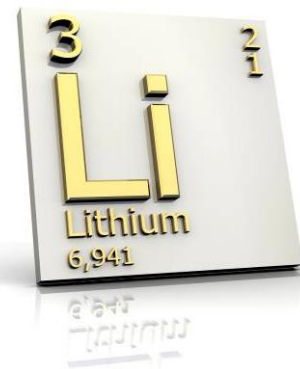


Lithium in the Automotive Sector

Toyota

Mobilised by an increasing demand for low carbon vehicles, the production of hybrid cars is set to show a sharp increase in coming years. Alkali metal lithium is a key component of hybrid battery packs. Manufacturers therefore need to ensure a continuous, reliable supply of this raw material. The predicament lies in the scarcity of lithium as a naturally occurring element. Risks associated with a secure supply of material therefore sit high on the agenda of automotive companies.



A Solution

In January 2010, Toyota subsidiary company Toyota Tsusho and Australian lithium mining company Orocobre Limited announced a Joint Venture to develop the Olaroz Argentine Lithium-Potash project. Toyota Tsusho will own a 25% stake in the Orocobre project through provision of a Feasibility Study and Project Development funding.

As the hybrid car market continues to grow, Toyota has secured lithium supply for battery packs through a joint venture with lithium mining company Orocobre.

This is a very strategic development for both parties. As the hybrid car market continues to grow, Toyota will have secured a continuous supply of lithium, while Olaroz bolster their expertise and understanding of supply requirements for large format lithium-ion automotive batteries.

Drivers

Toyota's key drivers in involvement in the Olaroz Lithium-Potash project are reducing both the risk of dependence on other suppliers of lithium raw material and potential risk of interruption to supply. Toyota's interest in the Olaroz Lithium-Potash project stems from the desire to increase its exposure to reliable and diversified lithium supplies as global demand for lithium batteries in the automotive industry increases.

Benefits

Ownership of raw material suppliers and vertical integration of the lithium supply chain could result in significant benefits to Toyota's market position with respect to cost differentiation in comparison to competitor supply prices, and other strategic issues such as securing a continuous and high quality supply.

While lithium is not currently considered to be in short supply, by 2020 the demand for lithium may exceed the available supply as a result of the expansion of the automotive industry, and in particular the hybrid and electric vehicle markets. As a result of this joint venture, Toyota Tsusho will now have a stronger footing in a reliable and diversified supply of the raw material whilst already commanding the manufacturing infrastructure, increasing the stability and market position as it expands its range of electric and hybrid vehicles. From a financial perspective Toyota could gain twofold, not only in commanding a fluid supply chain but also in selling lithium to other hybrid or advanced battery makers.