

Opinion **Adventurous Investor**

The paradox of lithium pricing in the Tesla era

The metal vital to battery production will play a key role in the renewables drive but demand has yet to match up

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Bullish tech markets are always full of curious dislocations. There's nothing more jarring right now than the momentum behind stocks such as [Tesla](#), seen as plays on the new electric grid and battery storage, and the price of lithium itself, which has been ensnared in bear territory for the past couple of years.

Analysts at Goldman Sachs tried to call the bottom of the lithium price last year, reckoning on a significant contraction in supply as marginal producers of the metal used in batteries ceased production. That has not happened — yet.

What's going on? Like many, I think there is a profound shift coming in how we power our hydrocarbon-addicted civilisation and that the pace of change is accelerating. Only a few weeks ago one of the cheerleaders of this worldview, [Elon Musk](#), [proclaimed](#) he would develop his own lithium supply and ditch cobalt in new batteries as he scales up electric car production.

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Renewables are to form an [even greater](#) part of UK electricity supply, according to Boris Johnson, prime minister. In the absence of new nuclear or gas fired power stations, this will necessitate a great deal more energy storage, which is likely to require a great many new batteries.

It is not surprising that market observers such as London-based advisory firm Ocean Wall have declared Chile to be the next Saudi Arabia, given its position in South America's Lithium Triangle, home to the

biggest reserves of lithium brine. The other main source is hard rock mining, which is more widely distributed geographically. It is cheaper to produce, but mines cannot charge as much for it and thus it boasts a lower margin.

Electric vehicles are forecast to be 25 per cent of the vehicle market by 2030, according to Ocean Wall, which is predicting demand for lithium in 2030 will be 2m tonnes, a big jump from the 0.3m tonnes a year currently sold.

However, there are few signs as yet of demand feeding into [prices](#). These have declined under the influence of trade disputes, reduced electric subsidies in China and a wave of new lithium production.

Lithium is not especially scarce, though extraction requires capital and a great deal of patience. It can also be recycled, but the extraction of lithium from old batteries is approximately five times more expensive than mining it. Remember, too, that electric cars receive a lot of hype but are less plentiful than we might think, accounting for 2.6 per cent of global car sales and around 1 per cent of global car stock in 2019.

Like uranium, which I wrote about previously [here](#), I suspect we might see demand for lithium slowly ramping up. Will Smith from Westbeck Capital runs one of the few dedicated actively managed battery tech and commodity funds, the Volta fund. He pointed to inventory at the mine gate, the converter, refinery and the battery makers as one explanation for sluggish prices. But he added: "Speaking to converters and miners recently, we note that demand is up . . . Prices have not budged, but the demand pull will, we think, soon have an effect on prices".

Like Mr Smith, many market experts say there is a lack of scalable alternatives to lithium batteries — and a steady increase in demand on the consumer side which shows no sign of abating. In Germany, for instance, electric car and bike sales continue to gain market share (sales in Germany recorded a 13 per cent market share in August) and Berlin intends to levy a CO2 tax on fuel shortly, while capping household energy pricing.

All of this leaves the big question for investors. If you buy the idea that there is a new global grid emerging, how do you put this to work in your portfolio?

There are two fairly obvious lithium pure play names: Albemarle (ALB) and Chilean giant SQM (SQM), both listed on the New York Stock Exchange. At Westbeck Capital, the current top holdings also indicate some “tangential” ways to play this big trend, namely Infineon Technologies, the German semiconductor maker, and Cree Inc (CREE US).

Semiconductors of the kind made by Infineon are increasingly used in cars and the business is number two globally in this sector. “Most decent cars have over 100 connected control devices needing chips, around \$700 worth, and that will only grow,” according to Westbeck’s Mr Smith. Cree, he adds, is the leader in silicon carbide wafers which are crucial for fast charging and the company is best known as an early leader in LED manufacturer. “We think the growth potential hasn’t yet been priced in.”

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Another way of investing is to look at the growing number of thematic exchange traded funds which invest in this space. There are three in the US and two in the UK (from LGHIM and WisdomTree).

In the table below I’ve listed the core, common holdings between these funds. Apart from the obvious names such as Tesla — there are some more unfamiliar names such as Livent, a pure play on the lithium hydroxide market, it listed in 2017, but hit a rough patch last year.

Other reasonably large businesses include SolarEdge and Belgian Umicore, while in the mining space you’ll see names like First Quantum Minerals, a major play on copper, Pilbara Minerals and Mineral Resources.

Exotic investment themes often have a habit of fading away, but my hunch is that investors' interest in batteries will stay highly charged for a long time to come.

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Battery power

Name	Price change %	-	-	-	
-	1 month	1 year	2 year	3 year	Price/earnings ratio
Pure Plays	-	-	-	-	-
SolarEdge Technologies Inc	62.2	255	650	893	98.5
Tesla Inc	1.38	715	712		
STM Group PLC	-31.6	-37.2	-54.2	-53.2	10.4
Umicore SA	-8.12	2.05	-9.4	-1.46	28.6
Albemarle Corp	-4.65	39.1	-2.36	-33	18.6
Livent Corp	12.9	47.4	-37.7		24.7
Indirect Plays	-	-	-	-	-
Cree Inc	14.3	60.7	99.8	109	
Infineon Technologies AG	14	67.8	55.4	22.9	31.1
US ETFs	-	-	-	-	-
Global X Lithium & Battery Tech ETF	3.06	72.9	39.4	6.51	
Amplify Advanced Battery Metals & Materials ETF	-2.06	5.19	-17.3		
First Trust Nasdaq Clean Edge Smart Grid Infrastructure Index Fund	9.81	35.3	59.1	36.1	

Name	Price change %	-	-	-
UK ETFs	-	-	-	-
WisdomTree Battery Solutions UCITS ETF	6.45			
L&G Battery Value-Chain UCITS ETF	1.16	43.8	41.4	
Battery storage Income oriented funds	-	-	-	-
Gore Street Energy Storage Fund PLC	2.91	12.8	6.8	9
Gresham House Energy Storage Fund PLC	0.45	7.21		16.9

Source: David Stevenson

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