

## A-Core Container

# Standalone Energy Storage Project Costs



## Overview

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What are base year costs for utility-scale battery energy storage systems?

Base year costs for utility-scale battery energy storage systems (BESSs) are based on a bottom-up cost model using the data and methodology for utility-scale BESS in (Ramasamy et al., 2023). The bottom-up BESS model accounts for major components, including the LIB pack, the inverter, and the balance of system (BOS) needed for the installation.

Are battery energy storage systems worth the cost?

Battery Energy Storage Systems (BESS) are becoming essential in the shift towards renewable energy, providing solutions for grid stability, energy management, and power quality. However, understanding the costs associated with BESS is critical for anyone considering this technology, whether for a home, business, or utility scale.

Which energy storage technologies are included in the 2020 cost and performance assessment?

The 2020 Cost and Performance Assessment provided installed costs for six energy storage technologies: lithium-ion (Li-ion) batteries, lead-acid batteries, vanadium redox flow batteries, pumped storage hydro, compressed-air energy storage, and hydrogen energy storage.

What are energy storage technologies?

Energy storage technologies, store energy either as electricity or heat/cold, so it can be used at a later time. With the growth in electric vehicle sales, battery storage costs have fallen rapidly due to economies of scale and technology improvements.

Will additional storage technologies be added?

Additional storage technologies will be added as representative cost and performance metrics are verified. The interactive figure below presents results

on the total installed ESS cost ranges by technology, year, power capacity (MW), and duration (hr).

What is energy storage as a service?

Known as Energy Storage as a Service (ESaaS). This model enables third-party providers to own, operate and maintain energy storage systems, offering them through subscription or pay-per-use structures. This approach enhances cost-effectiveness, promotes efficient energy use, and provides consumers with greater

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