

EUROMAT 2019 / Area E Energy and Environment

SYMPOSIUM: E2

Title:		
Sustainability of Battery Materials		
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Abstract		
<p>Since the first lithium-ion battery was commercialized by Sony in 1991, a large variety of technologies has been developed for various applications. Nowadays, many research efforts are devoted to the development of high-density batteries to sustain electric mobility and stationary applications, especially within the framework of the energy transition. This race of high-energy density storage technologies must not be achieved at the detriment of safety and sustainability of the batteries.</p> <p>Reducing the environmental footprint of battery production, including lithium-ion batteries, remains a priority. Sustainability of batteries can only be achieved providing that each stage of the value chain is optimized in terms of efficiency, energy and resources consumption, gas and effluent emission, material production process, <i>etc.</i> Further, the vision of the circular economy encourages the closing of loops by means of e.g. recycling, which challenges today's value chains and its various actors. For these changes in the value chain to take place, not only technological achievements are necessary but innovations in the supply chain system and in business models for both energy storage devices and its applications are most likely required.</p> <p>This symposium aims at gathering recent contributions to get batteries more sustainable. It will address the following topics:</p> <ul style="list-style-type: none">• Resources economics• Sustainable production from primary resources requested in battery		

production

- Repair, reuse, repurposing and recycling processes for batteries
- Material substitution for batteries
- Life Cycle Assessment
- Ecodesign
- Comparisons to upcoming technologies
- Circular business model innovation