Lithium-ion Batteries for Electric Buses 2016-2026 - Technologies (LFP, NMC, LMO, LFMP, NCA, Supercapacitors, Lithium Capacitors, Post Lithium and Flywheels), Market Trends, Forecasts and Key Players

Description: The battery market has come alive again as manufacturers are all rushing to address the emerging market for large-sized batteries driven largely by the rapid growth in sales of electric buses. The researcher thinks that the rush is fully justified as it sees the market growing to $30 billion in 2026, potentially making it the largest segment of overall battery market. Just to set this in context, we expect the market for electric bus batteries to overtake the consumer electronic battery sector by 2019-2020.

These are interesting times for the battery market again. These new applications are set to alter the business landscape, at the technology, supplier and territory level. This will have major implications not only for large battery corporations but also for all those involved in the battery production value chain.

China currently dominates this market. 97% of electric buses and 75% of their batteries currently produced in China. Despite its slow charge rates, LFP is the technology of choice thanks to its higher safety levels which matters more at large battery sizes. The IP landscape for LFP is also more open and accommodating, removing one of the key non-capital barriers into this market.

China also appears determined to bring the entire electric bus value chain inside the country. This goes some way towards explaining the recent news about the Chinese government intervention with regards to the nickel manganese cobalt (NMC) lithium-ion variant, which is produced exclusively outside the country. It is uncertain whether this intervention will ultimately be upheld but what is certain is that it at least acts as a short-term break on the market of non-LFP batteries.

In the long term however, we expect the battery market composition to change. Electric bus production outside China will slowly rise and the safety of NMC batteries will be improved thanks to better management systems. This will enable them to compete thanks to their intrinsically higher charging rates.

Note that electric buses make and break the fortunes of other energy storage technologies. They became the largest market for supercapacitors until they were designed out causing a market decline. We expect to see substantial innovation in this sector going forwards. The race is on to develop higher energy, faster and safer large-sized energy storage technologies.

The research predicts that for the business-as-usual scenario the non-LFP battery technology will grow to 48% of the market in 2025, making the e-battery bus business a truly global market. However, if the Chinese government rigorously applies its policy on non-LFP batteries there would be a change in the dynamics of the global battery market for electric buses. More information on the forecast considering the Chinese intervention can be found in this report.

Report content

This report gives an in-depth market analysis on Li-ion batteries and electric buses (under 8 ton hybrid, over 8 ton hybrid and electric buses) highlighting battery type and performance (in terms of battery chemistry, electric range, energy and power capacity) as well as company profiles of the main industrial players.

The report also covers a benchmark of various Li-ion variants used in electric vehicles, current status of the battery chemistry used in electric buses and predicts the growth prospects of the electric bus Li-ion battery market (taking into account the market share for advanced and post lithium ion batteries) over the coming decade. In addition, the report provides market forecasts for demand and sales volumes of Li-ion batteries and large electric buses from 2016 to 2026, current market share and size and key players in the battery and electric bus industry.

Key questions addressed in this report include:

- What are the driving factors for the adoption of electric buses?
- What are the different types of electric buses?
- What are the different Li-ion battery chemistries used in electric buses?
- How do the various Li-ion variants compare in terms of performance, life and safety and these parameters affect the type of batteries selected by electric bus manufacturers?
- What are the current limitations of Li-ion batteries with regards to electric buses?
- What is the current dynamics of Li-ion batteries used in electric buses?
- Who are the key players in the electric bus market and Li-ion battery market for electric buses?
- How quickly will the markets for electric buses and Li-ion batteries grow?
- What is the current market share of Li-ion battery manufacturers for electric buses?
- What are the current Li-ion battery chemistries used in electric buses and what are the future prospects?
- How does the Li-ion battery market for electric buses compare with other addressable market such as consumer electronics, wearable technology etc.?
- Is there a substantial market opening for Li-ion batteries in 48V mild hybrid vehicles?
- What are the other types of energy storage systems used in electric buses?
- What role would supercapacitors, hybrid supercapacitors, fuel cells, advanced and post lithium batteries and flywheels play as energy storage systems in electric buses?

This report gives 10 year forecasts up to 2026 in the following segments:

- Sales volume forecast for electric buses
- Electric bus market value, 2015-2026
- Global Li-ion battery market value for electric bus, 2016-2026
- Battery market of Li-ion variant by % sales volume. Scenario 1: "business-as-usual" forecast
- Battery market of Li-ion variant by % sales volume. Scenario 2: "Chinese government intervention" forecast
- Battery market of anode chemistry by % sales volume
- Electric bus and Li-ion battery pack price forecast
- Battery volume demand in GWh by end use segment, 2016-2026

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