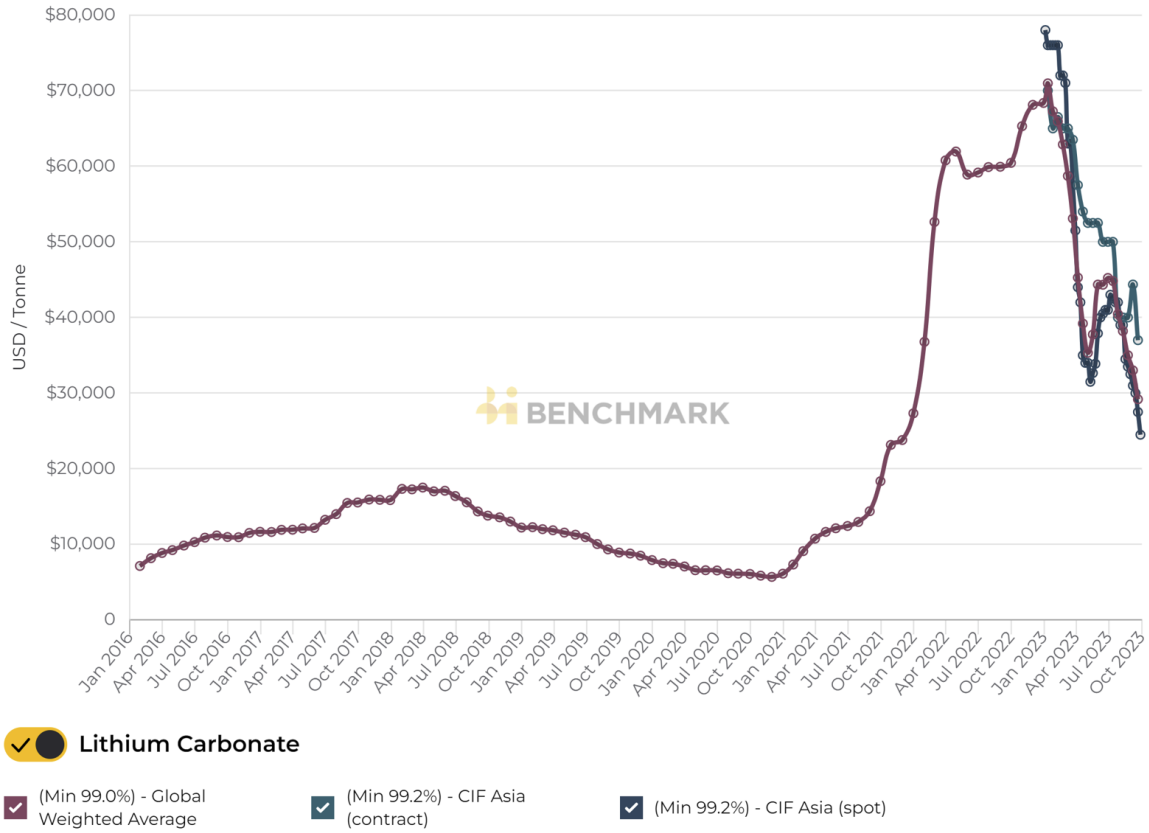
The Lithium Panic of 2023

As Charles Dickens said in the opening of *A Tale of Two Cities*, "it was the best of times, it was the worst of times." I feel the same way about the lithium world in 2023 although it seems like many investors are focused on the second half of the quote.

In commenting on the current situation in the lithium market I prefer the old saw: "it is always darkest before the dawn." To those fixated on the current China spot price crash; I offer the most time tested quote I will use today: "this too shall pass."

Over the past 33 years I have been through many ups and downs in the lithium market. To me, investors despondent over a spot price above $20/kg is laughable especially by historic standards. In 2020, there were spot sales below $4/kg. People in general and investors in particular tend to have short memories - the Hatfields and McCoys are notable exceptions (non-US readers feel free to google the reference).

The graph below from Benchmark shows a steep downward trend in price beginning late last year. I am not quibbling with the Benchmark numbers but believe the story is much more complicated than it appears. There are currently a myriad of lithium chemical and spodumene prices. Year over year prices for both carbonate and hydroxide in Japan are substantially higher; although in the August price for carbonate imports dropped to the low $40s/kg – the YTD average is still over $62/kg vs a $42/kg for full year 2022.

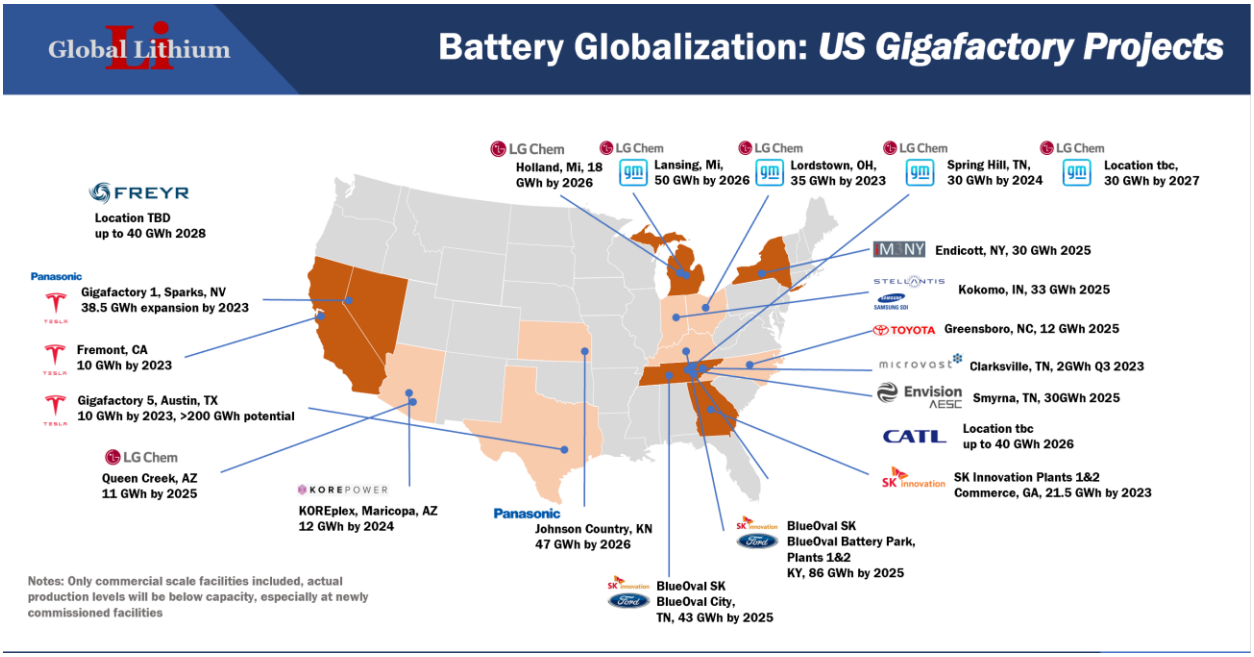


Lithium demand for battery use has always had periods of anomalous behavior. In the early days of lithium ion battery production, certain inefficient cathode producers used almost double the volume of lithium chemicals that should have been needed for a given amount of cathode.

The C-Suite of the company I worked for thought we had a massive share loss one year when our lithium sales were only up 5% vs battery market growth well over 25%. They didn't like my uncomplicated explanation that cathode producers were quickly getting more efficient using lithium yet it had been obvious from the beginning that the amount of lithium being purchased was so far above a reasonable use case that it had to be waste or inventory build or a combination of the two.

A couple of years later one of the main battery material producers (cathode and electrolyte precursors) in Japan realized they had nearly a year of inventory and stopped buying for six months. Despite having a long time Japanese partner that visited customers every week understanding the market was challenging. My bosses couldn't wrap their heads around how hard it was to have demand clarity in this new, rapidly growing market. I was visiting Japan frequently. Why didn't I "get it"?

Over a quarter century later, the lithium battery supply chain is orders of magnitude larger and much more complicated than in the 1990s. China rather than Japan is now the leader in most aspects of the supply chain. No, I am not forgetting Korea. I expect Korean companies to have more impact on how the North America supply chain grows that either China or Japan despite Panasonic's relationship with Tesla and Toyota's ever changing plans but that is a topic for another day.

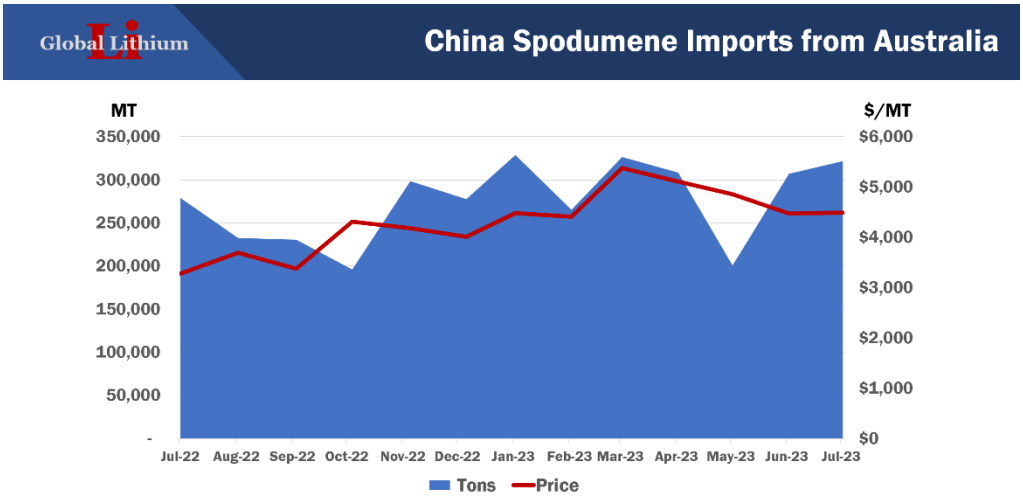


The complexity of the battery supply chain with multiple cathode and cell types coupled with aggressive participants in China that clearly produced too much cathode and too

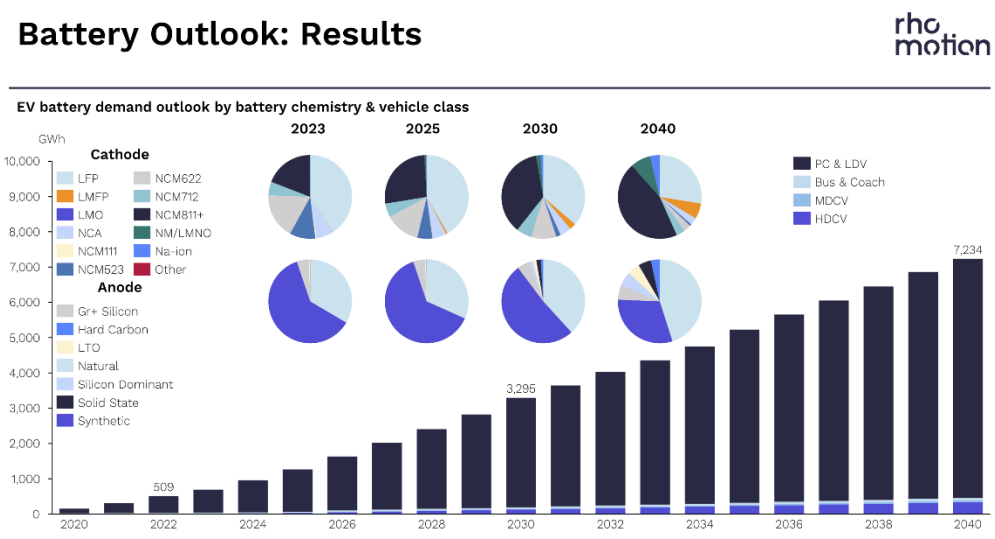
many LIB cells in 2022 set up the second spot price collapse in the past five years. The spot price collapse of 2019-2020 was a function of excess spodumene supply from Western Australia that saw SC prices drop well below $400/MT which substantially reduced the cash cost of Chinese converters. At the time, global BEV penetration was below 3%. That crash was supply driven and pricing demonstrated it.

As of today, short term spodumene prices (depending on the info source) range from the low $2,000s to over $2,800/MT. These days the lowest spodumene prices tend to be material from Africa not western Australia so be careful on a rush to judgement about how much volume is selling at what price. In the next month, we will have quarterly updates from the major spodumene producers in WA for a bit more clarity.

One of the slides I showed on my recent tour of Australia came from the Chinese import database showing only WA spodumene imports (Brazil and Africa prices were lower). Clearly volumes to China from WA over the first seven months of the year did not fall off a cliff despite lower priced spodumene and ore from Africa.



Overall global EV demand continues to grow substantially despite ups and downs in certain markets. The Rho Motion chart tells the EV story in GWH which is a more useful metric than EV penetration.



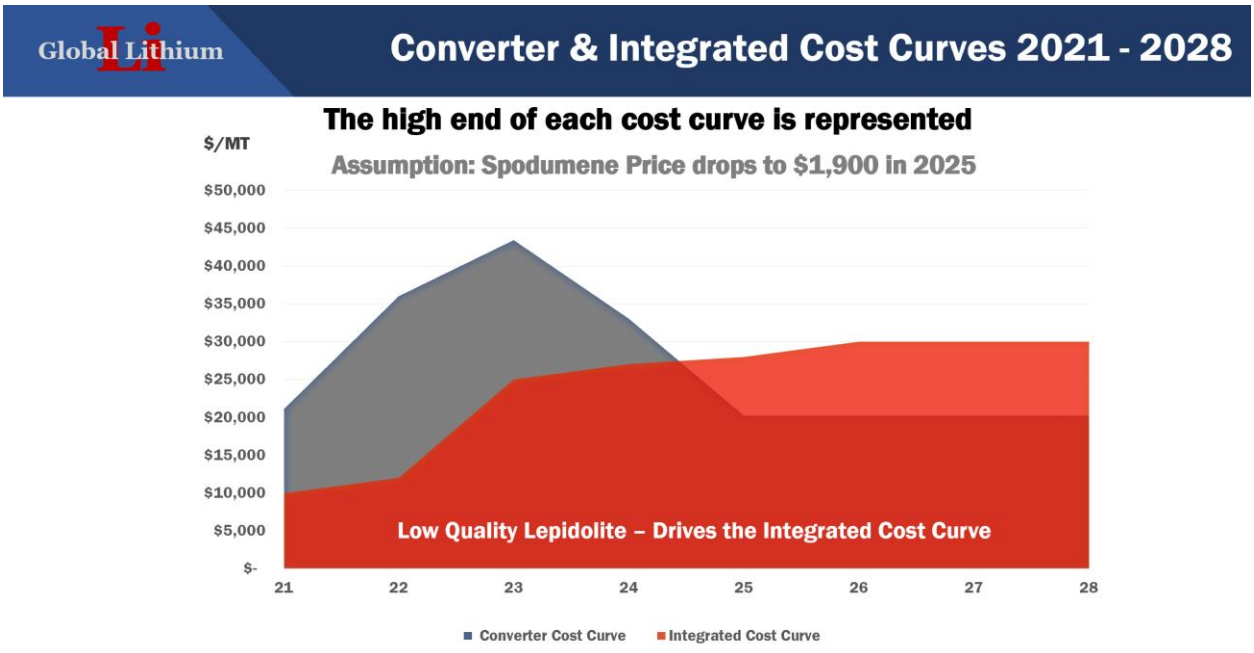
In my opinion the China lithium carbonate spot price run-up in 2022 to an $80,000/MT equivalent was based on panic buying and irrational behavior by many of the Chinese players. Clearly cathode and cell production in 2022 exceeded even the robust 2022 demand growth leading to a period of de-stocking at the cell, cathode, and lithium raw material level in 2023.

The ambitious mining of lepidolite in China coupled with an increase in supply of all manner of lithium values from Africa brought the China spot price down to almost a quarter of the peak price. We quickly saw many small lepidolite producers shutdown when spot price went below $40,000/MT. Currently many converters are on a temporary production hiatus because they are losing money. Many small lithium producers of ore or low grade precursors have reached out to me for help over the past two months because they can't find buyers for their low grade, small quantity offerings. That is a game I don't play.

Watch the spodumene price from WA to China over the next quarter. If there was a real, sustained oversupply of lithium values rather an indigestion from excess production in 2022 across the battery supply chain, we would have spodumene prices drop below $1,200/MT before year end and below $1,000 early next year. That is how supply and demand work.

Those ruminating over spodumene prices that are still eight to ten times higher than the 2020 lows should re-evaluate how they think about this market. What kind of margin is a company like Pilbara (my WA favorite) earning at spodumene prices above $2,500/MT? Or $2,000 for that matter?

In a world where the high end of the cost curve looks like the chart below, I have a hard time going into panic mode over where price will be in 2024 or for the rest of the decade.



The battering lithium stocks have taken in the current period of negative sentiment has, in my opinion, created another excellent window to go bargain shopping. This is not investing advice but seems obvious to me. I have added to my favorites this week "because of" not "in spite of" the current metaphorical "blood in the streets."

Those prone to panic should take a few deep breaths and review the major trends.

Building of new (China free) supply chains is creating opportunity and giving lithium producers more optionality in forming global strategic relationships. Watch the behavior of OEMs and battery suppliers – if they didn't feel stress over lithium supply, would they have turned into investors and enablers of capacity growth rather than "lithium voyeurs" expecting "market forces" to provide supply?

Watch the actions of Big Oil and Big Mining. It has become obvious that the electrification of transportation and energy storage for renewables are going to be too big for even the majors to continue to ignore.

The ongoing energy transition evolution will be volatile and create buying opportunities from time to time in the future but, for lithium stocks, maybe not any better than what we are seeing today. Despite the pain my lithium stock portfolio has suffered through this year, I take the long view and am focused on the "best of times" portion of the quote I began with.

DYOR, consider quality assets at the low end of the cost curve and you can thank me later.....