ŁOTWA SYSTEM

Underground energy storage solutions for open-pit coal mines

Overview

What are underground energy storage and geothermal applications?

Underground energy storage and geothermal applications are applicable to closed underground mines. Usually, UPHES and geothermal applications are proposed at closed coal mines, and CAES plants also are analyzed in abandoned salt mines. Geothermal power plants require flooded mines, which generally have closed more than 5 years ago.

Can abandoned coal mine facilities be used to generate energy?

Thus, the abandoned mine facilities are efficiently used to generate both electrical and thermal renewable energy. Fig. 5. Combined design of underground energy storage systems (UPHES and CAES) and geothermal utilization in an abandoned underground coal mine. 6.2. UPHES system at Lieres mine.

What is an underground closed mine?

An underground closed mine can be used to store energy for re-use and also for geothermal energy generation, providing competitive renewable energy with a low CO2 footprint. These initiatives aid to ensure sustainable economic development of communities after mine closure. 1. Introduction.

Can abandoned mines be used for energy storage?

Closed mines can be used for the implementation of plants of energy generation with low environmental impact. This paper explores the use of abandoned mines for Underground Pumped Hydroelectric Energy Storage (UPHES), Compressed Air Energy Storage (CAES) plants and geothermal applications.

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