

Grid-Scale Electricity Storage Technologies: Global Markets

<https://marketpublishers.com/r/G7551D2736DEN.html>

Date: March 2025

Pages: 165

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

ID: G7551D2736DEN

Abstracts

Report Scope

This report provides an analysis of the global market for grid-scale electricity storage technologies, reflecting the latest data, trends and market projections. The global market for grid-scale electricity storage technologies is segmented by technology (lithium-ion batteries, lead-acid batteries, flow batteries, sodium-ion batteries and others, which include nickel-based, solid state and zinc batteries); type (utility scale, behind-the-meter); application (utility scale, energy shifting and capacity provision, ancillary services and congestion management, behind-the-meter (commercial, industrial (manufacturing and heavy industry, mining, data centers, agriculture and others; and region (North America, Europe, Asia-Pacific and Rest of the World. The base year for the study is 2023 with estimates and forecasts for 2024 to 2029.

The report focuses on battery energy storage technologies; other storage technologies, such as pumped hydro, compressed air energy, flywheel and thermal energy are outside the scope of the report. When estimating the grid-scale electricity storage technologies market, transportation and residential sectors/deployments have also been excluded. The major focus segments are utility-scale and behind-the-meter. Energy shifting and capacity provision is a broader categorization that includes load shifting, energy arbitrage, peak demand management, uninterrupted supply of power and microgrid support. Commercial applications include retail stores, office buildings, schools, hospitals, data centers and hotels. Industrial applications include factories, warehouses, large-scale manufacturing plants and chemical plants. Manufacturing and heavy industry is a broader categorization of iron, steel, cement, chemical and petrochemical, auto, aluminum and non-ferrous metals. Where available, global capacities are presented to characterize the annual installation in the dominant

locations.

Market estimates are valued in U.S. dollars (millions). Electricity storage system cost is in \$/KWh, from sources such as the U.S. Department of Energy (DOE) and the National Renewable Energy Laboratory (NREL). Weighted average was used to balance the price variation in different regions. Forecast growth rates are based on expected capacity additions across the industry, feedback received from key industry players, revenue reported by major companies and anticipated regulatory updates. The report concentrates on grid-scale electricity storage technologies currently in commercial use; other promising technologies that are not likely to make it out of the laboratory are not covered. The values of the system in GWh were further converted into revenue in order to determine the market size. The grid-scale electricity storage technologies include batteries, energy management systems, power conversion systems, and safety mechanisms.

Report Includes

57 data tables and 56 additional tables

Analyses of trends in the global market for grid-scale electricity storage technologies, with revenue data for 2023, estimates for 2024, forecasts for 2028, and projected CAGRs through 2029

Estimates of the size and growth forecasts of the global market, and a corresponding market share analysis by technology, application, service type, end-use vertical, and region

Facts and figures pertaining to the global market dynamics, technological advances, regulations and standards, innovations, prospects, and the impact of macroeconomic factors

Insights derived from the Porter's Five Forces model, as well as global value/supply chain analysis

Coverage of investments in research, development and demonstration projects, and smart grids and distributed power generation systems

Patent analysis, emerging technologies/trends and new developments in the power generation industry

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

Profiles of leading companies, including Tesla, SUNGROW, CRRC, Fluence Energy, and Beijing HyperStrong Technology Co. Ltd.

Contents

CHAPTER 1 EXECUTIVE SUMMARY

Market Outlook
Scope of Report
Market Summary
Key Takeaways

CHAPTER 2 MARKET OVERVIEW

Overview
Benefits of Grid-Scale Electricity Storage Technologies
Components of Battery Electricity Storage Technologies
Batteries
Power Conversion Systems
Battery Management System (BMS)
Value Chain Analysis
Extraction of Raw Materials
Processing Raw Materials
Component Production
Product Assembly/System Manufacturing
Systems Integration
Recycling/Reuse and Disposal
Comparative Life Cycle Assessment
Regulatory Framework
Global Grid-Scale Battery Storage Metrics
Pricing Analysis

CHAPTER 3 MARKET DYNAMICS

Market Dynamics
Market Drivers
Integration of Battery Storage in Renewable Energy Sector
Shift in Investment in Energy Storage Technologies
Grid Modernization
Market Restraints
High Initial Costs and Lack of Economic Feasibility
Technological Limitations and Limited Energy Capacity

Market Opportunities
Growing Prevalence of Virtual Power Plants
Falling Battery Prices
Supportive Government Regulations
Market Challenges
Manufacturing Limitations with Energy Storage Technologies
Lack of Grid Compatibility

CHAPTER 4 EMERGING TECHNOLOGIES AND DEVELOPMENTS

Overview
Trends in Grid-Scale Electricity Storage Technologies
Virtual Power Plants
Second-Life Batteries for Energy Storage
Hybrid Energy Storage Solutions
Integrating Electricity Storage Technologies with Smart Grids
Emerging Technologies
Advanced Lithium-Ion Batteries
Solid-State Batteries
Zinc-based Batteries
Iron Flow Batteries
Iron-air Batteries
Graphene Batteries
Enhanced Redox Flow Batteries
Patent Analysis
Key Takeaways

CHAPTER 5 MARKET SEGMENTATION ANALYSIS

Segmentation Breakdown
Market Analysis by Technology
Lithium-Ion Batteries
Lead-Acid Batteries
Flow Batteries
Sodium-Ion Batteries
Other Batteries
Market Analysis by Type
Utility-Scale
Behind-the-Meter

Market Analysis by Application
Energy Shifting and Capacity Provision
Ancillary Services
Congestion Management
Behind-the-Meter Commercial
Behind-the-Meter Industrial
Manufacturing and Heavy Industry
Mining
Data Centers
Agriculture
Other Applications
Geographic Breakdown
Market Analysis by Region
North America
Europe
Asia-Pacific
Rest of the World

CHAPTER 6 COMPETITIVE INTELLIGENCE

Overview
Company Market Share Analysis
Strategic Analysis

CHAPTER 7 SUSTAINABILITY IN THE GRID-SCALE ELECTRICITY STORAGE TECHNOLOGIES MARKET: AN ESG PERSPECTIVE

ESG in the Grid-Scale Electricity Storage Industry
Sustainability Trends in the Industry
ESG Practices in the Industry
Status of ESG
ESG Score Analysis
Risk Scale, Exposure Scale and Management Scale
Risk Scale
Exposure Scale
Management Scale
Future of ESG: Emerging Trends and Opportunities
Concluding Remarks from BCC Research

CHAPTER 8 APPENDIX

Methodology

References

Abbreviations

Company Profiles

BEIJING HYPERSTRONG TECHNOLOGY CO. LTD.

BYD CO. LTD.

CALB

CONTEMPORARY AMPEREX TECHNOLOGY CO. LTD.

CRRC

ENVISION GROUP

FLUENCE

GOTION

LG ENERGY SOLUTION

NIDEC CORP.

PANASONIC ENERGY CO. LTD.

SAMSUNG SDI

SUNGROW

TESLA

XYZ STORAGE TECHNOLOGY CORP. LTD.

List Of Tables

LIST OF TABLES

Summary Table : Global Grid-Scale Electricity Storage Technologies Market, by Region, Through 2029

Table 1 : Regulatory Frameworks for Grid-Scale Electricity Storage Technologies, 2023 and 2024

Table 2 : Patents on Grid-Scale Electricity Storage Technologies, 2023–2025

Table 3 : Global Grid-Scale Electricity Storage Technologies Market, by Technology, Through 2029

Table 4 : Global Grid-Scale Electricity Storage Technologies Market for LIBs, by Region, Through 2029

Table 5 : Global Grid-Scale Electricity Storage Technologies Market for Lead-Acid Batteries, by Region, Through 2029

Table 6 : Global Grid-Scale Electricity Storage Technologies Market for Flow Batteries, by Region, Through 2029

Table 7 : Global Grid-Scale Electricity Storage Technologies Market for Sodium-Ion Batteries, by Region, Through 2029

Table 8 : Global Grid-Scale Electricity Storage Technologies Market for Other Batteries, by Region, Through 2029

Table 9 : Global Grid-Scale Electricity Storage Technologies Market, by Type, Through 2029

Table 10 : Global Grid-Scale Electricity Storage Technologies Market for Utility-Scale, by Region, Through 2029

Table 11 : Global Grid-Scale Electricity Storage Technologies Market for BTM, by Region, Through 2029

Table 12 : Global Grid-Scale Electricity Storage Technologies Market, by Utility-Scale Application, Through 2029

Table 13 : Global Grid-Scale Electricity Storage Technologies Market, by BTM Application, Through 2029

Table 14 : Global Grid-Scale Electricity Storage Technologies Market, by BTM Industrial Application, Through 2029

Table 15 : Global Grid-Scale Electricity Storage Technologies Market for Energy Shifting and Capacity Provision, by Region, Through 2029

Table 16 : Global Grid-Scale Electricity Storage Technologies Market for Ancillary Services, by Region, Through 2029

Table 17 : Global Grid-Scale Electricity Storage Technologies Market for Congestion Management, by Region, Through 2029

Table 18 : Global Grid-Scale Electricity Storage Technologies Market for BTM Commercial Applications, by Region, Through 2029

Table 19 : Global Grid-Scale Electricity Storage Technologies Market for BTM Industrial Applications, by Region, Through 2029

Table 20 : Global Grid-Scale Electricity Storage Technologies Market for Manufacturing and Heavy Industry, by Region, Through 2029

Table 21 : Global Grid-Scale Electricity Storage Technologies Market for Mining, by Region, Through 2029

Table 22 : Global Grid-Scale Electricity Storage Technologies Market for Data Centers, by Region, Through 2029

Table 23 : Global Grid-Scale Electricity Storage Technologies Market for Agriculture, by Region, Through 2029

Table 24 : Global Grid-Scale Electricity Storage Technologies Market for Other Industrial Applications, by Region, Through 2029

Table 25 : Global Grid-Scale Electricity Storage Technologies Market, by Region, Through 2029

Table 26 : North American Grid-Scale Electricity Storage Technologies Market, by Country, Through 2029

Table 27 : North American Grid-Scale Electricity Storage Technologies Market, by Technology, Through 2029

Table 28 : North American Grid-Scale Electricity Storage Technologies Market, by Type, Through 2029

Table 29 : North American Grid-Scale Electricity Storage Technologies Market, by Utility-Scale Application, Through 2029

Table 30 : North American Grid-Scale Electricity Storage Technologies Market, by BTM Application, Through 2029

Table 31 : North American Grid-Scale Electricity Storage Technologies Market, by BTM Industrial Application, Through 2029

Table 32 : European Grid-Scale Electricity Storage Technologies Market, by Country, Through 2029

Table 33 : European Grid-Scale Electricity Storage Technologies Market, by Technology, Through 2029

Table 34 : European Grid-Scale Electricity Storage Technologies Market, by Type, Through 2029

Table 35 : European Grid-Scale Electricity Storage Technologies Market, by Utility-Scale Application, Through 2029

Table 36 : European Grid-Scale Electricity Storage Technologies Market, by BTM Application, Through 2029

Table 37 : European Grid-Scale Electricity Storage Technologies Market, by BTM

Industrial Application, Through 2029

Table 38 : Asia-Pacific Grid-Scale Electricity Storage Technologies Market, by Country, Through 2029

Table 39 : Asia-Pacific Grid-Scale Electricity Storage Technologies Market, by Technology, Through 2029

Table 40 : Asia-Pacific Grid-Scale Electricity Storage Technologies Market, by Type, Through 2029

Table 41 : Asia-Pacific Grid-Scale Electricity Storage Technologies Market, by Utility-Scale Application, Through 2029

Table 42 : Asia-Pacific Grid-Scale Electricity Storage Technologies Market, by BTM Application, Through 2029

Table 43 : Asia-Pacific Grid-Scale Electricity Storage Technologies Market, by BTM Industrial Application, Through 2029

Table 44 : RoW Grid-Scale Electricity Storage Technologies Market, by Technology, Through 2029

Table 45 : RoW Grid-Scale Electricity Storage Technologies Market, by Type, Through 2029

Table 46 : RoW Grid-Scale Electricity Storage Technologies Market, by Utility-Scale Application, Through 2029

Table 47 : RoW Grid-Scale Electricity Storage Technologies Market, by BTM Application, Through 2029

Table 48 : RoW Grid-Scale Electricity Storage Technologies Market, by BTM Industrial Application, Through 2029

Table 49 : Strategic Analysis in the Global Grid-Scale Electricity Storage Technologies Market, 2023 and 2024

Table 50 : ESG Carbon Footprint Issue Analysis

Table 51 : ESG Water and Waste Reduction Issues Analysis

Table 52 : ESG Diversity Issue Analysis

Table 53 : ESG Employee Safety and Labor Practices Issue Analysis

Table 54 : ESG Governance and Sustainable Supply Chain Issue Analysis

Table 55 : ESG Score Analysis of Grid-Scale Electricity Storage Technology Companies, 2024

Table 56 : Abbreviations Used in this Report

Table 57 : Beijing HyperStrong Technology Co. Ltd.: Company Snapshot

Table 58 : Beijing HyperStrong Technology Co. Ltd.: Product Portfolio

Table 59 : Beijing HyperStrong Technology Co. Ltd.: News/Key Developments, 2023 and 2024

Table 60 : BYD Co. Ltd.: Company Snapshot

Table 61 : BYD Co. Ltd.: Financial Performance, FY 2022 and FY 2023

- Table 62 : BYD Co. Ltd.: Product Portfolio
- Table 63 : BYD Co. Ltd.: News/Key Developments, 2024
- Table 64 : CALB: Company Snapshot
- Table 65 : CALB: Financial Performance, FY 2022 and FY 2023
- Table 66 : CALB: Product Portfolio
- Table 67 : CALB: News/Key Developments, 2022-2024
- Table 68 : Contemporary Amperex Technology Co. Ltd.: Company Snapshot
- Table 69 : Contemporary Amperex Technology Co. Ltd.: Financial Performance, FY 2022 and FY 2023
- Table 70 : Contemporary Amperex Technology Co. Ltd.: Product Portfolio
- Table 71 : Contemporary Amperex Technology Co. Ltd.: News/Key Developments, 2024
- Table 72 : CRRC: Company Snapshot
- Table 73 : CRRC: Product Portfolio
- Table 74 : CRRC: News/Key Developments, 2023
- Table 75 : Envision Group: Company Snapshot
- Table 76 : Envision Group: Product Portfolio
- Table 77 : Envision Group: News/Key Developments, 2023
- Table 78 : Fluence: Company Snapshot
- Table 79 : Fluence: Financial Performance, FY 2023 and 2024
- Table 80 : Fluence: Product Portfolio
- Table 81 : Fluence: News/Key Developments, 2024 and 2025
- Table 82 : Gotion: Company Snapshot
- Table 83 : Gotion: Financial Performance, FY 2022 and FY 2023
- Table 84 : Gotion: Product Portfolio
- Table 85 : Gotion: News/Key Developments, 2023 and 2024
- Table 86 : LG Energy Solution: Company Snapshot
- Table 87 : LG Energy Solution: Financial Performance, FY 2022 and 2023
- Table 88 : LG Energy Solution: Product Portfolio
- Table 89 : LG Energy Solution: News/Key Developments, 2024
- Table 90 : Nidec Corp.: Company Snapshot
- Table 91 : Nidec Corp.: Financial Performance, FY 2022 and 2023
- Table 92 : Nidec Corp.: Product Portfolio
- Table 93 : Nidec Corp.: News/Key Developments, 2023 and 2024
- Table 94 : Panasonic Energy Co. Ltd.: Company Snapshot
- Table 95 : Panasonic Energy Co. Ltd.: Financial Performance, FY 2022 and FY 2023
- Table 96 : Panasonic Energy Co. Ltd.: Product Portfolio
- Table 97 : Panasonic Energy Co. Ltd.: News/Key Developments, 2024
- Table 98 : Samsung SDI: Company Snapshot

- Table 99 : Samsung SDI: Financial Performance, FY 2022 and FY 2023
- Table 100 : Samsung SDI: Product Portfolio
- Table 101 : Samsung SDI: News/Key Developments, 2024
- Table 102 : Sungrow: Company Snapshot
- Table 103 : Sungrow: Financial Performance, FY 2022 and 2023
- Table 104 : Sungrow: Product Portfolio
- Table 105 : Sungrow: News/Key Developments, 2024
- Table 106 : Tesla: Company Snapshot
- Table 107 : Tesla: Financial Performance, FY 2022 and FY 2023
- Table 108 : Tesla: Product Portfolio
- Table 109 : Tesla: News/Key Developments, 2024
- Table 110 : XYZ Storage Technology Corp. Ltd.: Company Snapshot
- Table 111 : XYZ Storage Technology Corp. Ltd.: Product Portfolio
- Table 112 : XYZ Storage Technology Corp. Ltd: News/Key Developments, 2024

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