

Gravity energy storage finland

Scottish company Gravitricity is set to build its full-scale prototype gravity energy storage system in the Pyh salmi zinc and copper mine, one of Europe's deepest metal mines. Offering the 1,400-metre-deep mine a new lease on life, Gravitricity developed a process for storing energy that uses gravity to raise and lower weights, presenting qualities on par with both lithium-ion batteries and pumped hydro storage.

The process involves harnessing gravity to retain excess power from renewable sources as needed. When there is excess power, such as from wind turbines on a windy day, the weights would be winched up the old mine's 530-metre auxiliary shaft to store energy. This stored energy can then be released to produce short bursts of electricity or a slower trickle depending on what is required.

A recent study by international researchers suggest that repurposing abandoned mines for gravity batteries could provide an affordable, long-term energy storage solution as the world shifts towards renewable power. The gravity energy system would be able to store 2 megawatts of power and connect with the local energy grid.

Researchers also estimate that the use of gravity battery technology in mines could offer a global energy storage capacity of approximately 70 terawatt-hour, roughly equivalent to the world's daily electricity consumption.

"This full-scale project will provide a pathway to other commercial projects and allow our solution to be embedded into mine decommissioning activities, offering a potential future for mines approaching the end of their original service life," said Martin Wright, executive chairman of Gravitricity.

Once a major employment hub, the Pyh salmi mine shut down in August 2022, resulting in a significant surge in unemployment. According to Wright, the project will aim to create low carbon jobs in an area impacted by the cessation of mining activities.

The gravity battery stands among various community-driven projects at the mine aimed at revitalising the region, encompassing a solar farm, tech startups, and an underground 5G network.

Planet Ark does not take responsibility for the accuracy of the original information and encourages readers to check the references before using this information for their own purposes.

February 8, 2024: Scotland-based gravity storage system start-up Gravitricity said on February 6 it plans to deploy its technology in a prototype project at a disused mine shaft in Finland.

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