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Lithium-powered downdraft

Evan Lorenz writes:

For sheer volatility, element No. 3 on the periodic table lords it over even bitcoin. The spot price of lithium, the coveted silvery-white electric-vehicle elixir, will rally by 60% this year, its fans predict—but only after slumping by three-fifths from its peak late last year. In preview, *Grant's* is bearish on Albemarle Corp. (ALB on the New York Stock Exchange).

Lithium, the least-dense metal, and the least-dense solid element, in existence, figures in the manufacturing of industrial greases and frits for ceramics. It's a component in heat-resistant glass making and metal casting—and the title of a 1991 hit by the grunge band Nirvana. Most importantly, it's an electrolyte (the medium that moves electrically charged ions) and is part of the cathode (the negatively charged electrode) in rechargeable batteries. One extracts it from big brine pools, such as the enormous Salar de Atacama in Chile, and from hard-rock ores like spodumene.

Automotive electrification and grid storage are among the top drivers of lithium's surging demand. Consider: In 2017, the world consumed 0.2 million metric tons (MMt) of lithium carbonate equivalent; in 2022, it consumed 0.8 MMt.

Over those five years, then, global consumption of Li (to call the thing by its atomic ticker) took off at a compound, breakneck rate of 32%. In China, the biggest lithium consumer, the Li spot price leapt by an astounding 1,107% between year-end 2019 and Nov. 11, 2022.

Governments, too, stoke the demand for lithium by subsidizing the purchase of qualifying electric vehicles (EVs) and plug-in hybrid electric vehicles (PHEVs). Thanks to the Inflation Reduction Act of 2022, American consumers can get tax incentives of up to $7,500 per vehicle. Starting in 2035, the European Union will bar the sale of new, non-zero-emission vehicles, though California, an ideological next-door neighbor of France, will continue to allow plug-in hybrid sales into the mid-2030s.

Anyway, the proportion of electric vehicles will continue to grow, and ALB forecasts that the demand for lithium on a carbonate-equivalent basis will soar by 363%, to 3.7 MMt from 0.8 MMt, between 2022 and 2030.

"Meeting expected lithium demand over the next decade requires significant investment in lithium supply, both resources and conversion," Eric Norris, the president of Albemarle's lithium division, told the crowd at the Jan. 24 investors' day meeting. "By 2030, we see potential for significant deficits. I say potential, because, of course, one way or another supply and demand will balance." Norris thinks that the market will ration supply through elevated lithium prices.

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Albemarle is the second-biggest lithium miner and refiner in the world by sales, after Sociedad Química y Minera de Chile (SQM on the Big Board). Except for subsidiary operations in bromine, a reddish-brown element used in fire-safety and other specialty chemical applications, Li is Albemarle's stock-in-trade; last year, operations in lithium mining and refining contributed 86.5% of company-wide Ebitda.

Albemarle is a direct beneficiary of the tight market in battery materials. Last year, revenue for the lithium division climbed by $3.6 billion, to $5 billion, of which $3.2 billion was the result of higher prices. This produced a $2.6 billion jump in Ebitda, to $3.1 billion. "Diluted EPS for the fourth quarter was $9.60, which was a record for Albemarle," CFO Scott Tozier crowed on the Feb. 16 earnings call. "In fact, it easily beat our previous full-year EPS record of $6.34 back in 2018."

However, investments in new capacity are likewise gushing, such that last year's $2.7 billion in net income translated into free cash flow of only $646.2 million; a further decline, to $450 million, is projected this year. If all goes according to plan, capital spending will rise to $4.2 billion by 2027 from around $1.8 billion in 2023 and from $1.3 billion in 2022. It's enough, management reckons, to boost lithium-mining capacity by 20% to 30% a year through 2027.

To judge by Albemarle's failed bid for Liontown Resources Ltd. last week, optimism abounds in the lithium world. The transaction spurned by Liontown, an early-stage pre-revenue venture that's developing a mine in Western Australia, bore a price tag of $3.7 billion, a 64% premium to the undisturbed Liontown share price.

Albemarle is in better financial condition than its low-investment-grade rating (Baa3/triple-B) may imply. At Dec. 31, 2022, the balance sheet

Battery-powered

source: The Bloomberg

showed net debt of $1.7 billion, or 0.5 times trailing Ebitda. Mr. Market, at least, has noticed. The Albemarle senior unsecured 4.65s of 2027 trade at $99.25 to yield 4.9%, or a spread of 147 basis points over Treasurys. That premium falls between the 175 basis points assigned to the average triple-B-rated issue and the 120 basis points prevailing for the typical single-A-rated bond.

In 2023, based on the midpoint of management guidance, sales will spurt by 65.3% and adjusted Ebitda by 33.8%, each driven by expectations of a 30%–40% increase in energy-storage volumes and by a 55%–65% bump in lithium pricing. Nor is Albemarle cosmetically expensive, at 9.5 times trailing earnings per share and 7.3 times the 2023 guesstimate—though maybe here, too, Mr. Market is on to something.

Of the 28 analysts on the case, 17 say buy and 2 say sell. Short interest, which tallies to 4.7% of the equity float, has steadily risen from 1.7% in November 2022. Over the past 12 months, insiders have sold 46,266 shares for proceeds of $12.9 million; not one executive has bought.

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Don't expect the miners to flag the market top. In China, Li spot prices surged by 338% between summer 2014 and fall 2017 before tumbling by 71% through year-end 2019. On the Feb. 28, 2019 earnings call—smack dab in the middle of that swan dive—the CEO of SQM, Ricardo Ramos, ventured a prediction: "We believe it is reasonable to project that the market price for 2019 will be similar or slightly higher than the average price the year before." He wishes—we can say with authority—that he could edit those bold words today.

Sociedad's lithium unit suffered a 31.2% decline in prices in 2019, leading to a 35% fall in total operating profits. From their respective peaks in 2017 and early 2018 through year-end 2019, Albemarle's share price tumbled by 49.5%, SQM's by 58.2%.

A worldwide supply glut was the source of the problem, posited S&P Global Platts, which added a bit of color to its 2019 analysis: "Once dubbed the new 'white gold' when prices peaked at a record over $25,000/mt in 2017, lithium is now being branded 'white dust' by some companies burned after overinvesting in its large-scale production and processing."

China featured prominently in the boom and bust. Between 2014 and 2018, sales of EVs and PHEVs in the People's Republic rose 14-fold, to 1.05 million. The country had become a bigger market for electric vehicles than the European Union and the United States combined. But sales flatlined in 2019, in response to a reduction in EV subsidies, and lithium demand buckled.

Beijing had planned to eliminate the EV-purchase inducements in 2020, but Covid intervened and the subsidies—amounting to between 3% and 6% on the best-selling vehicles—remained intact through 2022. Stuck at home, Chinese consumers availed themselves of the government's gift, and EV and PHEV sales roared, ascending by triple digits in both 2021 and 2022. Chinese drivers bought 6.5 million green vehicles last year versus 927,233 in the United States and 1.7 million in the EU.

But things have cooled considerably in China. While electric-vehicle sales climbed by 23% in the first two months of the year, total vehicle sales plummeted by 16%. It appears that an OEM price war, in which Tesla, Inc. fired the first shots late last year, is funding EV growth. Continuing into January, Musk & Co. slashed prices on Chinese models by 6%–14%.

The net result of which, the *Financial Times* reported last week, has been a windfall for local manufacturer BYD Auto Co., Ltd. Taking share from Tesla, BYD

Albemarle at a glance

all figures in $ millions except per share data

	2022	2021	2020	2019	2018
sales	$7,320.1	$3,328.0.	$3,128.9	$3,589.4	$3,375.0
operating income	2,470.1	798.4	505.8	666.1	911.5
net income	2,689.8	123.7	375.8	533.2	693.6
earnings per share	22.84	1.06	3.52	5.02	6.34
diluted shares	117.8	116.5	106.8	106.3	109.5
cash	1,499.1	439.3	746.7	613.1	555.3
debt	3,217.1	2,394.2	3,572.1	3,050.3	1,705.2
total assets	15,456.5	10,974.1	10,450.9	9,860.9	7,581.7

source: company reports

sold more than five times the number of units as its American rival in January and February. Chinese buyers are opting for cheaper domestic brands over expensive foreign nameplates. Delivering 22% of last year's sales, China is Tesla's second-largest market after the United States (50% of sales). A clue about the importance of Tesla's highly efficient Shanghai factory can be found in the fact that foreign governments—notably China's—levied 60% of Tesla's 2022 tax bill.

Not that Tesla's problems are exclusively foreign-sourced. The National Highway Traffic Safety Administration has begun to investigate steering wheels that fall off columns and seat belts that detach from the vehicle mid-ride. (For more on this pick-not-to-click, see the issue of *Grant's* dated Sept. 30, 2022.)

The deceleration from 100%-plus growth in China has caught the battery-making industry flat-footed. As operating rates at lithium refiners fall, inventory is accumulating, the data platform Shanghai Metals Market notes in a March 28 dispatch:

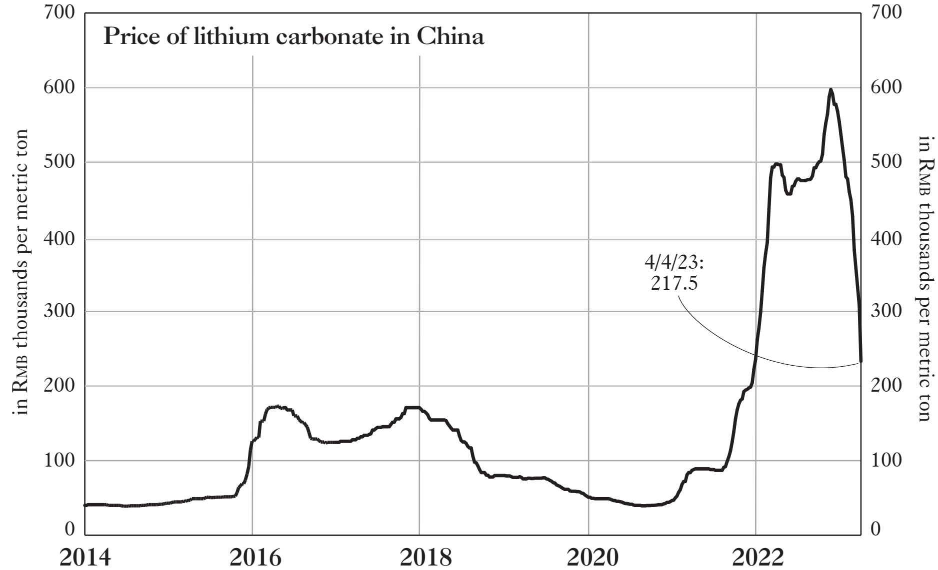
> [T]he demand from downstream material plants was weak amid their low operating rates. Therefore, the lithium carbonate market was in a supply surplus.... Since the demand will not recover in the short term, while it will take time for the high inventory to be consumed, the oversupply will persist, and the prices of lithium carbonate will maintain a downward trend.

Since Nov. 11, 2022, spot lithium carbonate prices in China have plunged by 63.6%.

Even so, miners like Albemarle and SQM are rapidly adding capacity to meet the expected growth in demand over the next decade. Whether or not that demand materializes, credit problems are surfacing in the here and now. Cox Automotive, Inc. reports that the average interest rate on new-auto purchases jumped to 8.95% last month from 5.66% in March 2022, while, according to the Federal Reserve Bank of New York, the rejection rate on auto-loan applications rose to 9.1% in February, the highest level since 2017 and up from 1.9% in February 2022. Notably, the rejection rate surged before Silicon Valley Bank went to heaven.

As it almost goes without saying, a recession would do nothing to support an oversupplied lithium market. Many a macroeconomic hope has hung on the China reopening story, but to date it's a narrative without much of a plot. In the first two months of the year, retail sales did increase, but by an anemic 3.5%, while industrial profits in the same period slumped by 22.9%. In February, exports fell by 6.8%, imports by 10.2%, both measured in dollars.

More volatile than bitcoin?



source: The Bloomberg

"You got a big rebound in January, a paring back over February and then a return by consumers a little bit into March," Shehzad Qazi, the chief operating officer and managing director of China Beige Book, tells me. While Qazi says he expects improvement over the balance of the year, he notes that "the broader economy is still weak. The labor market, up until the end of last year, was incredibly weak also."

Reopening has, in fact, led to a small pop in China's famously overbuilt and overleveraged housing market. In February, house prices in 70 cities eked out a rise of 0.3% from the level in January, the first sequential monthly price uptick since August 2021, while, over the first two months of the year, residential property sales registered a year-over-year increase of 3.5%. For the context in which these green shoots have appeared, residential real estate sales fell by 22.1% in the first two months of 2022. The short of it is that the problems in China's housing markets have persisted and metastasized onto the balance sheets of local Chinese governments (*Grant's*, March 10).

"People don't appreciate that the whole 'China-is-surging-ahead period' was largely due to capital gains," Anne Stevenson-Yang, the managing principal of J Capital Research, tells me. "It's because people were getting money from selling their land to the government, or flipping their property, or from the Chinese stock market. They take the capital gains, and they go into the consumer markets and they buy capital goods. But that doesn't work once property starts to decline."

With producers moving from fixed-rate contracts to ones linked to lithium-price indexes, the break in the Li market appears inauspiciously timed. Last year, Albemarle booked 20% of its sales through fixed-price contracts; this year, management says it anticipates booking exactly none, but rather consigning 20%–25% to the spot market and 75%–80% to variable-price contracts.

Nor is nature riding to the rescue, as there's no shortage of lithium in the world. Bolivia, a Li-production also-ran, nonetheless holds 23.6% of total lithium reserves, according to the U.S. Geological Survey. In January, La Paz chose a consortium led by Chinese battery giant Contemporary Amperex Technology Co. Ltd. to invest $1 billion in Bolivian production of the metal. In February, the Indian government announced the discovery of 5.9 million tons of Li reserves in the region of Jammu and Kashmir. In March, Iran claimed to have discovered the world's second-largest lithium deposit, of 8.5 million tons, in the mountainous western province of Hamedan.

There could be mega-mines in the 50 states, too. The brine below the highly saline Salton Sea in southern California is estimated to contain as much lithium as the largest deposits in Bolivia and Chile. BHE Renewables, LLC, a subsidiary of Berkshire Hathaway, Inc., which already pumps 50,000 gallons of brine per minute to produce geothermal energy, wants the world to know that, in the CNBC-quoted words of Alicia Knapp, BHE president and CEO, "We're really halfway there in that we've got the lithium right here in our hands."

"Unlike copper or zinc or cobalt, lithium is not inherently supply-constrained," Adam Rozencwajg, one-half the nameplate behind natural-resource investment shop Goehring & Rozencwajg Associates, LLC, tells me. "There are many deposits out there. As a result, we feel that supply and demand might be unbalanced in the short term and lead to the short-cycle boom-bust we have seen. However, longer-term, the market should be amply supplied."

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