

# **Europe Battery Energy Storage System Market Size and Forecast (2021 - 2031), Regional Share, Trend, and Growth Opportunity Analysis Report Coverage: By Type (Lithium Ion and Others), Connection Type (On-Grid and Off-Grid), and End User (Commercial, Utilities, and Residential)**

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## **Abstracts**

The European battery energy storage system (BESS) market is poised for significant growth, with projections indicating that its size will reach approximately USD 40.81 billion by 2031, up from USD 11.37 billion in 2024. This growth trajectory reflects a compound annual growth rate (CAGR) of 19.5% from 2025 to 2031.

## **Executive Summary and Market Analysis**

Europe stands out as a key player in the global BESS market, driven by its ambitious renewable energy initiatives, established climate targets, and the need for enhanced grid flexibility. The European Union's Green Deal, which aims for net-zero emissions by 2050, underscores the critical role of energy storage systems in the region's energy transition.

The automotive industry, a cornerstone of Europe's economy, further propels the demand for battery energy storage. Major automobile manufacturers such as Volkswagen AG, Stellantis NV, Mercedes-Benz Group AG, Bayerische Motoren Werke AG, and Renault SA require reliable electricity for their operations, thereby increasing the adoption of BESS solutions.

## **Strategic Insights**

## Market Segmentation Analysis

The BESS market in Europe can be segmented based on type, connection type, and end user:

**By Type:** The market is primarily divided into lithium-ion batteries and other types. As of 2024, lithium-ion batteries dominate the market share due to their efficiency and performance.

**By Connection Type:** The market is categorized into on-grid and off-grid systems, with on-grid systems holding a larger share in 2024, reflecting the trend towards integrating energy storage with existing grid infrastructures.

**By End User:** The end-user segmentation includes commercial, residential, and utility sectors, with utilities representing the largest share in 2024, driven by the need for large-scale energy management solutions.

## Market Outlook

The increasing population and urbanization in Europe are significant factors driving energy demand. The continent is witnessing a remarkable surge in energy requirements, largely fueled by the rapid expansion of renewable energy sources, particularly wind and solar power. In 2023, Europe installed 17.2 GWh of new BESS capacity, marking a staggering 94% increase from the previous year. This growth has raised the total operational battery capacity in Europe to around 36 GWh, with Germany, Italy, and the UK leading in installed capacity.

To support this upward trend, various governments are implementing favorable policies. For instance, in October 2023, Spain's PERTE tender successfully awarded 805 MW/3,589 MWh of storage capacity, along with public grants totaling 128 million euros. Such initiatives are crucial for meeting the rising energy demand and advancing the battery energy storage market.

## Country Insights

The European BESS market is comprised of several key countries, including Germany, Italy, France, the UK, and others. Notably, Italy emerged as the largest market share

holder in 2024. The country is making significant strides in the BESS sector, driven by a strong commitment to renewable energy, energy efficiency, and sustainability. Italy's energy landscape is undergoing a transformation, with a focus on integrating renewable sources like solar and wind into the national grid.

Italy has set ambitious targets to reduce greenhouse gas emissions and increase the share of renewables in its energy mix. The National Energy and Climate Plan (NECP) aims for renewable sources to constitute approximately 30% of total energy consumption by 2030, with a more recent proposal aiming for 40% by the same year. This transition necessitates robust energy storage solutions to balance supply and demand effectively. In 2023, Italy deployed 3.7 GWh of battery storage, reflecting its commitment to energy storage development.

Recent developments in Italy's BESS landscape include:

In January 2025, Clearstone Energy Italy announced a development pipeline of 1 GW of BESS projects, focusing on large-scale projects exceeding 100 MW.

N2OFF, Inc. signed a Letter of Intent with Soltera Brand Services Italy to develop two battery storage systems in Sicily, each with a capacity of 98 MWp/392 MWh.

BW ESS, a German electricity storage developer, partnered with Italian ACL Energy to co-develop 11 additional utility-scale BESS sites with a total capacity of 2.5 GW in Italy.

## Company Profiles

Key players in the European BESS market include Panasonic Holdings Corp, BYD Co Ltd, Contemporary Amperex Technology Co Ltd, Tesla Inc, Samsung SDI Co Ltd, AES Corp, Ameresco Inc, NextEra Energy Inc, ESS Inc, Saft Groupe SA, LG Chem Ltd, General Electric Co, KORE Power Inc, Eos Energy Enterprises Inc, and Siemens AG. These companies are actively pursuing strategies such as market expansion, product innovation, and mergers and acquisitions to enhance their offerings and increase market share.

In conclusion, the European battery energy storage system market is on a robust growth path, driven by renewable energy initiatives, technological advancements, and

supportive government policies.

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