

Power Equipment & New Energy & Utilities

碳酸锂价格加速下跌，下游企业盈利空间有望释放

The Price of Lithium Carbonate is Accelerating to Drop, and the Profit Space of Downstream Enterprises is Expected to Be Released

杨斌 Bin Yang

bin.yang@htisec.com

 热点速评 Flash Analysis

(Please see APPENDIX 1 for English summary)

由于新能源车爆发和锂资源供给的不足，2021 和 2022 年碳酸锂供不应求，价格持续上涨。国产电池级碳酸锂价格从 2020 年 10 月的 4 万元/吨，上涨到 2022 年 11 月最高的 57 万元/吨，最大上涨幅度超过 13 倍。新能源汽车行业的爆发，动力电池的需求量随之增加，需求端的增长让价格增加迅速向上游原材料传导，导致碳酸锂价格也随之持续上涨。碳酸锂是制取锂化合物和金属锂的原料，电池级碳酸锂主要用于制备钴酸锂、锰酸锂、三元锂、磷酸铁锂等锂离子电池的正极材料。我国大部分锂资源蕴藏在盐湖之中，而盐湖主要分布在自然条件差的西部高原地区，且盐湖中镁含量高，分离镁离子的技术难度大，导致我国碳酸锂的产能利用率低，大约 70% 需要依靠对外进口。锂资源的存在形式主要有三种，包括封闭盆地内的盐湖卤水锂矿、伟晶岩型的硬岩锂矿、沉积岩型的粘土锂矿。其中，盐湖卤水锂矿占全球锂资源总量的 62.6%，是锂资源最为普遍的存在形式，但其开发程度要远低于矿山锂。我国锂资源占全球锂资源量的 7.1%，其中以卤水锂矿为主，占我国锂资源量的 81.5%，虽然盐湖提锂成本相对较低，但我国盐湖提锂工艺发展较晚，远没有矿石提锂工艺成熟，我国作为全球最大的锂消费国，锂资源产量存在巨大缺口，导致锂原料的对外依存度高。随着我国新能源战略的推进，带动了各种基础锂盐的消费需求，中国目前已是全球最大、增长最快的锂消费国，消费量占到全球的一半以上，供需的不平衡，导致自 20 年底开始至 22 年底，碳酸锂的价格一路走高。

2023 年以来，新能源车需求增速放缓，盐湖提锂与云母提锂等技术的逐渐成熟又使得我国锂资源供给增长，碳酸锂价格加速下跌。截止到 3 月 27 日，国产电池级碳酸锂价格跌至 29.4 万元/吨，碳酸锂价格自高位已下跌近 50%。根据高工锂电数据，2022 年，国内锂资源供应量为 72.7 万吨，锂资源的需求量为 79.6 万吨；我们预计 2023 年国内锂资源供应量将达到 108.8 万吨，国内锂资源需求量预计将达到 103.4 万吨，随着锂资源的供应量大于需求量，碳酸锂价格仍有下跌空间，我们预计 2023 年底国产电池级碳酸锂的价格最终将跌至 20 万元/吨左右。盐湖提锂技术中，分离盐湖卤水中锂离子与镁离子是盐湖提锂技术的关键，因为两者具有相似的离子水合半径和化学特性，分离存在一定的难度。这两年我国在盐湖提锂的技术上不断突破，逐步研发出适用于不同盐湖特点的提锂工艺，开发锂资源的成本将不断下行，在盐湖周围形成成熟的产业集群，锂资源产量有望规模化释放；此外，宜春云母提锂所聚集的宁德时代、比亚迪、国轩高科等企业都在加快投产，宁德明确其江西锂矿资源将于 23 年下半年实现量产。随着更多锂矿投产，气温逐渐回暖，青海等地盐湖产能逐渐恢复，叠加锂辉石提锂、盐湖提锂、云母提锂等技术不断提升，供给紧张进一步得到改善，锂盐市场跌势不断扩大，叠加下游电池厂商对碳酸锂价格的打压，使得碳酸锂价格企稳回升难度较大；此外，在去年价格上涨的时候，不少电池企业都有碳酸锂的足够储备，储备量的增加让碳酸锂实际上的需求具有滞后性；另外，随着新能源汽车销量增速放缓，上游锂的供应量出现了供应过剩的情况，市场囤积的现象也有所减轻，我们预计碳酸锂依然会处于一个市场价格下行的通道之中。

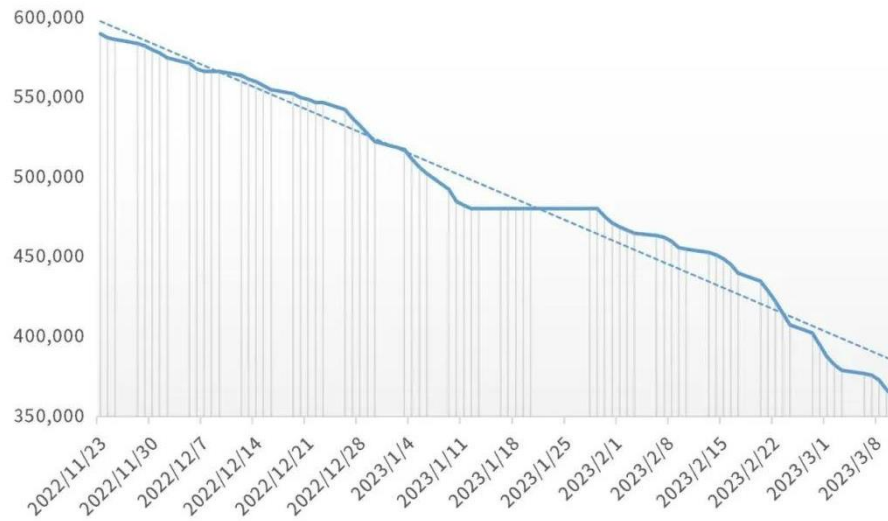
碳酸锂大幅降价，电芯成本降低，下游车企和储能企业的成本降低，盈利状况将得到改善。我们测算，一台磷酸铁锂电池的电动车需要 30-40kg 的碳酸锂，一台三元锂电池的电动车需要消耗 50-70kg 碳酸锂，当每吨碳酸锂价格每降低 10 万元，三元与磷酸铁锂电池成本边际降低分别 60-70 元/KWh，一台带电量 70KWh 的纯电动汽车电池成本也随之降低 0.42-0.49 万元；相比碳酸锂价高位时，一台带电量 70KWh 的纯电动汽车电池成本已下降 1.23-1.45 万元，带动整车 BOM 成本下降，车企的毛利率得以修复，短期来看，碳酸锂等上游原材料价格的降低，带动动力电池成本降低，新能源汽车迎来盈利修复；但长期来看，电动车渗透率已经很高，增长空间有限，车企想要占有足够的市场份额和盈利空间，更需要实现技术升级，降低成本，提升品牌竞争力。此外储能方面，上游原材料价格的下降带来电芯成本的下降，储能系统的成本降低，利润空间增大。在原材料价格上涨、国家补贴退出、芯片短缺等因素的影响下，新能源汽车的发展面临着很大压力，大多数新能源汽车企业仍然处于亏损状态，尤其是受到电池级碳酸锂等上游原材料价格升高的影响，企业毛利率非常低；随着碳酸锂电池价格的走低，对于新能源汽车企业而言，动力电池成本的下降可以帮助新能源汽车企业降低生产成本，扩大车企的利润空间，车企的定价空间将会更大；另外在动力电池成本下降后，车企有望进一步降低新能源车售价，提高市场占有率，自 2023 年开始新能源汽车销量增速放缓，很多车企会考虑以价换量，长期来看，车企需要持续的科技创新与技术升级，提高品牌竞争力。此外，碳酸锂现货价从 57 万/吨降低至目前 30 万/吨以下，储能电芯成本将减少 0.18 元/Wh，目前现货降幅与成本降幅相当，以户用储能系统规模在 10kWh 级别为例，系统成本下降 1200-1500 元，储能系统成本的下降可带来更多利润空间，加速了储能市场的放量。

总结：21 年和 22 年因新能源车需求的爆发，与国内锂资源供应的紧张，过去两年碳酸锂价格的持续上涨且维持在高位。但 23 年以来因为新能源车需求增速放缓，以及盐湖提锂与云母提锂等技术的发展，我国锂资源供给紧张的压力将大幅缓解，供需关系的改变使得碳酸锂价格从 57 万元/吨加速下跌至 30 万元/吨以下，预计碳酸锂价格将继续下跌趋势，碳酸锂价格的降低使得电芯成本降低，下游车企和储能企业的成本降低，毛利率修复，盈利空间有望释放。

投资建议：建议关注因碳酸锂价格下降而受益的下游电动车与储能企业比亚迪、吉利汽车、宁德时代、鹏辉能源、亿纬锂能。

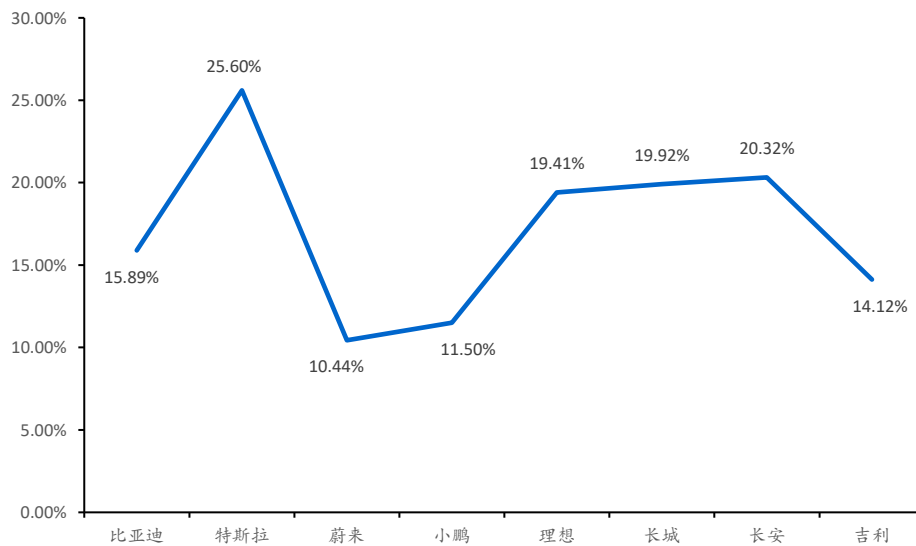
风险：新能源车销量不及预期，储能装机量不及预期。

图 1: 2022 年 11 月 23 日-2023 年 3 月 10 日国产电池级碳酸锂价格走势



资料来源: MySteel, HTI

图 2: 2022 年 Q1-Q3 主要汽车企业销售毛利率比较



资料来源: Wind, HTI

APPENDIX 1

Summary

Lithium carbonate is a raw material for producing lithium compounds and lithium. Battery-grade lithium carbonate is mainly used to prepare positive electrode materials for lithium-ion batteries such as lithium cobaltate, lithium manganate, NCM battery, and LFP battery. Most of Chinese lithium resources are stored in salt lakes, which contain high magnesium component. The salt lakes are mainly distributed in the plateau area, with poor natural conditions, and the technical difficulty of separating magnesium ions from salt lake. It leads to the low-capacity utilization of lithium carbonate in China. About 70% of Chinese lithium resources need to be imported. The price of domestic battery-grade lithium carbonate also rose from 40,000 yuan/ton in October 2020 to a peak of 570,000 yuan/ton in November 2022, with a maximum increase of more than 13 times. It is mainly because the price of lithium carbonate was adjusted by supply and demand. The relationship determines that the market demand is mainly due to the outbreak of the new energy automobile industry, and the demand for power batteries will increase accordingly. The growth of the demand side will make the price increase quickly spread to the upstream raw materials, and the price of lithium carbonate will continue to rise.

Since 2023, the price of lithium carbonate has accelerated to fall. On March 27, the price of domestic battery-grade lithium carbonate has dropped to 274,000 yuan/ton. It has fallen by more than half since its highest level. With the joint development of salt lake lithium extraction and mica lithium extraction, the pressure on the tight supply of lithium resources in China will be greatly eased. According to the data of Gaogong Lithium, in 2022, the supply of lithium resources will be 727,000 tons, and the demand for lithium resources will be 796,000 tons. We predict that the domestic supply of lithium resources will reach 1.088 million tons in 2023, and the domestic demand for lithium resources is expected to reach 1.034 million tons. As the supply of lithium resources exceeds the demand, the price of lithium carbonate will continue to fall. We expect that by the end of 2023, the price of domestic battery-grade lithium carbonate will eventually drop to about 200,000 yuan/ton.

The price reduction of lithium carbonate will benefit downstream companies, especially the profitability of new energy vehicles companies. We calculate that an electric vehicle with LFP battery needs 30-40kg of lithium carbonate, and an electric vehicle with a NCM lithium battery needs to consume 50-70kg of lithium carbonate. When the price of lithium carbonate per ton is reduced by 100,000 yuan, the marginal cost of NCM and LFP batteries will be reduced by 60-70 yuan/KWh, respectively. The cost of an electric vehicle with a charge of 70KWh will also be reduced by 0.42-0.49 million yuan. Compared with the highest price of lithium carbonate, the cost of an electric vehicle with a charge of 70KWh will drop about 12,300 to 14,500 yuan. It will drive down the BOM cost of the whole vehicle, and the gross profit margin of car companies will be restored.

Summary: In 2021 and 2022, due to the outbreak of demand for new energy vehicles and the tight supply of domestic lithium resources, the price of lithium carbonate has continued to rise and remained at a high level in the past two years. However, due to the slowdown in demand for new energy vehicles and the development of technologies such as lithium extraction from salt lakes and mica in 2023, the pressure on the tight supply of lithium resources in my country will be greatly eased. The change in the relationship between supply and demand causes the price of lithium carbonate from 570,000 yuan / ton accelerates to fall below 300,000 yuan / ton. The cost of battery is reduced, and the cost of downstream electric vehicles companies and energy storage companies are reduced. It leads to the gross profit margin is restored and the profit margin is expected to be released.

Suggestions: We recommend downstream electric vehicle and energy storage companies which benefit from the drop of lithium carbonate price, such as BYD, Tesla, Geely, GWM and Changan Automobile.

Risks: The sales of new energy vehicles are lower than expected, and the installed capacity of energy storage is lower than expected.

附录 APPENDIX

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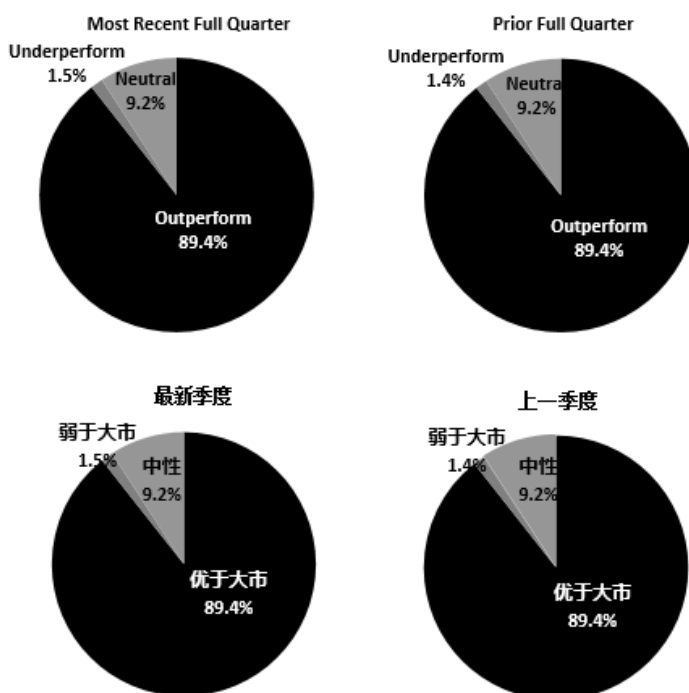
Outperform: The stock's total return over the next 12-18 months is expected to exceed the return of its relevant broad market benchmark, as indicated below.

Neutral: The stock's total return over the next 12-18 months is expected to be in line with the return of its relevant broad market benchmark, as indicated below. For purposes only of FINRA/NYSE ratings distribution rules, our Neutral rating falls into a hold rating category.

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Benchmarks for each stock's listed region are as follows: Japan – TOPIX, Korea – KOSPI, Taiwan – TAIEX, India – Nifty100, US – SP500; for all other China-concept stocks – MSCI China.

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*在每个评级类别里投资银行客户所占的百分比。

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中性，未来 12-18 个月内预期相对基准指数变化不大，基准定义如下。根据 FINRA/NYSE 的评级分布规则，我们会将中性评级划入持有这一类别。

卖出，未来 12-18 个月内预期相对基准指数跌幅在 10%以上，基准定义如下

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