Lithium-ion battery business model research

What are the drivers to develop circular business models in lithium-ion battery market?
Answering the second research question," What are the main drivers to develop circular business models in the lithium-ion battery market?","National and international regulation and policies" followed by "Economic benefits"are considered the main drivers for developing CBMs in the LIB market.

What are the barriers to Circular business models of lithium-ion batteries?
Barriers importance for circular business models of lithium-ion batteries. The experts stress that similar to the drivers' findings,most barriers are linked; therefore,identifying a sole dominant barrier is not expected to occur. The highest-rated barrier was "Financial",reflecting challenges such as incentives and financial viability.

How can we improve remanufacturing and second use practices of lithium-ion batteries?
Future research should focus on more in-depth analyses of the assessment categories presented,for example,by studying the value creation and capture in circular business modelsto upscale the remanufacturing and second use practices of lithium-ion batteries,including empirical data analysis.

Are spent lithium-ion batteries a circular economy?
As regulations and economic factors are ranked the highest by the expert panel,this is a clear indication that currently,the circular economy practice of spent lithium-ion batteries needs developmentat a system level in parallel with the growth of spent battery volumes. 6.3. Limitations and further research

What are the research questions (RQ) for lithium-ion battery life management?
Therefore, the following Research Questions (RQ): RQ1: What are the circular business models that have the highest potential in the context of lithium-ion battery lifetime management? RQ2: What are the main drivers to develop circular business models in the lithium-ion battery market?

What is a battery extension business model?
The extension of battery life (and their sub-components) can also apply when the batteries are in their second life. This goal is typically achieved through practices such as maintenance, repair, upgrading, and refurbishing. As a result, these archetype business models minimize waste and reduce the demand for new resources.

To shed some light on these challenges, qualitative modeling of the business ecosystem(s) related to spent batteries was performed from a European perspective and with particular attention to the Norwegian context. Such modeling addresses questions like how the system functions from a business point-of-view;

In addition, the models used in estimating and predicting the battery"s lifetime need to be improved to provide a more accurate battery health state and guarantee battery safety while in use by an EV. Even though all types

of EV batteries face similar issues, this paper focuses on Li-ion EV batteries. The main objectives of this paper are 1) to present various Li ...

With a focus on circular business model elements and influencing factors, this research reviews literature on CE strategies for LIBs and benchmarks their current adoption amongst European...

New circular business models (CBMs) are needed in the battery ecosystem. The study outlines 3 main archetypes and 8 sub-archetypes of CBMs. The main CBM archetypes ...

In the lithium-ion battery manufacturing landscape, aligning your business plan with industry standards and demands is paramount. By selecting a comprehensive and relevant template, you"ll position PowerPulse Energy Solutions effectively to capitalize on the growing market opportunities and navigate the expectations of potential investors.

Current research primarily focuses on technical and economic issues based on recycling and the second use of batteries rather than circular business models. This study"s purpose is to...

study draws on prior literature to illustrate a foundation for circular economy of lithium-ion batteries, explain the development of lithium-ion batteries" circular supply chains into circular value chains, and identify circular business model strategies. The empirical purpose

business models with second life batteries can generate net environmental benefits while the remaining battery capacity and market price are identified factors that can alter the...

Lithium-ion batteries (LIBs) have been widely used in portable electronics, electric vehicles, and grid storage due to their high energy density, high power density, and long cycle life. Since Whittingham discovered the intercalation electrodes in the 1970s, Goodenough et al. developed some key cathode materials (layered, spinel, and polyanion) in the 1980s and ...

Purpose The purpose of this study is to advance and illustrate how life cycle assessment (LCA) can assess circular economy business models for lithium-ion batteries to verify potential environmental benefits compared to linear business models. Scenarios for battery repurpose are assessed to support future decision-makers regarding the choice of new versus ...

Consumer preferences for innovative business models in the market for electric vehicles (Huang, et al., 2021) 2021 Economic Battery and vehicle leasing Circular business models for lithium-ion ...

Keywords: Circular Economy, Circular Business Models, Circular Value Chains, lithium-ion batteries, inductive research, challenges, and opportunities in circular economy The UNFCCC"s Paris Agreement targets on climate change and the aim to reduce emissions on the energy intensive sectors, transportation, and energy

production, creates enormous pressure to ...

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