

SMM Hot News

Lithium Battery Plants visit in Jiangxi

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Summary

Under the impact of COVID-19, new policies and the decline of subsidies, SMM has recently conducted a visit to the upstream and downstream producers across the Cobalt-Lithium industry chain from September 8 to 11, checking on the production situation of lithium battery raw material plants, understand the trend of development and the existing problems of the lithium industry, as well as strengthen our partnership with the enterprises. Please find in our special report our findings on the visit.

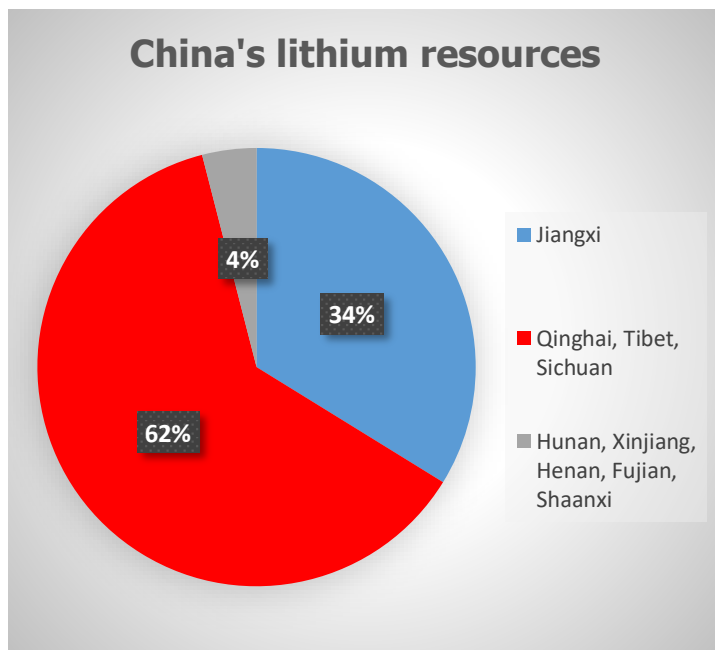
For more information on the Lithium industry chain and other ferrous or nonferrous metals updates , please visit our website www.metal.com and our social media channels on [Facebook](#), [LinkedIn](#) and [Twitter](#).

Technological development of lithium extraction from lepidolite sets to increase lithium salt output

Advantage of resources to create opportunities of development

Lithium oxide reserves in Yichun, Jiangxi has a total of 5 million mt of lithium carbonate equivalent, which is the world's largest lepidolite mine, accounting for 34% of China's lithium resource reserves and 9% of the global lithium resource reserves. There are two types of lithium ore in Yichun: the open-pit lithium-bearing ore featuring high weathering degree and large mica flakes, which is selected as high-grade lepidolite concentrates for industrial production; the underground lithium-bearing porcelain ore that are deeply buried and is difficult to sort because of the fine mica flakes, and this type of ore is used in the pottery industry due to the difficulty of sorting.

According to SMM surveys, many lithium salt plants in Jiangxi, with technology of lithium extraction from lepidolite as the core, have achieved a total production capacity of over 80,000 mt of lithium carbonate, up 17% on a year-on-year basis. With the transformation of production equipment and project upgrade, production capacity is expected to increase by more than 20% in the future.



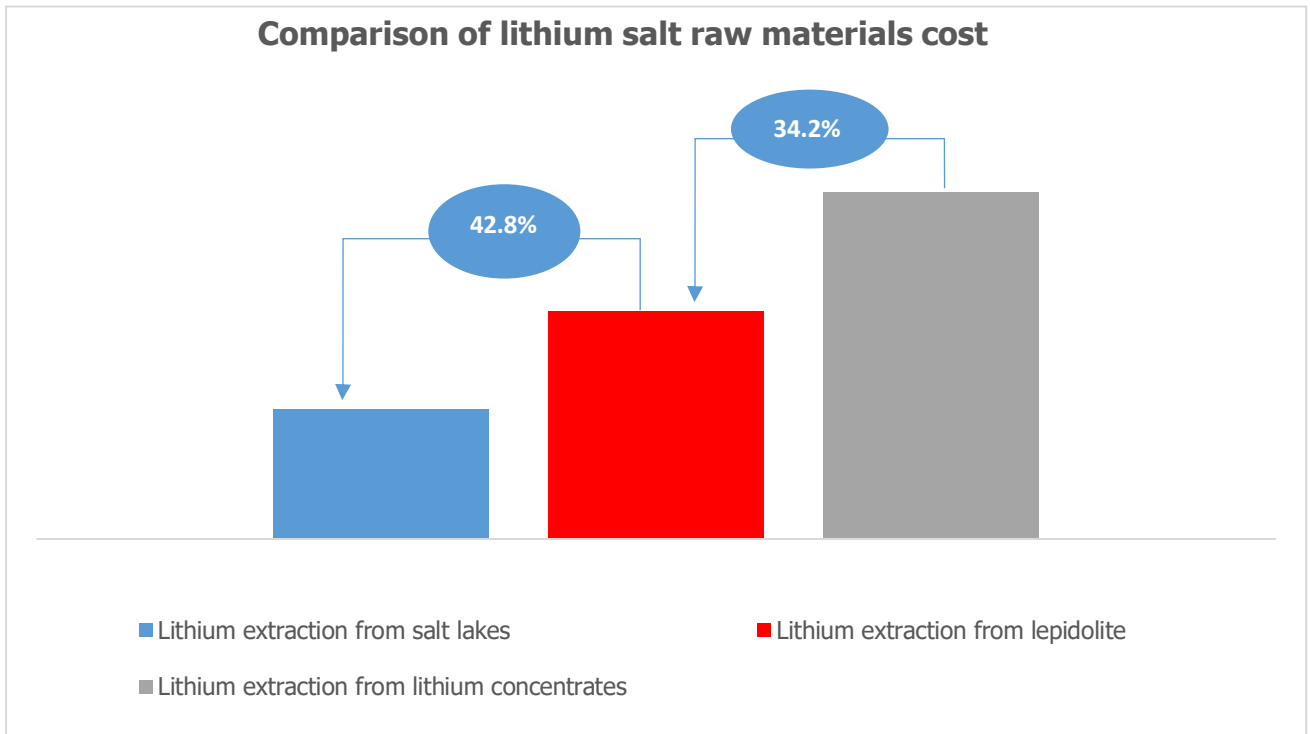
Source: SMM

Optimisation of lithium extraction from lepidolite drove the advancement of lithium salt industry

The annual production capacity of lithium carbonate plants in Jiangxi which are surveyed by SMM accounted for about 20% of the country's total capacity, of which 53% is adopted the technology of lithium extraction from lepidolite, and the raw material cost is about 65% of lithium extraction from lithium concentrates.

On the other hand, its associated ore is capable of producing high value-added potassium, rubidium, cesium and

related products, thus greatly increasing the profitability of lepidolite mineral processing. Lithium extraction from lepidolite process is stable, mature, and highly automated with high quality through continued optimization and improvement by engineers and technicians, meeting the increasing demand of battery materials customers (including ternary, LFP, LMO, and LCO), as well as easing the tight supply situation.



Sustainable development of green new energy amid improved resource recycling

The industry system of recycling of waste motive power batteries is mature enough to be dismantled to specific links for resource treatment, realizing the metal extraction processes for lithium-ion batteries.

Mainstream products include nickel sulphate, cobalt sulphate, manganese sulphate and lithium carbonate. With the gradual development of motive power of the new energy industry, recycling for motive power batteries are likely to improve significantly, which will support the supply of new energy raw materials.

SMM survey of lithium salt plants in Jiangxi

Company	Main products	Annual capacity	Output for January to August	Expansion plans
A	Battery-grade lithium salt, industrial-grade potassium salt, rubidium salt, cesium salt	10,000 mt of lithium carbonate	3,900 mt of lithium carbonate, up 1.3% year on year	To achieve total lithium carbonate capacity of 22,500 mt by 2022; to add 7,500 mt of lithium hydroxide capacity in 2021
B	Battery-grade lithium carbonate, lithium hydroxide	13,000 mt of lithium carbonate	5,800 mt of lithium carbonate	Phase two lithium salt project includes 20,000 mt of lithium carbonate and 10,000 mt of lithium hydroxide
C	Battery-grade lithium carbonate, lithium hydroxide and high value-added products, such as rubidium, cesium and potassium	20,000 mt of lithium carbonate	10,900 mt of lithium carbonate, up 69% year on year	50,000 mt of lithium carbonate capacity in 2021; 70,000 mt of lithium carbonate capacity in 2022;
D	Battery-grade cobalt sulphate, battery-grade nickel sulphate, battery-grade lithium carbonate, battery-grade manganese sulphate.	4,400 mt (Co content) of battery-grade cobalt sulphate	500 mt (Co content) of battery-grade cobalt sulphate, up 14% year on year	-
E	More than 40 kinds of products in five series, including lithium metal, lithium carbonate, lithium hydroxide, butyl lithium, lithium-ion batteries, and lithium battery materials	37,500 mt of lithium carbonate , 28000 mt of lithium hydroxide , 22,000 mt of lithium chloride , 2,000 mt of lithium metal, 1,000 mt of butyl lithium	11,000 mt of lithium carbonate, down 21% year on year; 21,200 mt of lithium hydroxide, up 80% year on year	Plan to extract 100,000 mt of lithium carbonate from salt lake brine
F	Nickel sulphate, cobalt sulphate	4,000 mt (Ni content) of nickel sulphate; 200 mt (Ni content) of cobalt sulphate	-	To add a 200-300 mt (Ni content) nickel sulphate extraction line to achieve output of 800 mt (Ni content)
G	Cobalt oxide	2,000 mt (Co content) of cobalt oxide	-	Pan to construct a waste motive power battery processing base of about 333,333 m ² , which is expected to be completed in 3 years.
H	Battery-grade cobalt sulphate, battery-grade nickel sulphate	1,500 mt (Co content) of battery-grade cobalt sulphate	320 mt (Co content) of battery-grade cobalt sulphate, up 35% year on year	After the project is completed and put into operation, it can produce 2,000 mt of battery-grade lithium carbonate per year, 6,410 mt of cobalt sulphate, 1,500 mt of nickel sulphate, 3,340 mt of cobalt chloride and 1,000 mt of electrowinning copper

Source: SMM Cobalt-Lithium Research Team

Lithium prices face downward pressure, cost reduction through technology upgrade to ease operating pressure

Lithium carbonate prices are currently around three-year record lows, which has caused considerable pressure on business operations. Output and sales of NEVs increased gradually, lifting the output of domestic cathode materials producers. Among them, LFP and ternary materials output haven risen sharply, while domestic small motive power market have recovered.

On the other hand, output of the digital ternary market increased, while output of 5-series ternary materials, LCO and LMO have also risen slightly. More producers have indicated that they are willing to increase prices, but the market remains in a state of oversupply.

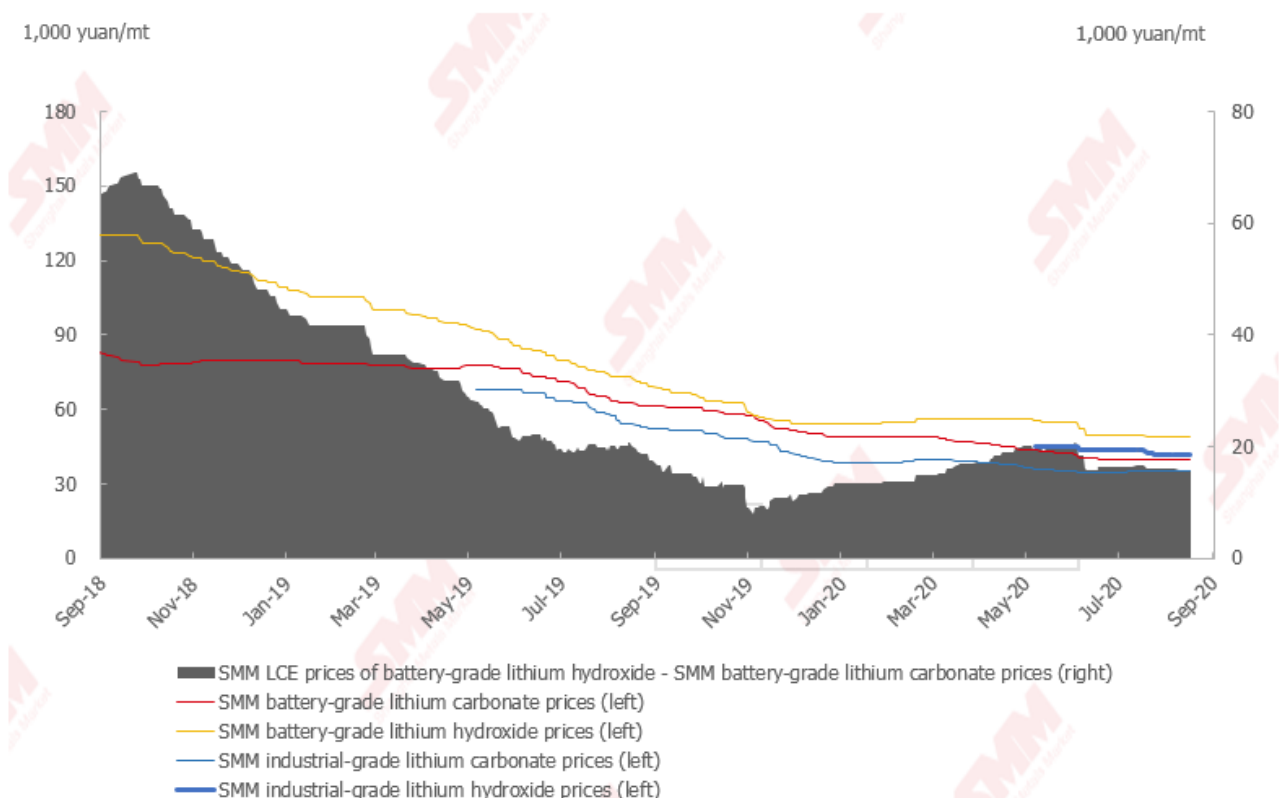
Downstream material producers surveyed by SMM believe that lithium carbonate prices may remain stable as they are unwilling to accept higher raw material prices amid pressure to reduce costs. In August, domestic output of lithium carbonate increased by approximately 12.6%.

The plants surveyed by SMM have made great efforts to improve the output and quality of lithium salt products with equipment renewal and technological research and development. Some plants have saved 6,000-8,000 yuan/mt from the single-step purification process of lithium carbonate extraction from lepidolite based on technological breakthroughs.

Lithium salt prices declined over past three years, fundamentals suppressed upward trend

Battery-grade lithium carbonate prices remained stable recently. The 3C digital equipment market saw fierce competition which resulted in greater raw materials cost control. As motive power battery plants have strong negotiation power in pricing, higher quotes by lithium smelters were difficult to pass through the downstream buyers, keeping prices stable. Demand for lithium salts used for ternary materials and LFP has increased, and the shipments from major lithium salt producers in Jiangxi and Qinghai performed well. However, lithium salt prices are not likely to rise amid high inventories.

Battery-grade lithium hydroxide prices remained stable recently. The procurement prices of major downstream material producers stabilised, and the overall demand was largely stable, The market concentration of sellers and buyers was high. First-tier suppliers held a bullish outlook for lithium hydroxide demand and held prices firm. Prices are expected to remain stable in September.



Further Reading

1. [Lithium carbonate prices are expected to rise slightly in the near term](#) (Sep 17, 2020)
2. [Cobalt stockpiling as Chinese national reserves: Market participants to take cautious stance](#) (Sep 15, 2020)
3. [Exclusive: China's base metals output in August](#) (Sep 8, 2020)
4. [SMM China Cobalt-Lithium & New Energy Weekly: Keeping track of the cobalt-lithium and new energy industry chain](#) (Jun 12, 2020)

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