Special Issue

Methodological Aspects of First- and Second-Life Recycling in the Direction of a Harmonized Life Cycle Assessment of Batteries

Message from the Guest Editors

This Special issue serves as a discussion forum to provide the latest research and development ongoing to overcome the challenges of battery technology in the energy transition and the circular economy as tools for the energy sector's sustainability. Thus, we kindly invite you to share your contributions on topics including, but not limited to:

- LCA assessment of batteries using innovative friendly materials free of cobalt;
- Eco-design of batteries, including design for reuse, design for disassembly, design for recycling;
- Assessment of second-life batteries including first and second life;
- Integration of environmental assessment in digital battery passports;
- Integration of battery tests data into LCA;
- Circularity assessment and environmental credit allocation;
- Environmental allocation approach when considering recycling and second life;
- Digital twins to drive life cycle assessments of battery manufacturing processes.

that enhance the holistic assessment of batteries from their first to second life as well as recycling to support the energy transition and circular economy in the energy sector.

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Message from the Editor-in-Chief

Take the opportunity to publish your original scientific work or a review paper concerning battery materials, battery technology or battery application within this new open access journal. Along with material science, the journal also addresses engineering and multidisciplinary research topics, such as cell and system design or storage system integration. Publishing proffers visibility for the benefit of other experts and facilitates discussion of the research results within the field. You are invited to publish your work, read published papers and to participate in topical discussions.

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