SolarMicrogrid Solutions

Do communication base station batteries need a feasibility study

Overview

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).

Should repurposed lithium batteries be used as a lab system?

From the resource point of view, the MDP of repurposed LIBs isnot always preferable to that of the conventional LAB system. Recently, the environmental and social impacts of battery metals such as nickel, lithium and cobalt, have drawn much attention due to the ever-increasing demand (Ziemann et al., 2019; Watari et al., 2020).

What is battery management system (BMS)?

The battery management system (BMS)provides monitoring and manages the charge/discharge processes of the batteries. Fig. 2. (a) Schematic diagram of the CBS power supply system, (b) composition of DC power supply system of CBS.

What happens if repurposed lithium ion batteries are widely promoted?

On the other hand, if the secondary use of repurposed LIBs is widely promoted,a delay in metal circulation will occur; the material availability might be questionable, and more primary lithium, copper, and aluminum have to be extracted to meet the supply shortages in the manufacturing sector.

Does secondary use of lithium ion batteries reduce the MDP value?

The findings of this study indicate a potential dilemma; more raw metals are depleted during the secondary use of LIBs in CBSs than in the LAB scenario. On the one hand, the secondary use of LIBsreduces the MDP value by extending the service life of the batteries, although more metal resources are

consumed during the repurposing activities.

How can cooperation reduce the cost of a battery?

Consequently,cooperation along the life cycle can be considered to reduce this cost, in which battery manufacturers, automakers, EV consumers, infrastructure constructors and other actors can become integrated and possibly form alliances.

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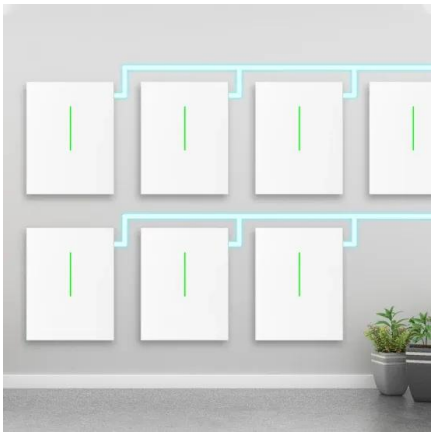

Environmental feasibility of secondary use of electric vehicle ...

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 ...

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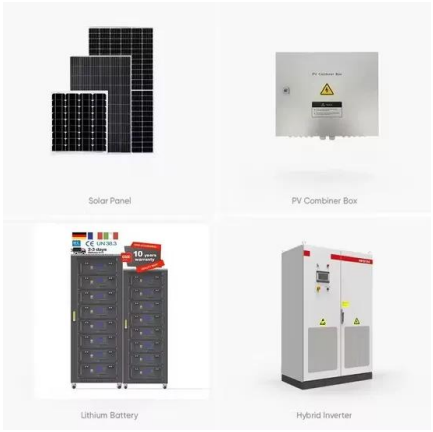

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Feasibility study of power demand response for 5G base station

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