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Nickel prices are skyrocketing

The price movement of nickel over the past week was staggering. The London Metal Exchange (LME) three-month nickel contract, the primary pricing reference for the global physical supply chain, hit \$101,365 per tonne early on 8th March, up from just \$30,000 on 4th March. The ferocity of the price action reflected a forced liquidation of positions and a buy-back in a liquidity vacuum. The contract was suspended at \$80,000 as the exchange stepped in to halt trading on 8th March. The Exchange said reopening criteria has not been met so nickel trading would not resume until a formal announcement is made.

People familiar with the matter said that Tsingshan Holding Group and mining giant Glencore PLC were the main trading forces battling nickel prices. Early in February, Bloomberg reported that Mr. Xiang Guangda had held for months a large short position of nickel directly on the LME through his company Tsingshan, one of the biggest nickel alloys and stainless-steel producers in the world. Data from the LME showed that since 13th January, a single client had been the main stockpiler, controlling more than 90% of nickel warehouse warrants monitored by the LME. Tsingshan was struggling to meet margin calls. The size of its bearish bet remains unclear but is understood to be at least 100,000 tonnes of nickel, leaving Tsingshan facing billions of dollars in potential losses.

Securities Daily reported on 10th March that Tsingshan had swapped its nickel matte for domestic nickel plate, which will let it close its short position against the metal. Besides, Tsingshan had secured credit lines from several banks that would give the company the ability to withstand further margin calls when the market reopens. It could also use an agreement with the China's State Reserves Bureau to send a powerful message to the market about its ability to stay in its position without being squeezed. Nickel was trading at around \$35,000 per tonne in Shanghai on Friday, a wide gap from the last price at which nickel last traded in London. Interestingly, Indonesia, the world's top nickel producer, is set to add 400,000 tonnes of nickel capacity this year, bringing the total to as much as 1.4 million tonnes. About 12 new metallic mines in the Philippines should also begin commercial operations this year, mostly nickel projects, the local industry regulator said on 11th March.

The extreme short squeeze seemed to ease after newswires reported that Beijing was exploring ways to rescue Tsingshan. We're still not sure how things will work out, but let's try to answer a few questions to better understand this wild nickel story.

Why did Tsingshan Group short nickel?

According to Bloomberg news, Tsingshan started to build a short position at the end of 2021 when the price of LME Nickel was around \$20,000 per tonne in order to hedge against production growth and because Xiang believed that the rising trend of nickel prices would start to subside in 2022. This judgment was mainly based on two facts: 1) nickel pig iron, which is used to produce stainless steel will turn from a shortage in 2021 to a small surplus in 2022 2) high ice nickel can effectively ease the tight situation of battery-grade nickel. Considering Tsingshan's production costs in Indonesia were as low as USD10,000 per tonne, being bearish on nickel prices made sense.

High ice nickel is an intermediate product used to produce nickel sulfate, mainly from nickel sulfide smelting. But as the nickel sulfide mines are limited and hard to exploit, the cost of nickel sulfide smelting continues to increase. Tsingshan made a breakthrough by using laterite nickel ore to produce high-ice nickel for power batteries. The company has signed agreements to supply respectively 60,000 tons and 40,000 tons of high-ice nickel to Huayou Cobalt and CNGR Advanced Material, which led to a dive in international nickel prices in 2021. Some sources said that during this plunge, Tsingshan generated large profits by shorting nickel contracts.

Why cannot a nickel giant settle by physical delivery?

Nickel can be further divided into Class 1 nickel and Class 2 nickel according to different purity. Class 1 nickel is a form that can be delivered against the LME's contract. It is mainly used in the production of batteries and only accounts for 30% of total finished supply. Class 2 nickel, accounting for 70% of total finished supply, is mainly used for stainless steel. Although Tsingshan has massive nickel capacity in Indonesia, its metal is either flowing directly into its stainless-steel melt shops or being converted into intermediate products for shipment to Chinese battery makers. None of it is Class 1.

Russia's Norilsk Nickel produced about 7% of global nickel production (including Class 1 and Class 2) and accounted for 15% global Class 1 nickel production. Although Norilsk

has not been sanctioned yet, sanctions on doing business with Russia and logistics restrictions have made Russian nickel undeliverable.

Country	Mine production in 2021	% of total production	Reserves	% of total reserves
US	18,000	1%	340,000	0.4%
Australia	160,000	6%	21,000,000	22%
Brazil	100,000	4%	16,000,000	17%
Canada	130,000	5%	2,000,000	2%
China	120,000	5%	2,800,000	3%
Indonesia	1,000,000	40%	21,000,000	22%
New Caledonia (France)	190,000	8%	NA	NA
Philippines	370,000	15%	4,800,000	5%
Russia	410,000	16%	7,500,000	8%
Others	373,000	15%	20,000,000	21%
World total	2,510,000		95,000,000	

Source: USGS survey 2022

What is battery's cost sensitivity to nickel?

While we do not think \$100,000 per tonne price is here to stay, we should notice that nickel prices jumped by 30% to a near 15-year high before this short squeeze. LME nickel inventory has been very low for months due to higher-than-expected EV adoption. We

estimate nickel accounts for 10% / 16% of total raw material cost of Nickel Cobalt Manganese NCM523 ($\text{LiNi}_{0.5}\text{Co}_{0.2}\text{Mn}_{0.3}\text{O}_2$) and NCM811 ($\text{LiNi}_{0.8}\text{Co}_{0.1}\text{Mn}_{0.1}\text{O}_2$) batteries in 2022.

When nickel price soars to \$35,000 per tonne (LME nickel's official price on 7th March) from \$25,800 (the average nickel price in 2021), the cost per vehicle would increase by RMB4,600 for Tesla Model 3, RMB4,200 for XPENG P7 and RMB4,400 for the NIO ES6. Even though we are bullish on nickel price in the near term because of the disruption of supply chain, we believe it will moderate in the second half of 2022, especially after Indonesia and Philippines announced plans to raise their respective nickel production capacity.

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