Bidirectional Charging of Smart Photovoltaic Energy Storage Containers for Airports

Title: Bidirectional Charging of Smart Photovoltaic Energy Storage Containers for Airports
Generated on: 2026-06-02 13:40:44

The objective of this article is to propose a photovoltaic (PV) power and energy storage system with bidirectional power flow control and hybrid charging strategies.

Smart grid technologies have enhanced the utility of EVs through Vehicle-to-Everything (V2X) technology, which in-cludes various forms of bidirectional charging. This capability leverages ...

Through a comprehensive literature research and in-depth interviews with 16 V2G experts, we identify the current state, research gaps, and insights related to V2G. In particular, ...

Smart charging stations, bidirectional charging capabilities, and grid-responsive energy management systems have been proposed as key solutions to ensure that EV adoption does ...

This paper introduces a novel testing environment that integrates unidirectional and bidirectional charging infrastructures into an ...

The Bidirectional Charging project, which began in May 2019, aimed to develop an intelligent bidirectional charging management system and associated EV components to ...

Bidirectional charging, such as Vehicle-to-Grid, is increasingly seen as a way to integrate the growing number of battery electric vehicles into the energy system. The electrical ...

This paper introduces a novel testing environment that integrates unidirectional and bidirectional charging infrastructures into an existing hybrid energy storage system.