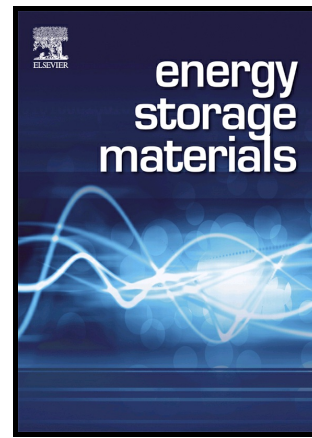


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Lithium Market Research – Global Supply, Future Demand and Price Development

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Abstract

Ensuring the supply of strategic metals is crucial for the growth of industrialised countries. One of these strategic metals is lithium, which is used in a variety of high tech product and everyday objects. In this study the lithium market is analysed including areas of application, drivers of demand as well as lithium price development. A demand forecast up to 2020 is given in four different scenarios, including the increasing demand in electric mobility, forced by political driven influences. To meet the growing demand of lithium huge lithium projects are planned or under construction. The projects are summarised with a completion up to 2020 and a capacity of more than 20,000 t lithium carbonate equivalents (LCE).

Keywords: lithium market analysis, lithium demand and supply, lithium carbonate, lithium forecast

1 Introduction

Lithium is an essential metal with widespread applications in next generation technologies, such as energy storage, electric mobility and cordless devices. Lithium compounds, however, are also used in a far wider spectrum, e.g. glass, enamel and ceramic industry, lubricating greases, pharmaceutical products or aluminium production [1]. Because lithium cannot be substituted in most applications, a steady increase of 8–11 % in annual demand is anticipated [2,3]. Furthermore, the increasing production of electric cars has been predicted to be a major driver in growing lithium demand. Since 2000 the global lithium production for use in batteries has increased by approx. 20 % per annum, amounting to 35 % of the overall lithium consumption in 2015 [4,5].

The most important lithium compound for the production of tradable products is Li_2CO_3 , with a total quantity of 46 % in 2015. Of minor, yet growing importance is LiOH (19 %). These two lithium compounds cover approx. 2/3 of the market.

Within this context lithium find widespread application in secondary batteries (rechargeable batteries) as cathode materials (e.g. LiFePO_4 , LiCoO_2 , LiMn_2O_4 , $\text{LiNi}_x\text{Co}_y\text{Mn}_z\text{O}_2$) as well as in primary batteries (single-discharge batteries) as anode materials. Current research activities for lithium based cathode [6] or anode materials [7,8] vary, but confirm the preferred use of lithium for energy storage in the future.

Rising lithium demand requires an extensive knowledge of raw material situation as well as the current and future lithium supply and demand. This also presupposes detailed information of industrial applications of important lithium compounds as well as potential substitutes for lithium.

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