

2024 Fuel Cell and Battery Research Review

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Abstracts

Research Review Scope

Rapid advancements in battery technology drive innovations in electrical vehicle (EV) propulsion systems with advantages such as improved energy density, enhanced safety, and extended driving range. Solid-state batteries (SSBs) use solid electrolytes instead of liquid electrolyte solutions to enhance safety by eliminating the possibility of thermal runaway and electrolyte leakage. They enable faster charging times, longer driving range, and extended cycle life. Sodium-ion batteries are emerging as one of the most promising alternatives for lithium-ion batteries. They use sodium, which is abundantly available as opposed to the scarce and costly materials such as lithium and cobalt. They are known for their lower production cost and alleviated performance in cold temperatures.

With further diversification in EV applications, advanced batteries such as SSBs, sodium-ion batteries, and flow batteries are expected to expand further possibilities for high-performance EVs, low-cost urban transportation, and efficient commercial fleets, realizing the next chapter in sustainable transportation.

Research Reviews from BCC Research provide market professionals with concise market coverage within a specific research category. This 2024 Research Review of fuel cell and battery technologies provides a sampling of the type of quantitative market information, analysis, and guidance that BCC Research has been developing since its inception in 1971 to help its customers make informed business decisions. This Research Review includes highlights and excerpts from the following reports published by BCC Research in 2024:

FCB053B Solid State Batteries: Global Markets

FCB058B Global Electric Vehicle Battery Reuse and Recycling Market

FCB041B Sodium-ion Batteries: Materials, Technologies and Global Markets to 2029

FCB040F Electric Vehicles and Fuel Cell Vehicles: Global Markets

FCB055B Flow Batteries: Global Markets

FCB065A E-Bike: Global Markets

After you survey the excerpts in this Research Review, we encourage you to follow up on these topics by checking out the full market research reports associated with each topic. BCC Research looks forward to serving your market intelligence needs in the future.

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