

## Ares advanced rail energy storage Botswana

What is advanced rail energy storage?

Advanced Rail Energy Storage (ARES) uses proven rail technology to harness the power of gravity, providing a utility-scale storage solution at a cost that beats batteries. ARES' highly efficient electric motors drive mass cars uphill, converting electric power to mechanical potential energy.

How does Ares energy storage work?

ARES energy storage technology employs a fleet of electric traction drive shuttle-trains, operating on a closed low-friction automated steel rail network to transport a field of heavy masses between two storage yards at different elevations.

What rated power and energy capacity can an Ares facility provide?

An ARES facility can be constructed over a wide range of rated power and energy capacities from a small 25 MW facility with 6.25 MW h of storage capacity up to or beyond a 2000 MW facility with 240 000 MW h of storage.

How do Ares shuttle trains work?

During periods where excess energy is available on the grid, ARES shuttle-trains draw electricity from the grid, which powers their individual axle-drive motors, as they transport a continuous flow of masses uphill against the force of gravity to an upper storage yard.

How do ARES Systems work?

In an ARES system the rate of energy input and output may be varied by controlling the speed and quantity of masses in motion (increasing or decreasing the intervals between shuttle units), allowing rapid response to grid power requirements over a wide range of output at a constant efficiency.

Where is Ares Nevada launching a new energy storage project?

A project nearly a full decade in the making,ARES Nevada LLC has finally moved the first shovelful of dirt to kick off construction of its brand new energy storage project,the ARES GravityLine,located right here in the Pahrump Valley,with an official groundbreaking ceremony hosted on Thursday,Oct. 8 in honor of the ...Read more >

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Advanced Rail Energy Storage (ARES) has developed a breakthrough gravity-based technology that will permit the global electric grid to move effectively, reliably, and cleanly assimilate renewable energy and provide significant stability to the grid.

Founded in 2010, Advanced Rail Energy Storage (ARES) has developed, tested and patented rail-based, gravity-powered energy storage technologies that are more environmentally responsible, durable, and cost-effective than other utility-scale storage alternatives.

The ARES Nevada Project is a 50 MW gravity-based rail energy storage system which employs a fleet of seven heavy regenerative traction drive shuttle trains, operating on a high-grade closed low-friction automated steel rail network, to shift mass between alternate elevations, converting electricity into potential energy and back into electric ...

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Advanced Rail Energy Storage (ARES) Market Needs & Technology Overview Russ Weed Chief Development Officer Thermal-Mechanical-Chemical Energy Storage Workshop - Storage Deployment August 11, 2021 ARES Nevada Project 50MW/12.5 MWh

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