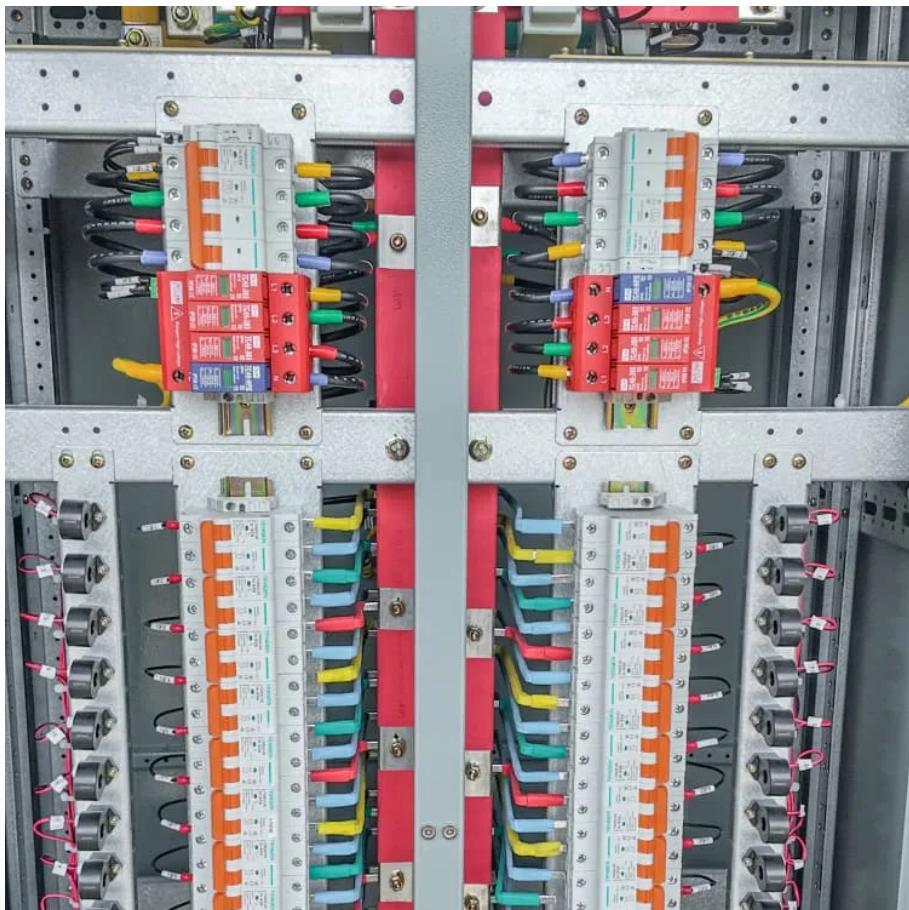




MODERNIZATION SOLAR

Energy Storage Project Benchmark Rate of Return





Overview

What is the system value of a storage project?

The actual system value of a storage project depends highly on the existing power system it is added to. If there is very little storage currently in the power system, adding a storage project might create a lot of system value, for example, by replacing peaking capacity or deferring transmission investment.

How is energy storage capacity calculated?

The energy storage capacity, E , is calculated using the efficiency calculated above to represent energy losses in the BESS itself. This is an approximation since actual battery efficiency will depend on operating parameters such as charge/discharge rate (Amps) and temperature.

What is the energy storage framework?

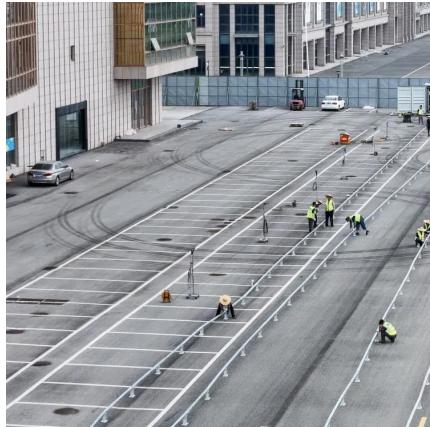
The framework considers: a) the value electricity storage brings to the power system; b) ways to optimally utilise electricity storage; and c) an approach to ensuring that the monetisable revenues for the identified amount of storage are higher than costs, to ensure deployment and reduction of total system cost.⁶

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.



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GB BESS Outlook Q3 2024: Battery business case and

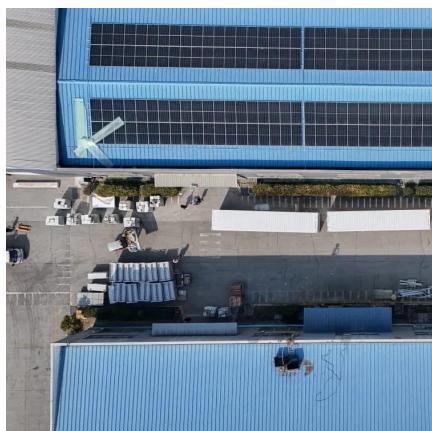
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481237_1_En_12_Chapter 149.

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