



WALMER ENERGY

Air energy storage construction costs





Overview

How much does compressed air energy storage cost?

Our base case for Compressed Air Energy Storage costs require a 26c/kWh storage spread to generate a 10% IRR at a \$1,350/kW CAES facility, with 63% round-trip efficiency, charging and discharging 365 days per year.

How much does it cost to build an energy storage system?

Enel X referred to a recent survey of energy storage systems report that found they typically cost US\$1 million per megawatt to build. “We are purchasing it, we’re building it together with subcontractors, and we’ll own and operate the system on the behalf, collectively, of Imperial and ourselves,” Martin said.

What is compressed air energy storage (CAES)?

What opportunities?

Compressed Air Energy Storage (CAES) seeks to smooth out power grids, using excess electricity to compress air into storage tanks or underground reservoirs at high pressures (e.g., 40-80 bar). The energy needed to compress air to different temperatures is plotted below.

Will additional storage technologies be added?

Additional storage technologies will be added as representative cost and performance metrics are verified. The interactive figure below presents results on the total installed ESS cost ranges by technology, year, power capacity (MW), and duration (hr).



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