

Flow Batteries: Global Markets

Market Research Report | 2024-11-13 | 135 pages | BCC Research

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Report description:

Description

Report Scope

This report analyzes the flow battery market by battery type, battery material, deployment, application and end-use industries. Additionally, the report discusses the technological, regulatory, competitive and economic trends that impact the market. The analyst has included a patent analysis for the flow battery market, which depicts a strong investment prospect for investors. It analyzes emerging technologies, the impact of COVID-19, and the competitive landscape, which enables the reader to understand the global market. The report concludes by looking at environmental, social and governance (ESG) developments and by providing detailed profiles of the major manufacturers of flow batteries.

The report also includes analysis by region (North America, Europe, Asia-Pacific, South America, and the Middle East and Africa) and by country (the U.S., Germany, the U.K., and China), using 2023 as a base year. Estimates are provided for 2024, and market values are forecast through 2029. All market values are in dollar (\$) millions. The report excludes the automotive industry as an end-use industry, specifically the transportation sector, which involves the EV industry.

Report Includes

- 51 data tables and 50 additional tables
- An overview of the technical and business aspects of the global market for flow batteries
- Analyses of global market trends, with market revenue data for 2023, estimates for 2024, forecast for 2025 and 2027, and projected CAGRs through 2029
- Estimates of the size and revenue prospects of the global market, along with a market share analysis by battery type, battery material, deployment type, application, end-use, and region
- Facts and figures pertaining to the market dynamics, technical advances, regulations, innovations, and the impact of macroeconomic factors
- Insights from a Porter's Five Forces model, and global value chain and PESTLE analyses
- Patent analysis, emerging trends and technologies, and new developments

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- Analysis of the industry structure, including companies' market shares and global rankings, strategic alliances, M&A activity and a venture funding outlook
- Overview of sustainability trends and ESG developments, with emphasis on consumer attitudes and the ESG scores and practices of leading companies
- Company profiles of leading players, including Sumitomo Electric Industries Ltd., Invinity Energy Systems, ESS Tech Inc., Rongke Power and Redflow Ltd.

Executive Summary

Summary:

A flow battery is a rechargeable battery wherein the liquid electrolytes are stored separately and then flow into the central cell, which reacts in the charging and discharging phase. These batteries are typically used for storing renewable energy, notably solar and wind energy. Flow batteries provide many advantages, such as a longer life cycle, lower maintenance, lower life-cycle cost, reliability, ecofriendliness, no standby loss, flexible design and easy operation. Flow batteries can be used for applications such as long-term energy shifting, peak shaving, stack services, energy shifting, eliminating renewable curtailment, critical load protections and ancillary services. Flow batteries have already transformed the energy storage landscape, and research is underway to further improve the performance of flow batteries, including vanadium flow batteries (VFBs).

The growing demand for accessible energy storage systems has accelerated the adoption of flow batteries. According to the International Energy Agency (IEA), the global investment in battery energy storage increased by more than \$35 billion in 2023, primarily in grid-scale deployment. According to the Energy Storage Report 2024, G7 countries have set a target of 1,500 GW of new global energy storage by 2030, a six-fold increase from current levels.

Furthermore, the demand for integrating renewable energy sources backed by grid modernization initiatives are leading to more installations of long duration energy storage systems. The increasing focus on grid modernization, EV charging stations, and initiatives for developing efficient and sustainable batteries are the key drivers of the market's growth.

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Sumitomo Electric Industries Ltd.

StorEn Technologies

Enerox GmbH

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Company Profiles

ENEROX GMBH

ESS TECH INC.

INVINITY ENERGY SYSTEMS

LARGO INC.

PRIMUS POWER

REDFLOW LTD.

RKP DALIAN RONGKE ENERGY STORAGE TECHNOLOGY DEVELOPMENT CO. LTD.

STRYTEN ENERGY

SUMITOMO ELECTRIC INDUSTRIES LTD.

THORION ENERGY

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Small Players in the Global Flow Battery Market

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