

Energy Storage Materials Market - A Global and Regional Analysis: Focus on Product, Application, and Country Analysis - Analysis and Forecast, 2025-2034

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Abstracts

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This report will be delivered in 7-10 working days. **Energy Storage Materials Market: Industry Overview**

The energy storage materials market is experiencing significant growth, driven by the increasing integration of renewable energy sources and the need for efficient energy storage solutions. Technological advancements in battery technologies, such as lithium-ion, sodium-ion, and solid-state batteries, are enhancing energy density, safety, and cost-effectiveness. The market is also witnessing a shift towards long-duration energy storage systems to address the intermittency of renewable energy sources.

Geographically, regions like North America and Asia-Pacific are leading in market expansion due to supportive government policies and investments in infrastructure. However, challenges such as high initial costs and supply chain constraints remain, necessitating continued innovation and strategic partnerships.

Market Lifecycle Stage

The energy storage materials market is currently in the growth phase of its lifecycle. This stage is characterized by significant advancements in battery technologies, such as sodium-ion and lithium-sulfur batteries, which offer cost-effective and safer alternatives to traditional lithium-ion batteries. The market is experiencing increased investments and pilot projects, particularly in regions like North America and Europe,

driven by supportive policies and the need for grid stability and renewable energy integration. However, challenges remain, including high production costs and the need for infrastructure development to support widespread adoption. Overall, the market is expanding rapidly, with ongoing innovation and scaling efforts to meet the growing demand for sustainable energy storage solutions.

Energy Storage Materials Market Segmentation:

Segmentation 1: by Application

Automotive

Grid Energy Storage

Consumer Electronics

Industrial

Others

Automotive is one of the prominent application segments in the energy storage material market.

Segmentation 2: by Material Type

Lithium-Ion Batteries

Sodium-Ion Batteries

Solid-State Batteries

Redox Flow Batteries

Lead-Acid Batteries

Others

The energy storage materials market is estimated to be led by the lithium-ion batteries segment in terms of material type.

Segmentation 3: by Component

Electrodes

Electrolytes

Separators

Current Collectors

The energy storage materials market is estimated to be led by the electrodes segment in terms of grade.

Segmentation 4: by Technology Platform

Battery Energy Storage Systems

Supercapacitors

Thermal Energy Storage

Mechanical Energy Storage

Hybrid Systems

The energy storage materials market is estimated to be led by the battery energy storage systems segment in terms of technology platform.

Segmentation 5: by Region

North America - U.S., Canada, and Mexico

Europe - Germany, France, Italy, Spain, U.K., and Rest-of-Europe

Asia-Pacific - China, Japan, South Korea, India, and Rest-of-Asia-Pacific

Rest-of-the-World - South America and Middle East and Africa

In the energy storage materials market, North America is anticipated to gain traction in terms of production, owing to the continuous growth in the adoption and the presence of key manufacturers in the region.

Demand – Drivers and Limitations

The following are the demand drivers for the energy storage materials market:

Advancements in Battery Technology Leading to Significant Cost Reductions

Upgrading of Aging Electrical Grids Requiring Enhanced Storage Capabilities

The energy storage materials market is expected to face some limitations as well due to the following challenges:

Substantial Upfront Investment

Limited Energy Density in Emerging Technologies

Key Market Players and Competition Synopsis

The energy storage materials market is characterized by intense competition among established global players and emerging innovators. Leading companies such as Contemporary Amperex Technology Co. Ltd. (CATL), LG Energy Solution, Samsung SDI, and Tesla Inc. dominate the market, leveraging advanced technologies and extensive production capacities. CATL, for instance, has introduced the Naxtra sodium-ion battery and the Shenxing fast-charging EV battery, aiming to diversify its product portfolio and enhance performance metrics. In contrast, Tesla's energy division focuses on integrating energy storage solutions with its electric vehicle offerings, emphasizing vertical integration to streamline operations. Additionally, companies like Redwood Materials are adopting a non-competitive approach by specializing in battery recycling and cathode active material production, thereby supporting the supply chain without

directly competing with battery manufacturers. This dynamic landscape underscores the industry's emphasis on innovation, strategic partnerships, and supply chain optimization to maintain a competitive edge.

Some of the prominent established names in this market are:

Contemporary Amperex Technology Co. Ltd. (CATL)

LG Energy Solution Ltd.

Samsung SDI Co., Ltd.

Panasonic Holdings Corporation

Tesla, Inc.

BYD Company Ltd.

SK On (SK Innovation's Battery Division)

Northvolt AB

Amprion Technologies, Inc.

Envision AESC Group Ltd.

Umicore

Albemarle Corporation

BASF SE

POSCO (Battery Materials Division)

Sila Nanotechnologies, Inc.

Companies that are not a part of the previously mentioned pool have been well represented across different sections of the report (wherever applicable).

Contents

Executive Summary
Scope and Definition
Market/Product Definition
Key Questions Answered
Analysis and Forecast Note

1. MARKETS: INDUSTRY OUTLOOK

1.1 Trends: Current and Future Impact Assessment
1.2 Value Chain and Supply Chain Overview
1.3 Patent Analysis and R&D Trends (by Company & Geography)
1.4 Regulatory and Standards Landscape
1.5 Market Dynamics Overview
 1.5.1 Market Drivers
 1.5.2 Market Restraints
 1.5.3 Market Opportunities
1.6 Start-Up Landscape
1.7 Investment Landscape and R&D Trends
1.8 Future Outlook and Market Roadmap
1.9 Industry Attractiveness

2. ENERGY STORAGE MATERIALS MARKET (BY APPLICATION)

2.1 Application Summary
2.2 Energy storage materials market (by Application)
 2.2.1 Automotive
 2.2.2 Grid Energy Storage
 2.2.3 Consumer Electronics
 2.2.4 Industrial
 2.2.5 Others

3. ENERGY STORAGE MATERIALS MARKET (BY PRODUCT)

3.1 Product Summary
3.2 Energy storage materials market (by Material Type)
 3.2.1 Lithium-Ion Batteries
 3.2.2 Sodium-Ion Batteries

3.2.3 Solid-State Batteries

3.2.4 Redox Flow Batteries

3.2.5 Lead-Acid Batteries

3.2.6 Others

3.3 Energy storage materials market (By Component)

3.3.1 Electrodes

3.3.2 Electrolytes

3.3.3 Separators

3.3.4 Current Collectors

3.4 Energy storage materials market (By Technology Platform)

3.4.1 Battery Energy Storage Systems

3.4.2 Supercapacitors

3.4.3 Thermal Energy Storage

3.4.4 Mechanical Energy Storage

3.4.5 Hybrid Systems

4. ENERGY STORAGE MATERIALS MARKET (BY REGION)

4.1 Energy storage materials market (by Region)

4.2 North America

4.2.1 Regional Overview

4.2.2 Driving Factors for Market Growth

4.2.3 Factors Challenging the Market

4.2.4 Application

4.2.5 Product

4.2.6 North America (by Country)

4.2.6.1 U.S.

4.2.6.1.1 Market by Application

4.2.6.1.2 Market by Product

4.2.6.2 Canada

4.2.6.2.1 Market by Application

4.2.6.2.2 Market by Product

4.2.6.3 Mexico

4.2.6.3.1 Market by Application

4.2.6.3.2 Market by Product

4.3 Europe

4.3.1 Regional Overview

4.3.2 Driving Factors for Market Growth

4.3.3 Factors Challenging the Market

4.3.4 Application

4.3.5 Product

4.3.6 Europe (by Country)

4.3.6.1 Germany

4.3.6.1.1 Market by Application

4.3.6.1.2 Market by Product

4.3.6.2 France

4.3.6.2.1 Market by Application

4.3.6.2.2 Market by Product

4.3.6.3 Italy

4.3.6.3.1 Market by Application

4.3.6.3.2 Market by Product

4.3.6.4 Spain

4.3.6.4.1 Market by Application

4.3.6.4.2 Market by Product

4.3.6.5 U.K.

4.3.6.5.1 Market by Application

4.3.6.5.2 Market by Product

4.3.6.6 Rest-of-Europe

4.3.6.6.1 Market by Application

4.3.6.6.2 Market by Product

4.4 Asia-Pacific

4.4.1 Regional Overview

4.4.2 Driving Factors for Market Growth

4.4.3 Factors Challenging the Market

4.4.4 Application

4.4.5 Product

4.4.6 Asia-Pacific (by Country)

4.4.6.1 China

4.4.6.1.1 Market by Application

4.4.6.1.2 Market by Product

4.4.6.2 Japan

4.4.6.2.1 Market by Application

4.4.6.2.2 Market by Product

4.4.6.3 India

4.4.6.3.1 Market by Application

4.4.6.3.2 Market by Product

4.4.6.4 South Korea

4.4.6.4.1 Market by Application

- 4.4.6.4.2 Market by Product
- 4.4.6.5 Rest-of-Asia-Pacific
 - 4.4.6.5.1 Market by Application
 - 4.4.6.5.2 Market by Product
- 4.5 Rest-of-the-World
 - 4.5.1 Regional Overview
 - 4.5.2 Driving Factors for Market Growth
 - 4.5.3 Factors Challenging the Market
 - 4.5.4 Application
 - 4.5.5 Product
 - 4.5.6 Rest-of-the-World (by Region)
 - 4.5.6.1 South America
 - 4.5.6.1.1 Market by Application
 - 4.5.6.1.2 Market by Product
 - 4.5.6.2 Middle East and Africa
 - 4.5.6.2.1 Market by Application
 - 4.5.6.2.2 Market by Product

5. MARKETS - COMPETITIVE BENCHMARKING & COMPANY PROFILES

- 5.1 Next Frontiers
- 5.2 Geographic Assessment
- 5.3 Company Profiles
 - 5.3.1 Contemporary Amperex Technology Co. Ltd. (CATL)
 - 5.3.1.1 Overview
 - 5.3.1.2 Top Products/Product Portfolio
 - 5.3.1.3 Top Competitors
 - 5.3.1.4 Target Customers
 - 5.3.1.5 Key Personnel
 - 5.3.1.6 Analyst View
 - 5.3.1.7 Market Share
 - 5.3.2 LG Energy Solution Ltd.
 - 5.3.2.1 Overview
 - 5.3.2.2 Top Products/Product Portfolio
 - 5.3.2.3 Top Competitors
 - 5.3.2.4 Target Customers
 - 5.3.2.5 Key Personnel
 - 5.3.2.6 Analyst View
 - 5.3.2.7 Market Share

5.3.3 Samsung SDI Co., Ltd.

5.3.3.1 Overview

5.3.3.2 Top Products/Product Portfolio

5.3.3.3 Top Competitors

5.3.3.4 Target Customers

5.3.3.5 Key Personnel

5.3.3.6 Analyst View

5.3.3.7 Market Share

5.3.4 Panasonic Holdings Corporation

5.3.4.1 Overview

5.3.4.2 Top Products/Product Portfolio

5.3.4.3 Top Competitors

5.3.4.4 Target Customers

5.3.4.5 Key Personnel

5.3.4.6 Analyst View

5.3.4.7 Market Share

5.3.5 Tesla, Inc.

5.3.5.1 Overview

5.3.5.2 Top Products/Product Portfolio

5.3.5.3 Top Competitors

5.3.5.4 Target Customers

5.3.5.5 Key Personnel

5.3.5.6 Analyst View

5.3.5.7 Market Share

5.3.6 BYD Company Ltd.

5.3.6.1 Overview

5.3.6.2 Top Products/Product Portfolio

5.3.6.3 Top Competitors

5.3.6.4 Target Customers

5.3.6.5 Key Personnel

5.3.6.6 Analyst View

5.3.6.7 Market Share

5.3.7 SK On (SK Innovation's Battery Division)

5.3.7.1 Overview

5.3.7.2 Top Products/Product Portfolio

5.3.7.3 Top Competitors

5.3.7.4 Target Customers

5.3.7.5 Key Personnel

5.3.7.6 Analyst View

- 5.3.7.7 Market Share
- 5.3.8 Northvolt AB
 - 5.3.8.1 Overview
 - 5.3.8.2 Top Products/Product Portfolio
 - 5.3.8.3 Top Competitors
 - 5.3.8.4 Target Customers
 - 5.3.8.5 Key Personnel
 - 5.3.8.6 Analyst View
 - 5.3.8.7 Market Share
- 5.3.9 Amprius Technologies, Inc.
 - 5.3.9.1 Overview
 - 5.3.9.2 Top Products/Product Portfolio
 - 5.3.9.3 Top Competitors
 - 5.3.9.4 Target Customers
 - 5.3.9.5 Key Personnel
 - 5.3.9.6 Analyst View
 - 5.3.9.7 Market Share
- 5.3.10 Envision AESC Group Ltd.
 - 5.3.10.1 Overview
 - 5.3.10.2 Top Products/Product Portfolio
 - 5.3.10.3 Top Competitors
 - 5.3.10.4 Target Customers
 - 5.3.10.5 Key Personnel
 - 5.3.10.6 Analyst View
 - 5.3.10.7 Market Share
- 5.3.11 Umicore
 - 5.3.11.1 Overview
 - 5.3.11.2 Top Products/Product Portfolio
 - 5.3.11.3 Top Competitors
 - 5.3.11.4 Target Customers
 - 5.3.11.5 Key Personnel
 - 5.3.11.6 Analyst View
 - 5.3.11.7 Market Share
- 5.3.12 Albemarle Corporation
 - 5.3.12.1 Overview
 - 5.3.12.2 Top Products/Product Portfolio
 - 5.3.12.3 Top Competitors
 - 5.3.12.4 Target Customers
 - 5.3.12.5 Key Personnel

5.3.12.6 Analyst View

5.3.12.7 Market Share

5.3.13 BASF SE

5.3.13.1 Overview

5.3.13.2 Top Products/Product Portfolio

5.3.13.3 Top Competitors

5.3.13.4 Target Customers

5.3.13.5 Key Personnel

5.3.13.6 Analyst View

5.3.13.7 Market Share

5.3.14 POSCO (Battery Materials Division)

5.3.14.1 Overview

5.3.14.2 Top Products/Product Portfolio

5.3.14.3 Top Competitors

5.3.14.4 Target Customers

5.3.14.5 Key Personnel

5.3.14.6 Analyst View

5.3.14.7 Market Share

5.3.15 Sila Nanotechnologies, Inc.

5.3.15.1 Overview

5.3.15.2 Top Products/Product Portfolio

5.3.15.3 Top Competitors

5.3.15.4 Target Customers

5.3.15.5 Key Personnel

5.3.15.6 Analyst View

5.3.15.7 Market Share

5.4 12. List of Other Key Companies

6. RESEARCH METHODOLOGY

List Of Figures

LIST OF FIGURES

Figure 1: Energy Storage Materials Market (by Scenario), \$Million, 2025, 2028, and 2034

Figure 2: Energy Storage Materials Market (by Region), \$Million, 2024, 2027, and 2034

Figure 3: Energy Storage Materials Market (by Application), \$Million, 2024, 2027, and 2034

Figure 4: Energy Storage Materials Market (by Product), \$Million, 2024, 2027, and 2034

Figure 5: Competitive Landscape Snapshot

Figure 6: Supply Chain Analysis

Figure 7: Value Chain Analysis

Figure 8: Patent Analysis (by Country), January 2021-April 2025

Figure 9: Patent Analysis (by Company), January 2021-April 2025

Figure 10: Impact Analysis of Market Navigating Factors, 2024-2034

Figure 11: Strategic Initiatives (by Company), 2021-2025

Figure 12: Share of Strategic Initiatives, 2021-2025

Figure 13: Data Triangulation

Figure 14: Top-Down and Bottom-Up Approach

Figure 15: Assumptions and Limitations

List Of Tables

LIST OF TABLES

Table 1: Market Snapshot

Table 2: Opportunities across Region

Table 3: Trends Overview

Table 4: Energy Storage Materials Market Pricing Forecast, 2024-2034

Table 5: Application Summary (by Application)

Table 6: Product Summary (by Product)

Table 7: Energy Storage Materials Market (by Region), \$Million, 2024-2034

Table 8: North America Energy Storage Materials Market (by Application), \$Million, 2024-2034

Table 9: North America Energy Storage Materials Market (by Product), \$Million, 2024-2034

Table 10: Europe Energy Storage Materials Market (by Application), \$Million, 2024-2034

Table 11: Europe Energy Storage Materials Market (by Product), \$Million, 2024-2034

Table 12: Asia-Pacific Energy Storage Materials Market (by Application), \$Million, 2024-2034

Table 13: Asia-Pacific Energy Storage Materials Market (by Product), \$Million, 2024-2034

Table 14: Rest-of-the-World Energy Storage Materials Market (by Application), \$Million, 2024-2034

Table 15: Rest-of-the-World Energy Storage Materials Market (by Product), \$Million, 2024-2034

Table 16: Market Share

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