

Can repurposing degraded EV batteries reduce first-cost impediments?

Repurposing degraded EV batteries in second use applications can help reduce first-cost impediments of EVs. New business models are emerging rapidly within the EV and battery second use (B2U) industries, but they focus on economic aspects without integrating social and environmental dimensions.

Should EV manufacturers adopt the swappable-battery model?

This insight strengthens the strategic support for EV manufacturers' potential adoption of the swappable-battery design and the BaaS model, and it may inform their operating policies to implement flexible battery leasing. History: This paper has been accepted in the Manufacturing & Service Operations Management Frontiers in Operations Initiative.

What are the business models for electric vehicle power battery use?

We analyze three business models for electric vehicle power battery use: (1) pure selling strategy, (2) pure leasing strategy, and (3) innovative hybrid strategy where both the selling and leasing... Transforming the transport sector to zero emission is an integral part of changes to the energy sector worldwide.

What are SBMs for EV B2U?

SBMs for EV B2U (Second Use of Electric Vehicle Batteries) are innovative business models that solve current unsustainable practices in the EV industry. They lead to multi-stakeholder cross-sector relationships as part of SBMs. B2U is a shared sustainable value creation mechanism for the EV industry. It slows resource loops as part of these business models for sustainability.

What is the lifecycle of EV batteries?

The lifecycle of an EV battery begins with the extraction of raw materials (including mining and processing) to battery manufacturing. This is followed by its primary use in an Electric Vehicle (1st life). The lifecycle concludes with end-of-life disposal (Neubauer et al., 2015, Neubauer and Pesaran, 2011, Reid and Julve, 2016, Richter et al., 2016, Ahmadi et al., 2014b).

Is B2U a viable alternative to EV batteries?

The concept of B2U (Battery-to-Utility) holds the potential to increase the residual value of EV (Electric Vehicle) batteries and contribute to a faster EV market uptake and improvements of overall sustainability performance through SBM (Second-life Business Models) perspectives.

In order to increase the adoption rate of electric vehicles, they need to appeal to customers as much as their fossil fuel equivalents. However, major concerns include long battery charging ...

The battery swapping cabinet can completely realize the new green travel mode of vehicle electric separation and unlimited endurance. 3. The market analysis of battery swapping station ...

decline and even zero subsidies, "separation of vehicle and battery" is considered to be a good model for solving the development of private EVs. However, whether this model is beneficial...

The business model is another issue closely related to EV ownership. Ever since China advocated the development of EVs, people have been continuously exploring suitable ...

The research results propose a variety of EV business models. Although each mode has its own advantages and disadvantages, a good business mode helps to increase EV ownership. In many business modes, the ...

Capacity market revenues 8 oCurrent proposals are to create several derating factors for storage depending on duration for which the battery can generate at full capacity without recharging ...

The business of the new Hebei-based JV - dubbed "Jiefang Shidai New Energy Technology Co., Ltd." - will include new energy commercial vehicle sales, carbon credit trading, vehicle leasing, and exploration of body ...

ABSTRACT To explore the impact of various subsidies on the battery swapping industry under the "vehicle and battery separation" model, a supply chain comprising a battery ...

A Study on Battery Separation Drones to Extend Endurance 1 A Study on Battery Separation Drones to Extend Endurance Hyojun Kim 1, Taewoo Kim2, Chankyu Son 1 Dept. of Unmanned ...

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