

[Prospects for electric vehicle batteries in a circular economy](#)

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Workpackage:

WP4 Case studies

The objective of this paper is to provide information and estimates about the impacts of managing the large number of lithium-ion batteries for electric vehicles that enter the market and will reach the end of their life in the coming years. The analysis compares two different hypothetical scenarios involving different levels of ambition regarding battery collection rates for recycling in Europe and the recycling efficiency rate for different materials.

Four key materials are selected based on their economic, societal and environmental importance and data is collected through a literature review and information from interviews and consultations with experts. The study found that increased collection and recycling efficiency rates of EV batteries in the EU can mitigate dependence on imported materials and help retain the value of recovered materials within the EU economy. Further benefits of increased collection and recycling efficiency rates include job creation in the recycling sector and mitigating CO2 emissions. It is recommended that the EU continues and strengthens its support for R&I for lithium-ion battery recycling processes to improve their cost effectiveness and efficiency. The paper also suggests that more research is needed to provide evidence about the costs of recycling batteries, the level of investment needed to set up recycling facilities in Europe and the net impact on employment.



[D4.4_Case-Study-EV-batteries_FINAL.pdf](#) [3]



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