



Report

A CIRCULAR SOLUTION FOR CZECHIA: ROUND TABLE DISCUSSION ON END-OF-LIFE MANAGEMENT OF EV BATTERIES

Sofia Pahor-Chochoy

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About EUROPEUM

EUROPEUM Institute for European Policy is a non-profit, non-partisan, and independent think-tank focusing on European integration and cohesion. EUROPEUM contributes to democracy, security, stability, freedom, and solidarity across Europe as well as to active engagement of the Czech Republic in the European Union. EUROPEUM undertakes original research, organizes public events and educational activities, and formulates new ideas and recommendations to improve European and Czech policy making.



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On April 11, 2024, the EUROPEUM Institute for European Policy along with its partner INCIEN Institute for Circular Economy, held a roundtable titled ***A Circular Solution for Czechia***. This round table was part of a project called **The End-of-Life Management of the Automotive Industry and the Opportunities for Czechia**. The round table was held remotely and under the Chatham House Rule, with speakers from EUROPEUM, the Czech Battery Cluster, AKU-BAT association for energy accumulation, Association for International Affairs as well as ŠKODA Auto, the largest car manufacturer in Czechia. The round table was moderated by Kateřina Davidová, senior research fellow and head of the Green Europe team at EUROPEUM.

In March 2024, the EU formally adopted the Critical Raw Material Act (CRMA), making battery recycling one of the key pillars of the strategy. The speakers stressed the objectives of the CRMA, which include increasing and diversifying CRM supply, reducing dependencies, enhancing refining, processing and recycling in Europe, strengthening circularity and sustainability, and supporting research and innovation. The EU Batteries Regulation, proposed under the European Green Deal, aims to regulate the entire lifecycle of batteries, promoting transparency and sustainability through a Battery Passport, it applies to all economic operators, i.e. manufacturers, producers, importers and distributors.

At the onset of the discussion, the different speakers highlighted challenges and plans for EV batteries' management. Currently, we are witnessing the boom of energy storage market in Europe. This trend gained momentum in the Czech Republic about a year ago and is expected to expand further. Several factors contribute to this growth: EU initiatives promoting renewable energy deployment coupled with flexibility and demand-side response, as well as the new Renewable Energy Act expected to be adopted in the Czech Republic in January 2025, which will accelerate energy storage deployment further. Speakers therefore highlighted the need for more recycling facilities in Europe and explored options for second-

life applications. Logistical concerns as well as the absence of large-scale recycling facilities in Czechia were also emphasized as areas that will need developing. On the other hand, some pioneering projects are already under way in Czechia.

Speakers then discussed the existing barriers to establishing a strong battery recycling industry in the Czech Republic. The accent was put on technology divergence, the EU favours hydrometallurgical methods for battery recycling, while some companies have invested in mechanical scraping. This disparity creates a hurdle to adoption. The discussion then shifted towards black mass. When lithium batteries reach their end-of-life (EoL), they undergo mechanical shredding, resulting in a black mass containing reusable materials like lithium. However, this material requires further chemical processing to be usable in new batteries. Only a few companies can perform this reshaping process, complicating the recycling chain. Additionally, the lack of homogeneous battery types in the market necessitates careful sorting before shredding to ensure the resulting black mass is usable and marketable. Addressing these barriers requires collaboration between legislative bodies and industry practitioners to align on preferred technologies and develop strategies for handling battery EoL processes efficiently.

In the context of environmental and social impacts, particularly related to climate change, the speakers stressed the expected increase of the demand for CRMs over the next 15 years, driven primarily by the rapid adoption of EVs striving for the net-zero emissions by 2050. This rise in demand, especially for lithium, highlights the dominance of EVs in the CRM market, with over 90% of lithium demand originating from EVs. However, the expansion of mining activities for these materials raises concerns about their environmental and social consequences, leading to strong opposition coming from local communities. Non-governmental organizations play a crucial role in fostering critical discussions and advocating for systemic changes. This includes promoting more efficient and affordable transportation systems,

such as shared mobility options, and addressing the inefficiencies inherent in current transportation models.

The round table provided valuable insights into the challenges and opportunities in circularity and end-of-life management within the automotive industry in Czechia. Collaboration, innovation and policy support are crucial for achieving sustainable battery management practices.