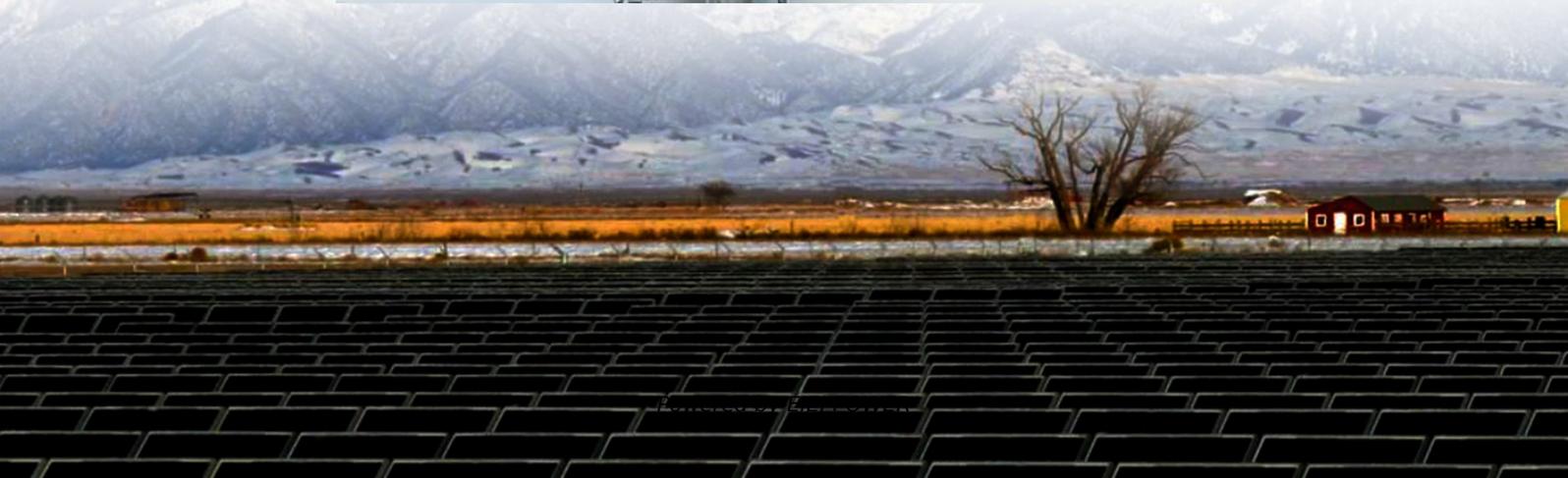


Environmental assessment of new energy battery cabinet structural parts





Overview

Can SBCs reduce the life cycle impact of battery electric vehicles?

Results show that SBCs have a large potential to decrease the life cycle climate impact and energy use of battery electric vehicles, especially following routes focusing on decreasing the use of fossil resources, both for raw materials and as energy sources.

What is the sensitivity analysis of a structural battery composite (SBC)?

Sensitivity analysis for changes in mileage, energy reduction value (ERV) energy consumption in the manufacturing, energy density of the structural battery composite (SBC), and effective modulus based on the SBC base case using the cut-off approach (a) and the end-of-life recycling allocation approach (b).

Does physical utilization reduce environmental impact of battery reproduction?

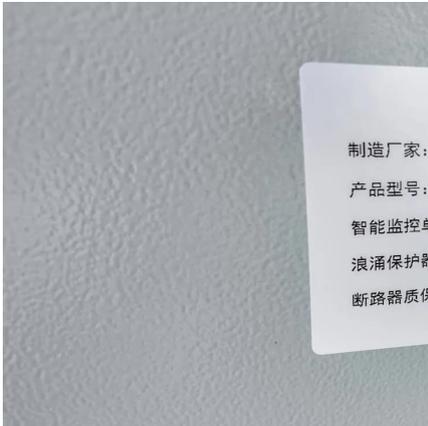
The input of energy and material exhibited low contribution level (<5%) and the recycling of metal and cathode materials reduced the environmental impact of material reinput during battery reproduction, achieving carbon emission reduction successfully. However, the “physical utilization” technology had a negative environmental impact.

What are structural battery composites (SBCs)?

Structural battery composites (SBCs) are multifunctional carbon fibre composites that can be used as structural elements in battery electric vehicles to store energy. By decreasing the weight of the vehicle, energy consumption in the use phase can be reduced, something that could be counteracted by the energy-intensive carbon fibre production.



Environmental assessment of new energy battery cabinet structure

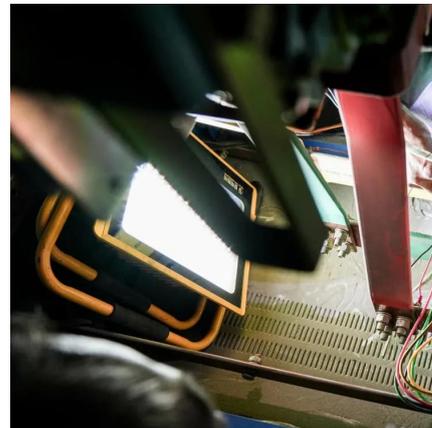


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