

Press release

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Global recycling industry needs to address several uncertainties to meet future demand for recycled battery raw materials

Brussels, 27 November 2024 - As demand for electric vehicles (EVs) increases and the ambition for using recycled materials expands, the industry faces a critical challenge: the supply of recycled battery raw materials such as cobalt, lithium, and nickel may be insufficient to meet the rising demand of EV batteries and ambitious policy goals. A joint report issued by Deloitte Belgium and the Global Battery Alliance (GBA) points out that secondary materials from recycling EV batteries ending their life in the EU may be insufficient to meet the ambitious recycled content targets set by the EU. This highlights the urgent need for investment in recycling infrastructure alongside strategic policy measures.

Impending shortage of recycled raw materials

As the global transition to EVs accelerates, there are growing concerns about the demand for the critical minerals needed for battery production. By 2022, as much as 60% of global lithium demand was attributed to EV batteries, up sharply from 15% in 2017. Repurposing and recycling of batteries are end-of-life management strategies that can reduce the reliance on mining and promote a circular economy value chain.

"Battery recycling presents a unique opportunity to better manage the risks associated with critical mineral supply chains and aids the production of sustainable batteries. Original equipment manufacturers should design batteries with a focus on circularity to make them easier to repair, repurpose or recycle at their end-of-life to create a circular battery economy.", says Inga Petersen, Executive Director at the Global Battery Alliance.

Longer average lifetime of batteries as a key challenge

The report highlights the interplay between repurposing and recycling of EV batteries. Repurposing prolongs the useful life of a battery but delays the availability of recycled materials, making it more challenging to achieve mandated recycled content targets.

"While the shift to LFP batteries and battery repurposing may help reduce pressure on certain minerals, it may shift the timelines for battery recycling and impact the availability of recycled battery materials.", says Maarten Dubois, Circular Economy leader at Deloitte.

Export of old batteries outside the EU hampers the potential of recycling in Europe

The report also reveals that export of used EVs is a key uncertainty for the EU. If the export of used EVs follows the same trend as export of used gasoline vehicles, EV batteries may enter the recycling ecosystem outside the EU.

"Exports of batteries, either in second-hand cars or for recycling elsewhere, can have significant implications for critical materials' self-sufficiency for Europe.", said Aled Walker, Automotive Sector leader at Deloitte.

Strategic reserves and collaborations around investments are crucial

The report highlights that the main feedstock for battery recycling will shift from manufacturing waste to end-of-first life batteries by the end of the decade. As the EV market continues to mature, stockpiling reserves can help resource-dependent economies build resilience to manage fluctuations in raw material availability.

It is also essential to accelerate investment in recycling infrastructure. Without sufficient investment, innovative business models and solutions to optimise battery recycling operations, and clarity in long-term regulations, battery recycling may not keep pace with the increasing demand.

"The report makes it clear that urgent action is needed for battery recycling to reach its potential in delivering the critical minerals needed for clean energy transitions. It is essential that both the public and private sectors work together to accelerate investment in recycling infrastructure, drive innovations in recycling technology, and build strategic reserves. Without these measures, regional and national climate pledges may not be met.", said Frederik Debrabander, Energy, Resources & Industrials Industry leader at Deloitte.

Link to the full report: www.deloitte.com/be/ev-battery-recycling

About the Global Battery Alliance

The Global Battery Alliance, founded in 2017, is a public-private platform committed to a sustainable and responsible global battery value chain by 2030. The alliance has more than 170 members, including industry, governments and NGOs, and is working towards establishing a responsible, just and sustainable battery value chain by 2030.

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