

ContainerPower Energy Solutions

Colombia Power Generation Side Energy Storage Peak Shaving Project



Overview

Energy storage (ES) can mitigate the pressure of peak shaving and frequency regulation in power systems with high penetration of renewable energy (RE) caused by uncertainty and inflexibility. However.

Can peak shaving reduce energy costs?

Modern consumers actively seek cost-effective energy solutions and sustainable practices. This white paper explores peak shaving as an effective method to minimize energy costs. Energy and facility managers will gain valuable insights into how peak shaving applications can help unlock the full potential of energy storage systems.

Is peak shaving a viable strategy for grid operators?

If left unchecked, peak demand periods might see grid operators grappling with shortages that could surpass current levels by 10% or more. Amid these pressing challenges, the concept of peak shaving emerges as a promising strategy, particularly when harnessed through battery energy storage systems (BESSs, Figure 1).

How does peak shaving work?

Peak shaving can be accomplished by activating on-site power generation systems, such as diesel generators, or utilizing a battery energy storage system. During peak shaving, the consumer's overall electricity consumption remains consistent, but a portion of their demand is met through the BESS instead of drawing power from the grid.

Is peak shaving a viable strategy for battery energy storage?

Amid these pressing challenges, the concept of peak shaving emerges as a promising strategy, particularly when harnessed through battery energy storage systems (BESSs, Figure 1). These systems offer a dynamic solution by capturing excess energy during off-peak hours and releasing it strategically during peak demand periods.

Why is peak shaving Better Than Load shifting?

Load shifting allows for demand flexibility without compromising continuity . However, peak shaving offers continuity and peak load reduction by storing energy off-peak for later discharge on a peak, thus lessening capacity charges while also providing an opportunity for energy arbitrage .

What is Bess-enabled peak shaving?

Furthermore, BESS-enabled peak shaving aligns seamlessly with the global movement toward cleaner energy sources, exemplified by the growing adoption of renewable energy technologies. This alignment showcases a shift toward a more sustainable energy landscape. The urgency of addressing peak energy demand is undeniable.

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