

U.S. Utility- Scale Energy Storage Systems Market



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www.verifymarkets.com

+1 210.595.9687

info@verifymarkets.com

- I. Research scope..... 5
- II. Methodology..... 6
- III. Market Segmentation..... 7
- IV. COVID-19 Pandemic..... 9
- V. Executive Summary 11
- VI. Market Drivers..... 18
 - a. Increasing Renewable Energy Deployment..... 19
 - b. Decreasing Capital Cost of Lithium-Ion Batteries..... 21
 - c. Incentives to Utility-Scale BESS..... 23
 - d. Use of BESS for Transmission and Distribution Upgrade and Expansion Deferral..... 26
 - e. Rising Interest in Battery Storage for Resiliency..... 27
- VII. Market Restraints..... 28
 - a. Barriers to BESS Participation in the Wholesale Electricity Market..... 29
 - b. Impact of COVID-19..... 34
 - c. Safety Related Issues..... 36
 - d. Trade War with China..... 37
- VIII. Market Trends..... 38

- a. Increasing Energy Density..... 39
- b. Fully-assembled, Modular BESS..... 40
- c. The Roll of Utilities as Project Developers..... 40
- d. Aggregated Customer-sited Storage..... 41
- e. Advances in Software and Control Systems..... 41
- f. TDUs Owning Energy Storage..... 42
- g. Electric Vehicles Creates Spillover Effects in the Market 43
- IX. Market Data..... 44
 - a. Cumulative Installed Capacity Forecast..... 45
 - b. Revenue Forecast..... 47
 - c. Installed Capacity Planned Additions..... 49
 - d. Cumulative Installed Capacity by State..... 50
 - e. Cumulative Installed Capacity by Project Size..... 51
 - f. Cumulative Installed Capacity by Application..... 52
 - g. Cumulative Installed Capacity by Chemistry..... 54
 - h. Cost Analysis..... 55
- X. Regional Analysis 56

- XI. Competitive Structure..... 63
 - a. Industry Structure..... 64
 - b. Market Share by Ownership..... 66
 - c. Market Share by Installed Capacity..... 67
 - d. Annual Additional Capacity by Company..... 68
 - e. Competitive Factors..... 69
 - f. Quotes from the Industry on the Competitive Structure..... 70
- XII. About Verify Markets..... 71

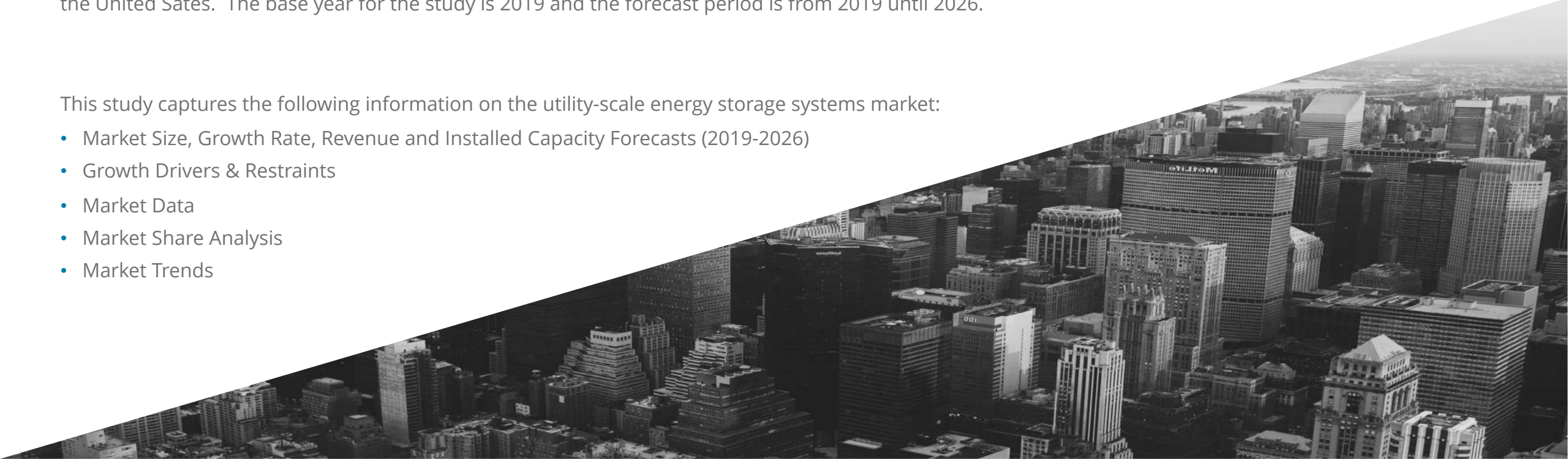
Utility-Scale Battery Energy Storage Systems (BESS) have started to play an important role in the U.S power system in recent years. The market is projected to experience a high growth rate during the next seven years driven by increasing renewable energy deployment, decreasing capital cost of lithium-ion batteries, the use of BESS for transmission and distribution upgrades, expansion deferral, and rising interest in BESS for resiliency.

This study covers front-of-the-meter, utility-scale BESS that charges (or collects energy) from the grid or a power plant and then discharges that energy later to provide electricity or other grid services when needed.

This study aims to provide a detailed analysis of the U.S. utility - scale energy storage systems market along with competitive analysis for the base year 2019. Revenue figures represent revenues generated from the sale of BESS. A BESS is integrated by battery modules, onboard sensors, control components, and an inverter. Installed capacity figures represent the nameplate capacity in terms of megawatts (MW) of BESS installed in the United States. The base year for the study is 2019 and the forecast period is from 2019 until 2026.

This study captures the following information on the utility-scale energy storage systems market:

- Market Size, Growth Rate, Revenue and Installed Capacity Forecasts (2019-2026)
- Growth Drivers & Restraints
- Market Data
- Market Share Analysis
- Market Trends



Interviews with key market participants: The research methodology adopted while creating this research involved conducting interviews with various key market participants, enabling Verify Markets to identify various trends in the U.S. utility-scale energy storage systems market. Furthermore, discussions with industry participants enabled us to provide a comprehensive country-level view of the overall market. Next, the information was validated through our internal databases and market experts. Later, the collected information was structured and collated into this report.



Macro-economic factors and industry parameters: Various country level parameters including the GDP, energy consumption, among others, were taken into consideration in our forecasting model. An in-depth analysis of such factors enabled Verify Markets to size and forecast the U.S. utility-scale energy storage systems market.



Electro-chemical

Lead-Acid (LA) Batteries – Two electrodes (one lead and one lead - dioxide) immersed in sulfuric acid.

Nickel-Cadmium (Ni-Cd) Batteries – Two electrodes (one nickel and one cadmium) immersed in an aqueous potassium-hydroxide electrolyte.

Lithium-Ion (Li-ion) Batteries – Two electrodes (varying chemistries).

Na-Metal Batteries – Consisting of a molten sodium anode and β "- Al₂O₃ solid electrolyte.

Redox Flow Batteries – Two electrolytes stored in separate tanks and are pumped to a fuel cell when energy is desired.



Thermal and Mechanical

Pumped Hydroelectric Storage – Energy is stored in the form of a water reservoir at a higher altitude that is released through turbines to a lower reservoir and is pumped back up to the higher reservoir during periods of low energy demand.

Flywheels – A spinning mass in its center that is driven by a motor. When energy is needed, the spinning force drives a turbine, which slows the rate of rotation. The system is recharged by a motor.

Molten Salt – Formulations composed of mixtures of nitrates or nitrites that can store heat and then use that heat to power turbines to generate electric power.

The focus of this study is front-of-the-meter, utility-scale electro-chemical battery energy storage systems (BESS) connected directly to the electricity grid.

Bulk Energy Services

- Arbitrage
- Electric supply capacity
- Peak shaving

Ancillary Services

- Frequency regulation
- Voltage support
- Black start
- Spinning reserves
- Non-spinning reserves
- Load following, load balancing

Grid Support (T&D)

- Transmission services (upgrade deferral and congestion relief)
- Distribution services (upgrade deferral and voltage support)
- Peaker replacement

Renewable Energy Integration

- Renewable energy time shift
- Renewable capacity firming



About Verify Markets

Verify Markets is a Research Firm specializing in Industrial, Environmental, Energy and Water markets. Our Research & Consulting practice provides global industry analysis, custom engagements, end-user analysis, strategy consulting, strategic market intelligence, and forecasts that are designed to facilitate strategic decision-making. Our team of consultants, industry experts and analysts continually monitor and evaluate information to create insights for your business needs. We are comprised of a group of analysts that have been tracking their respective markets for a number of years.

Our goal is to help you reach yours.



METHODOLOGY

The methodology when formulating market trend projection is outlined below. Historical trends were determined through secondary research and Verify Markets in-house database.

- Secondary research was conducted. A list of key industry participants was put together.
- Telephonic interviews were conducted. Most of the leading participants across China were contacted.
- Bottom up methodology was used to calculate the market size.
- Market drivers and restraints were built into the forecasting model to estimate the revenue growth and market size figures.

METHODOLOGY

Profiles of Interviewees: Vice President, Marketing Manager, Business Development Manager, Brand Manager, CEO (for smaller companies).

Most of the primary interview data was captured through telephonic interviews. Pictures, company contacts, preliminary data was captured through secondary research. Images are derived from company websites and other web sources.

Despite Verify Markets' best efforts, certain challenges were encountered and certain assumptions had to be made. The extremely competitive nature of the U.S. Utility- Scale Energy Storage Systems Market often results in an increased reluctance on the part of several competitors to discuss their market position, future plans, or market trends. Verify Markets used its skills and experience to extract the relevant data in order to complete the analysis.



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Verify markets

Capabilities

Market Coverage

Services

- Water & Wastewater Treatment
- Air Treatment
- Environmental Technologies
- Energy & Power Equipment
- Power Supplies & Batteries
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- Consumer Products
- Healthcare IT

- Competitive Intelligence
- Market Research
- Custom Consulting
- Strategic Planning
- White Papers
- Verified Leader Awards
- Claim Validation
- Strategy Workshops
- Customized Monthly Newsletters





**ANY QUESTIONS?
CONTACT US AND SET UP A TIME TO
SPEAK WITH OUR ANALYSTS.**



+1.210.595.9687



INFO@VERIFYMARKETS.COM



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