

Blueprint for EU sovereignty? New sourcing of Critical Raw Materials

Takeaways and recommendations for policy makers from the Resilex workshops series



On the 19th of May 2026, the Resilex project organized a panel discussion in Brussels to discuss a series of topics relevant to the future of Europe. Key stakeholders were invited to engage in an active discussion on the sustainable exploitation and supply of Critical Raw Materials (CRMs) for the PV and battery industries and the takeaways from the Resilex project's results. This document summarizes the discussion focussed on Critical Raw Materials.

Exploiting Mining waste

Laura Quijano (**ISMC-Iberian Sustainable Mining Cluster**) opened the event by stressing that Europe's targets for climate neutrality, digitalization, and industrial resilience rely fundamentally on a secure, sustainable, and circular supply of critical raw materials. She emphasized that materials used in solar and battery technologies are now geopolitical pillars of strategic autonomy rather than just basic industrial inputs. Posing the question of how the EU can achieve energy transition without secure resource access, she introduced the RESILEX project as a direct solution.

She explained that the project demonstrates how eco-design and the extraction of valuable materials from industrial and mining waste can successfully reduce Europe's dependence on volatile foreign supply chains

This first session opened with a presentation by Lidia Fernandez Rojo (**CETAQUA**, researcher) who introduced the work of the Resilex project on the recovery of Critical Raw Materials. The work performed successfully balanced the recovery of copper and zinc as metal sulfides, and cobalt and nickel as mixed sulfate crystals. Because they are not battery-grade purity initially, CETAQUA's strategy is to sell them as bulk intermediate concentrates for the metallurgical refining industry, or directly for alternative commercial uses like pigments and glass colorants. Beyond extracting metals, the treatment train transformed dangerous, acidic legacy wastewater into neutralized water (pH 7-8) that could be safely reused or discharged after basic polishing steps.

The researcher highlighted that the operational cost sits between 1.5 and 3.5 Euros per cubic meter of treated wastewater. This is significantly lower than conventional calcium-carbonate lime treatments. Conventional methods simply precipitate all metals into a toxic sludge without recovering anything, adding massive sludge-management liabilities and costs.

This technology proves that CRM recovery from mining waste acts as a highly competitive, circular business opportunity. After the presentation, a panel discussion took place with the participation of Oreste Sorace (**EUMICON** Head of Brussels Office) and Jorge Lombán (**ISMC – Iberian Sustainable Mining Cluster**). The main outcomes can be found below:



The speakers of the first panel, moderated by Giulio Poggiaroni (ETA Florence Renewable Energies)

Key outcomes and technical progress

- **The Waste Opportunity:** Speakers highlighted that massive volumes of mining waste and tailings across Europe contain significant concentrations of CRMs. Re-mining and processing these deposits is technologically viable and offers a domestic alternative to heavy import reliance.
- **Environmental Co-benefits:** Utilizing mining waste provides a secondary source of raw materials while simultaneously reducing the environmental and safety liabilities of legacy tailing dams.

Identified Challenges & Bottlenecks

Permitting and Regulatory Lag: The long timelines required to obtain environmental and operational permits for processing waste material are a major deterrent to private industrial investment.

Economic Viability: Extracting low-concentration materials from complex waste matrices is energy-intensive and expensive, heavily exposing projects to volatile global commodity pricing.

Recommendations Advanced by Speakers

Streamline CRM Permitting: Implement fast-track permitting pathways specifically tailored for secondary raw material recovery and recycling projects, aligning with the spirit of the EU Critical Raw Materials Act.

De-risking Mechanisms: Provide public financial guarantees, subsidies, or contracts for difference (CfDs) to protect pioneering European circular-mining projects against sudden market price drops controlled by non-EU monopolies.

On the topic of the **actual effectiveness of the Critical Raw Materials Act** and derived measures, Panelists stated that the actual funding put on the table by the European Commission is simply not enough for industry needs. Industry representatives explicitly compared the EU's financial measures unfavorably to the massive, direct financial subsidies managed by the US administration via the Inflation Reduction Act (IRA). Europe needs heavier, less complex capital injection to make domestic processing viable.

Bridging the Purity and Market Gaps: Current circular extraction technologies—like the RESILEX pilot recovering zinc, copper, cobalt, and nickel from acid mining wastewater—generate bulk intermediates or mixed crystals rather than direct battery-grade purity. To turn these into highly valuable clean-tech feedstocks, the panel emphasized that Europe needs targeted actions to integrate the broader metallurgical and refining industry into the value chain to upgrade these materials domestically. Building on **previous policy discussions** done in Resilex events, the panel highlighted a structural flaw where Europe generates precious scrap and recycled metallic materials only to export them out of the bloc. A proposed action remaining heavily on the table from the meeting was the implementation of an export ban on specific critical metal scrap to force the closure of the circular loop inside Europe. However, the problem remains that Europe at the moment does not have enough capacity to “handle” the amount of metal scrap.



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