

# Cambridge Elements

Elements in Grid Energy Storage

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## ENERGY STORAGE ARCHITECTURE

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## Energy Storage Architecture

Elements in Grid Energy Storage

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**Abstract:** Energy storage systems (ESS) exist in a wide variety of sizes, shapes, and technologies. An energy storage system's technology (i.e. the fundamental energy storage mechanism) naturally affects its important characteristics including cost, safety, performance, reliability, and longevity. However, while the underlying technology is important, a successful energy storage project relies on a thorough and thoughtful implementation of the technology to meet the project's goals. A successful implementation depends on how well the energy storage system is architected and assembled. The system's architecture can determine its performance and reliability, in concert with or even despite the technology it employs. It is possible for an energy storage system with a good storage technology to perform poorly when implemented with a suboptimal architecture, while other energy storage systems with mediocre storage technologies can perform well when implemented with superior architectures.

**Keywords:** energy storage, architecture, battery, grid storage, battery management

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