South America Pumped Hydro Storage - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-04-28 | 110 pages | Mordor Intelligence

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Report description:

The South America Pumped Hydro Storage Market size is estimated at 1.05 gigawatt in 2025, and is expected to reach 1.37 gigawatt by 2030, at a CAGR of 5.4% during the forecast period (2025-2030).

Key Highlights
- Over the long term, increasing government targets to integrate renewable energy coupled with significant hydropower potential is likely to drive the pump hydro storage market's growth during the forecast period.
- On the other hand, penetration of other energy storage techniques is expected to hamper the growth of the South American pump hydro storage market during the forecast period.
- Nevertheless, an increase in technological advancements is likely to create lucrative growth opportunities for the South American pump hydro storage market during the forecast period.
- Argentina is expected to dominate the market due to its large population, increasing electricity demand, and a higher number of power outages, which are expected to propel the need for pump hydro storage during the forecast period.

South America Pumped Hydro Storage Market Trends

Closed-loop is Expected to Dominate the Market

- The closed-loop pump hydro storage system is anticipated to experience notable growth in the South American market, driven by several strategic factors that underscore the region's evolving energy landscape. One of the key drivers is the increasing

emphasis on renewable energy sources, mainly hydropower, as South America boasts abundant water resources. Closed-loop systems, characterized by their closed-circuit design, offer an efficient means of harnessing and storing energy, aligning well with the continent's commitment to sustainable energy practices.
- According to the International Renewable Energy Agency, hydropower installation has increased significantly in the region in the past few years. Between 2016 and 2023, the growth rate in capacity addition was recorded at around 10%, signifying the increasing adoption of hydropower, which in turn can drive the demand for pump storage.
- Furthermore, the inherent flexibility of closed-loop pump hydro storage positions it as a reliable solution for managing the intermittency associated with renewable energy generation. As South American countries continue to integrate diverse renewable sources like wind and solar into their energy portfolios, the need for adequate energy storage becomes paramount. Closed-loop systems contribute significantly to grid stability and reliability due to their ability to store excess energy during periods of low demand and release it during peak demand.
- The regulatory landscape also plays a crucial role in driving the growth of closed-loop pump hydro storage in South America. Governments across the region are increasingly recognizing the importance of energy storage solutions in achieving energy security and sustainability goals. Supportive policies and incentives aimed at promoting closed-loop pump hydro storage projects create a conducive environment for investments, driving the market's expansion.
- For instance, in May 2023, Engie Brasil Energia has awarded Andritz to modernize the 424 MW Jaguara hydropower plant. Located on the Grande River in Rifaina, the hydropower plant has been in operation since 1971. The project aims at the extension of asset lifetime and its performance improvement. The modernization project is expected to be completed by the end of 2028.
- Additionally, the scalability of closed-loop pump hydro storage systems aligns with the region's evolving energy requirements. The modular nature of these systems allows for flexible capacity additions, enabling stakeholders to adapt to changing energy demand dynamics. This scalability factor is particularly significant in the context of South America's diverse energy needs and the potential for cross-border energy trading.
- Therefore, as per the points mentioned above, the closed-loop segment is expected to dominate the market during the forecast period.

Argentina is Expected to Dominate the Market

- The increasing focus on renewable energy sources, including hydropower, aligns seamlessly with the attributes of pump hydro storage. As Argentina strives to diversify its energy mix and reduce dependency on traditional fossil fuels, the versatility and reliability of pump hydro storage emerge as pivotal components in ensuring a sustainable and resilient energy infrastructure.
- The abundant hydropower potential in Argentina further solidifies the growth prospects for pump hydro storage. With a vast array of water resources at its disposal, the country possesses an ideal environment for the development of pump hydro storage projects. These projects can leverage existing hydroelectric infrastructure, contributing not only to energy storage but also enhancing the overall efficiency and productivity of the nation's hydropower resources.
- Moreover, Argentina is the leading country in the installed capacity pump hydro storage. According to the International Renewable Energy Agency, as of 2023, the country had about 974 MW of pump hydro storage capacity, with two pump hydro storage projects of an installed capacity of about 750 MW and another capacity of 224 MW.
- The evolving regulatory landscape and government support for renewable energy initiatives play a crucial role in shaping the trajectory of pump hydro storage in Argentina. The government's commitment to fostering sustainable energy practices, coupled with incentives and policies aimed at promoting energy storage solutions, creates a conducive environment for the growth of pump hydro storage projects. This support is instrumental in attracting investments and driving the implementation of such projects within the country.
- For instance, in September 2023, the province of Cordoba in Argentina initiated a tender process for a USD 100 million contract aimed at refurbishing a 750 MW pumped storage hydropower plant. The goal is to revitalize the Rio Grande facility, currently operating at approximately half of its designated capacity, and restore its full production potential. Epec, the publicly owned

energy company of Cordoba, is spearheading the tender process and overseeing the operation of the plant. The proposed refurbishment works are anticipated to span five years, with the objective of extending the lifespan of the Rio Grande plant by a minimum of 40 years.
- Moreover, the growing need for grid stability and reliability provides a compelling case for the adoption of pump hydro storage in Argentina. As the country experiences shifts in energy demand and incorporates a more significant share of intermittent renewable sources, the ability of pump hydro storage to act as a stabilizing force on the grid becomes increasingly valuable. The technology's capacity to store excess energy during periods of low demand and release it during peak demand aligns with the nation's requirements for a flexible and resilient energy system.
- Therefore, as per the points mentioned above, the country is expected to witness significant growth during the forecast period.

South America Pumped Hydro Storage Industry Overview

The South American pump hydro storage market is semi-fragmented. Some of the major players in the market (in no particular order) include Voith GmbH & Co KGaA, ContourGlobal PLC, Andritz AG, Vale S.A., and Siemens AG.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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