

Energy Storage Technologies for Grid Stabilization and Peak Demand Management

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Abstract: *The increasing integration of renewable energy sources and growing electricity demands have heightened the need for advanced energy storage technologies. This paper explores various energy storage technologies for grid stabilization and peak demand management. Energy storage technologies play a crucial role in modern power systems by enhancing grid stability and managing peak demand. The role of energy storage in enhancing grid reliability, reducing costs, and supporting renewable integration is emphasized.*

A comparative analysis of different storage technologies is presented, followed by a discussion on recent advancements and future trends

Keywords: Energy storage, grid stabilization, peak demand, battery storage, pumped hydro storage, flywheel energy storage