

Helsinki zinc battery energy storage





Overview

The town's decommissioned Pyhäsalmi mine, known for its rich zinc and copper deposits and one of Europe's deepest at over 1,400 meters, is being repurposed into a pioneering gravity battery by Gravitricity, a Scottish energy storage firm. Could a Pyhäsalmi Mine be transformed into a giant battery?

An abandoned mine in Finland is set to be transformed into a giant battery to store renewable energy during periods of excess production. The Pyhäsalmi Mine, roughly 450 kilometres north of Helsinki, is Europe's deepest zinc and copper mine and holds the potential to store up to 2 MW of energy within its 1,400-metre-deep shafts.

What is the future of energy storage in Finland?

Reserve markets are currently driving the demand for energy storage systems. Legislative changes have improved prospects for some energy storages. Mainly battery storage and thermal energy storages have been deployed so far. The share of renewable energy sources is growing rapidly in Finland.

Which energy storage technologies are being commissioned in Finland?

Currently, utility-scale energy storage technologies that have been commissioned in Finland are limited to BESS (lithium-ion batteries) and TES, mainly TTES and Cavern Thermal Energy Storages (CTES) connected to DH systems.

How many cavern thermal energy storage facilities are there in Finland?

Cavern thermal energy storage In Finland, three CTES have been built, and at least four are being planned. These CTES are listed in Table 9. The combined storage capacity of the commissioned CTES is about 27.6 GWh, and those under construction and under planning have a storage capacity of about 112 GWh.



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