



Amati Insights Transcript

17th October 2023

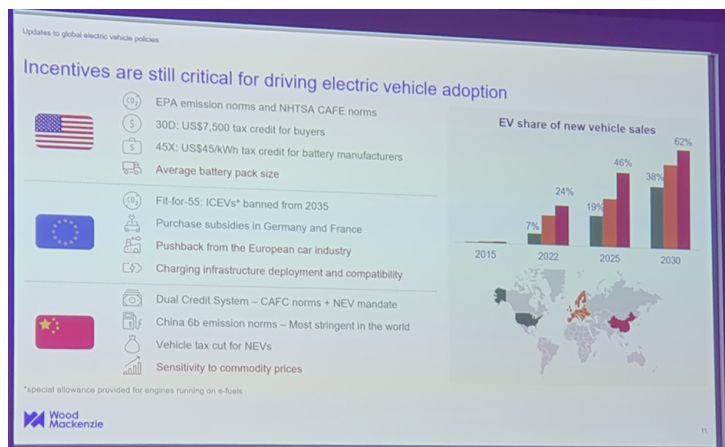
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AMATI INSIGHTS

The question posed was ‘can western governments scale up domestic supply chains sufficiently for renewables and battery infrastructure to be commercially competitive with China?’. The answer was no, well maybe, but the consumer will have to pay a green premium.

Exhibit 4 – Government incentives and EV market share



Source: Wood Mackenzie LME conference. In 2022, China exported 20% of its batteries to western markets, while its global share of production of battery components was 74-82%. The trajectory of global EV sales is set to reach 44 million units by 2030 (from 14 million units in 2023), so the mid-stream market will become very important.

From the Canaccord Genuity conference in Sao Paulo, it is evident that Big Oil will have to play a role if the EU & US want to establish a midstream market in the battery supply chain and EV market. The early trend for OEMs (Original Equipment Manufacturers) to approach the miners might have been initial panic when LCE prices spiked. The trend now is to enter longer term contracts with metal traders who in turn provide alternative forms of financing for mine development. Add to the mix the chemical converters (carbonate to hydroxide; spodumene to hydroxide) and you now start to see an integrated supply chain.

At the Wood Mackenzie LME conference Jaguar Land Rover (JLR) stated that 30-50% of the EV car cost was raw materials. If you start to include the cost of scope 3 emissions then the cost is even higher. JLR has a list of 50 minerals considered critical or strategic. Their approach is to ‘act’ at an appropriate stage of the supply chain to ensure supply, not necessarily at the mine stage. This supports our view of a midstream market development.

Using the US as an example, if the pledge of 50% of passenger vehicles sold in 2030 are to be electric, this will require 1.2TWh of cell capacity. Put another way, around 1Mt/yr of LCE demand. Currently we only have line of sight on 300kt/yr LCE production coming from the US.

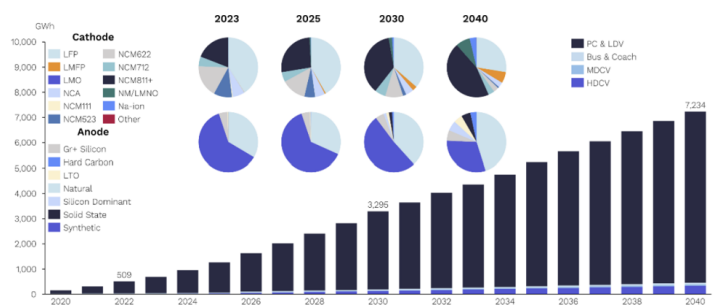
If global demand projections are correct then many interested parties will be eyeing the same sources of production. This will encourage battery chemistry diversification.

The view is that nickel based chemistries (NMC) will remain dominant, particularly in high range EV’s as the energy density is higher (700-800Wh/litre). Lithium Iron Phosphate (LFP) will be dominant in mid-range EV’s with moderate energy density (450Wh/litre). The emergence of sodium ion batteries will start to emerge in 2030 but with a low energy density (250Wh/litre) and which will be used in smaller ‘city’ EVs.

Solid state batteries are expected to be rolled out in 2030 (using solid state electrodes and electrolyte) where the silicon anode replaces graphite, but lithium chemistries will still be required.

Given the demand for anode and cathode materials, new battery chemistries will ease the raw material supply pressures, which is a good thing for the industry.

Exhibit 5 – Battery chemistry outlook



Source: rho Motion

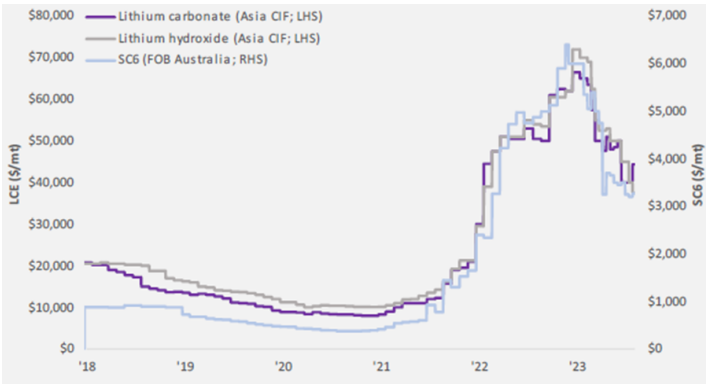
Recycling

We all recognize the need for recycling but the cost of secondary supply of complex EV waste means it is not cost competitive with primary mine supply. The global pricing of metals means no premium is currently being paid for recycled metals. People want recycled metals in their products but don’t want to pay for it. The green irony.

EV batteries have a primary useful life of 10 to 12 years, on average. Prior to 2016, EV batteries had useful lives closer to 8 to 10 years, and so are now starting to reach the end of their useful lives. By 2035, some project 4 million tonnes of used EV and stationary storage packs will reach the end of their useful life annually. With such an important supply of metal, there is a need for transparent and standardised regulations for metal recycling. Governments are now beginning to regulate battery recycling activity, with Europe requiring a 70% lithium recovery rate by 2030, while China seeks to recover up to 85% lithium content from batteries.



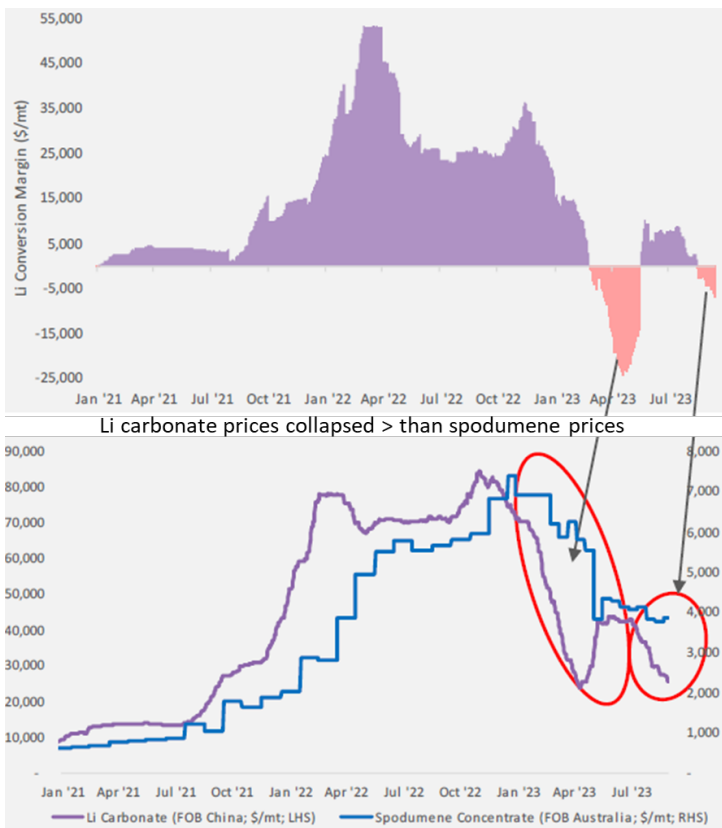
Exhibit 1 - Lithium Price History



Source: Bloomberg; Scotiabank

This feed stock accounted for 12% of market volume and the offtake commitments are still being unwound in China. Estimates of 100,000t of stock are left. At current spot prices the converters using lepidolite are running at a loss, especially the non-integrated LCE (Lithium Carbonate Equivalent) converters, when you consider the input raw material cost (upgrade) and the processing cost. Estimates range from \$3,000-\$8,000/t loss. This is not economically sustainable. Environmentally it laughs in the face of sustainability: 1t of LCE generates 35t of waste.

Exhibit 2 - Lithium carbonate refining margin and feed stock prices



Source: Scotiabank

It is our view that if supply-demand and cost curve economics play out, we have reached the floor in LCE pricing. With inventory levels in China being run down, we could enter a phase of restocking and high prices.

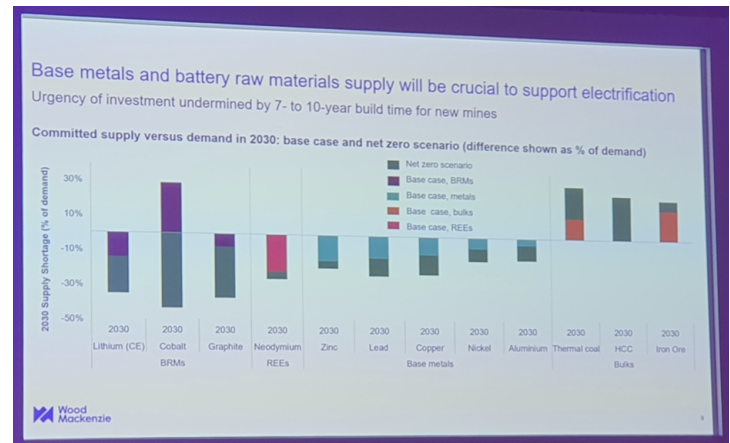
It might be a good time to invest in oversold lithium stocks now; however, not all lithium stocks are made equal, so as an alternative it may possibly be worth considering the Strategic Metals Fund which has a well-balanced exposure to lithium representing 26% of the Fund.

Big Picture

Let's now step back and remember the elephant in the (conference) room. Net zero by 2050 and consistent with a 1.5°C warming, with emissions needing to be reduced by 45% by 2030. This Metal can has just been kicked down the road, but in doing so just got larger.

At the Wood Mackenzie conference during LME week they highlighted the supply-demand scenario for net zero. The 2030 supply deficit could be as much as 30% for battery metals and 15% for base metals.

Exhibit 3 - Base metal and battery metal supply-demand picture 2030.



Source: Wood Mackenzie LME conference

The conference chat was all about building 'China free' supply chains and building global strategic partnerships from mine to market. This rapid onset of deglobalization during a period of disorderly markets is driving governments to plan for such a supply constraint. They have moved from 'Just in time to Just in case'. Governments don't know what they don't know. Decoupling from China will be easier said than done, and one could argue more needs to be done, and quickly!

The recent government incentives from the US; and EU countries are critical to drive electric vehicle adoption and close the gap to China's supply chain dominance. However, it is likely China will retain EV market share, according to the Wood Mackenzie analysis.

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This review does not provide you with all the facts you need to make an informed decision about investing in the fund. Before investing you should read the Prospectus, the Key Investor Document (KIID) and Supplementary Information Document (SID). The Prospectus sets out the main risks associated with the fund, the KIID shows you how costs and charges might effect your investment, and the SID details your cancellation rights. If you are in any doubt as to how to proceed you should consult an authorised financial intermediary. Fund documentation can be requested from T.Bailey or Amati and is available to download from our website.

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‘The time to be concerned is when the conferences are packed and the mood is giddy’

Georges Lequime and Mark Smith briefly discuss their findings from the Precious Metals conference in Colorado, LatAm Conference in Sao Paulo and chit chat around LME week.



Written by
Georges Lequime
& Mark Smith



We try to balance the Fund by bookending the battery metal exposure with precious metals exposure – it always gives you good diversification and it attracts an abnormally large percentage to total exploration expenditure across the metals sector. There are always many opportunities to invest in very attractive development companies in the sector without a need to take a view on the gold price or the silver price. Usually, we would have no more than 15-20% exposure to precious metals through a particular cycle – either through exposure to precious metals stocks or exposure to the physical metals through ETFs.

The fact that we have just over 50% exposure to gold and silver equities right now is really a function of the over-sold nature of the sector, especially after the capitulation selling that we witnessed in September. The sector is clearly bombed out right now with typical valuations of 0.2-0.3x NAV, EV/EBITDA multiples of 2-4x and free cash flow yields of 5-30%, even for companies with very long-life assets. Fundamentally the sector is in great shape, with great balance sheets and a very decent commodity price. Gold is actually up 5% YTD, although silver is down 6%. However, the various indices are down 8% to 19%, with the smaller cap and developers bearing the brunt of market apathy towards the sector.

Mark and I attended the Beaver Creek gold conference in Colorado last month and felt that sentiment had hit rock bottom, with high quality fully funded developers trading at the same very low multiples as un-funded “so-called” lifestyle companies.

After almost 18 months of headwinds for gold – rising rates, a strong dollar, and better performing equities elsewhere – perhaps we are getting to a stage where the rate hike cycle is ending, just as macroeconomic factors and geopolitical risk starts to favour investing in gold again.

The volumes are so light, that just the anticipation of a pause in the Fed’s rate increases, has caused gold equities to rally 20% over the past couple of weeks.

On Friday, with the rise in tensions in the Middle East, gold shot up \$60/oz and silver \$1/oz on the day, with some of the shares that we hold in the portfolio up over 10%.

Although we have been frustrated by the precious metals sector over the past few months, we have been steadily buying on weakness while trading volumes have been very light because it becomes difficult to chase the sector when investors take a shining to gold and silver again. In the meantime, the Fund holds good positions in companies with low-cost, long life assets trading at a fraction of the valuations that they should be trading at, given the fundamentals.

And this is a theme that repeats itself in the lithium and graphite space right now, as Mark will discuss.

Just in time to Just in case

The WS Amati Strategic Metals Fund was launched over 2 years ago on themes of global currency devaluation, political risk and global energy decarbonization.

Nothing here has changed: in the meantime we have had weaker consumer behaviour and higher interest rates, getting in the way of a long-dated demand annuity in battery metals.

The market has gone risk off and is not investing in resource development risk – there was no giddy mood at the conference, and that is a good thing.

Battery metals side of things

The Bloomberg screen is telling one story; conference chat to industry insiders paints a different picture. So let’s explain the current lithium market.

The market has been fixated on the rise and fall of Chinese spot carbonate and hydroxide prices. This was driven by converter capacity constraints and then by China producing too much cathode and too many LIBs (Lithium Ion Batteries) in 2022. A cheap source of lithium from low grade (0.2%-0.6% Li₂O) Chinese lepidolite drove prices down from \$80,000/t to \$30,000/t.