Global and China Ternary Cathode Materials (NCA,NCM) and Battery Industry Report, 2018-2023

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STUDY GOAL AND OBJECTIVES

This report provides the industry executives with strategically significant competitor information, analysis, insight and projection on the competitive pattern and key companies in the industry, crucial to the development and implementation of effective business, marketing and R&D programs.

REPORT OBJECTIVES

- To establish a comprehensive, factual, annually updated and cost-effective information base on market size, competition patterns, market segments, goals and strategies of the leading players in the market, reviews and forecasts.
- To assist potential market entrants in evaluating prospective acquisition and joint venture candidates.
- To complement the organizations' internal competitor information gathering efforts with strategic analysis, data interpretation and insight.
- To suggest for concerned investors in line with the current development of this industry as well as the development tendency.
- To help company to succeed in a competitive market, and

METHODOLOGY

Both primary and secondary research methodologies were used in preparing this study. Initially, a comprehensive and exhaustive search of the literature on this industry was conducted. These sources included related books and journals, trade literature, marketing literature, other product/promotional literature, annual reports, security analyst reports, and other publications. Subsequently, telephone interviews or email correspondence was conducted with marketing executives etc. Other sources included related magazines, academics, and consulting companies.

INFORMATION SOURCES

The primary information sources include Company Reports, and National Bureau of Statistics of China etc.

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Abstract

China recorded RMB41.71 billion in total output value and 208kt in output of cathode materials in 2017, a year-on-year increase of 95.1% and 29.53%, respectively. Specifically, the country produced 86kt of NCM, 45kt of LCO and 22kt of LMO, up 58.6%, 26.8% and 43.9% over the same period of the previous year separately. LFP output fell slightly to 55kt in the year.

The country's shipments of ternary cathode materials amounted to 86.1kt on a market scale of RMB17.235 billion in 2017, representing a year-on-year surge of 58.6% and 111.83%, respectively. Growth in shipments and market size was largely driven by the factors as follows:

1) More than 60% of new energy vehicles (811,000 units) produced in 2017 were new energy passenger cars on which ternary batteries found an increasingly higher proportion, contributing to growth in the demand for ternary cathode materials.
2) New subsidy policies put forward higher requirements on energy density of NEV power batteries, promoting major domestic power battery makers to intensify their efforts for ternary power batteries;
3) As year-end LCO price soared by more than 60% since the start of 2017, some digital battery makers strengthened substitution of ternary materials for LCO in mid and low-end fields so as to reduce costs;
4) Lithium carbonate prices continued to rise in the second half of 2017, driving up the prices of ternary materials.

A growth in shipments of ternary cathode materials is primarily due to an expansion in new energy passenger car, lithium battery-powered bicycle and mid and low-end digital battery markets. Calculated as 1.3kg ternary cathode materials for 1kwh, it is expected China will need 230kt of NCM and 34kt of NCA by 2023, leaving a huge gap in rigid demand for ternary cathode materials.

523 prevails among ternary materials and is mostly used in digital and power batteries in China. By the shape of battery, cylindrical ternary battery generally uses NCM523, while lamination-process ternary power battery adopts NCM111. The output of cylindrical ternary battery is higher than that of prismatic laminated battery.

Domestic demand for power ternary materials: 111 system grows slightly but is still dominant in prismatic battery system; 523 system grows significantly, but some LFP system and 111 system are replaced because of cost and volume specific capacity; 622 system grows moderately but still occupies a fraction; 811/NCA is tried out by some manufacturers on small batches.

NCA will technologically develop towards high nickel. The NCM for power battery uses mainly NCM111, NCM532 and NCM523, and technically moves towards NCM622, NCM811 and NCA. The battery cell provided by Samsung SDI for carmakers like BMW adopts NCM622. High nickel and low cobalt of ternary cathode materials can greatly boost battery energy density and cut material costs, but face prominent problems in safety and stability. As high technical barriers of high-nickel ternary cathode materials place higher requirements on preparation technology/equipment and production environment well above that of common ternary materials, there are lots of technical difficulties to be solved before domestic high-nickel ternary materials go mature.

Global and China Ternary Materials (NCA/NCM) and Battery Industry Report, 2018-2023 focuses on the following:

◆Supply and demand of ternary materials in China and the world, particularly the shares of applications in such fields as new energy vehicle and consumer electronics;
◆Competitive landscape in China and beyond, covering domestic and overseas companies' market share, capacity planning, market pattern, etc.;
◆Technology routes and development trends of ternary materials in China and the world;
◆Upstream and downstream market segments of ternary materials, consisting of cobalt metal, lithium carbonate, ternary precursor, ternary lithium battery, etc.;
◆Key application growth points of ternary cathode materials, and analysis on electric vehicle industry in China and the world;
◆Operation, technologies, development plans and production & sales developments of six manufacturers of ternary cathode materials from countries like Japan, S. Korea, Belgium and Germany;
Operation, technologies, development plans and production & sales developments of sixteen Chinese ternary cathode material manufacturers;
Operation, technologies, development plans and production & sales developments of seven ternary lithium battery producers in nations such as Japan, S. Korea and Europe;
Operation, technologies, development plans and production & sales developments of nine Chinese ternary lithium battery makers.

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