

Comparative Test of Long-Term Performance of Swiss Energy Storage Containers





Overview

In this study we assess multiple flexibility options for the Swiss energy system in the context of the national energy and climate strategy. Based on an integrated energy modelling framework, we explore two lon.

What is long duration energy storage (LDEs)?

Long Duration Energy Storage (LDES) enables extended storage of power and helps stabilize intermittent power supply when integrated with renewable energy. Technologies such as compressed air energy and thermal energy storage are being developed within the LDES field, offering low-cost solutions with substantial storage capacity.

How are energy storage technologies compared?

Several works have compared energy storage technologies based only on economic, technical , or environmental aspects .

What is the complexity of the energy storage review?

The complexity of the review is based on the analysis of 250+ Information resources. Various types of energy storage systems are included in the review. Technical solutions are associated with process challenges, such as the integration of energy storage systems. Various application domains are considered.

What is a thermal energy storage system (TESS)?

2.4. Thermal energy storage systems (TESS) Heat or cold is stored in TESS for later use. These systems consist of a heat storage tank, an energy transfer media, and a control system. Heat is stored in an insulated tank using a specific technology .



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Sorption-based long-term thermal energy ...

Research on a liquid sorption storage process is carried out with the working pair sodium hydroxide (NaOH)/water. This activity has started in 2002 ...

Long term evaluation of electric storage technologies vs alternative

Oct 15, 2019 · In this study we assess multiple flexibility options for the Swiss energy system in the context of the national energy and climate strategy. Based on an integrated energy ...

Comparative Life Cycle Assessment of Thermal Energy Storage ...

Nov 21, 2025 · However, the integration of renewable energy sources into these systems necessitates innovative and affordable solutions due to their intermittent nature, particularly ...

Comparative sustainability study of energy storage ...

Jun 1, 2022 · The performance of 27 energy storage alternatives is compared considering sustainability aspects by means of data envelopment analysis. To this end, storage ...

Long term evaluation of electric storage technologies vs ...

Jan 12, 2025 · Based on an integrated energy modelling framework, we explore two long-term scenarios: a Baseline scenario, which assumes the continuation of major existing energy ...

Demand for energy storage in Switzerland , ZHAW Zurich ...

The study examines the need and role of energy storage in Switzerland for the years 2035 and 2050. It considers various types of storage -- electricity, heat, and gas/liquid storage -- and ...

Sorption-based long-term thermal energy storage

Research on a liquid sorption storage process is carried out with the working pair sodium hydroxide (NaOH)/water. This activity has started in 2002 with a first laboratory testing plant ...

Long term evaluation of electric storage technologies vs ...

Aug 12, 2019 · Storage, demand-side management, sector coupling and smart integration of electromobility are key flexibility options for the future Swiss energy system.

Expertise at the BFH Energy Storage Research Centre , BFH

Dec 6, 2025 · Photovoltaics Our photovoltaic systems laboratory at BFH Burgdorf has been researching PV system technology for 30 years. Photovoltaics (PV) is the most important new ...

Long Duration Energy Storage Technologies

Mar 27, 2025 · Long Duration Energy Storage (LDES) enables extended storage of power and helps stabilize intermittent power supply when integrated with renewable energy. Technologies ...



Comprehensive review of energy storage systems ...

Jul 1, 2024 · The applications of energy storage systems have been reviewed in the last section of this paper including general applications, energy utility applications, renewable energy ...

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