

# MAIN INDICATORS OF ENERGY STORAGE



What are key performance indicators (KPIs)? Evaluating key performance indicators (KPIs) is essential for optimizing energy storage solutions. This guide covers the most critical metrics that impact the performance, lifespan, and operational efficiency of BESS. 1. Battery Capacity: The Foundation of Energy Storage



What is the scope of the energy indicator? The scope of the indicator is to consider which part of the total energy required by the building/group of buildings (or by a specific function, such as heating or artificial lighting) and/or the generation from RES, during a certain period, is stored-in and then released from the storage system.



How to optimize battery energy storage systems? Optimizing Battery Energy Storage Systems (BESS) requires careful consideration of key performance indicators. Capacity, voltage, C-rate, DOD, SOC, SOH, energy density, power density, and cycle life collectively impact efficiency, reliability, and cost-effectiveness.



What is a battery energy storage system (BESS)? As the demand for renewable energy and grid stability grows, Battery Energy Storage Systems (BESS) play a vital role in enhancing energy efficiency and reliability. Evaluating key performance indicators (KPIs) is essential for optimizing energy storage solutions.



What are the economic methodologies used in a thermal energy storage system? The economic methodologies applied in this report have been adopted from Annex 29 in ECES. To evaluate the integration of a thermal energy storage system in a process, key performance indicators (KPI) are determined from storage system parameters that dictate performance and external factors that emerge from the integration.

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What are the main KPIs for the assessment of ESSs in buildings? The main KPIs to allow the assessment of ESSs in buildings are presented and described below. 1. Storage capacity This is the quantity of stored energy in the storage system or available immediately after it is completely charged.



Furthermore, regarding the economic assessment of energy storage systems on the user side [[7], [8], [9]], research has primarily focused on determining the lifecycle cost of ???



The volumetric energy storage capacity  $E_{stor}$  is the principal indicator of the amount of energy that can be stored by the system in design conditions. Obviously, it can be ???



Comparative analysis of thermal energy storage technologies through the definition of suitable key performance indicators already on the market since several years. ???