

PRESS RELEASE

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FUTURE4BATT Workshop

Workshop insights: Stakeholders Call for Integrated Action to Advance Circular Battery Economy Across Europe

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A high-level multi-stakeholder workshop convened this month in Brussels has delivered a clear message: unlocking a truly circular battery economy in Europe requires urgent and coordinated action across policy, industry, and innovation ecosystems.

The workshop brought together leading voices from EU institutions, national regulators, industry leaders, and research consortia. Participants translated months of insights into concrete priorities for implementation—highlighting the critical need for harmonised regulation, scalable technical solutions, and cross-sector collaboration.

POLICY DIMENSION: Regulation, Certification, and Governance

Stakeholders emphasized the urgent need for harmonised, enforceable, and innovation-friendly policies across the EU.

Harmonised Regulatory Frameworks:

The implementation of Regulation (EU) 2023/1542 on batteries and waste batteries [\[link\]](#) introduces significant sustainability obligations—recycled content targets, carbon footprint declarations, extended producer responsibility, and design for dismantling. However, disparities in enforcement across Member States undermine its potential impact. For example, reuse definitions vary across countries, hindering the development of a unified second-life battery market.

The European Environmental Bureau (EEB.) and European Commission have both emphasised the need for regulatory streamlining and consistent interpretation at the national level (e.g., Ecodesign for Sustainable Products Regulation (ESPR) came into force in July 2024, seeks to avoid diverging national legislation and promote a well-functioning single market [\[link\]](#)).

Certification and Traceability Standards:

Participants welcomed the development of the Battery Passport—a digital tool mandated by the EU Battery Regulation to ensure material traceability, performance history, carbon footprint data, and recycling efficiency, which is expected to become mandatory by 2027.

However, concerns remain about:

- Methodologies for carbon footprint accounting, especially when electricity inputs are sourced outside the EU.
- Verifying “green” energy claims and the risk of greenwashing, particularly in international supply chains where standards vary.

Recognition of Value from Waste

There was consensus that end-of-life batteries and black mass should be classified as “secondary raw materials” rather than waste. This would support:

- Legal cross-border transport.
- Reuse and repurposing within circular models.
- Easier compliance with extended producer responsibility frameworks.

The European Green Deal [\[link\]](#) and Circular Economy Action Plan [\[link\]](#) both recognise this need, but legal alignment is still pending in national waste frameworks.

Data Access and Lifecycle Reporting

Lack of lifecycle data—due to intellectual property (IP) concerns, inconsistent data formats, and lack of trust between stakeholders—was seen as a major bottleneck. Participants recommended:

- Embedding data-sharing obligations in eco-design regulations.
- Leveraging secure, interoperable platforms (e.g., Digital Product Passport, Battery Passport).
- Supporting initiatives like Open Research Europe [\[link\]](#) to encourage public data from EU-funded projects.

INDUSTRY DIMENSION: Technical, Supply Chain, and Operational Needs

Industry actors described persistent technical limitations and supply chain vulnerabilities that must be addressed to make battery circularity viable at scale.

Technical Needs:

- Design for Disassembly and Recovery was repeatedly emphasised:
 - Many current LIBs have welded modules, embedded fluorine compounds, and mixed chemistries that obstruct efficient dismantling.

- Reversible mechanical connectors, standardised cell formats, and fluorine-free binders were suggested as design upgrades.

Tools like the EcoDesign for Sustainable Products Regulation (ESPR) [\[link\]](#) provide policy leverage to make such design changes mandatory.

- Infrastructure Bottlenecks were also highlighted:
 - Europe still lacks a complete network of battery recycling and repurposing facilities.
 - Technologies such as AI-driven sorting, robotic dismantling, and graphite recovery exist, but are not widely deployed due to high costs and unclear returns.

Supply Chain and Value Chain Needs:

- Feedstock unpredictability is a central challenge:
 - Incoming batteries differ vastly in chemistry, structure, and state-of-health, making consistent processing difficult.
 - Harmonizing formats and labeling across OEMs would help create homogeneous feedstock streams.
- Black Mass Valorisation Bottlenecks persist:
 - No stable market exists for recycled graphite, even though it is a valuable anode material.
 - Lack of industrial-grade validation and consistent purity deters commercial uptake.
 - The absence of clear offtake agreements keeps processors from investing.

Recommended Actions for Industry:

- Develop standardised battery specs (e.g., wireless BMS, universal housing).
- Automate disassembly and classification using robotics and AI.
- Create precompetitive business models that share risks between OEMs, recyclers, and regulators.
- Engage early with compliance tools like the Battery Passport to future-proof operations.

COLLABORATION DIMENSION: Future-Forward Synergies Across Projects and Stakeholders

Collaboration emerged as a cornerstone theme for driving systemic change. Several areas for multi-stakeholder action were identified.

During Project Implementation:

- Pre-Competitive Data Sharing Platforms: Stakeholders encouraged creating shared repositories of battery composition, dismantling protocols, and black mass classifications (e.g., via CORDIS Open Data [\[link\]](#) or Battery Innovation Platform).
- Co-create policy and technical solutions with regulatory agencies during pilot phases.
- Promote publication of validated metrics and standards across EU projects (e.g., EERA Battery 2030+ [\[link\]](#) initiative).

Afterlife and Post-Project Collaboration:

- Create second-life marketplaces and European battery repurposing consortia, enabling identification, sorting, and economic reassignment of used batteries.
- Form cross-border ecosystems or circularity hubs (as proposed in the European Battery Alliance [\[link\]](#)), linking dismantlers, OEMs, and recyclers.
- Launch joint education campaigns to raise awareness on:
 - How and why to return used batteries.
 - The value of recycled materials.
 - Best practices in safe handling and disposal.

Final Insight: Integration Is Key

The workshop concluded that regulatory alignment, industrial readiness, and multi-stakeholder collaboration must evolve in parallel. A truly circular battery economy cannot be achieved by policy, industry, or R&D acting alone—integration is the only path forward.

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For more information, please contact project coordinator, or visit our social media channels:

Project Leader, Sulalit Bandyopadhyay, NTNU, sulalit.bandyopadhyay@ntnu.no

Project Manager, Thais Mothe-Diniz, NTNU, thais.mothe-diniz@ntnu.no

Social Media

LinkedIn: <https://www.linkedin.com/company/revitalise-project/>

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