

## ContainerPower Energy Solutions

# Overall integration of energy storage systems



## Overview

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Based on the technical characteristics of renewable energy, this study reviews the roles, classifications, design optimisation methods, and applications of energy storage systems in power systems.

Energy storage technologies have emerged as critical enablers for renewable energy integration, offering solutions to address the temporal mismatch between renewable energy generation and demand profiles (Brito & Oliveira-Pinto, 2021).

Energy storage systems will be fundamental for ensuring the energy supply and the voltage power quality to customers. This survey paper offers an overview on potential energy storage solutions for addressing grid challenges following a "system-component-system" approach.

Hybrid energy storage systems (HESS), which combine multiple energy storage devices (ESDs), present a promising solution by leveraging the complementary strengths of each technology involved.

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