

Bidirectional charging of mobile energy storage containers for research stations





Overview

Why is bidirectional charging important?

Bidirectional charging opens up immense storage potential. The mobile storage units in electric vehicles, even if they are individually very small from an energy system perspective, have immense storage potential due to their very large number, which can be leveraged >through bidirectional charging.

Can bidirectional electric vehicles be used as mobile battery storage?

Bidirectional electric vehicles (EV) employed as mobile battery storage can add resilience benefits and demand-response capabilities to a site's building infrastructure.

Does bidirectional storage reduce energy supply costs in Europe?

The bidirectional development of the existing storage capacity in electric vehicles for the energy system reduces the energy supply costs in Europe compared to a scenario without bidirectional electric vehicles. The use as daily storage improves the system integration of renewable energies and PV energy in particular.

Can bidirectional EVs be used as mobile storage?

In contrast to stationary storage and generation which must stay at a selected site, bidirectional EVs employed as mobile storage can be mobilized to a site prior to planned outages or arrive shortly after an unexpected power outage to supplement local generation or serve as an emergency reserve.



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