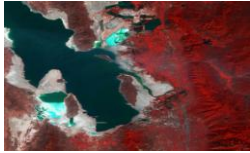




Lithium

With new lithium projects emerging to service the yet-to-mature electric vehicle market, is lithium another speculative bubble?



Is the demand for lithium growing?

Lithium has shown itself to be a strongly performing commodity, with growing demand for the metal required in battery manufacturing, mostly off the back of electric car sales.

The International Energy Agency (IEA) reported that global electric vehicle (EV) sales topped one million in 2017, a 54% increase from 2016.

That said, demand has not remained stable globally, with Chinese EV production peaking in December last year. More recently, China's new EV subsidies have played havoc with the market, creating a level of uncertainty that has led Chinese lithium spot prices to plummet over fears of an oversupply.

Why is there a risk of oversupply?

There is growing concern in some quarters that lithium has become a speculative bubble and that EV adoption will not meet expectations – potentially creating an oversupply as lithium producers develop projects to service a market that may ultimately fail to mature quickly enough.

In the short term, lithium demand is expected to outstrip supply over 2018. However, it is in the longer term that certain influential financial figures worry about oversupply.

Among those ringing the warning bells, Morgan Stanley forecast that the price of lithium carbonate will suffer a considerable fall by 2021.

Wood Mackenzie warned that supply will start to outpace demand in 2019 and Merrill Lynch predicted “severe oversupplies” in the lithium market within the next few years.

That said, if EV production reaches forecast figures, many analysts see supply rising to meet demand rather than overshooting it.

How many new lithium plants are being built?

In 2017 large lithium companies have promised an additional 20 lithium production sites, in addition to the 16 sites currently in operation.

Many small ventures have also attempted to break into the lithium market, but of the 39 small lithium ventures tracked by commodity consultants CRU, only four have firm commitments to supply lithium, while another 10 are rated as probable.

How is lithium mined?

Lithium is predominantly mined in one of two ways. The first is extraction from mineral ores like spodumene, petalite, and lepidolite.

Until now, lithium contained in micas has been, at best, only marginally economic to mine for battery applications, but Lepidico's L-Max technology is now also opening these ores up to extraction as well.

The second extraction method, brine production, is more cost efficient than mineral extraction, but tends to produce lower-purity lithium and has high lead times of 1.5 to three years.

The brine, commonly seawater or groundwater laced with lithium, is pumped to the surface and placed in a settling basin, where the lithium is concentrated via evaporation.

Where is lithium mined?

Significant quantities of petalite and lepidolite are found in Afghanistan, Australia, Brazil, Madagascar, North Carolina and California.

Australia stands as the world's largest producer of lithium and increased its production in 2017. Chile comes in second, producing lithium mostly from its brine operations. The South American country saw a shortfall in production

last year because of adverse weather conditions affecting solar evaporation in its facilities.

Bad weather also affected Argentina, the second member of the ‘lithium triangle’, alongside Chile and Bolivia, which in 2017 posted a production decrease from the previous year because of heavy snowfall.

Finally, China, once a small lithium producer, has been increasing its production capabilities, becoming the fourth largest lithium supplier in 2016.

Edison's Insight:

“Recently, the development of salar brines from South America has expanded rapidly. Recycling of lithium has also grown notably since Japan opened its first lithium-ion battery recycling plant in 1992.” Charles Gibson, director of mining

Which are the big players in the Lithium market?

For many years, the world's lithium was supplied by three large firms: formerly state-owned Sociedad Química y Minera de Chile (SQM), Albemarle and FMC Lithium. Although these companies still produce the majority of lithium today, the market is much more fragmented than it once was

This is partly due to the rise of China's Ganfeng Lithium and the growing Chinese market. However, the [precipitous drop in spot prices in China has also already forced Desert Lion Energy to cease operations in Namibia, which serviced the Chinese market.](#)

That said, there has also been some fragmentation in supply owing to a number of smaller players developing new projects. Among these, Rock Tech Lithium operates a project along the Georgian Lake in Ontario and Nemaska retains the Whabouchi mine in Quebec. [Rock Tech also holds the Nogalito lithium brine operation in Sonora, Mexico, which it acquired in February 2018.](#)

Galaxy Resources, which recently partnered with Lepidico, is also a developing player with its James Bay lithium project in Quebec and the Mt Cattlin mine at Ravensthorpe in Western Australia. [Another is Neo Lithium Corp, which has begun negotiating for the construction of a US\\$490m Argentinean mine.](#)