

Nickel Production on the Rise

After looking at the raw materials chrome and moly in the last two editions we will complete the set with a review of nickel in this issue.

We will look at the two main stages of nickel processing: – mine production and then smelter/refinery production, which is the product which is shipped to stainless producers and other users. Stainless accounts for well over half of all nickel production.

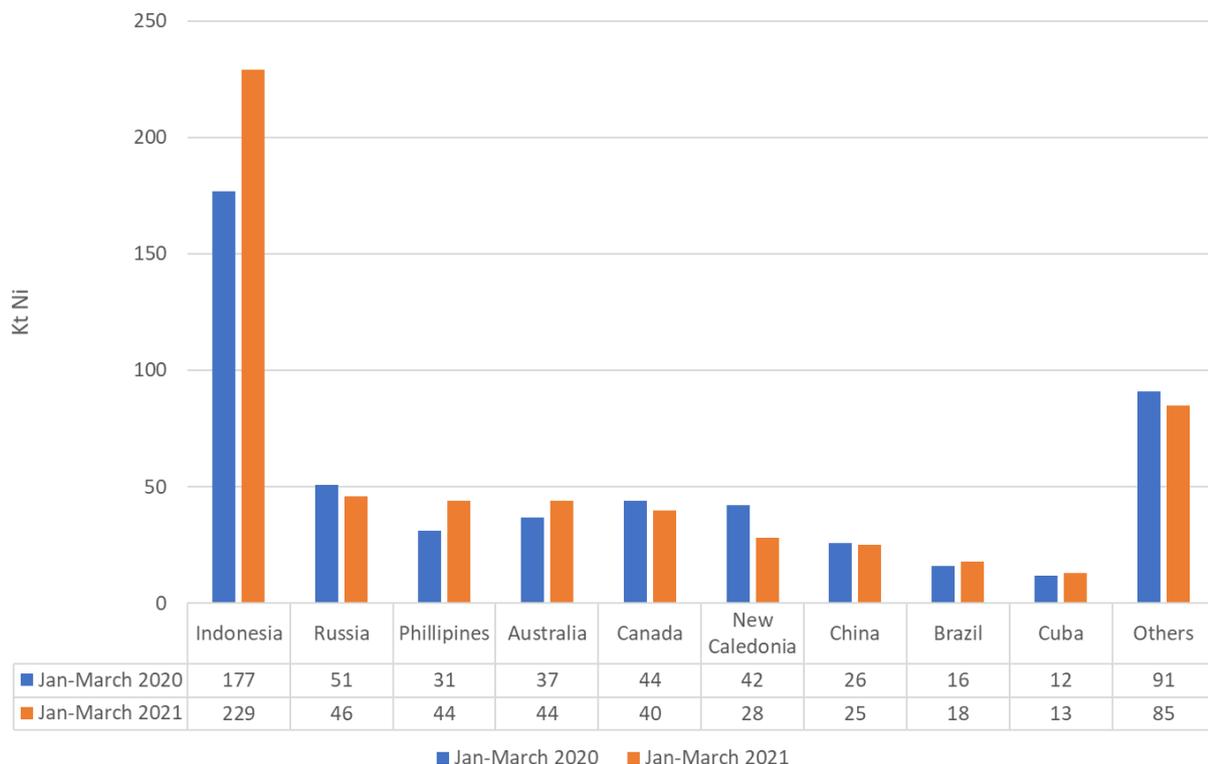


Chart 1 - Nickel mine production in kt Ni contained Jan-March

Chart 1 shows that global mine production in the first quarter of 2021 was 572 kt nickel contained, up 9% from the prior year. Indonesia used to be a small and rather high cost nickel producer. How things can change dramatically (and unforecast!) in just a few years. Indonesian nickel production was up 30% at 229 kt accounting for 40% of global nickel production. Russian production fell by 11% to 46 kt and was 8% of the global total. Philippines also had high growth with production up 40% to 44 kt (8% of the total). Australian production was up 17% also at 44 kt. New Caledonia was the only major oxide ore producer to suffer a significant decline of -32% with production at 28 kt. "Others" saw a 6% decline and accounted for 15% of global production.

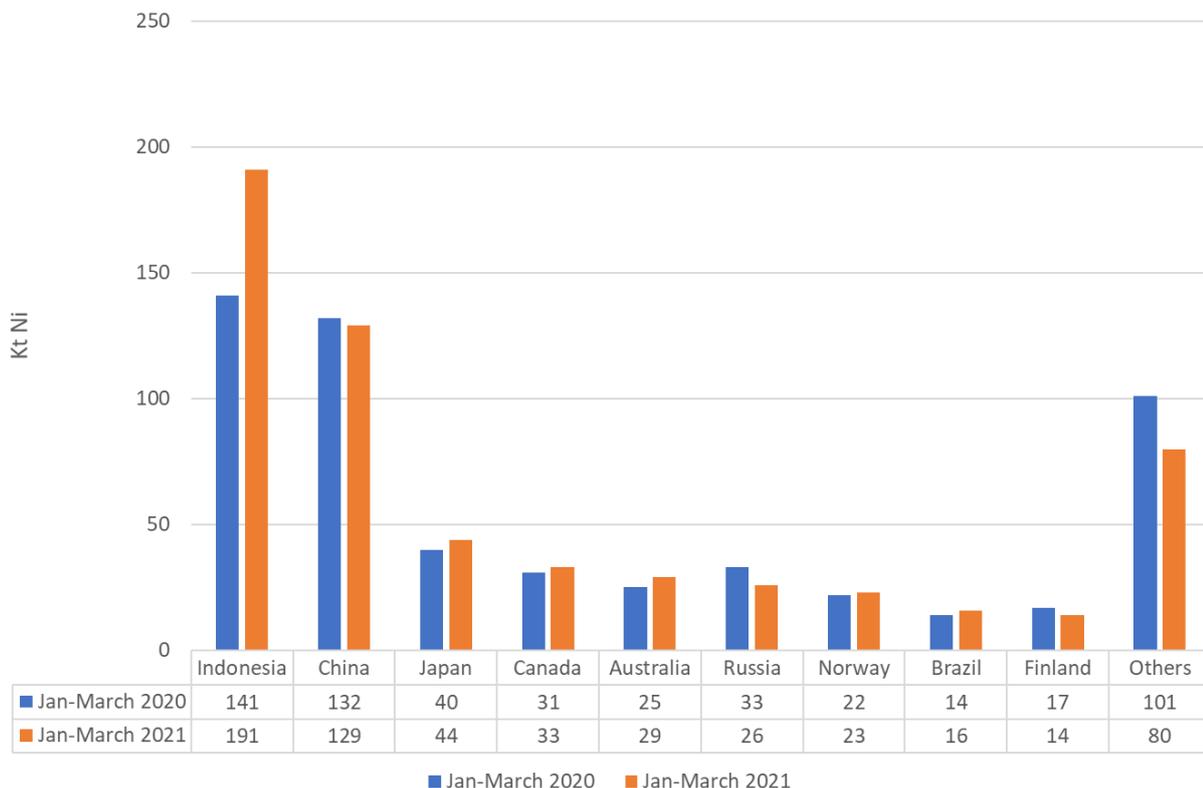


Chart 2 - Nickel smelter/refined production in kt content Jan-March

Chart 2 shows nickel smelter/refinery production in kt Ni contained for the same periods. Global production increased by 5% to 585 kt. We would expect yield losses of at least 10% from mine to refinery production. The fact that nickel mine production exceeded refined suggests a drawdown of ore inventories.

Indonesia shows the same dominance with a 35% jump in production to 191 kt and accounting for one third of global production, an amazing transformation. Almost all is in the form of NPI. The matte which is exported to Japan and elsewhere is counted in the refined production of Japan etc. China was pushed into second place with a small fall in production to 129 kt and 22% of global refined production. This was mostly in the form of NPI but also cathode nickel and an increasing amount of nickel sulphate for battery production for electric vehicles. Most of China’s nickel production is from ore imports, some of which from Indonesia.

Japan’s nickel production increased by 10% to 44kt. Canada increased by 6% to 33 kt and Australia by 12% to 29 kt. Russia had a 20% drop in production to 26 kt. Norway’s production was unchanged at 23 kt, Brazil saw an 18% increase and Finland a decline of 17%. There was a 20% drop in the rest of the world to 80 kt.

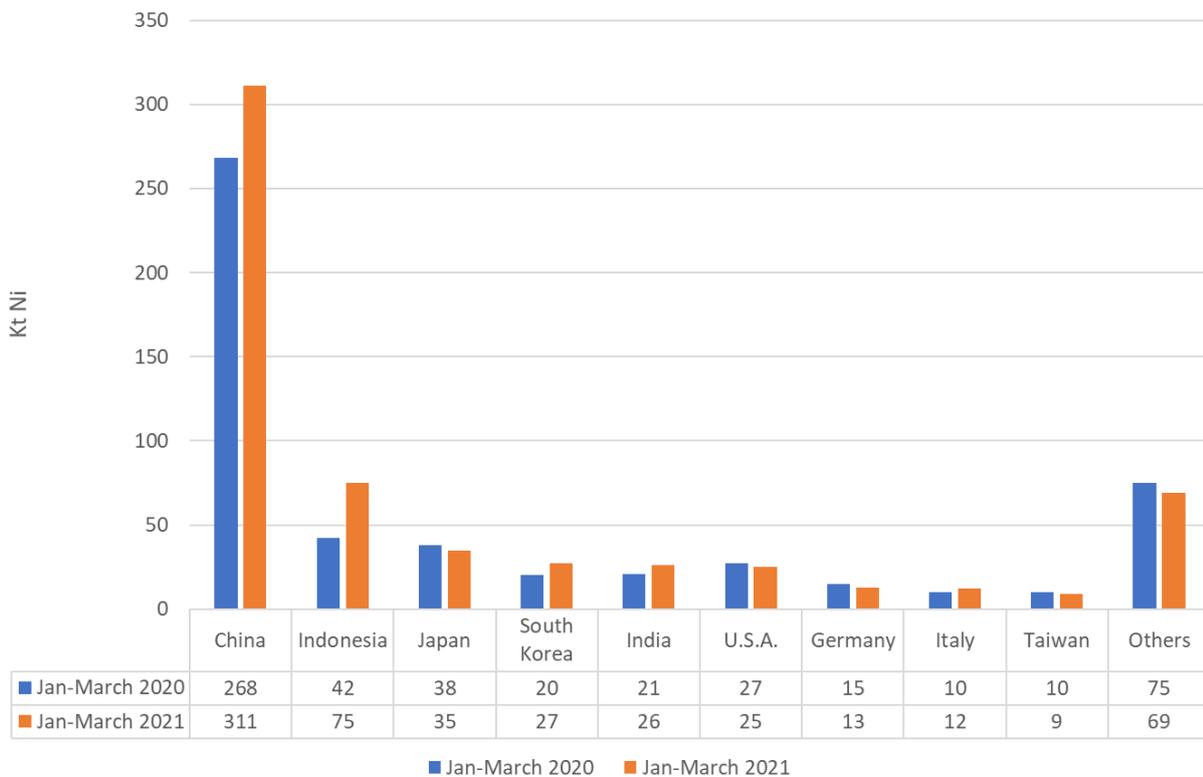


Chart 3 - Nickel use in kt Ni content Jan-March

Chart 3 shows global nickel use of nickel (excluding scrap) over the same periods.

Global use increased by 14% to 602 kt in the first quarter 2021. As we saw in Chart 2, global refined nickel production was 585 kt, suggesting a global inventory drawdown of around 17 kt Ni.

As per usual China accounted for just over 50% of global use over the period Jan-March 2021. This was up 16% on the previous year, a strong bounce back from the COVID 19 period last year. Nickel use by Indonesia was up nearly 80% reflecting the increased stainless steel production capacity. Indonesia accounted for 12% of global nickel use in the latest period. Japan's use fell 7% to 35 kt and 6% of global nickel use. Nickel use in S. Korea increased by one third to 27 kt or 4% of global use. Similarly Indian use increased by over 20% to 26 kt and 4% of global use. The top 5 countries in terms of nickel use are all in Asia and accounted for nearly 80% of world nickel use over this period. The USA and Germany each suffered an 8% decline at 25kt and 13 kt respectively. Italy's use increased 13% to 12 kt and Taiwan's use fell 6% to 9 kt. Others collectively fell by 8% to 69 kt. Others comprises mainly Europe although S. Africa increased by 50% to 8kt. Russia and a few smaller Asian countries are included as are Other America.

There is speculation that nickel is likely to be used increasingly in batteries for electric vehicles, partly replacing cobalt. There are ample proven reserves of oxide nickel. China and Indonesia have developed a process using Rotary Kiln/Electric Furnace technology to convert NPI into nickel sulphide matte from which nickel sulphate for batteries can be produced. Thus there is no question of nickel availability for stainless use being an issue long term. Whether it affects the nickel price at some point is another issue.

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