



Nickel oversupply driven by Indonesian production surge

Jim Lennon

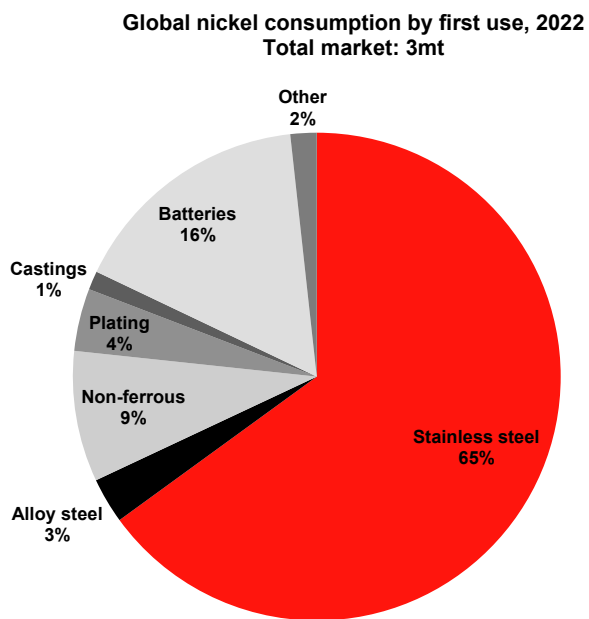
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Commodities Strategy
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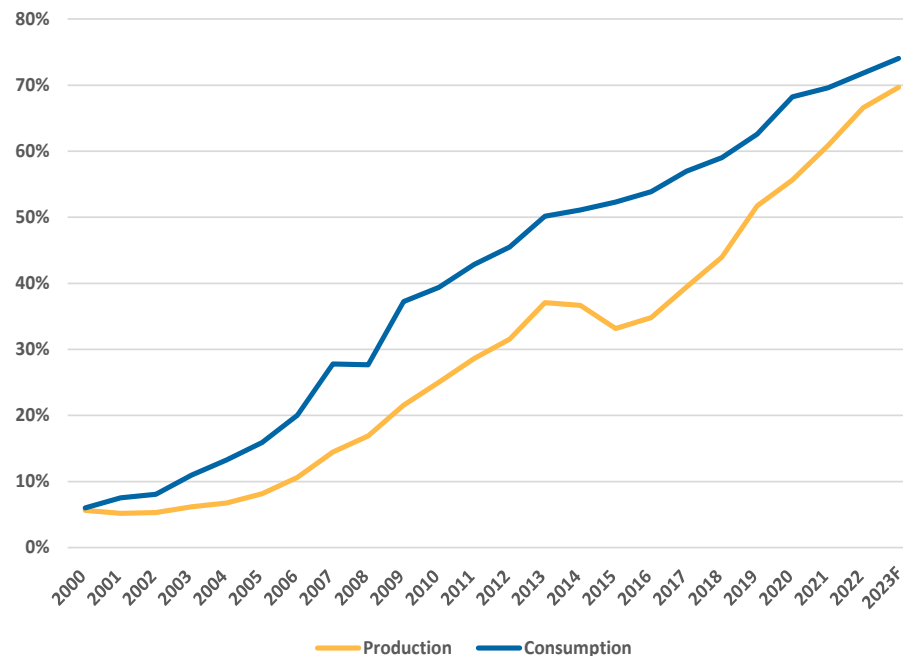
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Stainless steel dominates nickel usage – batteries now the second largest use and is growing rapidly. China and Indonesia dominate world supply and demand with over 70% market share



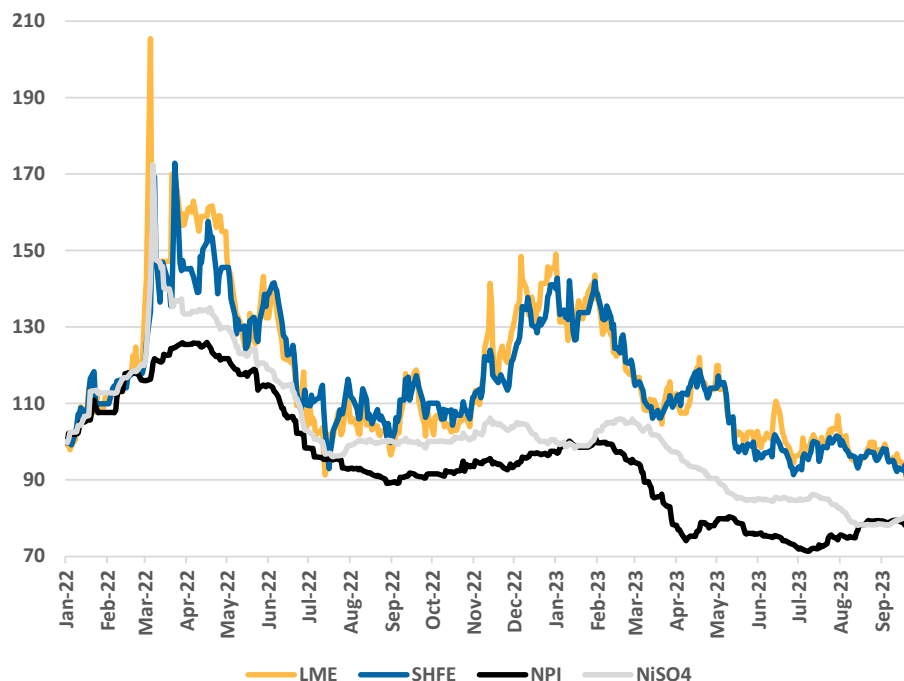
China and Indonesian shares on world nickel
Percent of total



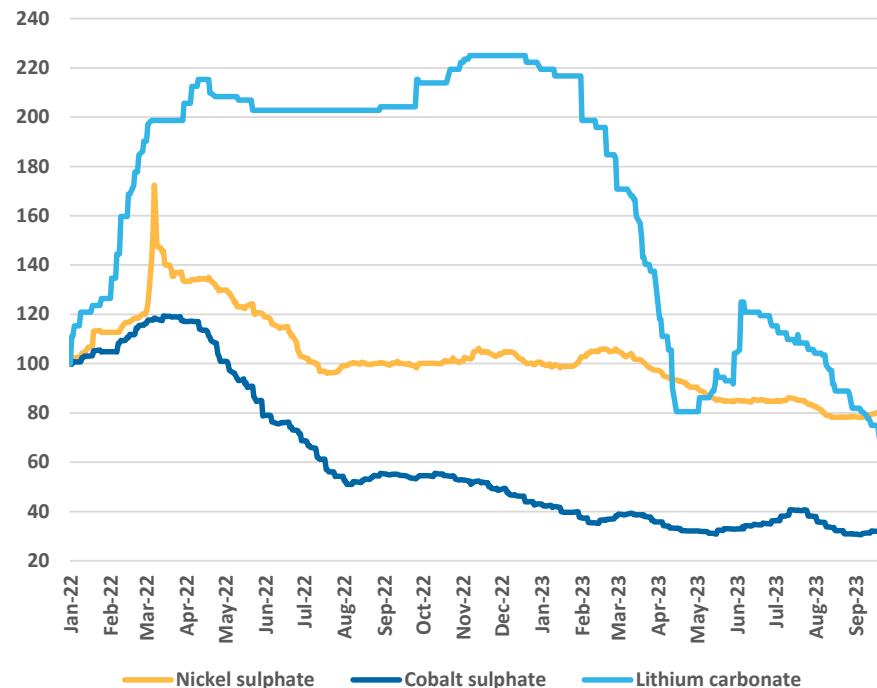
Source: INSG, CRU, Macquarie Commodities Strategy, October 2023

Divergent prices for main finished nickel products since 2022 Battery material prices under downward pressure

Index of daily nickel prices
Jan 1, 2022 = 100



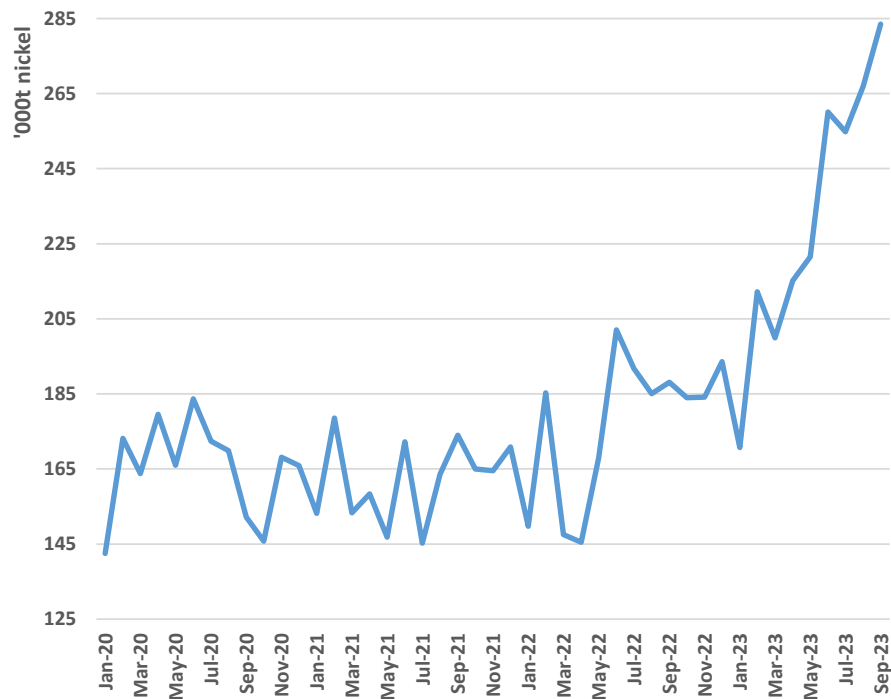
Index of daily spot battery material prices
Jan 1, 2022 = 100



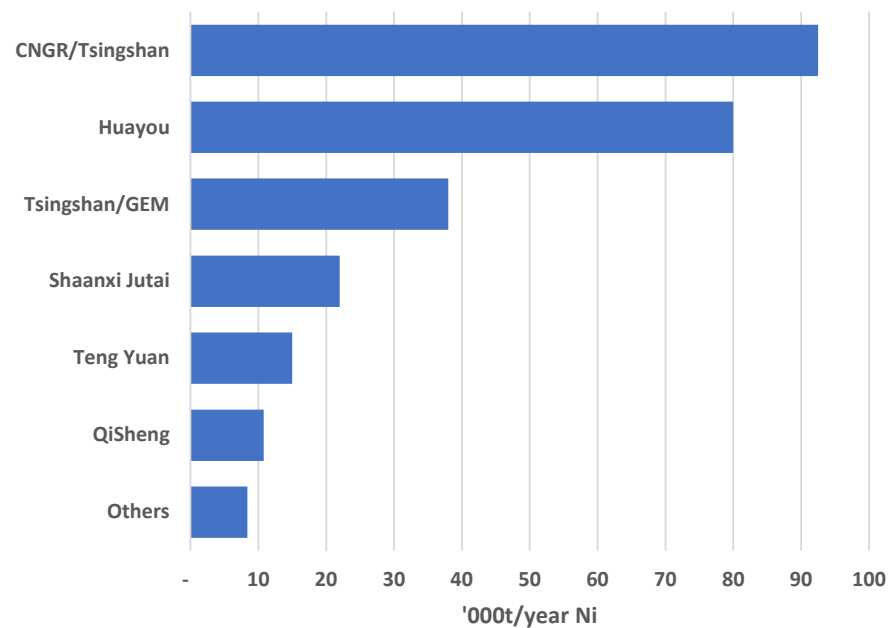
Source: LME, SHFE, SHMET, Macquarie Commodities Strategy, October 2023

“High” class 1 prices: what happened next...

Chinese class 1 nickel production

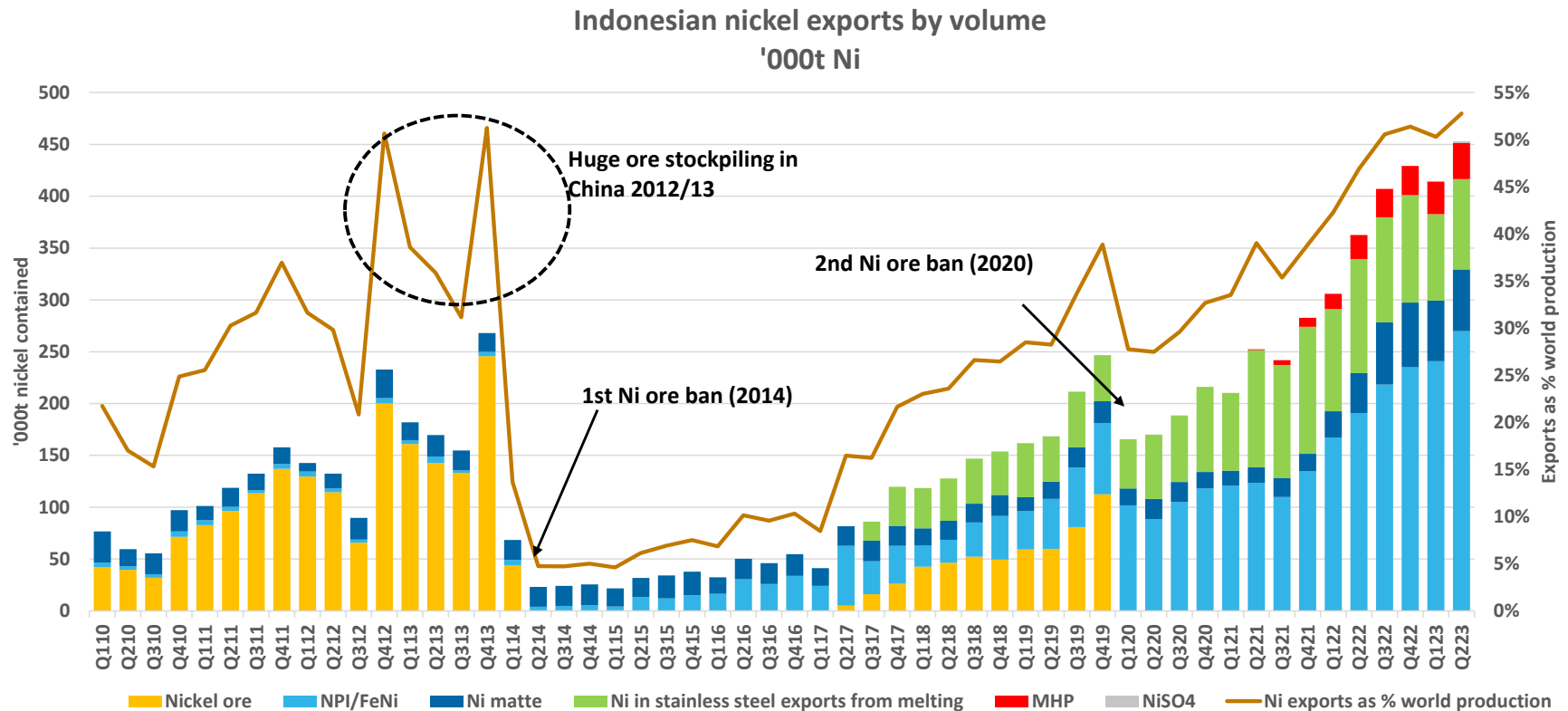


Planned class 1 capacity additions in China/Indonesia in 2023/24



Source: Mysteel, SMM, Macquarie Commodities Strategy, October 2023

Indonesia now dominates supply and growth in supply



Source: TDM, INSG, Macquarie Commodities Strategy, October 2023

Stainless production remains weak in 2023 except in China – some recovery expected in 2024

Stainless steel production by area (million tonnes)

'000t	Year 2022	Year 2023F	Year 2024F
Total World	56.1	58.4	61.6
% change YoY	-5.4%	4.1%	5.4%
of which:			
China	32.9	36.3	38.1
Indonesia	4.8	4.4	5.1
Other Asia	9.2	9.0	9.4
Europe	6.3	6.0	6.2
Rest of world (US/Brazil/SA)	2.9	2.8	2.9

China/Indonesia share **67%** **70%** **70%**

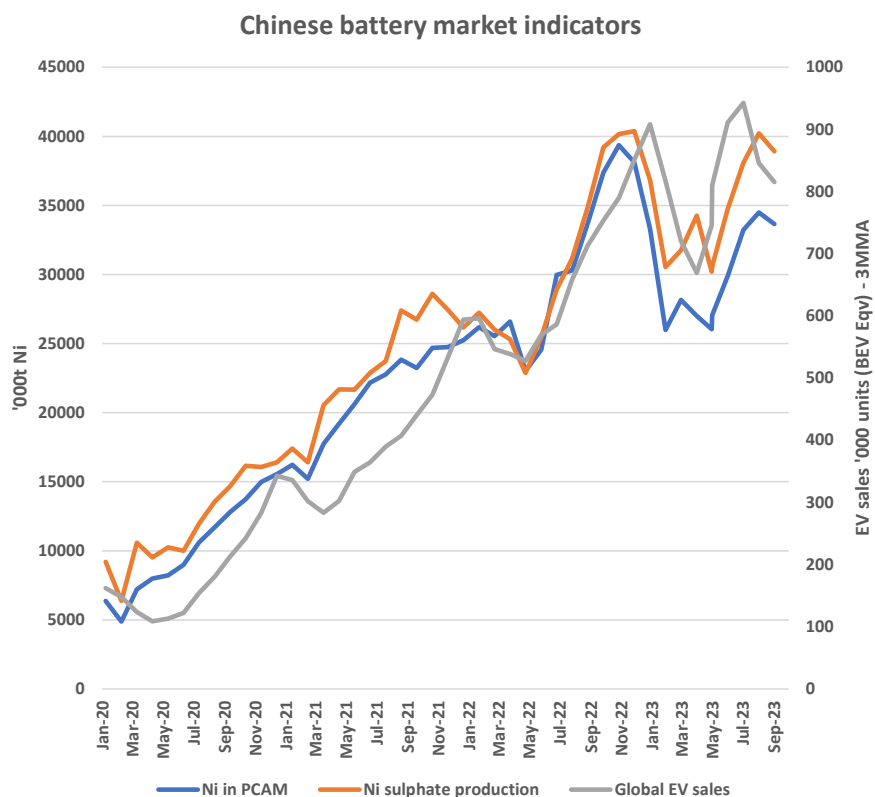
	% chge 22/21	% chge 23/22F	% chge 24/23F
Total World	22/21	23/22F	24/23F
% change YoY	-5.4%	4.1%	5.4%

of which:			
China	-1.9%	10.1%	5.0%
Indonesia	-4.1%	-8.5%	15.0%
Other Asia	-10.2%	-2.0%	4.7%
Europe	-12.1%	-5.9%	3.3%
Rest of world (US/Brazil/SA)	-13.7%	-3.1%	2.6%



Source: CRU, World Stainless, Macquarie Commodities Strategy, October 2023

Softer for Chinese battery market in 2023 (China>80%)



- ➔ Global EV sales rose 110% and 85% YoY in 2021 and 2022, but “slowing” to 33% this year
- ➔ Nickel growth reduced by surging LFP share in China and overstocking in H2 2022 followed by destocking this year
- ➔ 2023 a disappointing year for Ni in batteries but medium-term growth prospects still bright – trend growth of 20%+ a year to 2030

Summary of outlook – from deficit to surplus

World Nickel Supply/Demand

000t SS and Ni	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023f</u>	<u>2024f</u>
Total SS production	52335	59380	56148	58406	61572
% Change	-1.8%	13.5%	-5.4%	4.0%	5.4%
Primary nickel consumption	2418	2843	2994	3174	3473
% Change	0.3%	17.6%	5.3%	6.0%	9.4%
Nickel Supply	2513	2683	3135	3375	3615
% Change	4.0%	6.8%	16.9%	7.7%	7.1%
(of which NPI)	(1,120)	(1,285)	(1,554)	(1,715)	(1,785)
World Market Balance	95	-161	142	202	141
Estimated total stocks	687	502	578	780	921
Weeks' world demand	14.8	9.2	10.0	12.8	13.8

- Strong Indonesian supply and slower demand growth led to surplus in 2022
- Production growth in 2023 downgraded due to weaker Indonesian NPI production – but still up 7.7%
- Nickel consumption growth still positive in 2023 mainly due to China
- Surplus mainly in class 2 but class 1 moves to oversupply from 2024 as demand falls and supply rises

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