

2023 Fuel Cell and Battery Research Review

<https://marketpublishers.com/r/269B1B8CBDB8EN.html>

Date: December 2024

Pages: 162

Price: US\$ 4,650.00 (Single User License)

ID: 269B1B8CBDB8EN

Abstracts

Research Review Scope

Batteries are vital to power numerous systems across diverse use cases, such as consumer electronics, energy storage systems, and electric vehicles (EVs). In the present scenario, most battery-powered devices such as tablets, smartphones, energy storage systems, and EVs rely majorly on lithium-ion (Li-ion) batteries, which are capable of storing significant amounts of energy in a small form factor and can charge quickly. However, there is a growing demand for new battery technologies to rival Li-ion batteries in terms of cost, efficiency, safety, and sustainability. Therefore, battery manufacturers are continuously striving to find battery chemistries that are cheaper, lighter, denser, and more powerful than conventional Li-ion battery systems.

Advanced battery technologies such as solid-state, lithium-sulfur, and next-generation flow batteries are at the forefront of innovation as a promising alternative to traditional battery systems to offer superior efficiency, energy storage capabilities, and safety. While spending significant resources on R&D for advanced battery solutions, manufacturers are also optimizing the existing Li-ion battery technology, which still dominates the EV market due to the established supply chains and manufacturing and distribution networks.

With the surge in the adoption of batteries for EVs, thermal management and insulation technologies have become critical to ensure occupant safety, battery performance, and longevity. Materials such as ceramics and foamed plastics are used for insulation applications to leverage high-temperature resistance properties and electrical insulation.

Research Reviews from BCC Research provide market professionals with concise market coverage within a specific research category. This 2023 Research Review of Fuel Cell and Battery 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 2023:

FCB062A Next-Generation Advanced Batteries: Global Markets

FCB063A Global Electrical Vehicle Battery Market

FCB064A Global Electric Vehicle Insulation Market

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.

Contents

CHAPTER 1 FOREWORD

Research Review Scope

CHAPTER 2 NEXT-GENERATION ADVANCED BATTERIES: GLOBAL MARKETS (FCB062A)

Next-Generation Advanced Batteries

Study Goals and Objectives

Reasons for Doing This Study

Scope of Report

Market Summary

Market Overview of Next-Generation Advanced Batteries

Technological Background and Advancements

Battery Technology History

Impact of COVID-19 and Ukraine-Russia War on the Global Market

COVID-19 Impact

Impact of Russia-Ukraine War

Market Dynamics of Next-Generation Advanced Batteries

Overview

Market Driver

Market Restraint

Key Challenge for Next-Generation Advanced Battery Market

Market Opportunity

Market Breakdown of Next-Generation Advanced Batteries, by Battery Type

Overview

Solid State Battery

Lithium-Sulfur Battery

Next-Generation Flow batteries

Metal-Air Battery

Others

Market Breakdown of Next-Generation Advanced Batteries, by Region

Overview

North America

Europe

Asia-Pacific

Rest of the World

CHAPTER 3 GLOBAL ELECTRICAL VEHICLE BATTERY MARKET (FCB063A)

Electrical Vehicle Battery Market

Study Goals and Objectives

Reasons for Doing This Study

Scope of Report

Market Outlook

Summary and Highlights

Market Overview of Electrical Vehicle Battery

Introduction

Evolution of Electric Vehicle Batteries

Impact of COVID-19 and Ukraine-Russia War on the Global Market

COVID-19 Impact

Impact of the Russia-Ukraine War

Market Dynamics of Electrical Vehicle Battery

Overview

Market Driver

Market Restraint

Key Challenge in the Market for Electric Vehicle Batteries

Market Opportunity of Electrical Vehicle Battery

Government Efforts Relating to Electric Vehicles

Market Breakdown by Type of Battery

Overview

Lithium-Ion Batteries and Advanced Batteries

Advanced Battery

Lead-Acid Batteries

Market Breakdown of Electrical Vehicle Battery, by Type of Propulsion

Overview

Battery Electric Vehicle (BEV)

Hybrid Electric Vehicle (HEV)

Plug-in Hybrid Electric Vehicle (PHEV)

Fuel Cell Electric Vehicle (FCEV)

Market Breakdown of Electrical Vehicle Battery, by Type of Vehicle

Overview

Passenger Cars

Vans

Bus

Truck

Other Types of Vehicles

Market Breakdown of Electrical Vehicle Battery, by Battery Form

Overview

Prismatic

Cylindrical

Pouch

Market Breakdown of Electrical Vehicle Battery, by Region

Overview

North America

Europe

Asia-Pacific

Rest of World

ESG Performance in Electric Vehicle Batteries Market

Overview

Electric Vehicle Batteries and ESG are Closely Related

Importance of ESG in the Electric Vehicle Battery Industry

Approach by Electric Vehicle Batteries to Achieve ESG Goals

ESG Penetration for EV Battery Manufactures

Current Status of ESG in the Market for Electric Vehicle Batteries

Future of ESG with Electric Vehicle Battery Industry

Case Study: Examples of Successful Implementation of ESG

Concluding Remarks from BCC

Emerging Technologies and Developments of Electrical Vehicle Battery Market

Introduction

Current Market Trends

Increased Energy Density

Emerging and Upcoming Trends in Electric Vehicle Batteries

CHAPTER 4 GLOBAL ELECTRIC VEHICLE INSULATION MARKET (FCB064A)

Electric Vehicle Insulation Market

Study Goals and Objectives

Reasons for Doing This Study

Scope of Report

Market Outlook

Market Summary

Market Overview of Electric Vehicle Insulation

Introduction

Evolution of EV Insulation

Impact of COVID-19 on Electric Vehicle Insulation Market

Impact of the Ukraine-Russia War on Electric Vehicle Insulation Market

Impact on Supply Chain and Value Chain

Market Dynamics of Electric Vehicle Insulation

Overview

Market Driver

Market Restraint

Key Challenge

Market Opportunity

Emerging Technologies and Developments of Electric Vehicle Insulation

Introduction

Emerging Technologies

Market Breakdown of Electric Vehicle Insulation, by Product Type

Overview

Thermal Interface Materials

Ceramics

Foamed Plastics

Other Materials

Market Breakdown of Electric Vehicle Insulation, by Propulsion Type

Overview

Battery EVs (BEVs)

Plug-in Hybrid EVs (PHEVs)

Hybrid EVs (HEVs)

Fuel Cell EVs (FCEVs)

Market Breakdown of Electric Vehicle Insulation, by Vehicle Type

Overview

Passenger Cars

Vans

Buses

Trucks

Other Vehicles

Market Breakdown of Electric Vehicle Insulation, by Region

Overview

North America

Europe

Asia-Pacific

Rest of World (RoW)

ESG Performance in EV Insulation Market

Overview

Future of ESG in the EV Insulation Industry

3M AND BASF: TWO EXAMPLES OF SUCCESSFUL IMPLEMENTATION OF ESG

Concluding Remarks from BCC

CHAPTER 5 APPENDIX

Methodology

Analyst's Credentials

List Of Tables

LIST OF TABLES

Table 1 : Global Market for Next-Generation Advanced Batteries, by Region, Through 2027

Table 2 : Raw Materials Needed for Battery Manufacture

Table 3 : Electric Vehicle Deployment Targets, by Region or Country, 2020-2030

Table 4 : Global Market for Next-Generation Advanced Batteries, by Battery Type, Through 2027

Table 5 : Applications for Solid-State Batteries in the Mass Market by 2040

Table 6 : Developments in Lithium-Air Batteries, 2022

Table 7 : Comparing Sodium-Ion with Competing Battery Technologies.

Table 8 : Global Market for Next-Generation Advanced Batteries, by Region, Through 2027

Table 9 : Global Market for Electric Vehicle Batteries, by Region, Through 2028

Table 10 : Global Market for Electric Vehicle Batteries, by Type of Battery, Through 2028

Table 11 : Global Market for Electric Vehicle Batteries, by Type of Propulsion, Through 2028

Table 12 : Global Market for Electric Vehicle Batteries, by Type of Vehicle, Through 2028

Table 13 : Consensus, Optimistic, and Pessimistic Scenarios for EV Passenger Vehicles

Table 14 : Consensus, Optimistic, and Pessimistic Scenarios for the Electric Bus Market

Table 15 : Consensus, Optimistic, and Pessimistic Scenarios for Electric Scooters

Table 16 : Global Market for Electric Vehicle Batteries, by Battery Form, Through 2028

Table 17 : Global Market for Electric Vehicle Batteries, by Region, Through 2028

Table 18 : Environmental Factors for the Electric Vehicle Battery Industry

Table 19 : Social Factors for the Electric Vehicle Battery Industry

Table 20 : Governance Factors for the Electric Vehicle Battery Industry

Table 21 : ESG Score for the Market for Electric Vehicle Batteries

Table 22 : Completed Goals of ESG by EnerSys

Table 23 : LG Chem's Five Key Sustainability Tasks

Table 24 : Global Market for EV Insulation, by Region, Through 2028

Table 25 : Global Market for EV Insulation, by Product Type, Through 2028

Table 26 : Global Market for EV Insulation, by Propulsion Type, Through 2028

Table 27 : Global Market for EV Insulation, by Vehicle Type, Through 2028

Table 28 : Global Market for EV Insulation, by Region, Through 2028

Table 29 : Environmental Metrics for the EV Insulation Industry

Table 30 : Social Factors for the EV Insulation Industry

Table 31 : Governance Factors for the EV Insulation Industry

Table 32 : ESG Scores for EV Insulation Companies

List Of Figures

LIST OF FIGURES

Figure 1 : Global Market Shares of Next-Generation Advanced Batteries, by Region, 2022

Figure 2 : Class 1 Nickel Production, 2021

Figure 3 : Battery Components

Figure 4 : Global Market Shares of Next-Generation Advanced Batteries, by Battery Type, 2022

Figure 5 : Advantages of Solid-State Batteries

Figure 6 : Benefits of Sodium-ion Batteries

Figure 7 : Global Market Shares of Next-Generation Advanced Batteries, by Region, 2022

Figure 8 : North American Drivers for Next-Generation Advanced Batteries

Figure 9 : Global Market Shares of Electric Vehicle Batteries, by Region, 2022

Figure 10 : Evolution of Electric Vehicle Batteries

Figure 11 : Global Market Shares of Electric Vehicle Batteries, by Type of Battery, 2022

Figure 12 : Advantages of Solid-State Batteries

Figure 13 : Benefits of Sodium-Ion Batteries

Figure 14 : Global Market Shares of Electric Vehicle Batteries, by Type of Propulsion, 2022

Figure 15 : Global Market Shares of Electric Vehicle Batteries, by Type of Propulsion, 2028

Figure 16 : Key Components of a Battery Electric Vehicle (BEV)

Figure 17 : Function of Key Components of Battery Electric Vehicle (BEV)

Figure 18 : Key Components of a Hybrid Electric Vehicle (HEV)

Figure 19 : Functions of Key Components of a Hybrid Electric Vehicle (HEV)

Figure 20 : Key Components of a Plug-in Hybrid Electric Vehicle (PHEV)

Figure 21 : Functions of Key Components of a Plug-in Hybrid Electric Car (PHEV)

Figure 22 : Key Components of a Fuel Cell Electric Vehicle (FCEV)

Figure 23 : Functions of Key Components of a Fuel Cell Electric Vehicle (FCEV)

Figure 24 : Global Market Shares of Electric Vehicle Batteries, by Type of Vehicle, 2022

Figure 25 : EV Passenger Car Market Drivers

Figure 26 : Electric Bus Market Drivers

Figure 27 : Electric Scooter Market Drivers

Figure 28 : Global Market Shares of Electric Vehicle Batteries by Battery Form, 2022

Figure 29 : Global Market Shares of Electric Vehicle Batteries, by Region, 2022

Figure 30 : Factors in the Linkage between Electric Vehicle Batteries and ESG

Figure 31 : Current Trends in the Market for Electric Vehicle Batteries

Figure 32 : Product Life Cycle of Battery Technology

Figure 33 : Emerging Trends in the Market for Electric Vehicle Batteries

Figure 34 : Global Market Shares of EV Insulation, by Region, 2022

Figure 35 : Evolution of EV Insulation Technology

Figure 36 : Emerging Technologies in the Market for EV Insulation

Figure 37 : Global Market Shares of EV Insulation, by Product Type, 2022

Figure 38 : Global Market Shares of EV Insulation, by Propulsion Type, 2022

Figure 39 : Global Market Shares of EV Insulation, by Vehicle Type, 2022

Figure 40 : Global Market Shares of EV Insulation, by Region, 2022

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