

Comparison of Economic Benefits of Ultra-Large Capacity Smart Photovoltaic Energy Storage Containers





Overview

Why is photovoltaic energy storage important for large industrial customers?

The installation of photovoltaic energy storage systems for large industrial customers can reduce expenditures on electricity purchase and has considerable economic benefits. Different types of energy storage have different life due to diversity in their materials.

Is energy storage a viable option for utility-scale solar energy systems?

Energy storage has become an increasingly common component of utility-scale solar energy systems in the United States. Much of NREL's analysis for this market segment focuses on the grid impacts of solar-plus-storage systems, though costs and benefits are also frequently considered.

What is the energy storage capacity of a photovoltaic system?

The photovoltaic installed capacity set in the figure is 2395kW. When the energy storage capacity is 1174kW h, the user's annual expenditure is the smallest and the economic benefit is the best. Fig. 4. The impact of energy storage capacity on annual expenditures.

What is solar-plus-storage?

For solar-plus-storage—the pairing of solar photovoltaic (PV) and energy storage technologies—NREL researchers study and quantify the unique economic and grid benefits reaped by distributed and utility-scale systems. Much of NREL's current energy storage research is informing solar-plus-storage analysis.



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