

Grid-Scale Battery Market based on By Product (Lead Acid, Li-ion) By Application (Renewable Integration, Ancillary Services), Regional Outlook– Global Forecast up to 2032

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Abstracts

Utilizing a wide range of secondary sources, directories, and databases—including D&B, Factiva, and Bloomberg Businessweek—this research project aims to locate and gather data relevant to a technical, commercial, and market-oriented analysis of the market. The majority of primary sources are industry experts from the core and allied industries, preferred suppliers, manufacturers, distributors, service providers, technology developers, certification and standards bodies for businesses, and organizations involved in every step of the value chain in this industry.

The growing integration of renewable energy sources with battery storage is driving the grid scale battery market's compound annual growth rate. Grid-scale battery storage is another way that sustainable energy can be produced. Battery storage is one of various technology options that can improve power system flexibility and enable high renewable energy integration. Research and practical experience have demonstrated that substantial volumes of renewable energy from Variable Renewable Energy (VRE) sources may be safely and reliably integrated into interconnected energy networks without the need for additional energy storage facilities.

Additionally, demand for products is being driven by the need to increase grid stability, reliability, and resilience by incorporating energy supplied from renewable sources like solar photovoltaic and wind power. The market is growing as a feasible option to boost system flexibility because of its exceptional capacity to keep, absorb, and re-inject electricity. Global grid scale battery income is also probably driven by expanding consumer awareness of efficient energy use and a growing desire to save extra energy

generated at the grid location with efficient load control.

Research Methodology:

After secondary research provided a fundamental understanding of the worldwide Grid-Scale Battery Market scenario, extensive primary research was carried out. A number of primary interviews were carried out with industry experts from the supply and demand sides, including C- and D-level executives, product managers, and marketing and sales managers of major manufacturers, distributors, and channel partners from tier 1 and tier 2 companies offering Grid-Scale Battery Market, as well as personnel from academia, research, and CROs. These interviews were conducted across five major regions: North America, Europe, Asia Pacific, and the Rest of the World (Latin America & the Middle East & Africa). Participants from the supply-side and demand-side participated in about 70% and 30% of the primary interviews, respectively. Through the use of questionnaires, emails, online surveys, in-person interviews, and phone interviews, this main data was gathered. The primary participants share is given below:

The segmentation coverage of the study is provided below.

Grid-Scale Battery Market based on Type:

Lithium-Ion

Lead Acid

Others

Grid-Scale Battery Market based on Application:

Renewable Integration

Ancillary Services

Others

Grid-Scale Battery Market based on Geography:

North America

US

Canada

Europe

Germany

UK

France

Italy

Spain

Rest of Europe (RoE)

Asia Pacific (APAC)

China

Japan

India

Australia

South Korea

Rest of Asia Pacific (RoAPAC)

Latin America (LATAM)

Brazil

Argentina

Rest of South America

Middle East and Africa (MEA)

UAE

Turkey

Saudi Arabia

South Africa

Rest of Middle East & Africa

With a market share of over 84% in 2019, Li-ion batteries are expected to grow at the quickest rate during the forecast period. Because of advancements in technology and increased manufacturing capacity, these batteries are used extensively in a variety of applications. In the past six years, there has been a significant decrease in the cost of these goods, and this trend is expected to continue.

Lithium-ion batteries are also lightweight and take up less room. In addition, they have a faster charging time and greater durability than other items on the market. Over the course of the projection period, the lead-acid segment is expected to grow at a moderate CAGR. It is possible to recycle and repurpose lead-acid batteries in the production of new batteries. Over the future years, their demand is anticipated to soar due to these favorable qualities.

With over 63% of the global market share in 2019, ancillary services led the way and are expected to rise significantly over the next several years. It is anticipated that grid-scale battery storage would become increasingly dependent on clean energy sources like solar and wind power. In order to reduce the unpredictability and fluctuation of the wind power projects on a grid-scale, the operator employs battery storage devices that are sized for the grid to provide ancillary services.

A new auxiliary service called Enhanced Frequency reaction was unveiled in 2016. It requires storage batteries to meet its increased reaction time. In some countries, developers of big wind farms are required to comply with frequency regulation rules in

order to reduce the need for increasing rotational reserve from conventional power plants. Large power plants are required to adhere to certain constraints in goods that are frequency regulated in countries that operate on improved frequency response (ancillary service) marketplaces.

Over the course of the forecast period, Asia Pacific is expected to have the greatest CAGR, coming in at 27.0%. China's revenue share was the highest in the area because of the government's continuous efforts and investments to support industrial growth.

The most developed and competitive geographic market is North America. The US market is now led by the lithium-ion battery category. These batteries' prices have dropped by more than 70% in the last few years due to advancements in technology and increased production capacity, and more price declines are anticipated.

Market players are placing a strong emphasis on R&D to create cutting-edge goods and obtain a competitive advantage. Innovative products have been developed in the field of battery manufacture and storage thanks to the efforts of well-established companies. Additionally, integration by businesses like Samsung SDI, GE, and ABB enables high-productivity, low-cost manufacturing. One of the main strategies being used by market participants is expanding the product line to increase base into new application markets.

This report illustrates the most vital attributes of the Grid-Scale Battery Market, which are driving and providing opportunities.

This research gives an in-depth analysis of the Grid-Scale Battery Market growth on the basis of several segments in the market.

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Rest of Asia Pacific (RoAPAC)

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This research gives an in-depth analysis of the Grid-Scale Battery Market growth on the basis of several segments in the market.

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