









NICKEL

HEDGING PRICE RISK

MCX
METAL & ENERGY
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Nickel is a naturally occurring, lustrous, silvery-white metal. It is the fifth most common element on earth and occurs extensively in the earth's crust. However, most of the nickel is inaccessible in the core of the earth. Some of the key characteristics of nickel are its high melting point, resistance against corrosion and oxidation, ductility and catalytical properties, ease of deposit by electroplating and formation of alloys readily.

Nickel is widely used in over 3 lakh products. The biggest use is in alloying, particularly with chromium and other metals to produce stainless and heat-resisting steels. In homes, these are found in pots and pans, kitchen sinks, and so on; they also find their way in buildings, food processing equipment, medical equipment, and chemical plants.

Source: Nickel Institute

OVERVIEW

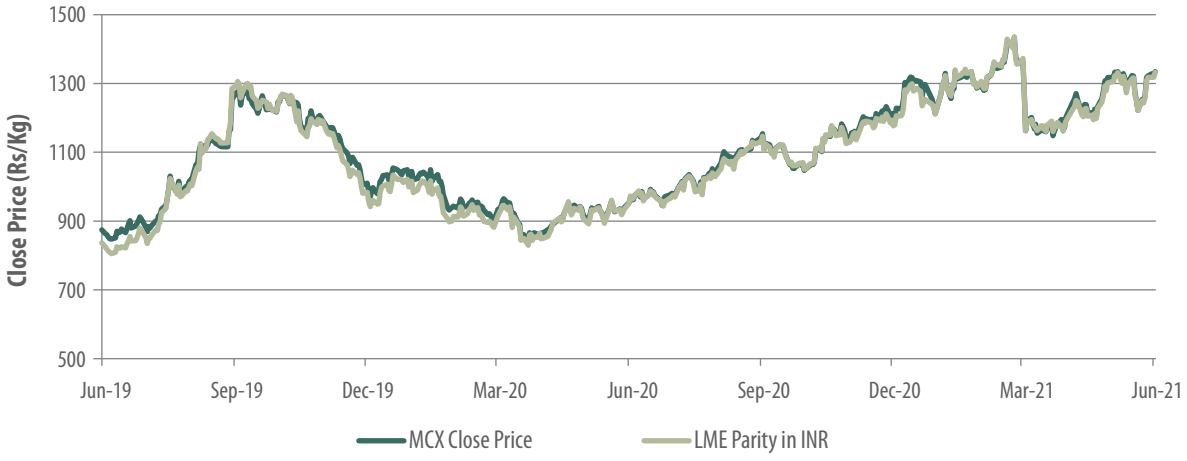
About 65% of the nickel produced is used to manufacture stainless steel. Another 20% is used in other steel and non-ferrous alloys, often for highly specialized industrial, aerospace, and military applications. About 9% is used in plating and 6% for other uses, including coins, electronics, batteries for portable equipment, and hybrid cars. In many of these applications there is no substitute for nickel without impairing performance or increasing cost.

Nickel plays an important role in our daily lives, making its way in myriad objects around us like food preparation equipment, mobile phones, medical equipment, transport, buildings, and power generation—the list is almost endless. There are about 3000 nickel-containing alloys in everyday use. About 90% of all new nickel sold each year goes into alloys, two-thirds going into stainless steel. Most important are alloys of iron, nickel, and chromium, of which stainless steel (frequently 8-12% nickel) garners the largest volume. Nickel-based alloys (with high nickel content) are used for more demanding applications, such as gas turbines and some chemical plants.

Nickel gets precedence over other metals because it offers better corrosion resistance, better toughness, and better strength at high and low temperatures; it also provides a range of special magnetic and electronic properties. Nickel is also a key ingredient in several rechargeable battery systems used in electronics, power tools, transport and emergency power supply. Nickel-metal hydride (NiMH) batteries have become quite popular today, finding their use in hybrid cars, consumer electronics and telecommunications.

Source: Nickel Institute

Price Movement



HEDGING MECHANISM

Hedging is the process of reducing or controlling risk. It involves taking equal and opposite positions in two different markets (such as physical and futures market), with the objective of reducing or limiting risks associated with price fluctuations. It is a two-step process, where a gain or loss in the physical position due to changes in price will be offset by changes in the value on the futures platform, thereby reducing or limiting risks associated with unpredictable changes in price.

In the international arena, hedging in nickel futures takes place mostly on London Metal Exchange (LME).

IMPORTANCE OF HEDGING

Hedging is critical for stabilizing incomes of corporations and individuals. For these stakeholders reducing risks may not always improve earnings, but a failure to manage risk will directly affect their long-term incomes.

To gain the most from hedging, it is essential to identify and understand the objectives behind hedging.

A good hedging practice, hence, encompasses efforts on the part of companies to get a clear picture of their risk profile and benefit from hedging techniques.

PARTICIPANT HEDGERS

The commodity futures market in India offers a transparent platform, besides bringing about economic and financial efficiencies by de-risking production, processing, and trade. Futures market has led to large efficiency gains in supply chains, with exporters gaining a larger share of global prices and producers not only getting better prices but also much better access to markets.

All those who have or intend to take positions in physical Nickel are participant hedgers.

- **Importers**
- **Exporters**
- **Refiners**
- **Processors**
- **Stockist**

FACTORS AFFECTING PRICE VARIATIONS

- Prices ruling in international markets.
- Indian rupee and US dollar exchange rates.
- Economic factors like industrial growth, global financial crisis, recession, and inflation.
- Commodity-specific events like construction of new production facilities or processes, new uses or the discontinuance of historical uses, unexpected mine or plant closures (natural disaster, supply disruption, accident, strike, and so forth), or industry restructuring.
- Government trade policies (implementation or suspension of taxes, penalties, and quotas).
- Geopolitical events.
- As societies develop, their demand for metal increases based on their current economic position, which could also be referred to as the 'national economic growth factor'.

FACTS ON HEDGING

- Understand one's risk profile and appetite while formulating clear hedging objectives.
- Hedging can shield the revenue stream, profitability, and balance sheet against adverse price movements.
- Hedging can maximize shareholder value.
- Under 'International Financial Reporting Standards' (IFRS), beneficial options arise in effective hedges.
- Common avoidable mistake is to book profits on the hedge while leaving the physical leg open to risk.
- Hedging provides differentiation to companies in a highly competitive environment.
- Hedging also significantly lowers distress costs in adverse circumstances.
- A well-designed hedging strategy enables corporations to reduce risk. Hedging does not eliminate risk; it merely helps to transform risk.
- To gain the most from hedging, it is essential to identify and understand the objectives behind hedging and get a clear picture of one's risk profile.

Hedging Experience

Jinchuan Group International Resources Co. Ltd

Commodity price risk and macroeconomics risk remain the most significant risk to JCI. The risks associated with these financial instruments include market risk (currency risk, interest rate risk and commodity price risk), credit risk and liquidity risk. The management of the Group manages and monitors these exposures to ensure appropriate measures are implemented on a timely and effective manner.

The Group is exposed to commodity price risk as the Group's sales and purchases are subject to provisional pricing arrangements. The Group has appointed a special team to monitor the price risk and will consider hedging the risk exposure should the need arise.

Source: Annual report 2020.

Siemens India Limited

"The company uses commodity future contracts to hedge against fluctuation in commodity prices."

Source: Annual report, 2020.

Antofagasta plc

Antofagasta is a Chilean mining group with significant production of by-products and interests in transport and water distribution.

"The Group monitors the commodity markets closely to determine the effect of price fluctuations on earnings, capital expenditures and cash flows. From time to time, the Group uses derivative instruments to manage its exposure to commodity price fluctuations where appropriate. "

Source: Antofagasta plc, Annual report 2020.



APPRECIATING THE BENEFITS OF HEDGING

The following examples will demonstrate how the futures platform may be used by participants to manage price risk by entering into Nickel Futures contracts. We will look at the effects of price movement in either direction.

THE SITUATION

ABC Ispaat manufactures stainless steel and is also into retail sales. Significant boom in housing has led to a sharp growth in consumer durables in both volumes and sales. Price volatility is of concern to the company. Their consultant has recommended that price risk should be managed by taking positions on Commodity exchanges.

Hedging against domestic sales

GOING SHORT: Scenarios where prices either rise or fall

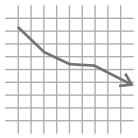
ABC Ispaat requires 15 tonnes of nickel every week for routine production. Based on experience, the company has put forward the following facts:

- The company purchases 15 tonnes of nickel every week for routine production.
- The processed material will be ready for sale in two weeks.
- The sale price of finished goods will be as per the prevailing price at the time of final sales.
- It is difficult to predict the sales price two weeks ahead

The company's objective is to lock-in prices

SCENARIO 1

IF PRICES WERE TO FALL



DATE	FUTURES PLATFORM	PHYSICAL MARKET
12-10-202X	SELL Nickel Futures Contract	Raw material bought
26-10-202X	BUY Nickel Futures Contract	Processed material sold at prevailing price

The net position of the above transactions will negate price risk

(₹/1 kg)

DATE	NICKEL SPOT PRICE	NICKEL FUTURES PRICE (expiry 31st October 202X)
12-10-202X	1,200	1,210
26-10-202X	1,140	1,150

Futures	**12-10-202X**	SELL	1,210	**26-10-202X**	BUY	1,150	**60 (profit)**
Spot	**12-10-202X**	BUY	1,200	**26-10-202X**	SELL	1,140	

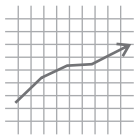
Net selling price: ₹1,200 (₹1,140 + ₹60)

EXPLANATION

Tthe treasury team of ABC Ispaat short sells 10 lots (1 lot = 1500 kg) of nickel 31st October contract on 12th October and squares the contracts on 26th October. The value of raw material in the finished goods sale is ₹1,71,00,000(1,140*10*1,500) and cash inflow from commodity exchange due to fall in prices is ₹9,00,000 (60*10*1,500). Thus, the net value realized from the sale of finished goods is ₹1,80,00,000 (1,71,00,000+9,00,000), making the net selling price ₹1,200 per kg 1,80,00,000/15,000, which is the budgeted price.

SCENARIO 2

IF PRICES WERE TO RISE



DATE	FUTURES PLATFORM	PHYSICAL MARKET
12-10-202X	SELL Nickel Futures Contract	Raw material bought
26-10-202X	BUY Nickel Futures Contract	Processed material sold at ruling price

The net position of the above transactions will negate price risk

(₹/1 kg)

DATE	NICKEL SPOT PRICE	NICKEL FUTURES PRICE (expiry 31st October 202X)
12-10-202X	1,200	1,010
26-10-202X	1,260	1,070

Futures	**12-10-202X**	SELL	1,210	**26-10-202X**	BUY	1,270	**60 (loss)**
Spot	**12-10-202X**	BUY	1,200	**26-10-202X**	SELL	1,260	

Net Selling price: ₹1,200 (₹1,260-₹60)

EXPLANATION

The Treasury Team of ABC Ispaat, short sells 10 lots (1 lot = 1500 kg) of 31st October contract on 12th October and squares the contract on 26th October, making a loss of ₹60 per kg. The value of raw material in the finished goods sale is ₹1,89,00,000(1,260*10*1,500) on 26th October and cash flow outgo on commodity exchange due to rise in prices is ₹9,00,000(60*10*1,500). Thus, the net value realized from the sale of finished goods is ₹1,80,00,000(1,89,00,000-9,00,000), making the net selling price ₹1,200 per kg (1,80,00,000/15,000), which is the budgeted price.

Note: *The objective is to lock in prices, to obtain protection from unwanted price volatility, which affects the balance sheet of the company. This has been achieved, through hedging on commodity exchange in both the scenario of rising and falling prices, by which ABC Ispaat has been able to sell the finished product at the budgeted price itself.*

THE SITUATION

ABC & Sons is an exporter of nickel products and has to routinely procure nickel from the physical market to meet export orders. The nickel market has been extremely volatile, which is a reflection of international and domestic factors. The company makes "just-in-time" procurement to meet its production schedule, which means input prices may change !

Nickel prices are influenced by international and domestic factors, and currency movements. The company hedges on commodity exchanges to effectively manage its commodity and currency risks.

Hedging against the export order

GOING LONG: Scenarios where prices either rise or fall

ABC & Sons has put forward the following facts:

1. The company decides on 12th October to procure 15 tonnes of nickel.
2. It has structured its purchase, such that 3 tonnes will be physically bought every week at the prevailing price.
3. The first purchase of 3 tonnes is bought physically on 12th October 202X. Thus, the first order does not undergo any price change.
4. The remaining 12 tonnes will be bought in subsequent weeks in lots of 3 tonnes—every week at the prevailing prices.
5. The company hedges for 12 tonnes.

DATE	PHYSICAL MARKET	FUTURES PLATFORM	Open Interest in lots on FUTURES MARKET
12-10-201X	BUY 3 Tonnes	BUY 8 lots of Nickel Futures contract (1500 kg each)	8
19-10-202X	BUY 3 Tonnes	SELL 2 lots of Nickel Futures	6
26-10-202X	BUY 3 Tonnes	SELL 2 lots of Nickel Futures	4
02-11-202X	BUY 3 Tonnes	SELL 2 lots of Nickel Futures	2
09-11-202X	BUY 3 Tonnes	SELL 2 lots of Nickel Futures	0

(₹/1 kg)

DATE	NICKEL SPOT PRICE	NICKEL FUTURES PRICE (expiry 30th November 202X)
12-10-202X	1,200	1,210
19-10-202X	1,230	1,240
26-10-202X	1,160	1,170
02-11-202X	1,280	1,290
09-11-202X	1,170	1,180

Explanation

DATE	SPOT MARKET ACTION		FUTURES MARKET ACTIONS		PROFIT/LOSS per kg on FUTURES MARKET	NET BUYING PRICE per kg
12-10-202X	BUY	3 MT @ ₹1,200	BUY	8 lots @ ₹1,210		₹1,200
19-10-202X	BUY	3 MT @ ₹1,230	SELL	2 lots @ ₹1,240	₹30 (Profit)	₹1,200 (₹1,230 – ₹30)
26-10-202X	BUY	3 MT @ ₹1,160	SELL	2 lots @ ₹1,170	₹40 (Loss)	₹1,200 (₹1.160 + ₹40)
02-11-202X	BUY	3 MT @ ₹1,280	SELL	2 lots @ ₹1,290	₹80 (Profit)	₹1,200 (₹1,280 – ₹80)
09-11-202X	BUY	3 MT @ ₹1,170	SELL	2 lots @ ₹1,180	₹30 (Loss)	₹1,200 (₹1,170 + ₹30)

The Treasury Team of ABC & Sons, buys 8 lots (1 lot = 1500 kg) of Nickel 30th November contract on 12th October and staggers the squaring up of the position in subsequent weeks, whenever the company lifts nickel from the physical market at the prevailing spot market price. The company by hedging its position and making a staggered exit from the futures contract makes the net buying price at ₹1,200 per kg, which is the budgeted price.

The objective is to lock in prices, and NOT profit from the rise / fall in prices.

PRICE RISK MANAGAMENT

Risk management techniques are critical for participants such as producers, exporters, marketers, processors, and SMEs among others. Modern techniques and strategies, including market-based risk management financial instruments, such as 'Nickel Futures', offered on the futures platform can improve efficiencies and consolidate competitiveness through price risk management. The importance of risk management cannot be overstated; the government too has set up high-level committees to suggest steps for fulfilling the objectives of price discovery and price risk management on commodity derivatives exchanges. The role of commodity futures in risk management consists of anticipating price movement and shaping resource allocations, and achieving these ends can be met through hedging.

REGULATORY BOOST TO HEDGERS

1. **Income tax exemptions for hedging.** The Finance Act, 2013, has provided for coverage of commodity derivatives transactions undertaken in recognized commodity exchanges under Section 43(5) of the Income Tax Act, 1961, in line with the benefit available to transactions undertaken in recognized stock exchanges.

   This effectively means that business profit/loss can be offset by loss/profit undertaken in commodity derivatives transactions. This enhances the attractiveness of risk management on recognized commodity derivative exchanges and incentivizes hedging. Hedgers are no longer forced to undertake physical delivery of commodities to prove that their transactions are for hedging and not 'speculation'.

2. **Limit on open position as against hedging.** This enables hedgers to take positions on their exposure in the physical market and they are allowed to take position over and above the prescribed position limits on approval by the exchange.

DOMESTIC SCENARIO

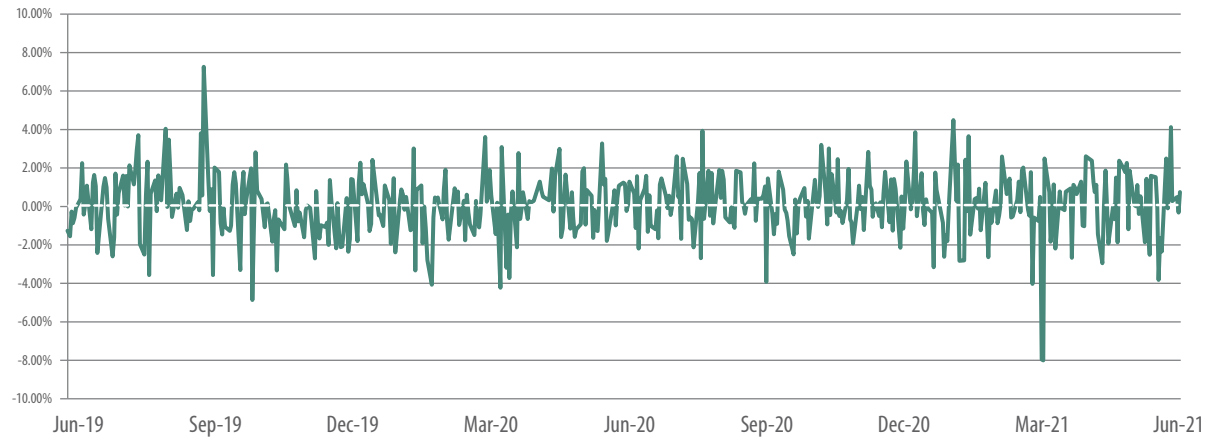
Nickel is not produced from primary sources in the country and the entire demand is met through imports. However, it is being recovered as nickel sulphate crystals, a by-product of copper production. Important occurrence is nickel ferrous limonite in the overburden of chromite in Sukinda valley, Jajpur district, Odisha where it occurs as oxide. In addition it is found associated with uranium deposits at Jaduguda, Jharkhand.

Source: Indian Minerals Year book 2017, Ministry of Mines, India

A comprehensive Hedge Policy Document is available at:
https://www.mcxindia.com/docs/default-source/market-operations/trading-surveliance/reports/hedgepolicy.pdf?sfvrsn=2

Daily Average Volatility Nickel*

**MCX near month prices*



YEAR	2013	2014	2015	2016	2017	2018	2019	2020	2021#
ANNUALISED VOLATILITY	19.10%	25.43%	30.63%	29.60%	28.33%	25.27%	23.86%	22.68%	31.56%

#till May, 2021

How much Volatility Risk are you Exposed to?



Nickel witnessed annualized price volatility of 22.68% in 2020

Which means

A firm in the nickel business, with an annual turnover of ₹100 crore was exposed to a price risk of ₹22.68 crore in 2020

Are you prepared for volatility risk?

(Adoption of a risk management practice, such as hedging on the futures platform, can help shield against the perils of price volatility)

SALIENT FEATURES OF MCX NICKEL CONTRACT SPECIFICATIONS

Commodity	NICKEL
Trading Unit	1.5 MT
Contracts Available	January, February, March, April, May, June, July, August, September, October, November, December
Contract Start Day	1st day of contract launch month. If 1st day is a holiday then the following working day.
Last Trading Day	Last calendar day of the contract expiry month. If last calendar day is a holiday or Saturday then preceding working day.
Trading Period	Mondays through Friday: 9 am to 11.30/11.55 pm (based on US daylight saving time period).
Quotation/ Base Value	1 kg
Maximum Order Size	24 MT
Price Quote	Ex-Warehouse Thane district (excludes only GST)
Tick Size	10 paise / Kg.
Daily Price Limit	The base price limit will be 4%. Whenever the base daily price limit is breached, the relaxation will be allowed upto 6% without any cooling off period in the trade. In case the daily price limit of 6% is also breached, then after a cooling off period of 15 minutes, the daily price limit will be relaxed upto 9%. In case price movement in international markets is more than the maximum daily price limit (i.e. 9%), the same may be further relaxed in steps of 3% informed to the Regulator immediately.
Initial Margin*	Minimum 10% or based on SPAN whichever is higher
Extreme Loss Margin**	Minimum 1%
Additional and/ or Special Margin	In case of additional volatility, an additional margin (on both buy & sell side) and/ or special margin (on either buy or sell side) at such percentage, as deemed fit; will be imposed in respect of all outstanding positions.
Maximum Allowable Open Position	For individual clients: 1000 MT or 5% of the market wide open position, whichever is higher for all Nickel contracts combined together. For a member collectively for all clients: 10,000 MT or 20% of the market wide open position, whichever is higher for all Nickel contracts combined together.
Delivery Unit	1500 Kgs with tolerance limit of + / - 10%
Delivery Period Margin**	Delivery period margin shall be higher of: **a.** 3% + 5day 99% Var of spot price volatility OR **b.** 25%
Delivery Center***	Ex-Warehouse at Thane district in Maharashtra.
Additional Delivery Centre(s)	Chennai district in Tamil Nadu
Quality Specifications	Primary Nickel Cathodes (Cut or Uncut / Full Plate) with minimum purity of 99.80%. Only LME approved brands will be accepted. For the purpose of quality assessment, reliance shall be placed by the WSP on the Certificate of Analysis (CoA) issued by the producer.
Due Date Rate	The Final Settlement Price (FSP) shall be arrived at by taking the simple average of the last polled spot prices of the last three trading days viz.,E0 (expiry day), E-1 and E-2.
Delivery Logic	On the day of expiry the trading shall be allowed up to 5pm. Compulsory Delivery

The Margin Period of Risk (MPOR) shall be 2 days in accordance with SEBI Circular no. SEBI/HO/CDMRD//DRMP/CIR/P/2016/77 dated September 01, 2016 accordingly, the initial margin shall be scaled up by root 2. | **As per SEBI directive CIR/CDMRD/DRMP/01/2015 dated October 1, 2015 | * As per SEBI directive SEBI/HO/CDMRD/DRMP/CIR/P/2016/77 dated Sep 01, 2016 | ****As per SEBI circular SEBI/HO/CDMRD/DMP/CIR/P/2016/103 dated September 27, 2016, the exchanges may accredit warehouses of a WSP within 100 kms adius of the delivery centers. | #Genuine hedgers having underlying exposure that exceed the prescribed OI limits given in the contract specifications can be allowed higher limits based on approvals. | Note: Please refer to the exchange circulars for latest contract specifications*

NICKEL FACTS

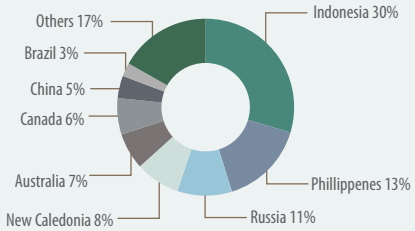
Most nickel-containing products have long useful lives. The average life is probably 25–35 years, with many applications lasting much longer. Nickel-containing products frequently can provide optimum solutions to practical challenges at a lower total cost and with more efficient use of resources, including energy.

At the end of their useful life, nickel-containing products can be collected and recycled for future use and re-use. Nickel is one of the most recycled material globally. It is collected and recycled, mostly as alloys. About half of the nickel content of a stainless steel product today will have come from recycled sources.

Nickel use is growing at about 4% each year while use of nickel-containing stainless steel is growing at about 6%. The fastest growth today is seen in rapidly industrializing countries, especially Asia.

Source: Nickel Institute

World mine production 2020#



Source: USGS | #estimated

Nickel: Indian scenario

(in '000 MT)

Year	2017-18	2018-19	2019-2020	2020-2021#
Production	0	0	0	0
Import	157	154	173	120
Export	1.14	0.57	0.29	0.19

Sources: Ministry of Commerce & Industry, GOI; Production of Nickel in India is Negligible. | # Apr - Jan
Ministry of Commerce (HS Code: 75 i.e. Nickel, not alloyed and derived from # 72)
HS Code (at 8 digit level) : 100% of 75021000 + 30% of 72026000 + 8% of 72042190

Nickel*: Major import sources for India

(Value in ₹ Cr.)

Country	2017-2018	2018-2019	2019-2020	2020-2021
Australia	752	282	121	116
Norway	576	553	603	503
Russia	395	188	169	97
South Africa	304	471	397	241
Canada	281	141	168	255
Others	1770	3533	4091	3132
Total	4078	5168	5549	4345

**Imports in the form of Nickel and articles thereof (HS code 75)*
Source: Ministry of Commerce & Industry, GOI | (#Apr-Jan)

Nickel: World mine production

(in '000 tonnes)

Country	2014	2015	2016	2017	2018	2019	2020#
IIndonesia	177	130	199	345	560	853	760
Phillippenes	523	554	347	366	340	323	320
Russia	239	269	222	214	210	279	280
Australia	245	222	204	179	170	159	170
Canada	235	235	236	214	160	181	150
Others	1031	870	882	842	860	815	820
World	2450	2280	2090	2160	2300	2610	2500

Source: USGS Mineral Commodity Summaries, 2021 | #Estimated

Global refined nickel production

(in MT)

	2015	2016	2017	2018	2019	2020
America	2,74,121	2,93,927	3,00,473	1,94,432	1,24,369	1,32,577
Europe	4,84,883	4,65,860	4,06,613	2,68,433	3,87,102	4,10,071
Asia	7,28,055	7,75,054	10,49,000	6,97,903	14,38,000	16,45,000
Oceania	2,30,508	2,16,503	2,07,994	1,47,544	1,97,711	2,07,546
Africa	41,970	42,696	42,409	25,903	37,941	30,941
World	18,40,077	18,59,000	17,89,466	18,24,342	23,91,000	26,23,000

Source: WBMS (Accessed through Bloomberg)

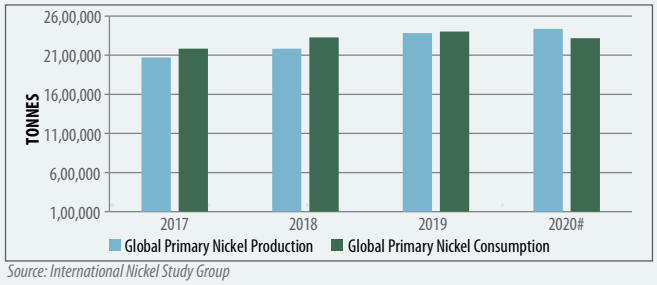
Global refined nickel demand

(in MT)

	2015	2016	2017	2018	2019	2020
America	1,81,992	1,74,479	2,36,702	1,69,189	1,28,566	1,23,895
Europe	3,38,605	3,74,358	3,90,143	2,87,069	3,25,841	3,06,028
Asia	12,18,000	13,25,000	14,60,000	9,45,759	18,89,000	20,31,000
Oceania	1,638	1,625	1,616	1,076	2,157	1,885
Africa	42,843	47,554	49,446	32,584	24,233	16,909
World	17,83,000	19,23,000	21,38,000	14,36,000	24,14,000	25,19,000

Source: WBMS (Accessed through Bloomberg)

Global Primary Nickel Production & Consumption



Source: International Nickel Study Group

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