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BEYOND REC Battery Recycling at its best - 7.45 million EU funding for efficient pre-processing of Lithium-

Lithium-ion batteries are pivotal for the transition to electrification, powering electric vehicles (EVs), renewable energy systems, and a vast array of electronic devices. With Europe striving for a transition to a greener economy, batteries are foreseen to play a crucial role in its strategy to achieve climate neutrality by 2050. However, the environmental and economic challenges associated with end-of-life (EoL) batteries must be urgently addressed to ensure their sustainability. The BeyondBattRec project, funded under the Horizon Europe programme with €7.45 million, is at the forefront of this effort.

Despite the importance of Li-ion batteries in achieving the EU's climate ambitions, the inefficiency of current recycling practices limits the recovery of valuable materials, perpetuating dependence on imported resources and creating significant environmental challenges. BeyondBattRec is poised to change this by integrating advanced technologies that align with Europe's circular economy goals. By recovering up to 95% of critical metals like cobalt, nickel, and copper, and 70% of lithium, the project aims to drastically reduce waste and emissions while strengthening Europe's resource independence.

Coordinated by Aalborg University in Denmark, BeyondBattRec unites a total of 12 leading partners, including VARTA Microbattery GmbH, Siemens, Accurec Recycling GmbH, Andaltec, UVR-FIA GmbH, Shift Materials, University of Jaén, EurA AG, Coventry University, ACIB GmbH, and Tes AMM, from seven European countries to develop groundbreaking technologies for battery recycling. Running for 48 months, BeyondBattRec aims to enhance battery recycling in Europe, making it more efficient, sustainable, and economical by developing innovative pre-processing technologies and protocols for recycling both metallic and nonmetallic components of lithium-ion batteries

At the core of the project is the development and validation of innovative technologies for sorting, deactivating, dismantling, and recovering battery components. These technologies will enable the high-precision recycling of materials such as anodes, cathodes, electrolytes, solvents, binders, and strategic metals. BeyondBattRec will also evaluate the techno-economic feasibility of these processes, ensuring they are both practical and scalable for industrial adoption. Through comprehensive impact assessments, the project will address material recycling rates, zero-waste goals, emission reductions, and socioeconomic benefits that could be realized across the EU27 and associated states.

BeyondBattRec's vision extends beyond technological advancements. The project aims to establish Europe as a leader in innovative battery recycling technologies, building a circular value chain that drives both industrial growth and societal benefit. By enhancing the EU's industrial resilience and resource independence, the project directly supports the objectives of the European Green Deal, facilitating the sustainable transformation of the energy and transport sectors.

For further information, please visit www.beyondbattrec.eu

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