



WALMER ENERGY

Helsinki Coal Mine Energy Storage Project





Overview

What is the Pyhäsalmi Mine?

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. The disused mine will be fitted with a gravity battery, which uses excess energy from renewable sources like solar and wind in order to lift a heavy weight.

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.

Can underground space energy storage technology be used in abandoned coal mines?

The underground space resources of abandoned coal mines in China are quite abundant, and the research and development of underground space energy storage technology in coal mines have many benefits.

How will the closure of the Salmisaari coal power plant affect Helsinki?

The closing of the power plant will reduce Helsinki's carbon dioxide emissions by 30 per cent from the previous year. The end of the operations of the Salmisaari coal power plant has a significant impact on Helsinki's carbon dioxide emissions. Photo: Helen Helsinki's climate goal is to achieve carbon neutrality by 2030.



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Coal Mines Turned Gravity Batteries for Clean Energy Storage

Old coal mines are being repurposed into gravity batteries, offering cost-effective energy storage and revitalising coal-reliant communities.

The age of coal in Helsinki's energy ...

Apr 1, 2025 · The operations of the Salmisaari coal power plant ended on 1 April 2025.

Abolishing the use of coal is a significant milestone for ...

The age of coal in Helsinki's energy production has ended

Apr 1, 2025 · The operations of the Salmisaari coal power plant ended on 1 April 2025.

Abolishing the use of coal is a significant milestone for Helsinki on the City's journey towards carbon

...

Abandoned mine in Finland will be powered up again to ...

Feb 14, 2024 · One of Europe's biggest former metal mines in Finland is to be repurposed as 'gravity battery', an energy storage system that uses gravity to store and release renewable ...

Europe's Deepest Mine to Become Colossal Gravity Battery

Mar 13, 2024 · The Pyhäsalmi Mine Project The Pyhäsalmi Mine, nestled roughly 450 kilometers north of Helsinki, is a testament to human ingenuity. With its extensive depth reaching 1,400 ...

First commercial gravity storage for energy planned in Finnish mine

Feb 15, 2024 · The closed Pyhäjärvi copper-zinc mine in Finland is the site of the first commercial gravity energy storage system. Credit: Gravitricity

Revitalizing Finnish mine with innovative gravity energy storage

Feb 9, 2024 · A groundbreaking initiative is set to rejuvenate the defunct Pyhäsalmi Mine in Finland by converting it into an innovative underground energy storage facility. Gravitricity, a ...

Europe's deepest mine to become giant gravity battery

Feb 8, 2024 · 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 ...

One of Europe's deepest mines gets new life with energy storage

Feb 5, 2024 · It's one of Europe's deepest zinc and copper mines descending 1,444 meters into the earth. The local community in Pyhäsalmi, together with Edinburgh-based energy storage ...

First commercial gravity storage for energy ...

Feb 15, 2024 · The closed Pyhäjärvi copper-zinc mine in Finland is the site of the first



commercial gravity energy storage system. Credit: Gravitricity

Energy storage technology developed in finland

Plans have been announced to repurpose a disused shaft at the Pyh& #228;salmi Mine in Finland into an underground energy storage, using technology developed by Gravitricity. The ...

Revitalizing Finnish mine with innovative ...

Feb 9, 2024 · A groundbreaking initiative is set to rejuvenate the defunct Pyhäsalmi Mine in Finland by converting it into an innovative underground ...

Coal Mines Turned Gravity Batteries for Clean ...

Old coal mines are being repurposed into gravity batteries, offering cost-effective energy storage and revitalising coal-reliant communities.

Challenges and opportunities of energy storage technology ...

Apr 1, 2024 · Therefore, this paper mainly discusses the research status of using coal mine underground space for energy storage, focusing on the analysis and discussion of different ...

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