



MODERNIZATION SOLAR

# Cost-effectiveness analysis of 10MW energy storage container





## Overview

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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 cost metrics?

Cost metrics are approached from the viewpoint of the final downstream entity in the energy storage project, ultimately representing the final project cost. This framework helps eliminate current inconsistencies associated with specific cost categories (e.g., energy storage racks vs. energy storage modules).

What are the different types of energy storage costs?

The cost categories used in the report extend across all energy storage technologies to allow ease of data comparison. Direct costs correspond to equipment capital and installation, while indirect costs include EPC fee and project development, which include permitting, preliminary engineering design, and the owner's engineer and financing costs.

How efficient is energy storage system?

The energy storage system has a daily cycle of 2 times, a 10-year lifespan, and a state of charge between 0.1 and 1. Its charging/discharging efficiency is 95%. The investment discount rate is 6%, and the inflation rate is 3%. Fig. 1.



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