Critical Metals
For a Sustainable World

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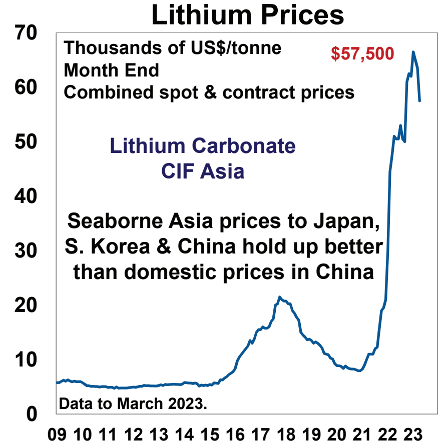
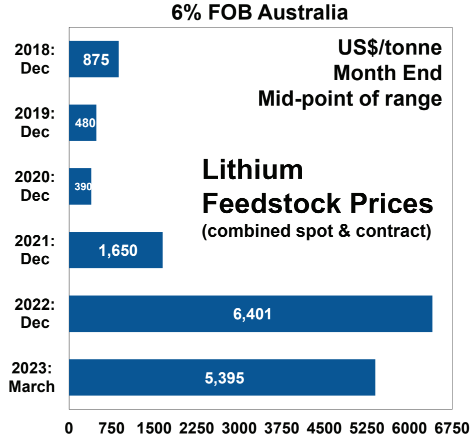
- **Ottawa Announces Investment Tax Credit for Critical Minerals – Brightening Prospects for Canadian Mine Development.**
- **Copper – An Era of M&A activity gets underway.**
- **Bearish sentiment in China takes toll on lithium & REE prices.**

Lithium Prices



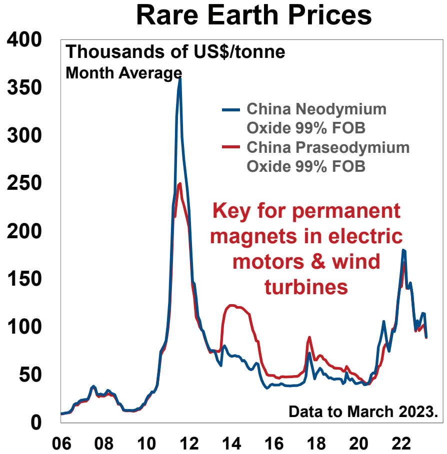
Source: BMI, Bloomberg, Capitalight Research.

Spodumene Concentrates
6% FOB Australia



Source: BMI, Bloomberg, Capitalight Research.

Rare Earth Prices



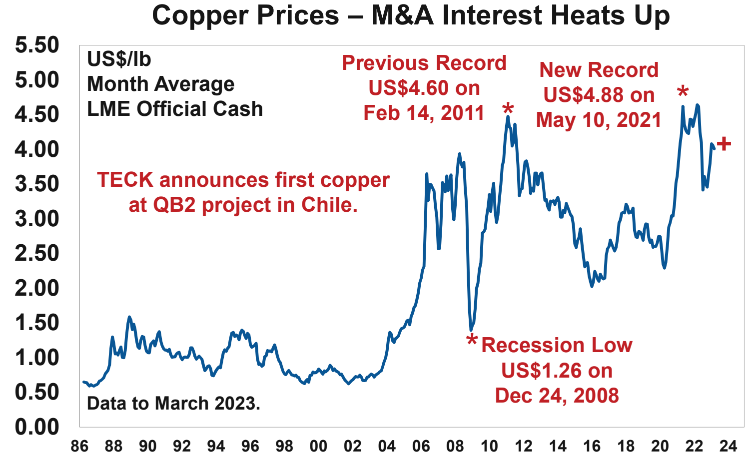
Source: Asian Metal Ltd, Bloomberg, Capitalight Research.

Budget 2023 – Canada introduces Investment Tax Credits to Spur Economic Growth over the next decade

In the March 28, 2023 Budget, Canada's Deputy Prime Minister and Finance Minister unveiled large investment tax credits to retool the Canadian economy for a lower-carbon world and boost economic growth over the next ten years. The incentives are intended to spur investment in Canada in green electricity generation & transmission, clean technology and in critical minerals & their supply chains.

Ottawa wishes to ensure that the investment environment in Canada is competitive – especially given the large funding programmes & incentives for clean energy & industry development – linked to electric vehicles and renewable energy – now on offer in the United States, the European Union and Japan. There has

Copper Prices – M&A Interest Heats Up



+ US$4.08 on April 13, 2023. Cu prices recover, as risk sentiment rebounds after U.S. regional bank failures.
Source: LME, Bloomberg, Capitalight Research.

been some concern that the U.S. 'Inflation Reduction Act' – offering an estimated US$369 billion in production & investment tax credits, grants & loans to spur a 'green' economy over the next ten years – might siphon off investment from Canada.

In addition, an ample supply of low cost, clean electricity is seen as the basis for strong economic growth over the longer term. Power generation in Canada is already low carbon – one of Canada's major competitive advantages in attracting EV-related industry – with 83% based on hydro, nuclear and renewables (solar & wind) in 2020. However, Canada's demand for green electricity could grow by more than 2 times in the period to 2040.

Finance Canada estimates the cost of the proposed ITCs will total about $55 billion over the next 10 years to 2034. Please see the table opposite. Combined with other measures, Government of Canada outlays could total about $80 billion. While 'these investment carrots' are much less than the US$369 billion from the U.S. 'Inflation Reduction Act', it should be noted that the size of Canada's economy is less than a tenth that of the United States (only 8.5% of U.S. nominal GDP in 2021, measured in U.S. dollars). On an adjusted basis, the ITCs and other initiatives proposed by Ottawa should be powerful incentives and will lift labour-force productivity, which has declined in recent years.

Please see the notes below, outlining the detailed measures in Canada's 2023 Budget – especially those applicable to critical minerals. Ottawa has included measures aimed at assisting Alberta's oil & gas industry transition to natural-gas based 'hydrogen', abated by Carbon Capture, Utilization and Storage, and 'lithium from brines' – a development which also could be transformative for Alberta.

Canada – 2023 Federal Budget, Key Critical Mineral & Business Measures

Selected Tax Measures intended to spur investment in Critical Minerals, Clean Technology & Clean Power:

1) Investment Tax Credit for Clean Technology Manufacturing & Processing and Critical Mineral Extraction & Processing (refundable): for up to 30% of the capital cost of eligible depreciable property that is used in eligible activities. Eligible property includes machinery & equipment, including certain industrial vehicles, used in manufacturing & processing or critical mineral extraction & processing, as well as related control systems (not available for property used in the production of battery cells or modules, if such production has benefitted from direct support through a 'Special Contribution Agreement' with the federal government).

Six critical minerals – essential for clean technology supply chains – are eligible: lithium, cobalt, nickel, graphite, copper and rare earth elements; available from January 1, 2024 through 2034, with some phase-out from 2031.

Examples of qualifying investments: electric haul trucks or hydrogen-fueled haul trucks for mining operations; equipment to make anode or cathode materials used in EV batteries; equipment to manufacture nuclear fuel rods.

2) New Investment Tax Credit for Clean Electricity: A 15% refundable tax credit for eligible investments in specific clean electricity generation systems (wind, concentrated solar, solar photovoltaic, hydro, wave/tidal and nuclear -large-scale and small modular reactors); abated natural-gas fired power generation; stationary electricity storage systems and inter-provincial/territorial electricity grids. The credit will be available for new projects and the refurbishment of existing facilities and will be available to taxable and non-taxable entities, such as Crown corporations (e.g. BC Hydro) and publicly owned utilities, corporations owned by Indigenous communities and pension funds; available after the 2024 budget through 2034.

3) New refundable Clean Hydrogen Investment Tax Credit: A new tax credit for clean hydrogen investment of 15%, 25% or 40%, depending upon the carbon intensity of

Canada - Budget 2023

Investment Tax Credits for Clean Power, Clean Technology & Critical Mineral Development

Investment Tax Credit	Finance Canada Cost Estimates (First 4-5 years to 2028-29)	(Additional 5 year period to 2034-35)	Total Over 10 years
Clean Technology Manufacturing & Critical Mineral Development	$4.5 bn	$6.6 bn	$11.1 bn
Clean Electricity	$6.3 bn	$19.4 bn	$25.7 bn
Clean Hydrogen	$5.6 bn	$12.1 bn	$17.7 bn
Expanding eligibility for Clean Technology ITC for Geothermal	$185 m (2023-24 to 2027-28)	n.a	$185 m
Expanding CCUS ITC	$520 m	n.a.	$520 m
Total	$17.105 bn	$38.1 bn	$55.205 bn

Source: Department of Finance Canada, 2023 Budget.

the hydrogen that is produced. The hydrogen may be based on water electrolysis or natural gas feedstock, abated by Carbon Capture, Utilization & Storage (CCUS) facilities, as planned in Alberta by the 'Oil Sands Pathway To Net Zero Alliance' – six oil sands companies including Canadian Natural, Cenovus Energy, ConocoPhillips Canada, Imperial, Meg Energy and Suncor; available from March 27, 2023 through 2034.

4) Expanded Eligibility for the Clean Technology Investment Tax Credit: The Clean Technology Investment Tax Credit is now applicable to geothermal energy systems that are eligible for capital cost allowance Classes 43.1 and 43.2.

5) Expanded Eligibility for the CCUS Investment Tax Credit.

Recently launched initiatives aimed at boosting Critical Minerals development (introduced in Budget 2022):

1) A 'Critical Minerals Infrastructure Fund' – launched on March 24, 2023 – $1.5 billion towards energy and transportation projects needed to unlock priority mineral deposits;

2) Designation of 'lithium from brines' as a mineral resource, eligible for flow-through share financing; also qualifying for the expanded 'Critical Mineral Exploration Tax Credit' (CMETC) – a 30% non-refundable exploration tax credit announced in the 2022 Budget; important for lithium-containing brines from depleted oil aquifers in Alberta; available from March 28, 2023 through April 2027;

3) The 'Canada Growth Fund' – a $15 billion public investment vehicle launched in December 2022; In establishing the CGF, Ottawa points to the growing list of new public sector funding tools in other jurisdictions such as the United States, European Union, Japan, South Korea and Australia (among others) – intended to attract the significant private capital needed to accelerate technology deployment for decarbonization (e.g. hydrogen & CCUS) and economic growth. The government intends to introduce a legislative amendment to enable the 'Public Sector Pension Investment Board' to manage the assets of the CGF.

More specifically, the CGF is intended to provide capital – or a basis for attracting private sector capital – by mitigating 'risk' in higher-risk projects and to help ‘commercialize’ & maintain technology development & deployment in Canada. **The CGF will provide ‘contracts for difference’ to backstop the price of carbon or hydrogen to de-risk projects.**

Other Business Measures Important for Critical Mineral Development & Trade in Budget 2023:

1) Upcoming Plan to Expedite Major Projects: Government will develop a plan by the end of 2023 to “improve the efficiency of the impact assessment and permitting processes for major projects”. Delegates at the March 2023 PDAC Conference in Toronto identified Canada’s lengthy mine permitting process as the number one challenge facing mining companies in developing critical mineral projects;

Related to this consideration – Budget 2023 also proposes a modest investment of $11.4 million over three years – starting in 2023-24 – to update the federal guidelines for federal officials to consult indigenous peoples and accommodate impacts on their rights.

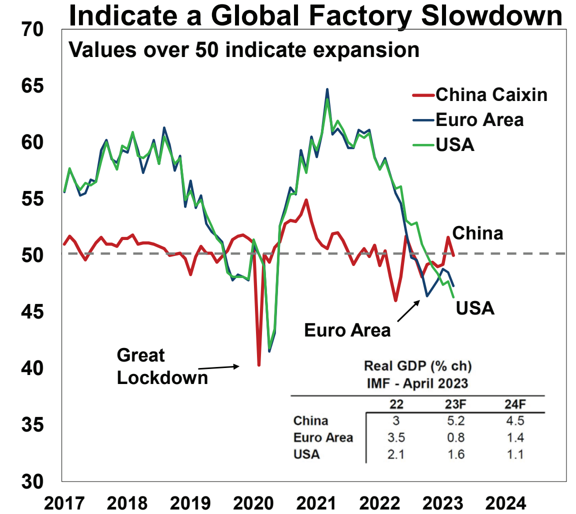
2) Strengthening Canada’s Trade Corridors (Ports, Railways, Highways & Air): The Budget includes a number of initiatives to strengthen Canada’s transportation systems and supply chain infrastructure, including a commitment to develop a long-term roadmap for Canada’s transportation infrastructure and the establishment of a ‘Transportation Supply Chain Office’ to work with industry. **This is particularly important for B.C. Gateways in Vancouver and Prince Rupert;**

3) Ports – a specific sector support: $165.4 million over seven years – beginning in 2023-24 – for Transport Canada to establish a ‘Green Shipping Corridor Program’.

Copper Prices Rebound to US$4, As Financial Markets Steady

LME copper prices averaged US$4.01 per pound in March – down from US$4.06 in February and US$4.08 in January. Prices moved as low as US$3.87 in mid-March, as financial

Purchasing Manager Indices Indicate a Global Factory Slowdown



Source: China Caixin, S&P Global Purchasing Managers' Index for Euro Area, U.S. Institute for Supply Management, data to March 2023.

markets reacted to the failure of two regional banks in the United States (Silicon Valley Bank and Signature Bank).

However, prices have since rebounded back around the US$4 mark alongside a swift response by the Federal Reserve Board, the Federal Deposit Insurance Corporation (FDIC) and the U.S. Treasury to stem depositor withdrawals at other banks and prevent contagion (with the FDIC making depositors at SVB whole on 100% of their deposits and offering a new Bank Term Funding Program). The acquisition of Credit Suisse by UBS in Switzerland also stabilized financial markets.

Nevertheless, recently slower industrial production in the United States and Euro Area, linked to tightening monetary policy, and a disappointing pick-up in China, following an end to COVID-19 restrictions – are blunting base metal prices. Ongoing strength in U.S. employment conditions – with 236,000 new jobs added in March and the unemployment rate edging down to 3.5% (more than a 50-year low) – is centred in the service sector. Job gains in ‘leisure & hospitality’ and ‘education & health’ totalled 137,000, while jobs in manufacturing and construction (which drive metal demand) dropped by 10,000.

Nevertheless, U.S. equity markets may take heart, as the end of the Fed's interest rate tightening cycle approaches. After hiking the target Fed funds rate by 25 bps on March 22, the market anticipates another 25 bp increase to 5.00-5.25% at the next May 3 FOMC meeting. The Fed will have lifted rates by 500 bps (ten times) since it began to tighten from 0-0.25% in March 2022.

The 'dot plot' forecast by FOMC participants at the last FOMC meeting expected the 'central tendency' of the funds rate to exit 2023 at 5.1-5.6% and to drop to 3.9-5.1% in 2024:Q4. This suggests that many participants believe the May 2023 rate hike will be the last. (The 'central tendency' excludes the three highest and the three lowest projections.) Real U.S. GDP growth is expected to slow to a mere 0.4% in 2023.

An Era of M&A Activity Is Now Underway in Copper

M&A activity has picked up notably in the global mining industry – especially in copper. This reflects the following:

1) Today's modest valuations for copper mine assets compared with much higher expected metal prices & valuations mid-decade. Copper prices remain relatively high at US$4 despite current macro-economic headwinds, but are expected to soar over US$5 mid-decade, as demand for decarbonization hits a wall of depleting supplies.

2) Corporate acquisitions are an easier way of growing production than 'greenfield' mine development, given lengthy time frames for development – partly linked to environmental permitting – and socio-political & aboriginal challenges in some jurisdictions.

In a recent interview in The Economist, Richard Adkerson, CEO of Freeport-McMoRan suggested two solutions to the coming 'crunch' in copper supplies: one is to double-down on mine expansion at 'brownfield' sites; the other is 'recovery of copper' left in tailings and after leaching. New reagents as well as new operating techniques, using data analytics, will help with recovery.

Recent M&A activity includes:

1) BHP's proposed US$6.4 bn acquisition of OZ Minerals of Australia (owner & operator of Prominent Hill's copper-gold mine, Carrapatena: an iron-oxide-copper-gold underground mine in the Gawher Craton in South Australia, the West Musgrave copper-nickel project in West Australia and the Carajas East Hub in Brazil);

2) Rio Tinto's acquisition of the remaining 49% of **Turquoise Hill of Vancouver**, giving it a 66% stake in the Oyu Tolgoi mine in Mongolia (one of the world's largest); and

3) the recent unsolicited Glencore offer to acquire Teck Resources, which appears unlikely to go through even with a second somewhat improved offer. The Board of Directors of Teck has rejected Glencore's bid – as has Dr. Norman Keevil, the controlling shareholder of Class A shares – believing Teck's proposed business plan – to be voted on by shareholders on April 26, 2023 – will generate greater returns for shareholders.

To unlock the value of its copper assets, Teck Resources intends to split its current operations into 'Teck Metals' (copper & zinc assets & exploration projects) and 'Elk Valley Resources' (high-quality coking coal assets for steelmaking), spinning off Elk Valley Resources through preferred shares and receiving a royalty from EVR through a 'transition period' (now potentially shortened). **Teck believes its copper growth portfolio is significantly undervalued relative to its peers. Teck has traded at multiples of EV/EBITDA common for 'diversified' miners rather than the higher multiples for copper-dominated producers – reflecting the 'critical mineral' status of copper.**

As of February 8, 2023, Teck traded at a multiple of 4.6X versus 7.5X for its copper peers (including Freeport-McMoRan, Southern Copper, Antofagasta and First Quantum). Multiples were as high as 11.1 for Peer 1 copper producers in February 2023. Equity analysts expect Teck shares to jump significantly over the next two years – far above the Glencore offer. Teck is likely to be an even more attractive takeover candidate after the six-year 'sunset' of the current dual class share structure – recently agreed with controlling shareholders. (Information is up-to-date through April 14, 2023.)

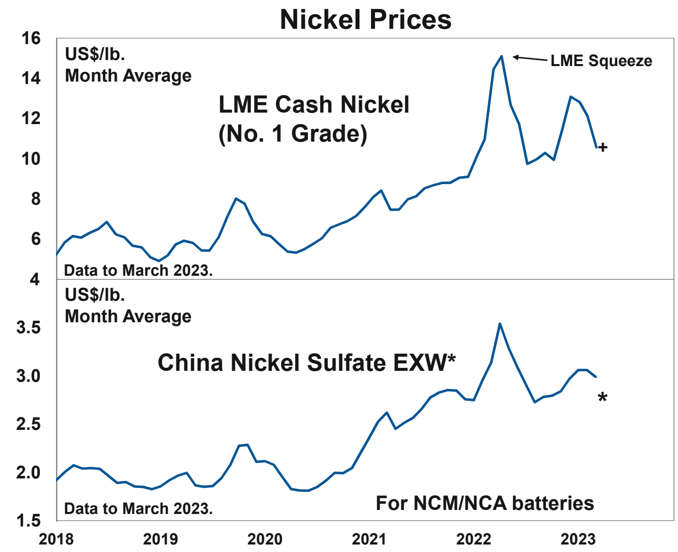
On a personal note, there is another consideration in evaluating any takeover of Teck Resources (with Head Office in Vancouver and the largest base metal miner in Canada). The author considers Teck Resources to be a 'Canadian champion', providing important externality benefits to Canada's national economy and mining industry – over and above the near-term equity value to shareholders.

Turning to operations, Teck Resources announced first copper production at its massive Quebrada Blanca Phase 2 (QB2) project in northern Chile in late March. The project will roughly double Teck's annual copper production. When fully ramped up, QB2 production will total 285,000 to 315,000 tonnes by 2024-26. Teck has other prospective copper projects waiting in the wings for development – mill expansion at QB2, Zafranal (133,000 tonnes) in Peru and Galore Creek (50% interest) in Canada. Royalties from EVR will be available to fund these opportunities.

LME launches Plan to Shore Up Nickel Trading

The LME official cash settlement price for nickel has lost ground from an average of US$13.09 per pound last December to US$12.11 in February and US$10.57 in March. Lacklustre industrial activity in China, the United States and the Euro Area has contributed to the decline. Nickel-containing stainless steel demand has probably been soft in China and Europe in the opening months of 2023.

In the aftermath of last year's LME nickel 'squeeze', the London Metal Exchange and LME



+ LME nickel April 13, 2023: US$10.53/lb.
*China Nickel Sulfate Ni 22% Co 0.05% EXW, April 13, US$2.79/lb.
LME calculation of 'Monthly Average Settlement Price' for March 2022 (taking into account suspension of trading and disruptions) = US$14.45; official cash settlement price was US$19.50 on Mar 7, 2022.
Source: LME, AMTL, Bloomberg, Capitalight Research.

Clear announced on March 30, 2023 a two-year programme of change intended to manage trading risk and boost liquidity on the Exchange – especially in nickel. The Exchange has already introduced mandatory reporting of OTC positions to improve the visibility of 'short' positions and restarted Asian trading hours for nickel in late March. Additional initiatives affecting nickel are as follows:

1) Daily price limits are now a permanent feature of the LME market – 15% up or down for nickel;

2) To rebuild liquidity in the nickel contract, the LME is introducing a fast-track approach and fee waiver for new LME nickel brands, without relaxing the LME's metallurgical standards or responsible sourcing standards;

3) To increase the amount of Class 1 nickel eligible for delivery, the Exchange will consider broadening its nickel contract to include 'coarse nickel powder' – favoured in the production of batteries, as it can be readily converted to nickel sulphate;

4) To provide a market for rapidly expanding

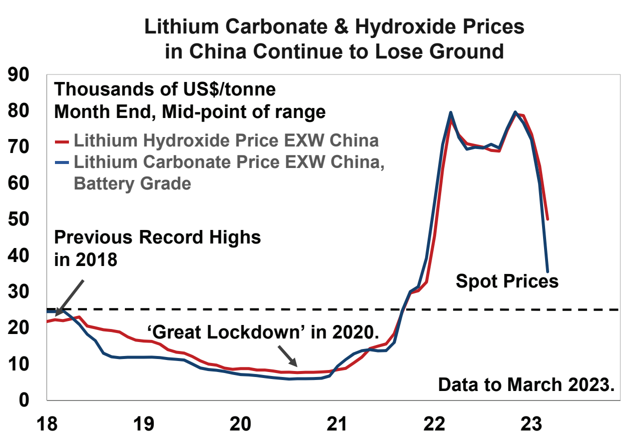
Class 2 nickel, the LME will work with its affiliate 'Qianhai Mercantile Exchange' in Guangdong to develop a China-based 'spot' market for 'nickel sulphate' and 'nickel matte' (possibly converted from NPI in Indonesia). This is effectively a physical commodities trading platform.

The LME remains open to introducing Class 2 contracts to complement LME Nickel, as markets evolve, though mixed hydroxide precipitate (MHP) from HPAL processing of laterite ores in Indonesia or nickel pig iron (NPI) will NOT be traded. (Nickel 'matte' is also part of the traditional processing steps in making Class 1 nickel from sulphide ores.)

Many of the measures will first require consultation before implementation.

Lithium Prices Continue to Retreat in China and Begin To Fall Internationally

In China's domestic market, spot lithium prices continue to drop sharply. EXW China lithium carbonate, battery grade declined to US$35,525 per tonne during the two-week period of March 22 to April 5 – down from US$59,850 at the end of February and as high as US$81,300 in mid-December. Spot prices for EXW China lithium hydroxide also plunged to US$50,025 per tonne in the period March 22 to April 5 from US$64,675 in late February (based on BMI assessments).



Lithium Hydroxide EXW China, April 12, 2023: US$44,225/t.
Lithium Carbonate Battery Grade EXW China, April 12: US$30,875/t.

Prices in China are the key determinant of prices globally.
Source: BMI, Capitalight Research.

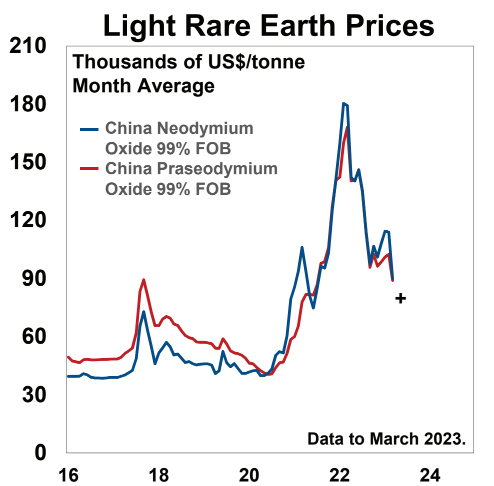
Traders are currently unwilling to purchase material, expecting prices to fall further, as Chinese battery makers cut inventories. Some downstream consumers – especially in the cost-sensitive 'energy-storage' sector – have also been cancelling orders.

The price of lithium carbonate CIF Asia – a combined spot and contract price for seaborne shipments into Asia – also retreated to US$57,500 from US$65,000 in late February, but held up better than Chinese domestic spot prices. Pricing for carbonate shipments from South America fell by about 8% and were down in North America and Europe. Non-battery markets were particularly soft.

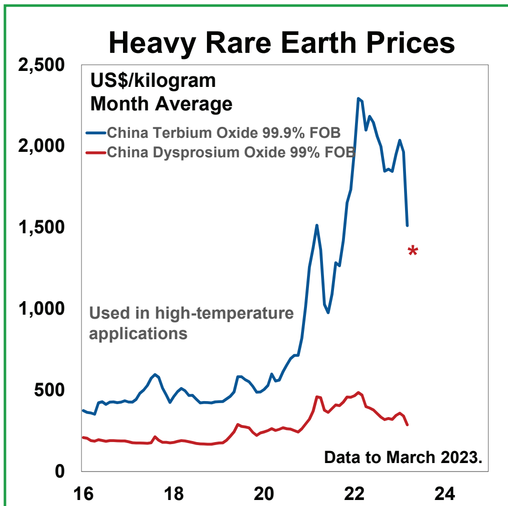
Spodumene concentrate prices, 6% Li_2O, FOB Australia are also well off their record high of US$6,401 per tonne in December 2022. However, average prices actually increased slightly to US$5,395 during the March 22 to April 5 period. Prices ranged between a low of US$4,050 and US$6,739. Demand for feedstock is relatively strong.

We think the extremely negative sentiment in China's spot market in early-to-mid April has probably been overdone. The China Automobile Manufacturers Association reported on April 11, that New Energy Vehicle (NEV) sales in China rebounded to a healthy 653,000 units in March (passenger & commercial vehicles). Electric vehicle passenger sales alone – at 618,000 units – rose by 23.4% m/m. While still below record 2022:Q4 levels – when consumers rushed to take advantage of government cash incentives before they expired – sales are now above the average for 2022. Passenger NEVs accounted for a large 30.6% of overall auto purchases in March 2023. This recovery in electric vehicle sales should help to steady lithium market conditions.

Turning to battery markets, the size of the Volkswagen battery plant – announced for St. Thomas, Ontario – appears to be substantial at



+ Neodymium Oxide, April 12, 2023: US$78,500/t.
Praseodymium Oxide, April 12, 2023: US$77,000/t.
Source: Asian Metal Ltd, Bloomberg, Capitalight Research.



*Terbium Oxide, April 12, 2023: US$1,375/kg.
Dysprosium Oxide, April 12, 2023: US$281/kg.
Source: Asian Metal Ltd, Bloomberg, Capitalight Research.

40 GWh. The plant size was not reported at the time of the original announcement.

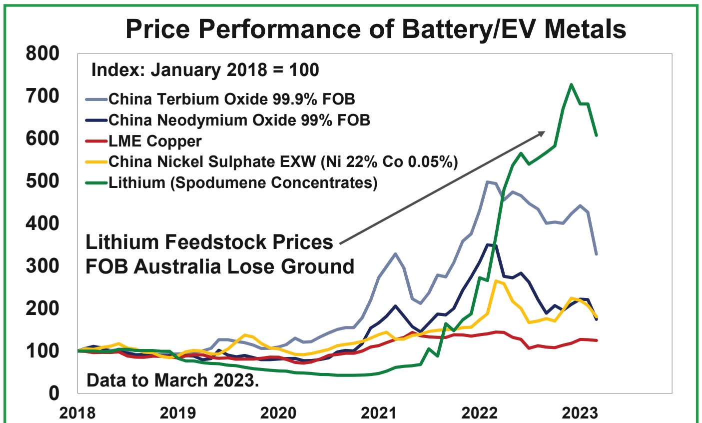
REE prices in China also hurt by negative sentiment

As with lithium, China light rare earth prices plunged in March and early April, with manufacturers probably delaying orders amid lacklustre Chinese economic conditions. At the National People's Congress in March, China set a modest 5% GDP growth target for 2023, implying that Beijing is wary of the challenges facing its economy – including a slowdown in international trade and difficulties in the property sector – and will not implement aggressive stimulus.

China neodymium oxide fell from US$113,925 per tonne in February to US$89,922 in March and US$79,500 on April 10th. Similarly, China praseodymium oxide fell from US$102,450 per tonne in February to US$89,065 in March and US$77,500 on April 10. Prices are at their lowest since late 2020 or early 2021, coming out of the 'Great Lockdown'.

Heavy rare earths – used in high temperature applications – have also fallen back from record levels in early 2022. However, both China terbium oxide and dysprosium oxide appear to have bounced off quite low levels in the past month.

Meanwhile, the 'geopolitics' surrounding rare earths continues to heat up. In response to recent U.S. export restrictions on advanced semiconductor technology to China, Beijing may either ban or restrict exports of technology to process and refine rare-earth elements. China may also prohibit or limit exports of alloy technology for making high-performance magnets derived from rare earths. These developments will intensify U.S. efforts to build a rare-earth supply chain less dependent upon China.



Based on Monthly U.S. dollar prices; yuan prices converted to USD.
Source: Capitalight Research, Asian Metal Ltd & Bloomberg.

Table 1

Critical Metals - Price Trends

	2018 Annual	2019 Annual	2020 Annual	2021 Annual	2022 Annual	2022 Q3	2022 Q4	2022 December	2023 March	2023 Latest April 12
Copper										
LME Copper Official Cash Settlement[1] (US$/lb)	2.96	2.72	2.80	4.23	4.00	3.51	3.63	3.80	4.01	3.99
Nickel										
LME Nickel Official Cash Settlement[2] (US$/lb)	5.95	6.31	6.25	8.38	11.63	10.00	11.50	13.09	10.57	10.38
SHFE Nickel, Generic First Contract[2] (CNY/tonne)	102,916	110,746	109,054	137,649	194,606	177,973	201,374	219,773	182,755	187,620
China Nickel Sulphate EXW > 22% Ni, 0.05% Co[2] (CNY/tonne)	28,411	30,487	29,874	37,619	44,200	42,363	45,002	45,682	45,380	42,750
Lithium										
Lithium Carbonate, CIF Asia ≥ 99.2% Li_2CO_3[3] (US$/tonne)	17,063	11,675	8,421	13,313	51,083	51,167	61,833	62,000	57,500	57,500
Lithium Carbonate, CIF North America ≥ 99.0% Li_2CO_3[3] (US$/tonne)	14,833	11,215	7,746	11,802	48,250	47,500	59,000	59,500	57,500	57,500
Lithium Hydroxide, FOB North America ≥ 55.0% LiOH[3] (US$/tonne)	16,771	13,521	10,629	13,969	50,271	54,167	60,667	61,500	62,250	62,250
Spodumene Concentrate, FOB Australia 6% Li_2O, Lithium Feedstock[3] (US$/tonne)	886	595	406	898	4,498	4,873	5,810	6,401	5,395	5,395
Rare Earth Elements										
China Neodymium Oxide 99%, FOB[4] (US$/tonne)	49,918	44,655	48,757	98,498	134,170	115,460	105,305	108,159	89,922	78,500
China Neodymium Metal 99% FOB[4] (US$/kilogram)	64	57	62	121	165	143	130	133	110	97
China Praseodymium Oxide 99%, FOB[4] (US$/tonne)	63,627	54,024	45,725	92,127	128,244	114,710	99,141	98,568	89,065	77,000
China Praseodymium Metal 99% FOB[4] (US$/kilogram)	114	103	91	112	178	171	160	161	150	144
China Dysprosium Oxide 99%, FOB[4] (US$/kilogram)	177	234	259	407	383	337	330	344	287	283
China Dysprosium Metal 99% FOB[4] (US$/kilogram)	262	307	341	521	495	436	416	442	403	392
China Terbium Oxide 99.9% FOB[4] (US$/kilogram)	455	503	664	1,329	2,045	1,968	1,884	1,949	1,511	1,375
China Terbium Metal 99% FOB[4] (US$/kilogram)	604	655	849	1,689	2,582	2,486	2,360	2,437	1,912	1,785

Sources:
1) LME, Bloomberg. 2) LME, SHFE, Asian Metal Ltd, Bloomberg. 3) Lithium prices are combined spot & contract assessments from BMI, end of month. 4) Asian Metal Ltd, Bloomberg.

Table 2

Copper Price Outlook - Annual Averages

pre-pandemic 2018	2019	2020	2021	2022A	2023F	2024F	…	Medium Term (2025+)
2.96	2.72	2.80	4.23	4.00	4.04	4.30		5.00

Copper Quarterly Averages

		20-1	20-2	20-3	20-4	21-1	21-2	21-3	21-4	22-1	22-2	22-3	22-4	23-1	23-2	23-3	23-4	24-1	24-2	24-3
	Actual	2.56	2.42	2.96	3.25	3.85	4.40	4.25	4.40	4.53	4.32	3.51	3.63	4.05						
Sensitivities	**High**														4.40	4.35	4.55	4.55	4.65	4.65
	Base														**4.00**	**3.95**	**4.15**	**4.15**	**4.25**	**4.25**
	Low														3.60	3.55	3.75	3.75	3.85	3.85
Probability	**High**														0.20	0.20	0.20	0.20	0.20	0.20
	Base														0.60	0.60	0.60	0.60	0.60	0.60
	Low														0.20	0.20	0.20	0.20	0.20	0.20
Probability-Weighted Forecast															**4.00**	**3.95**	**4.15**	**4.15**	**4.25**	**4.25**

LME official cash settlement, US$/lb., quarterly averages.

Mine disruptions and very low exchange stocks underpin prices in 2023, despite soft economic conditions.

Source: LME official cash settlement, US$/lb., quarterly averages.

Nickel Price Outlook - Annual Averages

pre-pandemic 2018	2019	2020	2021	2022A	2023F	2024F
5.95	6.31	6.25	8.38	11.63	10.58	10.00

Nickel Quarterly Averages

		20-1	20-2	20-3	20-4	21-1	21-2	21-3	21-4	22-1	22-2	22-3	22-4	23-1	23-2	23-3	23-4	24-1	24-2	24-3
	Actual	5.77	5.53	6.46	7.23	7.99	7.87	8.68	8.99	11.85	13.17	10.00	11.50	11.83						
Sensitivities	**High**														11.50	11.00	11.00	11.00	11.00	11.00
	Base														**10.50**	**10.00**	**10.00**	**10.00**	**10.00**	**10.00**
	Low														9.50	9.00	9.00	9.00	9.00	9.00
Probability	**High**														0.20	0.20	0.20	0.20	0.20	0.20
	Base														0.60	0.60	0.60	0.60	0.60	0.60
	Low														0.20	0.20	0.20	0.20	0.20	0.20
Probability-Weighted Forecast															**10.50**	**10.00**	**10.00**	**10.00**	**10.00**	**10.00**

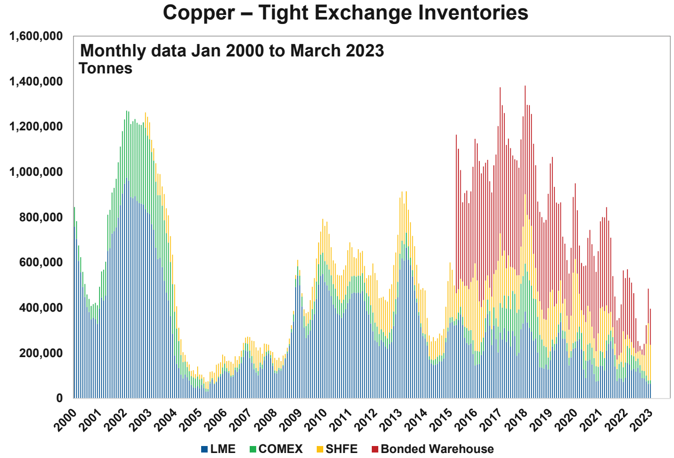
LME official cash settlement, US$/lb., quarterly averages.

Source: LME official cash settlement, US$/lb., quarterly averages.

Note: Copper prices have rebounded from a recent pullback alongside swift U.S. and European action to prevent significant banking sector contagion from the failure of two U.S. regional banks. However, credit conditions have probably tightened as a result of the failures. While global industrial activity has slowed markedly, expectations of tight market conditions for copper going forward will likely underpin prices.

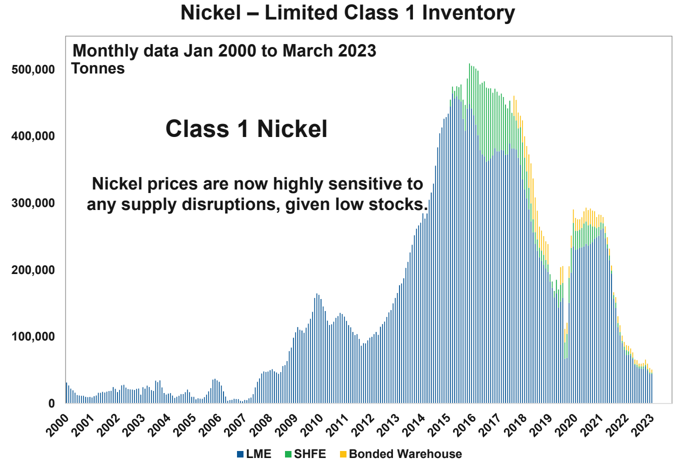
Nickel prices will likely retreat moderately in coming quarters alongside a big increase in Class 2 nickel production in Indonesia, bound for the China market, but the decline should be moderated by a strong demand outlook for nickel-rich batteries.

Copper & Nickel Inventories



Total global exchange stocks on March 31, 2023: 395,905t (-25.4%y/y).

Source: LME, COMEX, SHFE, SMM International & Capitalight Research.



Total global exchange stocks on March 31, 2023: 87,385t (-41.9% y/y).

Source: LME, SHFE, SMM International & Capitalight Research.

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