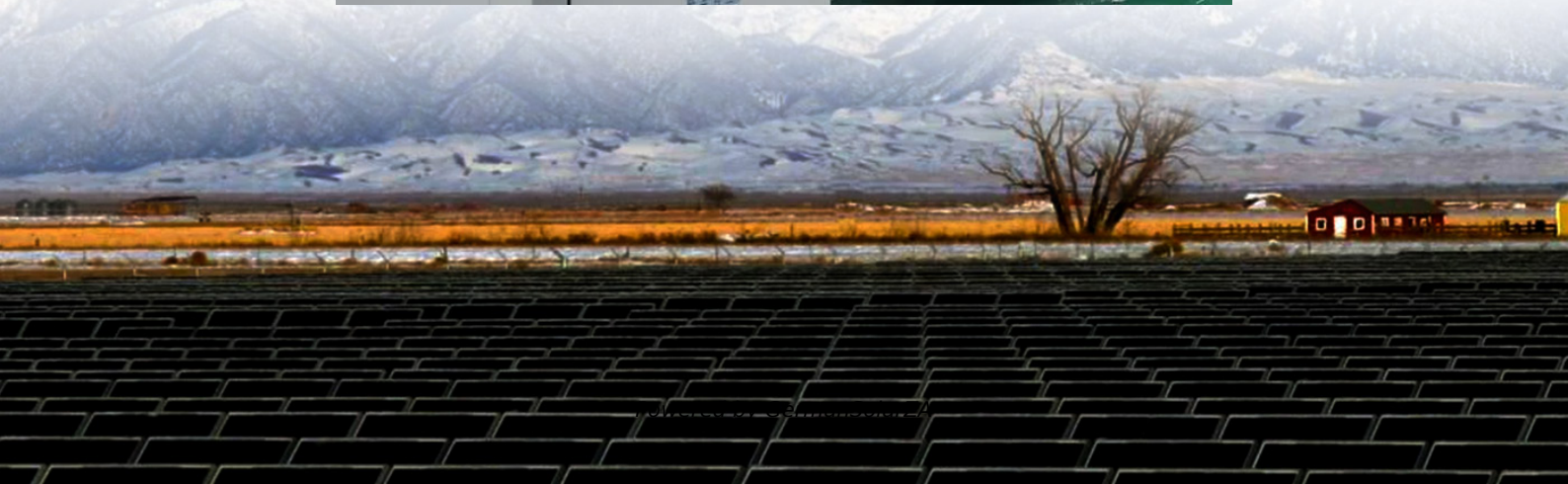
GermanSolarZA

Reuse of batteries in solar container communication stations



Overview

Repurposing spent batteries in communication base stations (CBSs) is a promising option to dispose massive spent lithium-ion batteries (LIBs) from electric vehicles (EVs), yet the environmental fea.

What are the applications of battery recycling?

Applications in the reuse phase include energy storage systems (ESSs), communication base stations (CBSs), and low-speed vehicles (LSVs). When the batteries are subjected to the EOL stage, pretreatment and three recycling technologies are considered, including hydrometallurgical, direct, and pyrometallurgical recycling.

Can repurposed EV batteries be used in communication base stations?

Among the potential applications of repurposed EV LIBs, the use of these batteries in communication base stations (CBSs) isone of the most promising candidates owing to the large-scale onsite energy storage demand (Heymans et al., 2014; Sathre et al., 2015).

What is a battery reuse strategy?

The strategy is applied to various reuse scenarios with capacity configurations, including energy storage systems, communication base stations, and low-speed vehicles. Hydrometallurgical, pyrometallurgical, and direct recycling considering battery residual values are evaluated at the end-of-life stage.

How is a solar battery recycled?

Finally, the battery is retired at 90% SOH and recycled using hydrometallurgical recycling. In contrast, the optimized pathway diverges after the first use stage. The process includes refurbishment, reuse, and recycling. Users need to purchase SLBs with 90% SOH, increasing costs to $176/kWh in the refurbishment stage.

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The choice of allocation methods has significant influence on the results. Repurposing spent batteries in communication base stations (CBSs) is a promising option to ...

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