

## ContainerPower Energy Solutions

# How long does it take for an energy storage container to pay back



## Overview

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Generally, 3 to 10 years is the established range for recouping initial costs, with some advanced systems aiming for a payback within 5 years due to enhanced efficiency and lower operational costs. How long should energy-saving equipment pay back?

For example, the managers of a small company may believe that all energy- and labor-saving devices should take no more than three years to pay back the investment and that all new equipment should pay back in eight years, whereas research projects should take ten years to pay back.

How long does a battery energy storage system last?

Let's break it down: Battery Energy Storage Systems (BESS): Lithium-ion BESS typically have a duration of 1-4 hours. This means they can provide energy services at their maximum power capacity for that timeframe. Pumped Hydro Storage: In contrast, technologies like pumped hydro can store energy for up to 10 hours.

What is energy storage duration?

When we talk about energy storage duration, we're referring to the time it takes to charge or discharge a unit at maximum power. Let's break it down: Battery Energy Storage Systems (BESS): Lithium-ion BESS typically have a duration of 1-4 hours. This means they can provide energy services at their maximum power capacity for that timeframe.

Why is long-term storage a good option?

Long-Duration Storage (e.g., Pumped Hydro): More suitable for long-term capacity market contracts due to their ability to store energy for extended periods; they attract higher de-rating factors. Limited ability to participate in dynamic ancillary services due to slower response times. The Capacity Mechanism De-rating Factors in GB.

What are energy storage technologies?

Energy storage technologies vary widely in how they support the energy system. Their characteristics make them suitable for distinct services and markets, such as: Short-Duration Storage (e.g., BESS): Fast response times make them ideal for ancillary services such as frequency regulation.

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