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Benefits of solar plus energy storage





Overview

Energy storage can provide multiple grid services. It can support grid stability, shift energy from times of peak production to peak consumption, and reduce peak demand. What are the benefits of solar-plus-storage?

Among other benefits, it can help maintain the stability of the electric grid, shift energy from times of peak production to peak consumption, and limit spikes in energy demand. Solar-plus-storage shifts some of the solar system's output to evening and night hours and provides other grid benefits.

How does solar-plus-storage affect energy systems?

Solar-plus-storage shifts some of the solar system's output to evening and night hours and provides other grid benefits. NREL employs a variety of analysis approaches to understand the factors that influence solar-plus-storage deployment and how solar-plus-storage will affect energy systems.

What is a solar-plus-storage system?

Most people rely on electricity from the power grid to supplement their solar-generated power. But residential solar energy systems paired with battery storage—generally called solar-plus-storage systems—provide power regardless of the weather or the time of day without having to rely on backup power from the grid.

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.



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