

# Actual discharge depth of energy storage power station





## Overview

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What determines the discharge time at nameplate power?

The storage temperature also determines the discharge time at nameplate power. Varying the TES temperatures from 1100 K to 1300 K, we observe an increase by 61% of the discharge time.

How much electrical energy is produced during a complete discharge process?

The electrical energy produced during a complete discharge process results in 31 MW h e l. Note that for the hypothesis of the investigation performed, the charge phase is not modelled. Therefore, the Round-Trip Efficiency (RTE) cannot be defined on the basis of the selected starting state of charge.

How does power decline affect discharge time?

Influence of the power decline step on the discharge time. The electrical energy produced during a complete discharge process results in 31 MW h e l. Note that for the hypothesis of the investigation performed, the charge phase is not modelled.

How does temperature affect the discharge time at nameplate power?

As we can see, the total discharge time is strongly influenced by the reservoir design temperature: increasing T T E S, d e s i g n from 1100 K to 1300 K the total discharge time increases from 32.4 h to 48.6 h (+ 50 %). The storage temperature also determines the discharge time at nameplate power.



## Actual discharge depth of energy storage power station



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### Energy storage discharge depth regulations

Rated Energy Storage. Rated Energy Storage Capacity is the total amount of stored energy in kilowatt-hours (KWh) or megawatt-hours (MWh). Capacity expressed in ampere-hours ...



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### **Analysis of the discharge process of a TES-based electricity storage**

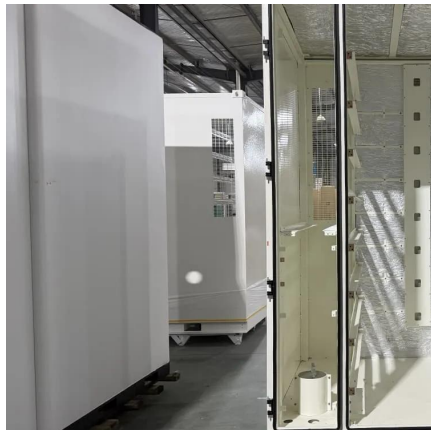
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### discharge depth setting requirements for energy storage power stations

The calculation is based on 90% discharge depth, system efficiency attenuation of 5% in the first year and 2% per year after that, charge and discharge efficiency of 92%, and consumption ...



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