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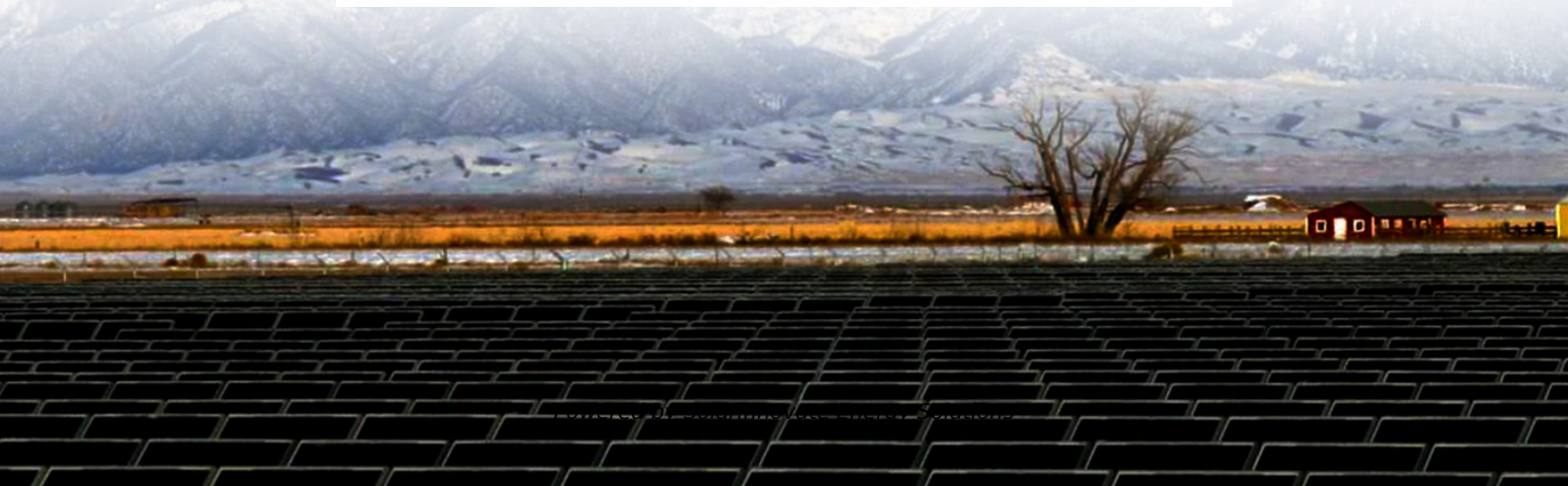
# Madrid communication base station lithium-ion battery research and development



## 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 ).

Are lithium-ion batteries used in EV power supply systems?

Owing to the long cycle life and high energy and power density, lithium-ion batteries (LIBs) are themost widely used technology in the power supply system of EVs ( Opitz et al. (2017); Alfaro-Algaba and Ramirez et al., 2020 ).

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.

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 is the recycling stage of a lithium ion battery?

In the recycling stage, the collectedLIB packs are dismantled to obtain the main components, such as battery cells, BMSs, and packaging, and various material fractions are recovered from these components separately (Table A1 in the supplementary materials).

## Madrid communication base station lithium-ion battery research an

### Lithium-Ion Battery Systems , IEEE Journals & Magazine

May 16, 2014 · The production of lithium-ion (Li-ion) batteries has been continually increasing since their first introduction into the market in 1991 because of their excellent performance, ...

### Environmental feasibility of secondary use of electric vehicle lithium

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### Environmental feasibility of secondary use of electric vehicle lithium

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