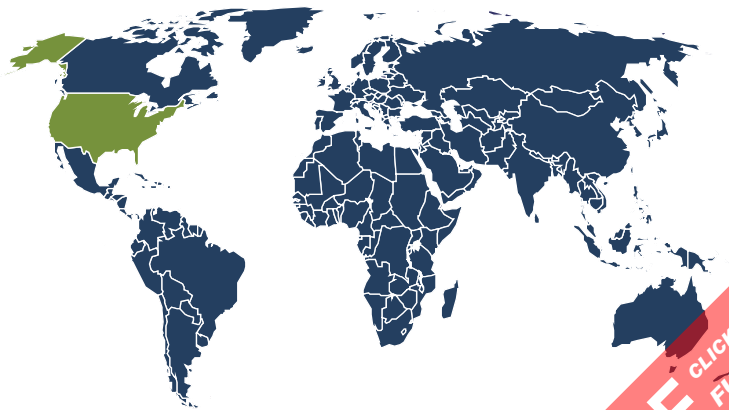


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# Batteries: United States

September 2020



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# About This Report

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## Scope

This report forecasts to 2024 US battery demand and shipments in nominal US dollars at the manufacturer level. Total demand is segmented by type in terms of:

- secondary lead-acid
- secondary lithium-ion
- other secondary batteries, such as nickel-based, sodium-sulfur, and sodium-nickel chloride
- primary alkaline
- other primary batteries such as lithium, zinc-carbon, and zinc-air

Total demand is also segmented by market as follows:

- automotive
- consumer
- other markets such as grid storage systems, uninterruptable power supply systems, and telecom backup systems

Total shipments are segmented by product:

- primary
- secondary

To illustrate historical trends, total demand and shipments are provided in annual series from 2009 to 2019; the various segments are reported at five-year intervals for 2009, 2014, and 2019.

Excluded from the scope of this report are battery chargers, booster cables (jumper cables), and other ancillary equipment used with batteries.

Key macroeconomic indicators are also provided with quantified trends. Other various topics, including profiles of pertinent leading companies, are covered in this report. A full outline of report items by page is available in the Table of Contents.

## Sources

*Batteries: United States* (FF45011) is based on [Global Batteries](#), a comprehensive industry study published by The Freedonia Group. Reported findings represent the synthesis and analysis of data from various primary, secondary, macroeconomic, and demographic sources, such as:

- firms participating in the industry, and their suppliers and customers

## About This Report

- government/public agencies
- intergovernmental and non-governmental organizations
- trade associations and their publications
- the business and trade press
- indicator forecasts by The Freedonia Group
- the findings of other reports and studies by The Freedonia Group

Specific sources and additional resources are listed in the Resources section of this publication for reference and to facilitate further research.

## Industry Codes

Table 6 | NAICS & SIC Codes Related to Batteries

| NAICS/SCIAN 2017                              |                               | SIC                                |                                |
|---|-------------------------------|------------------------------------|--------------------------------|
| North American Industry Classification System |                               | Standard Industrial Classification |                                |
| 335911  | Storage Battery Manufacturing | 3691                               | Storage Batteries              |
| 335912  | Primary Battery Manufacturing | 3692                               | Primary Batteries, Dry and Wet |

Source: US Census Bureau

## Freedonia Methodology

The Freedonia Group, a subsidiary of MarketResearch.com, has been in business for more than 30 years and in that time has developed a comprehensive approach to data analysis that takes into account the variety of industries covered and the evolving needs of our customers.

Every industry presents different challenges in market sizing and forecasting, and this requires flexibility in methodology and approach. Freedonia methodology integrates a variety of quantitative and qualitative techniques to present the best overall picture of a market's current position as well as its future outlook: When published data are available, we make sure they are correct and representative of reality. We understand that published data often have flaws either in scope or quality, and adjustments are made accordingly. Where no data are available, we use various methodologies to develop market sizing (both top-down and bottom-up) and then triangulate those results to come up with the most accurate data series possible. Regardless of approach, we also talk to industry participants to verify both historical perspective and future growth opportunities.

Methods used in the preparation of Freedonia market research include, but are not limited to, the following activities: comprehensive data mining and evaluation, primary research, consensus forecasting and analysis, ratio analysis using key indicators, regression analysis, end use growth indices and intensity factors, purchase power parity adjustments for global data, consumer and end user surveys, market share and corporate sales analysis, product

## About This Report

lifespan analysis, product or market life cycle analysis, graphical data modeling, long-term historical trend analysis, bottom-up and top-down demand modeling, and comparative market size ranking.

Freedonia quantifies trends in various measures of growth and volatility. Growth (or decline) expressed as an average annual growth rate (AAGR) is the least squares growth rate, which takes into account all available datapoints over a period. The volatility of datapoints around a least squares growth trend over time is expressed via the coefficient of determination, or  $r^2$ . The most stable data series relative to the trend carries an  $r^2$  value of 1.0; the most volatile – 0.0. Growth calculated as a compound annual growth rate (CAGR) employs, by definition, only the first and last datapoints over a period. The CAGR is used to describe forecast growth, defined as the expected trend beginning in the base year and ending in the forecast year. Readers are encouraged to consider historical volatility when assessing particular annual values along the forecast trend, including in the forecast year.

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## Resources

### The Freedonia Group

*Global Batteries*

### Freedonia Industry Studies

*Global Buses*

*Global Electric Power Transmission & Distribution Equipment*

*Global Forestry Equipment*

*Global Power Lawn & Garden Equipment*

*Lawn & Garden Robots*

*Power Tools*

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*Renewable Energy: United States*

*Toys & Games: United States*

*Zinc: United States*

### Freedonia Custom Research

### Trade Publications

*Automotive News*

*Batteries & Energy Storage Technology*

*Batteries International*

*Battery Power*

*Energy Storage Journal*

### Agencies & Associations

Battery Council International

Energy Storage Association

Rechargeable Battery Association

United States Census Bureau

United States Department of Transportation

United States Environmental Protection Agency

United States Geological Survey

United States International Trade Commission