

Could aluminum-ion batteries be a cost-effective and environment-friendly battery?

Now, researchers reporting in ACS Central Science have designed a cost-effective and environment-friendly aluminum-ion (Al-ion) battery that could fit the bill. A porous salt produces a solid-state electrolyte that facilitates the smooth movement of aluminum ions, improving this Al-ion battery's performance and longevity.

How much will Alcha aluminium spend to build a battery foil plant?

Alcha Aluminium will spend CNY350 million (USD55 million) to build a battery foil plant with an annual capacity of 30,000 tons in its homebase of Changshu, near Shanghai. The plant is expected to be ready in two years' time.

Will China's battery-grade aluminum foil shipments double this year?

According to tech research institute GGII, China's shipments of battery-grade aluminum foil, which is used as a cathode material in lithium-ion batteries, is expected to double this year to 120,000 tons. Alcha Aluminium's share price [SHE:002160] remained unmoved from yesterday at CNY5.06 (USD0.80).

Can Al-ion batteries be used as a long-term energy storage system?

Potential substitutes for reliable long-term energy storage systems include rechargeable Al-ion batteries. However, their most common electrolyte, liquid aluminum chloride, corrodes the aluminum anode and is highly sensitive to moisture, which exacerbates the corrosion.

Could a new Al-ion battery reduce the production cost?

The new battery could reduce the production cost of Al-ion batteries and extend their life, thus increasing their practicality. "This new Al-ion battery design shows the potential for a long-lasting, cost-effective and high-safety energy storage system.

Why do we use fluoroethylene carbonate to make Al-ion batteries?

Additionally, when the researchers constructed their Al-ion battery, they used fluoroethylene carbonate as an interface additive to create a thin solid coating on the electrodes to prevent the formation of aluminum crystals that degrade battery health.

The project, which will feature Lishen's proprietary 3.72 MWh containerized energy storage solutions, is expected to help Huaren New Materials save around CNY 200 million (\$27.6 million) in annual electricity costs, making ...

According to incomplete statistics from Gasgoo Auto, in Q4 2024, power battery enterprises initiated a total of 33 new projects domestically and internationally, with a total ...

According to SMM statistics, domestic aluminium production in July 2024 (31 days) was 3.683 million mt, up 3.22% YoY. In July, all aluminium smelters in Yunnan Province resumed full production, together with the contribution from new capacity in Inner Mongolia and the resumption of scattered capacity in Sichuan Province, domestic aluminium production ...

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Since the introduction of Tesla's ROADSTER, the spotlight has increasingly focused on electric vehicles, spotlighting the pivotal role of the battery pack as a core component. Serving not only in various prestigious automotive brands but also in energy storage projects, the battery pack enclosure is distinguished by its construction from lightweight aluminum, crafted through ...

According to the aluminium expo, the first phase of the Dongyangguang Low-Carbon High-End Battery Aluminum Foil Project is scheduled to officially commence ...

The Gen6 High-Voltage Battery Project at the BMW Shenyang Production Base in Liaoning province reached a milestone on Wednesday with the completion of the building's main structure.

In order to create an aluminum battery with a substantially higher energy density than a lithium-ion battery, the full reversible transfer of three electrons between Al 3+ and a ...

Researchers in China have reported a breakthrough in the development of aluminum-ion batteries. They have created a solid-state electrolyte that facilitates the smooth ...

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