-waste shipments risks undermining this framework. While PIC is appropriate for hazardous and higher-risk shipments, applying it to non-hazardous flows would add costs, delays, financial guarantees and administrative burdens to materials already managed through traceable and environmentally sound systems.

This would create clear policy incoherence. At a time when the EU is seeking to scale domestic recycling and remanufacturing capacity, stricter shipment procedures would make secondary materials harder, slower and more expensive to move within the EU. It would also weaken investment certainty for circular value chains.

A green-listing route for non-hazardous intra-EU e-waste would provide a proportionate solution. It would preserve traceability and environmental safeguards, avoid unnecessary barriers to legitimate circular flows, and allow authorities to focus enforcement on illegal, hazardous and high-risk shipments. **Maintaining green-listing beyond 1 January 2027 is therefore essential** to align the Waste Shipment Regulation with EU circularity, competitiveness and strategic autonomy objectives.

## Table of contents

<b>Executive summary</b> .....	1
<b>EU sustainability policy: a quest for industrial resilience</b> .....	3
<b>Why this matters: scale, value and capacity</b> .....	3
<b>Improved waste flow for EU's strategic autonomy</b> .....	4
<b>PIC procedure: a disproportionate impact for EU non-hazardous e-waste management</b> .....	5
<b>Competitiveness and investment certainty in support of EU circular value chains</b> .....	6
<b>Green-listing: a proportionate solution in support of EU industrial and sustainability objectives</b> .....	6

## EU sustainability policy: a quest for industrial resilience

The European Union has set clear strategic priorities: building a competitive circular economy, establishing a functioning Single Market for secondary raw materials and ensuring a secure, sustainable and diversified supply of raw materials.<sup>1</sup> These objectives sit at the core of the Circular Economy Act<sup>2</sup>, the Clean Industrial Deal<sup>1</sup> and the Critical Raw Materials Act<sup>3</sup>, among other initiatives.

However, **the current trajectory of the Waste Shipment Regulation<sup>4</sup> risks undermining these same objectives.** From 2027, the broad application of Prior Informed Consent (PIC) procedures<sup>5</sup> to e-waste would significantly affect intra-EU flows, including non-hazardous streams that are already managed in traceable, environmentally sound systems. This would introduce a clear policy incoherence: measures intended to strengthen environmental and industrial resilience would, in practice, restrict the very material flows needed to deliver it. To avoid this outcome, the **EU should maintain the current green-listing regime for non-hazardous e-waste under Delegated Regulation 2024/3230**, thus ensuring that circular material flows remain subject to proportionate controls while preserving the safeguards needed for environmentally sound management.

### Why this matters: scale, value and capacity

The scale of Europe's e-waste challenge is significant. Over the period 2012-2023 as a whole, the amount of EEE put on the market grew by 89%.<sup>6</sup> In 2023, **14.4 million tonnes of electrical and electronic equipment were placed on the EU market**, while 5.2 million tonnes of WEEE were collected and treated.<sup>6</sup> Of this, 4.8 million tonnes were recovered and 4.3 million tonnes were recycled or prepared for re-use.<sup>6</sup> Together, these figures show that Europe still has substantial untapped circular material potential.

Cross-border movement is already a structural part of the EU circular market. As the recently launched Commission consultation notes, **around 50 million tonnes of green-listed waste are shipped between Member States annually.**<sup>7</sup> Although public statistics do not fully capture all green-listed e-waste flows, these figures show that shipment procedures materially shape the functioning of the EU market for recycled materials.

The global context reinforces the urgency. The Global E-waste Monitor estimates that 62 million tonnes of e-waste were generated globally in 2022, with only 22.3% documented as

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<sup>1</sup> European Commission, *The Clean Industrial Deal: A joint roadmap for competitiveness and decarbonisation*, COM(2025) 85 final, 26 February 2025.

<sup>2</sup> European Commission, *A new Circular Economy Act*, Commission work programme / circular economy initiative, 2025.

<sup>3</sup> Regulation (EU) 2024/1252 establishing a framework for ensuring a secure and sustainable supply of critical raw materials, OJ L, 2024/1252, 3 May 2024.

<sup>4</sup> Regulation (EU) 2024/1157 on shipments of waste, OJ L, 2024/1157, 30 April 2024.

<sup>5</sup> Commission Delegated Regulation (EU) 2024/3230 of 18 October 2024 aligning EU waste shipment rules with the Basel Convention e-waste amendments.

<sup>6</sup> Eurostat, *Waste statistics – electrical and electronic equipment*, Statistics Explained PDF, October 2025

<sup>7</sup> European Commission consultation questionnaire, *Green-listing certain waste for the purposes of shipments to recovery between Member States*.

properly collected and recycled, leaving around US\$62 billion in recoverable natural resources unaccounted for.<sup>8</sup> Figures that are only expected to follow an increasing trajectory in the years to come.<sup>9</sup>

For Europe, the issue is not only how much e-waste is collected: once collected, **Europe also needs to move it efficiently to the facilities best placed to recover its value.** Specialised e-waste treatment capacity is unevenly distributed across the Union. Many high-value recycling, refurbishment and remanufacturing operations operate at European rather than national scale, relying on predictable intra-EU shipments to achieve sufficient throughput and remain economically viable. Restricting these flows would fragment the Single Market for secondary raw materials and reduce economies of scale in advanced recycling.

Today, **an estimated 75% of e-waste components shipped to specialised recycling facilities are managed under the green-list procedure.** Hazardous components are removed through mandatory depollution processes under the Waste Electrical and Electronic Equipment (WEEE) Directive before shipment. Once depolluted, these fractions do not present the risks associated with hazardous waste streams.

## Improved waste flow for EU's strategic autonomy

**E-waste is one of Europe's most immediate and scalable urban mines for critical raw materials.**<sup>8</sup> It contains valuable metals such as gold, silver, copper, platinum and rare earth elements, which are essential for electronics, renewable energy technologies, batteries, semiconductors, defence applications and digital infrastructure.<sup>3</sup> Efficient intra-EU movement of non-hazardous e-waste is therefore not only an environmental issue, but a strategic industrial imperative.

This is directly linked to the Critical Raw Materials Act. The EU aims to strengthen domestic capacities across the raw materials value chain, including a 2030 benchmark that at least 25% of annual consumption of strategic raw materials should come from recycling.<sup>10</sup> The Act also seeks to reduce excessive reliance on single third-country suppliers, with no more than 65% of EU annual needs for each strategic raw material, at any relevant processing stage, coming from one country.<sup>10</sup> **These objectives cannot be met if movement of secondary feedstock within the EU is rendered harder, slower and more expensive.**

Exports of non-hazardous e-waste and fractions outside the EU are subject to notification. If intra-EU shipments of non-hazardous waste containing high amounts of critical raw materials are subject to the same procedural burden as extra-EU shipments, **the regulatory framework provides no clear incentive to prioritise EU value chains.** This would run counter to the EU's objective of retaining strategic materials within Europe and scaling domestic recovery capacity.

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<sup>8</sup> UNITAR and ITU, *Global E-waste Monitor 2024*, 2024.

<sup>9</sup> UNITAR, *Global E-waste Monitor 2024: Electronic Waste Rising Five Times Faster than Documented E-waste Recycling*, press release, 20 March 2024

<sup>10</sup> European Commission, *European Critical Raw Materials Act*, section "Setting clear priorities for action"; Regulation (EU) 2024/1252.

At a time when Europe is working to reduce dependencies in batteries, semiconductors, clean technologies, defence and digital infrastructure, intra-EU e-waste flows should be treated as part of the EU's resilience and industrial agenda. A regulatory framework that restricts access to secondary feedstock would undermine the economics of European refining, recycling and remanufacturing capacity at the very moment the EU seeks to scale them.

## **PIC procedure: a disproportionate impact for EU non-hazardous e-waste management**

### **PIC procedures are not designed for routine, high-frequency circular material flows.**

While they are justified for hazardous waste streams and higher-risk shipments, applying them broadly to non-hazardous intra-EU e-waste would replace predictable circular logistics with **case-by-case approvals, additional fees, financial guarantees, administrative workload and delays**. The cumulative effect would not be marginal, significantly weakening the viability of circular value chains across Europe

Even relatively short approval delays can disrupt industrial feedstock planning, increase storage costs, slow down the recovery of critical raw materials, and reduce the commercial value of recovered materials, without delivering additional environmental benefits. The burden is particularly critical in refurbishment, remanufacturing and specialised recycling markets, where margins are often tight and transport costs can approach or exceed the intrinsic value of returned material.

As example, ICT companies' take-back systems return several million small WEEE items annually for remanufacturing, with single companies managing over 2 million direct consumer returns each year, including for re-use and remanufacturing. Industry estimates that shifting away from green-listed procedures could **increase operational, logistics and administrative costs by 10% to 50%**, with certain OEMs estimating additional annual costs of more than EUR 1.6 million. Such increases risk reducing return volumes, weakening EU-based remanufacturing and threatening circular economy jobs.

The administrative burden would also affect public authorities. Extending PIC to non-hazardous, routine intra-EU shipments would increase the volume of notifications to be processed by competent authorities, **diverting enforcement capacity away from illegal shipments, hazardous waste streams and exports** to destinations where environmentally sound management cannot be guaranteed. This would not address the core enforcement challenge of illegal e-waste exports to third countries and may instead divert limited inspection resources away from higher-risk shipments.

The future Digital Waste Shipment System (DIWASS) should provide greater transparency and traceability, allowing enforcement authorities to plan necessary controls where risks are highest. This supports a risk-based approach: digitalisation should strengthen supervision of legitimate circular flows, not justify subjecting low-risk intra-EU shipments to unnecessary PIC procedures.

## Competitiveness and investment certainty in support of EU circular value chains

**Regulatory predictability is essential for investment** in European recycling and remanufacturing capacity. Facilities processing secondary raw materials require stable access to feedstock across the Single Market. Uncertainty around intra-EU shipment procedures may deter investment in advanced recycling technologies, precisely when the Clean Industrial Deal and the future Circular Economy Act aim to scale domestic circular industries.

**Green-listed shipments are therefore a cornerstone of Europe's circular economy in practice.** They allow non-hazardous e-waste to move efficiently across Member States to specialised facilities for re-use, refurbishment, remanufacturing and recycling. These flows are already controlled, traceable and embedded in established systems such as producer take-back schemes, reverse logistics programmes and authorised treatment networks. Their effectiveness depends on predictability, scale and speed.

This would be directly in contradiction with the wider EU policy direction. Circular value chains depend on the efficient flow of materials within the Single Market. Industrial policy seeks to secure access to secondary raw materials, including those recovered from e-waste. Yet expanding PIC requirements would make these materials **harder, slower and more expensive** to move to the facilities best placed to recover them, undermining remanufacturing, recycling and critical raw material recovery.

## Green-listing: a proportionate solution in support of EU industrial and sustainability objectives

The level of control must be proportionate to the risk and supportive of the EU's circular economy objectives. **In this context, we recommend maintaining the green-listing regime for non-hazardous e-waste beyond the current deadline of 1 January 2027.** This approach would maintain traceability and environmental safeguards while avoiding unnecessary barriers to circular flows.

Preserving green-listed pathways would also allow authorities to focus enforcement capacity where it is most needed: illegal shipments, hazardous waste streams and exports to destinations where environmentally sound management cannot be guaranteed. This would improve the effectiveness of enforcement while supporting legitimate, EU-based circular value chains.

If the EU is to deliver on its circular economy and competitiveness ambitions, its regulatory framework must support the efficient movement of materials within the Single Market. Preserving a clear, proportionate green list framework for non-hazardous intra-EU e-waste is therefore essential to ensure coherence across EU environmental, industrial and circular economy policies.

**The narrative framing of a choice between control and circularity is misleading.** Rather, proportionate control enables legitimate circular value chains, while disproportionate

control unintentionally weakens them. For non-hazardous intra-EU e-waste, **the green-list route is the policy tool that best reconciles environmental protection, industrial resilience and Europe's circular economy objectives.**