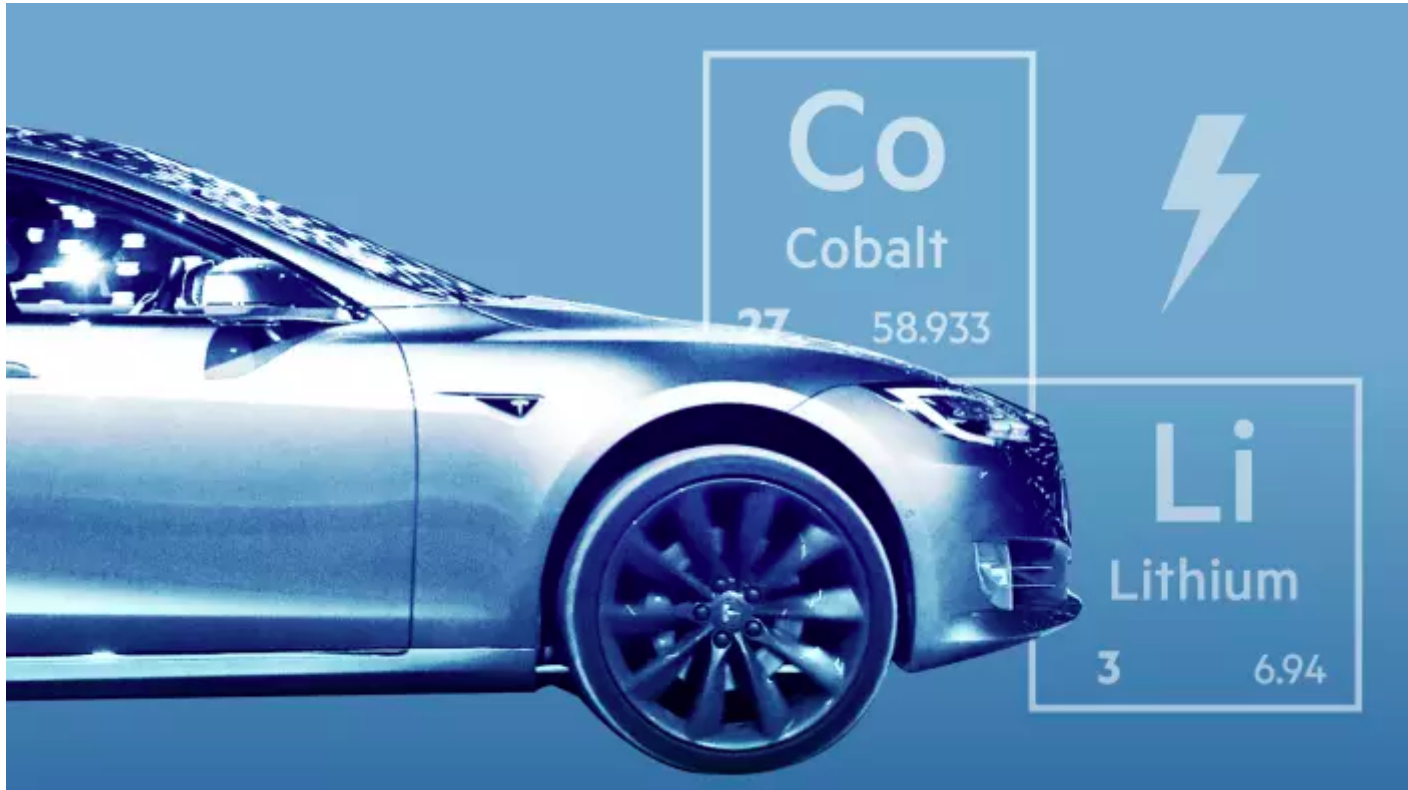


Electric Vehicles

Electric car demand sparks lithium supply fears

The cost of extracting vital battery material is likely to create a 'supercycle' and drive up prices



Manufacturing batteries for electric vehicles such as the Tesla Model S requires large supplies of cobalt and lithium

3 HOURS AGO by: **Henry Sanderson**

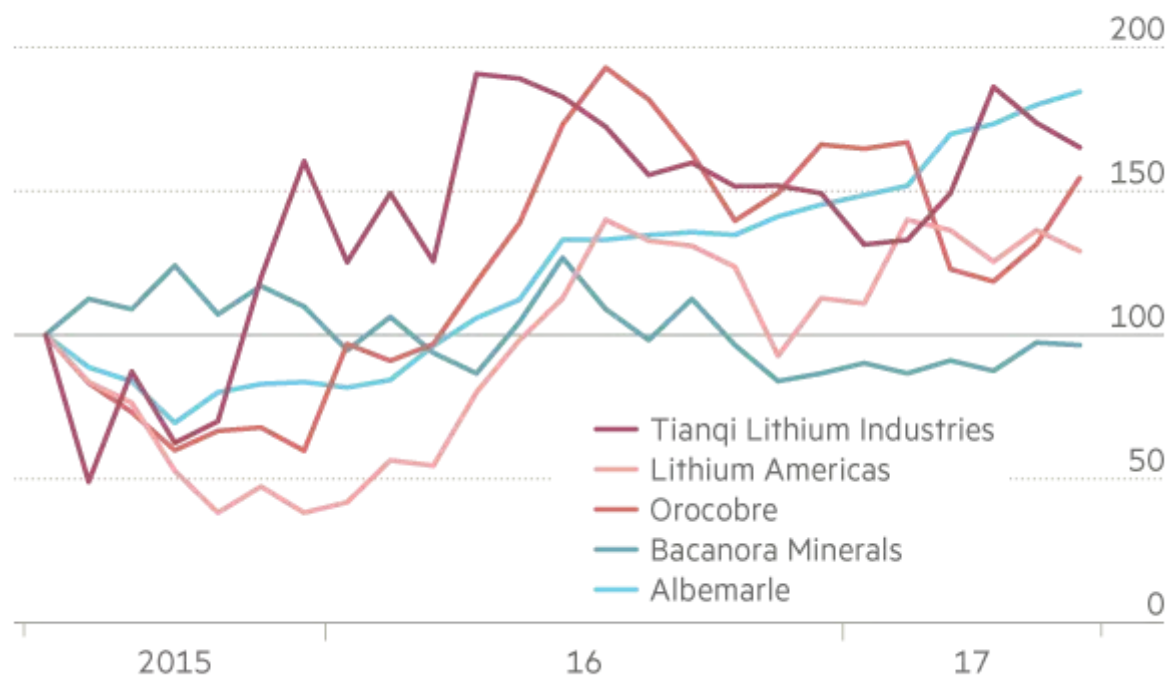
A year ago, Tesla Motors founder and chief executive Elon Musk quipped that lithium was only the “salt on the salad” for the batteries that are vital to the US company’s electric cars.

Fast forward 12 months and concern is growing among analysts, and some other carmakers, that the supply of what Mr Musk dismissed as mere “salt” will not be able to keep pace with demand as the expansion of electric vehicles begins to erode the world’s century-long reliance on oil.

“There’s a pivot,” says John Kanellitsas, vice-chairman of Lithium Americas, a miner that is developing a lithium project in Argentina. “There’s much more consensus on demand; we’re no longer even debating demand. We’re shifting to supply and whether, as an industry, we can deliver.”

Lithium stocks

Share prices (rebased in US \$ terms)



Source: Thomson Reuters Datastream

FT

Prices for lithium carbonate, used in the cathode of a battery, have more than doubled since 2015, according to consultancy CRU. Asset managers, including BlackRock and Capital Group, have recently bought up shares in smaller lithium producers, while there is speculation that battery and carmakers could also begin to invest in miners to secure a tighter grip on supply.

Some now point to the possibility of a “lithium supercycle”, echoing what unfolded in the iron ore market at the turn of the 21st century, when Chinese demand drove prices higher.

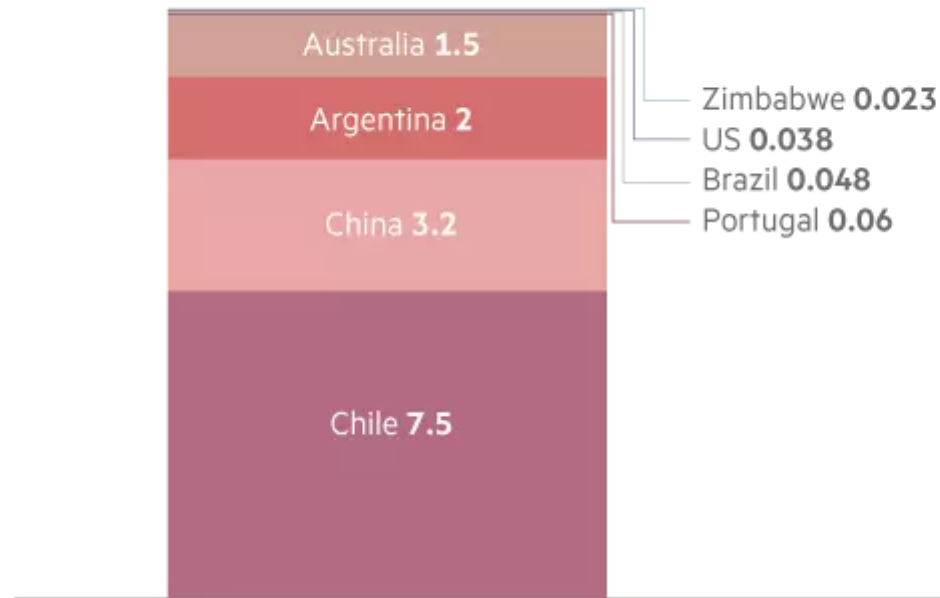
“It took many years for [iron ore] supply to catch up with demand — this will be the case in battery materials if capital is not available to develop new projects,” says Reg Spencer, an analyst at Canaccord Genuity, who forecasts that \$3bn of investment is needed to extract more lithium from the deserts of South America and hard rock in Australia.

“We saw several examples of steel mills acquiring iron ore resources or investing in mine capacity to ensure security of supply, something we might expect in battery materials as well,” Mr Spencer added.

This week a representative from Volkswagen told a lithium conference in London that supplies of lithium and cobalt, another battery metal, are of the greatest concern to the carmaker, according to people present at the event. In April BYD, the Chinese electric car and bus company part-owned by Warren Buffett, said it was talking to lithium producers in Chile about potential deals to secure lithium supply.

Lithium reserves

Million tonnes



Sources: Roskill, Bernstein analysis

FT

Last month Swiss bank UBS became the latest to raise its forecast for penetration of electric vehicles by more than 50 per cent. It now estimates EVs will hit 14 per cent penetration globally by 2025 and 30 per cent in Europe as the cost parity with conventional fuel vehicles is reached in the next few years.

“While all battery materials are abundant, mining and refining capacity could represent a bottle neck when EV demand takes off, even if only temporary,” UBS analysts noted.

The growing anxiety about supply comes as the production of lithium remains dominated by a handful of companies: Albemarle, Sociedad Química y Minera de Chile, and Chinese producers Tianqi Lithium and Ganfeng Lithium, which produce from Australia.

Dr David Deak, chief technical officer at Lithium Americas, who formerly worked as an engineer for Tesla, says the lithium market needs to grow from its annual production of 182,000 tonnes to an average of 3.1m tonnes for 20 years to electrify the world’s fleet of vehicles.



Production of lithium is dominated by a handful of companies: Albemarle, Sociedad Quimica y Minera de Chile, and Chinese producers Tianqi Lithium and Ganfeng Lithium, which produce from Australia © Reuters

Others remain confident that miners can meet the challenge given that lithium is abundant in the earth's crust. Analysts at consultancy CRU expect supply to ramp up and the market to be in a surplus from 2018 onwards.

"It will be a healthy market for producers of lithium, but there's so much lithium to be found on the earth, there's no shortage of lithium," Willem Middelkoop, founder of the Commodity Discovery Fund in the Netherlands, says.

Still, supply from new projects has been slow to come to the market. Financing is also trickier because lithium prices cannot be hedged like traded commodities such as copper via futures.

"Many people overestimate the simplicity of supply coming on," says Richard Seville, chief executive of Orocobre, which built the first lithium brine project in 20 years in Argentina.

All of which suggests the hunt for the "salt" may intensify further.

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