ADVANCED RECHARGEABLE & LITHIUM BATTERIES ASSOCIATION

Closing Black Mass Loopholes to Enable an EU Battery Recycling Industry

Industry Guidance Document

July 2026

Executive summary and objective

Europe currently preprocesses most battery waste domestically but exports the majority of black mass — the Critical Raw Materials (CRM) rich concentrate from shredded lithium-ion batteries — for final refining abroad. Industry and policy analyses consistently show that Europe lacks sufficient processing and refining capacity, resulting in most black mass being exported out of Europe to refining facilities abroad[1]. This structural leakage undermines EU strategic autonomy, shifts high-value jobs abroad, weakens circularity and environmental protection.

The objective of this industry guidance document is to close regulatory and market loopholes that allow black mass to be exported or circulated with insufficient traceability, quality control and safeguards. **We, as industry players, propose a pragmatic, multi-pronged approach combining regulatory clarifications (end-of-waste and waste framework rules), recycled and local content requirements, targeted fiscal measures, and an industry-led certification scheme that can transition to mandatory status**. All measures should be implemented in a streamlined, proportionate manner, with clear prioritisation of essential requirements and phased introduction of more detailed elements.

Priority near term actions (first 12–24 months) include: fast tracking End-of-Waste (EoW) clarity and thresholds for black mass; ultimately requiring local recycled content accounting and traceability under the Battery Regulation; and convening an industry coalition to design a certification standard with clear auditing and timelines.

Context and problem statement

'Black mass' contains lithium, cobalt, nickel, manganese, graphite and other battery constituents. Current loopholes allow lightly processed material — or production waste reclassified as product — to leave the EU without robust evidence of downstream refining quality, occupational health and safety (OHS) protections, or verified recycling efficiency (RE) / recovery of materials (RM). Key legislative mechanisms exist (Battery Regulation (BR), Waste Framework Directive (WFD), EU List of Waste (LoW), Waste Shipment Regulation (WSR), Critical

[1] IFRI (2024): Europe's Black Mass Evasion; IEA (2024): Recycling of Critical Minerals: Strategies to Scale Up Recycling and Urban Mining – World Energy Outlook Special Report

Raw Materials Act (CRMA), as well as customs and trade rules) but gaps remain in definitions, thresholds, reporting and enforcement – notably:

- **Self-declaration and reclassification**: Operators and producers can claim EoW status for production residues or partially processed black mass, enabling exports to non-OECD refiners.
- **Delegated act and reporting gaps**: The BR draft DA[2] classifies black mass as an "intermediate" (i.e., waste) — a helpful signal — but current reporting templates do not require destination attestations that downstream processing meets EU-equivalent conditions, creating verification gaps.
- **Regulatory arbitrage**: Even where black mass is classified as hazardous under the EU List of Waste, an OECD receiving country could treat it as a product and re-export it to lower-standard third countries. The WSR requires equivalence but Member States lack clear operational criteria, especially for OHS but also for RE and RM at equivalent.

Policy objectives

- **Prevent CRM leakage from the EU and retain value creation onshore.**
- **Ensure RE/RM obligations reflect genuine, verifiable downstream processing.**
- **Safeguard the competitiveness of EU-based battery manufacturers during the transition to domestic refining capacity.**
- **Encourage investment in EU refining capacity through a combination of sticks (rules/enforcement) and carrots (funding, procurement incentives). Protect workers and environmental health through enforceable OHS and environmental standards.**

Practical recommendations (detailed)

1) **Establish a harmonised EU definition and technical specification for black mass**
   - A harmonised EU-level definition of "black mass" is currently missing and is a precondition for the consistent application of EoW criteria, customs codes, equivalence assessments and export controls across Member States.
   - Adopt a binding harmonised definition and technical specification of black mass — covering composition range, processing stage and clear distinction from adjacent streams (electrode production scrap, shredder light/heavy fractions, module-level residues) — through the most appropriate legal instrument, to be determined by the Commission in consultation with stakeholders
   - Ensure consistency between the waste-law definition (including the **existing classification of black mass as hazardous waste**), the future dedicated CN code (see

[2] Annex to Commission Delegated Decision (EU) 2025/934 (5 March 2025), amending Decision 2000/532/EC (the European List of Waste) and inserting entries for "intermediate fractions from battery recycling (black mass)"

Recommendation 9) and the Battery Passport data model, so that the same material is identified uniformly across waste, customs and product law.

2) **Presume black mass is waste unless narrowly rebutted (i.e. establish default classification).**
   - Establish a legal presumption that black mass and CRM-containing intermediates are waste by default as an essential safeguard to prevent structural leakage. Apply this presumption through delegated acts under Article 72(2) BR or guidance tied to the EU List of Waste, mirroring approaches in other directives (e.g., WEEE Article 23(2), while ensuring implementation remains risk-based and proportionate for compliant operators.
   - Allow rebuttal only on the basis of narrowly defined, documentary evidence: purchaser contract committing to a defined use, downstream refining contract, and an attestation from the receiving competent authority confirming product status and intended use.

3) **Define strict End-of-Waste (EoW) criteria for CRM streams**
   - Adopt material-specific EoW criteria (composition thresholds, contaminant limits, particle size, moisture content, required processing steps) that ensure the material is genuinely market ready and functionally equivalent to primary raw materials entering the value chain. Meeting strict EoW criteria may also facilitate more efficient intra-EU movements of material, addressing some of today's transport and compliance challenges.
   - Publish harmonised technical thresholds and validated testing protocols (JRC/ECHA input) to avoid national variance and regulatory arbitrage.

4) **Require destination attestations and tighten reporting templates**
   - Amend BR reporting templates to mandate a single, harmonised EU-wideattestation from the destination competent authority for any exported black mass or CRM intermediate, confirming downstream processing meets EU-equivalent RE/RM and OHS/environmental standards. A uniform template is essential to avoid Member State divergence and ensure that intra-EU handling and movements of black mass remain workable and consistent.
   - Member states should accept RE/RM reports from 'first recyclers' (operator performing the first metallurgical recycling step that generates the RE/RM values reported under the Battery Regulation) only when accompanied by this attestation and complete chain-of-custody documentation (batch IDs, transport docs, certificates).
   - Create a secure EU Registry for these attestations and export records to enable verification and market surveillance.
   - To ensure proportionality, these requirements should be streamlined into a minimal core dataset and implemented in phases, with clear prioritisation of essential ("must-have") elements before any optional enhancements.

5) **Operationalise "equivalent conditions" including OHS criteria**
   - Specify minimum equivalence criteria covering metallurgical processing, emission controls, hazardous by-product handling, and worker OHS protections (exposure limits, PPE, medical surveillance).
   - Adopt objective benchmarks (OECD, International Labour Organisation, or EU standards) and require inspections, audit reports or accredited certifications as evidence of equivalence.
   - As a complementary pathway, producers may fulfil OHS-equivalence obligations through a structured self-audit mechanism under their producer-responsibility obligations, provided it follows harmonised templates and is subject to periodic verification.

6) **Strengthen Waste Shipment Regulation implementation and market surveillance**
   - Align WSR export authorisations with the presumption of waste and EoW thresholds; deny exports that fail evidentiary tests.
   - Provide targeted EU funding and capacity building for national market surveillance, customs checks and investigations focused on suspicious export patterns and falsified documentation. Member States should be required to fully adapt permitting and classification practices to the amended List of Waste without grandfathering of existing licenses. DG Environment should actively monitor compliance under Article 6 of the Waste Framework Directive to ensure uniform application and prevent legacy permits from undermining the new classification.
   - Introduce a clear, harmonised definition of "evidentiary tests" to avoid disproportionate administrative burdens and cost increases for battery manufacturers.

7) **Digital traceability and battery passport linkage**
   - Establish a stand-alone secure digital traceability system for black mass consignments, including unique batch identifiers, assay certificates, processing steps and destination attestations.
   - Mandate electronic reporting for black mass transfers to enable automated anomaly detection and cross-border verification. Traceability requirements should be calibrated to avoid disproportionate burdens.
   - Where relevant, enable interoperability with Battery Passport data strictly where technical and legal feasible ensuring that such linkage does not extend the DBP beyond End of Life and does not create obligations for the original manufacturer.

8) **Recycled-content accounting and local-content incentives**
   - Require recycled content claims to be backed by audited mass-balance, chain-of-custody and independent verification; close accounting loopholes in implementing measures under the BR.
   - Consider local-content incentives for elements for which there is a recycled content obligation in the BR (e.g., procurement preferences, subsidy conditionality) to favour refined-in-EU materials and to support the installation and operation of domestic refining

capacities (both pCAM and CAM manufacturing capacities to close the battery loop and competitiveness gap[3]).

- Incentivise 'recycled in EU' in battery PRO schemes through harmonised national battery take-back schemes that incorporate recovery targets for key critical raw materials and apply strongly modulated EPR fees. A bonus–malus structure linked to whether final refining and recovery occur within the EU would create a direct economic incentive for 'recycled-in-EU' materials. This approach is highly topical in the ongoing WEEE review and could also be foreseen under the Circular Economy Act.

9) Export controls, fiscal measures and subsidy reviews

- Evaluate targeted export measures – including a structure assessment of the feasibility and proportionality of potential export fees or tariffs (e.g. in the range of 10–15%) on black mass and unrefined derivates of it, to reduce price-driven leakage, while simultaneously assessing their potential cost impacts on CAM and final battery prices to avoid unintended competitiveness losses for EU-based manufacturers. Create a single CN code for black mass and its immediate derivatives. With the revised List of Waste (2025/934) entering into force at the end of this year, the creation of a corresponding dedicated CN code (ideally within CN 26) should be fast-tracked. This alignment is essential for customs authorities to effectively identify, control and enforce export rules for battery waste and black mass.
- Investigate foreign subsidies that distort competition; consider matching domestic support for EU refiners where justified.

10) Industry-led certification evolving to mandatory standard

- Convene an industry coalition (anchor companies, recyclers, labs, auditors, other relevant players) to design a voluntary certification for black mass handling, testing, chain-of-custody and auditing. Pilot within 12–24 months; plan transition to regulatory recognition and mandatory status in 2–3 years.
- Ensure the standard provides the minimum dataset required for battery passport integration and harmonised audit protocols.

11) Transition support to scale domestic refining capacity

- Pair restrictions with industrial policy: grants, concessional finance, fast-track permitting, technical assistance, and clustered demonstration projects for hydrometallurgical and pyrometallurgical refining.
- Use procurement and public investment to create demand pull for refined-in-EU secondary materials.
- Provide batteries recycling projects, PCAM and CAM manufacturing plants with financial transition support to accompany the development and operation of facilities within the EU.

[3] Industrial Accelerator Act: RECHARGE recommendations on Local Content Requirements as a Strategic Lever for Europe's Battery Industry, November 2025

- Provide targeted incentives for EU-based battery manufacturers to direct black mass to domestic refiners, including preferential pricing mechanisms or contractual support, to maintain competitiveness during the scale-up of EU refining capacity. To avoid unintended constraints for OEMs during the scale-up of EU refining capacity, transitional derogations and targeted financial support should ensure continued flexibility in downstream processing routes until sufficient domestic capacity is available. These measures preserve operational efficiency while advancing the long-term objective of retaining black mass within Europe.
- Industrial policy should aim to establish a competitive domestic refining sector that is economically viable beyond subsidy support, ensuring long-term resilience and market-driven sustainability. These measures ensure that gigafactories and OEMs are not disadvantaged during the scale-up of EU refining capacity.

12) **Treatment of legacy "product-status" black mass**

- Material placed on the market or in transit under product status at entry into force shall be re-assessed against the new EoW criteria within a defined transition window (e.g. 12 months); material failing the test reverts to waste status.
- Time-limited grandfathering of bona fide existing contracts may be granted, conditional on documented downstream refining in OECD-equivalent facilities.

Design elements to make measures robust

- Quality thresholds and testing protocols: adopt accredited laboratory methods and place the final quality measurement point at the end of refining.
- Chain-of-custody: require mass-balance accounting linked to the battery passport and audited traceability records.
- Time-limited derogations: where necessary, allow explicit temporary derogations tied to measurable domestic capacity expansion milestones. Introduce explicit grace periods for large-scale battery manufacturers during the ramp-up of EU refining capacity, allowing transitional export allowances where recovered materials re-enter EU supply chains. These derogations also serve to prevent unintended stockpiling or environmental/occupational risks during the period in which export restrictions tighten faster than domestic refining capacity expands.
- Enforcement and audits: mandate third-party audits, random sampling, and strict penalties for falsified documents or undeclared exports; link permit renewals to compliance history.
- Regulatory alignment: ensure consistency across WFD, BR, WSR, CRMA and upcoming Circular Economy Act.
- To avoid disproportionate administrative burdens, compliance pathways should remain streamlined and cost-efficient, with clear evidentiary tests and calibrated verification requirements that do not undermine competitiveness.

Addressing key loopholes and concerns

- "Treated a bit" escape route: Define a list of preliminary processes that do not confer non-waste status; require chemical/documentary tests for any material leaving waste management.
- Exports to permissive third countries: Deny export authorisations for black mass lacking EoW/certification; use export fees to reflect environmental externalities if allowed. In addition, require competent authorities to inspect and address indirect leakage routes, including cases where black mass is nominally handled or pre-treated in OECD/EU-friendly countries but is subsequently routed through non-OECD jurisdictions. Such trans-shipment patterns should trigger enhanced scrutiny and verification to ensure that downstream processing meets EU-equivalent conditions.
- Acceptance of foreign specifications: Do not accept foreign-only specifications as sufficient for EoW or recycled-content claims without independent verification and equivalence attestations.
- Price competition and subsidies: Use trade and state-aid tools to investigate unfair foreign subsidies; consider domestic matching support to scale capacity.

Potential priority actions, indicative timelines and responsibilities

Immediate (0–6 months)

- Publish Commission policy intent and convene a steering group (DG ENV; DG GROW, ECHA, JRC; Member States; industry). Responsible: European Commission (DG ENV).
- Draft and publish interim EoW guidance and a technical annex for battery-derived materials; update BR reporting templates to require destination attestations as a transitional measure. Responsible: DG ENV with JRC/ECHA input.
- Launch industry certification workstream (anchor companies & industry associations). Responsible: EuRIC/RECHARGE with Commission facilitation.
- Explore the introduction of recycled content from European source as one component within , the EU preference mechanism, in line with the RECHARGE recommendations on Local Content Requirements as a Strategic Lever for Europe's Battery Industry from November 2025.
- Launch anti-subsidy investigations into support granted by third countries to their recycling facilities and black mass refining, in preparation for the use of trade defence instruments in the medium term.

Short term (6–18 months)

- Publish implementing measures under the Battery Regulation for recycled-content accounting and battery passport linkages. Responsible: European Commission (DG GROW).

- Pilot certification standard and auditing pilots; refine testing and sampling protocols. Responsible: industry coalition, accredited labs.
- Commission feasibility/legal assessment of export fees (10–15%) and subsidies review. Responsible: DG TRADE, DG COMP.

Medium term (18–36 months)

- Adopt formal EoW criteria for black mass via WFD implementing/delegated acts; enforce through permits and customs. Responsible: DG ENV and Member States.
- Transition voluntary certification to mandatory recognition by linking certification to EoW status, permit issuance and recycled-content claims. Responsible: Commission and Member States.
- Implement validated export controls/fees where legally supported and scale domestic refining with targeted support *for the development and operation of recycling infrastructure, as well as for PCAM and CAM manufacturing, to close the battery loop*. Responsible: DG TAXUD, DG TRADE, Member States.

Longer term (36+ months)

- Integrate black mass rules into the Critical Raw Materials Act and Circular Economy Act instruments; monitor and adjust thresholds and enforcement. Responsible: Commission services and Member States.
- Continue enforcement, periodic review and alignment with battery passport, REACH/SoC processes and international engagement.

Advocacy, stakeholder engagement and evidence base

- Build a coalition of manufacturers, OEMs, responsible recyclers, civil society, and Member States to legitimize standards and accelerate buy-in.
- Fill data gaps on flows, emissions and refining practices (commission scientific studies) to support thresholds and policy design.
- Frame measures as enabling EU strategic autonomy, competitiveness and worker/environmental protection — not protectionism — and use public consultations to embed concerns.

Risks and mitigation

- Industry resistance claiming increased costs or protectionism: mitigate via phased transitions, time-limited derogations tied to capacity expansion, and targeted financial support.
- Legal challenges to export fees or trade measures: ensure rigorous legal analysis, proportionality, and pursue parallel measures (certification & EoW) to reduce reliance on trade tools.
- Standards fragmentation or foreign divergence: adopt EU-specific EoW and certification and refuse equivalence based solely on third-country specifications.

Conclusion

A multi-pronged strategy combining a presumption of waste for black mass, strict EoW criteria, mandatory destination attestations, digital traceability, recycled- and local-content measures, targeted fiscal/trade tools, and an industry certification that transitions to mandatory status offers the most practical and politically feasible path to closing black mass loopholes. Immediate steps — clarifying EoW and launching certification pilots — are achievable quick wins; medium-term legal measures and enforcement investment will lock in the gains and enable a competitive EU battery recycling/refining industry that secures jobs, supply and environmental protection.

ABOUT RECHARGE
RECHARGE is the European industry association for advanced rechargeable and lithium batteries. Founded in 1998, it is our mission to promote advanced rechargeable batteries as a key technology that will contribute to a more empowered, sustainable and circular economy. RECHARGE's unique membership covers all aspects of the advanced rechargeable battery value chain in Europe: from suppliers of primary and secondary raw materials, to battery, equipment and original equipment manufacturers (OEMs), to logistic partners and battery recyclers. www.rechargebatteries.org
Contact: Kinga Timaru-Kast, Director, Public Affairs & Communications, kinga@rechargebatteries.org