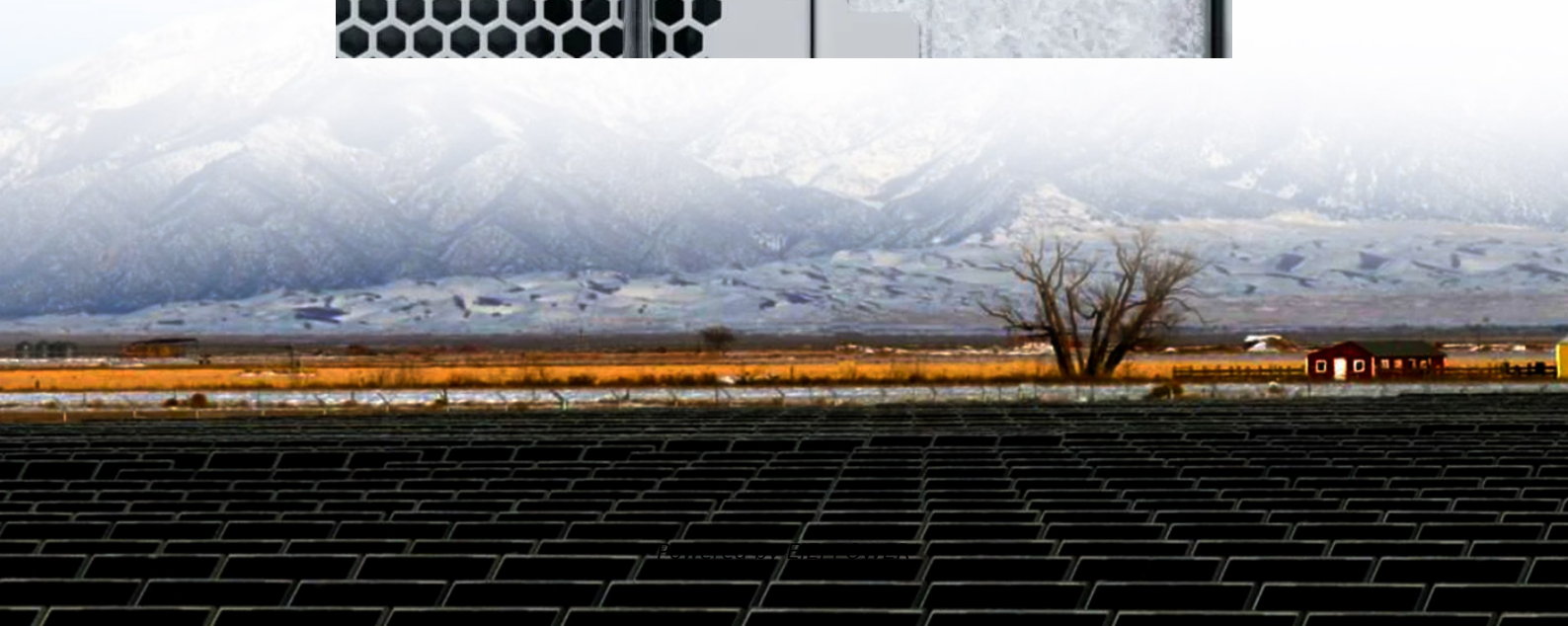


Profit model of air energy storage power station





Overview

The profitability of an air energy storage power station hinges on several mechanisms: 1) The sale of stored energy during peak demand periods, 2) Participation in ancillary service markets, 3) Revenue from capacity payments, 4) Operational efficiencies that lower overall costs, and 5) Technological advancements leading to increased effectiveness. Is energy storage a profitable business model?

Although academic analysis finds that business models for energy storage are largely unprofitable, annual deployment of storage capacity is globally on the rise (IEA, 2020). One reason may be generous subsidy support and non-financial drivers like a first-mover advantage (Wood Mackenzie, 2019).

How do business models of energy storage work?

Building upon both strands of work, we propose to characterize business models of energy storage as the combination of an application of storage with the revenue stream earned from the operation and the market role of the investor.

How would a storage facility exploit differences in power prices?

In application (8), the owner of a storage facility would seize the opportunity to exploit differences in power prices by selling electricity when prices are high and buying energy when prices are low.

How can energy storage be profitable?

Where a profitable application of energy storage requires saving of costs or deferral of investments, direct mechanisms, such as subsidies and rebates, will be effective. For applications dependent on price arbitrage, the existence and access to variable market prices are essential.



Profit model of air energy storage power station



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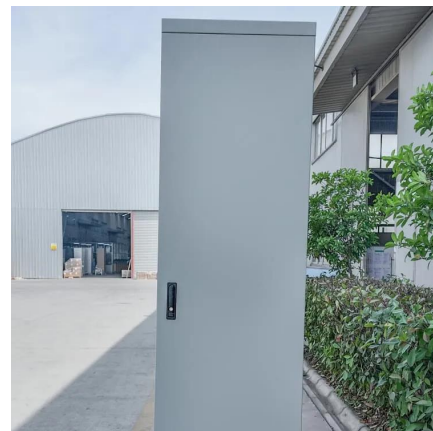
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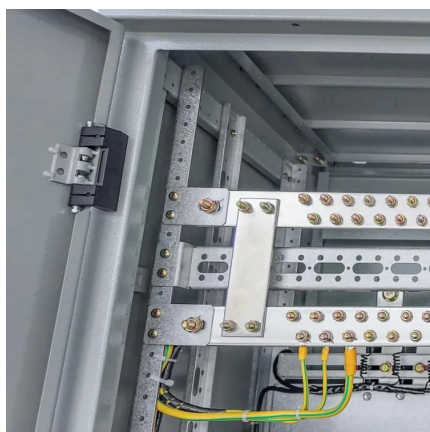


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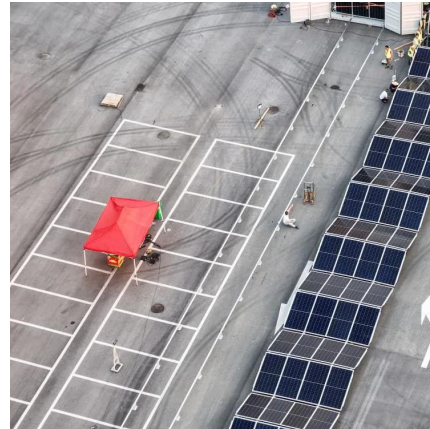
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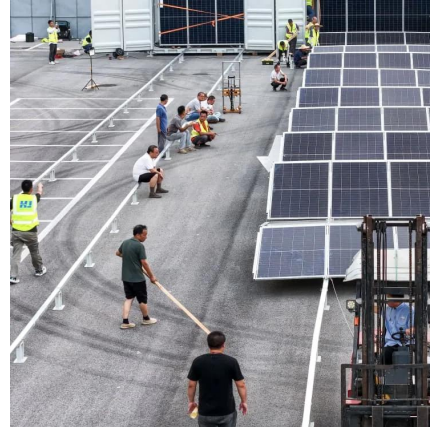
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