



# Global Nickel Market Report with Focus on EV Batteries: Insights, Trends and Forecast (2019-2023)

September 2019

## Executive Summary

The global nickel production volume is projected to reach 2,507 kilo tonnes in 2023, growing at a CAGR of 2.3%, for the period spanning from 2019 to 2023. The factors such as upsurge in energy storage system (ESS), increasing electric vehicles penetration, rising demand for stainless steel, growing use of nickel in batteries and increasing nickel mine production countries are expected to drive the market growth. However, growth of the industry would be challenged by underinvestment in sulphide ores and deficit expanding. A few notable trends include government support, rising NPI capacity, favorable pricing, nickel-intensive technologies and high nickel demand in Europe.

Nickel is widely used in a number of products for consumer, industrial, military, transport/aerospace, marine and architectural applications. Nickel has been commonly used in coins because of its bright, durable and corrosion resistant coatings applied on steel. The biggest use of nickel is as an alloying metal along with chromium and other metals in the production of stainless and heat-resisting steels to increase the tensile strength, toughness and elastic limit of product.

The fastest growing regional market is China, owing to surge in the production capacities of domestic metal extracting plants and increasing trend of industrialists shifting towards high-end metal refining machines over traditional refining machines.

# Executive Summary

## Scope of the report:

- The report provides a comprehensive analysis of the global nickel market report with focus on EV batteries.
- The major regional markets (China, Indonesia and US) have been analysed.
- The market dynamics such as growth drivers, market trends and challenges are analysed in-depth.
- The competitive landscape of the market, along with the company profiles of leading players i.e. The Norilsk Nickel Group, Vale S.A., BHP Billiton Limited, Jinchuan Group International Resources Co. Ltd, Glencore PLC and Sherritt International Corporation are also presented in detail.

## Key Target Audience:

- Nickel/EV Manufacturers
- Raw Material/Component Suppliers
- End Users
- Consulting Firms
- Investment Banks
- Government Bodies & Regulating Authorities

## Report Coverage

**Introduction/Market Overview**



**Global Market Analysis**



**Regional Market Analysis**



**Market Dynamics - Drivers, Trends & Challenges**



**Competitive Landscape**



**Company Profiles**

## Class I Primary Nickel Products

Primary nickel products are classified into Class I and Class II.

Class I products are pure nickel metal which contains 99.8% Ni.

Class I products are used in a variety of forms including pure electrolytic full plates, nickel squares, rounds or crowns, spherical pellets, briquettes of consolidated pure nickel powder compacts and pure nickel powders.

Product Name	Nickel Content, Wt%	Form	Principal Impurity
Electro-electrolytic nickel squares, rounds, crowns	99.8-99.99	Massive	Various
Pellets- from nickel carbonyl	>99.97	Massive	Carbon
Briquettes-metallized powder compacts	≥ 99.8	Massive	Cobalt
Powders-by carbonyl decomposition or by precipitation	≥ 99.8	Dispersible	Carbon

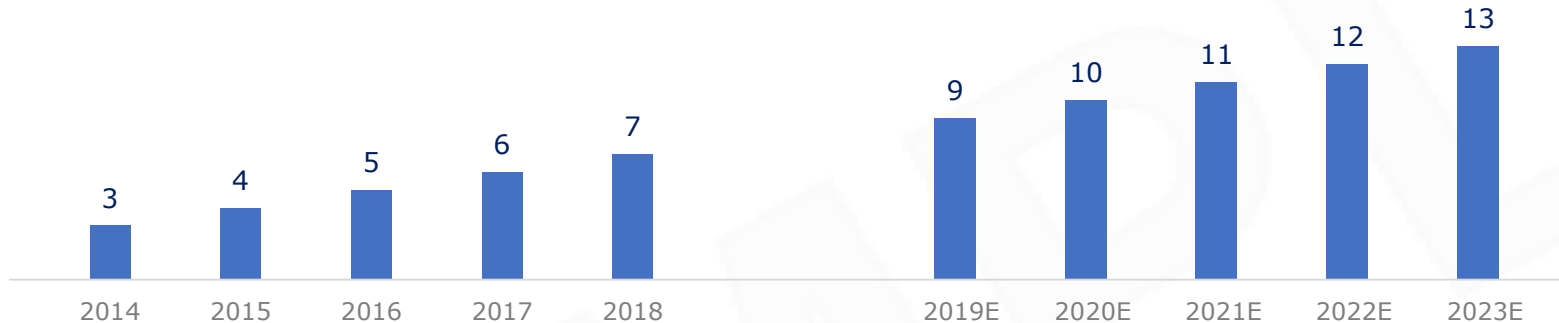
## Class II Primary Nickel Products

Class II metallic nickels are electrolytic nickel products and briquettes containing more than 99.7% Ni but less than 99.8% Ni. The oxide products include partially reduced nickel oxide compacts containing 90% Ni, compacts of nickel 90% Ni and compacts of nickel oxide sinter containing 75% Ni approximately.

Product Name	Nickel Content, Wt%	Form	Principal Impurity
Electro	>99.7	Massive	Cobalt
Briquettes	>99.7	Massive	Cobalt
Utility-shot	>98.7	Massive	Iron
Sinter-nickel oxide and partially metallized	~75-90	Massive	Oxygen
Ferronickel-ingots, cones, shot, granules	~20-50	Massive	Iron

# Global Nickel Production Volume

## Global Nickel Production Volume, 2014-2023 (Kilo Tonnes)

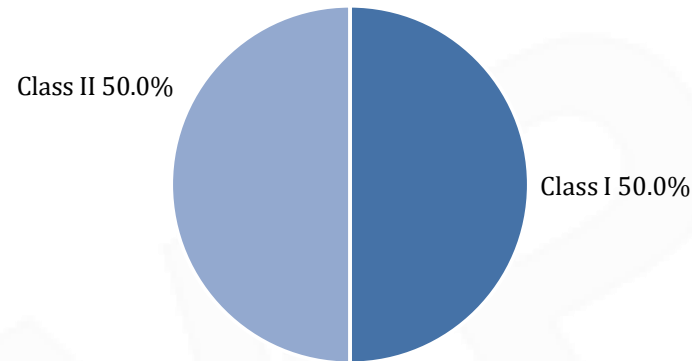


Note: These are dummy figures. Please purchase the report for actual figures.

The global nickel production is projected to reach xx kilo tonnes in 2023, increasing from xx kilo tonnes in 2019, recording growth at a CAGR of xx% for the period spanning 2019-2023. The nickel production is expected to boost with frequent opening of NPI manufacturing facilities in China, surge in the demand for stainless steel in European economies and the introduction of supportive protocols by the government in metal & mineral industry.

# Global Nickel Market by Product Class

## Global Nickel Market by Product Class, 2018 (%)



Note: These are dummy figures. Please purchase the report for actual figures.

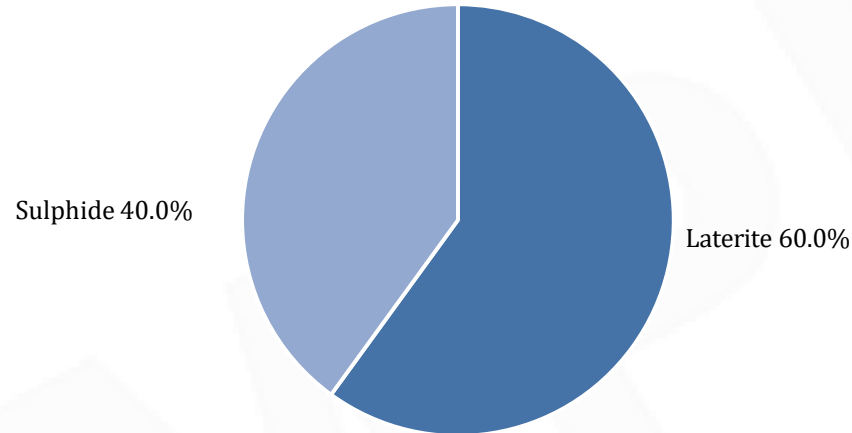
Nickel is made up of two product classes. Class I products are pure nickel and class II products are metallic nickel, nickel oxides and ferronickel. Class II products includes powders, pellets, briquette and cathode.

In 2018, Class II product accounted for xx% share followed by Class I product which held the remaining share of xx%.



# Global Nickel Resources by Deposits

## Global Nickel Resources by Deposits, 2018 (%)



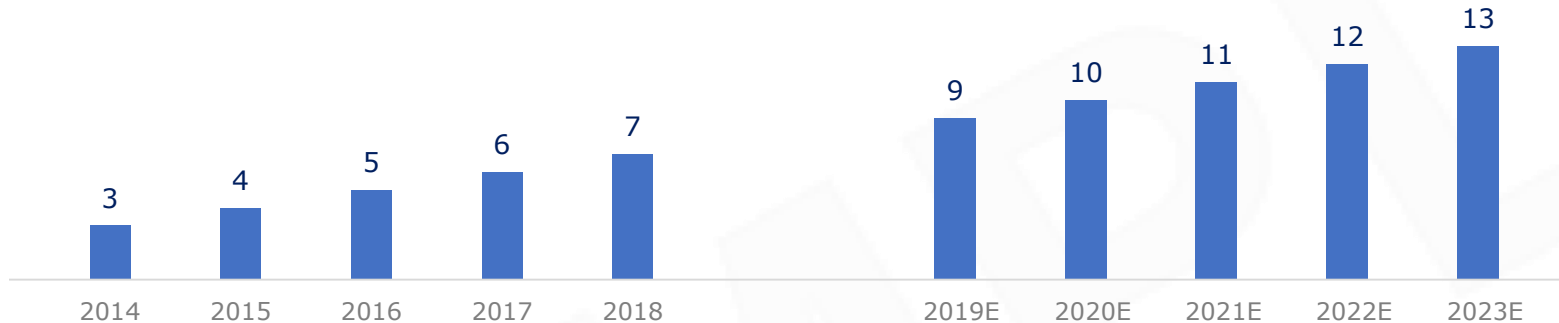
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Laterites deposits accounted for the largest nickel reserve with approximately xx% of total nickel resources followed by Sulphide deposits with xx% share in 2018.

Nickel resources are also found in manganese crusts and nodules on the ocean floor. The decline in discovery of new Sulphide deposits in traditional mining districts led to exploration of locations such as east-central Africa and subarctic.

# Global Nickel Consumption Volume

## Global Nickel Consumption Volume, 2014-2023 (Kilo Tonnes)

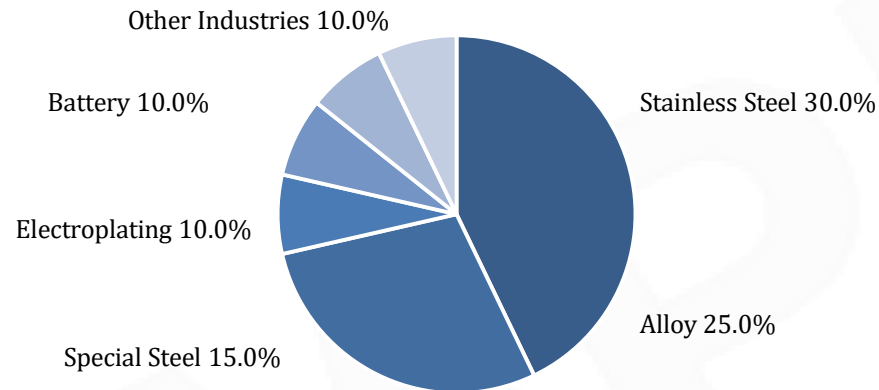


Note: These are dummy figures. Please purchase the report for actual figures.

The global nickel consumption volume is expected to reach xx kilo tonnes in 2023, growing from xx kilo tonnes in 2019, recording growth at a CAGR of xx% for the period spanning 2019-2023. Increasing use of nickel in cathode materials for lithium-ion batteries, growth of electric vehicle industry and increased nickel demand in American power sector to improve energy density are some of the key reasons that would drive market growth in future.

# Global Nickel Consumption Volume by Application

## Global Nickel Consumption Volume by Application, 2018 (%)



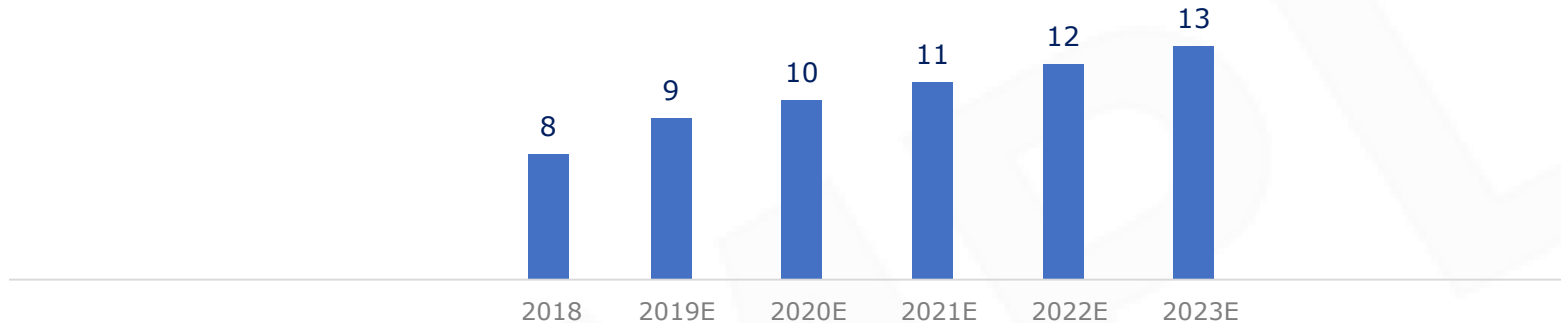
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Nickel demand is increasing in plating, foundry and alloy applications, especially super alloys, which are used in jet engines for strength and high heat tolerance.

In 2018, stainless steel was the major nickel consuming sector. It accounted for the largest share of xx%, followed by alloy and special steel with the share of xx% and xx%, respectively.

# Global Nickel Stainless Steel Consumption Volume

## Global Nickel Stainless Steel Consumption Volume , 2018-2023 (Kilo Tonnes)

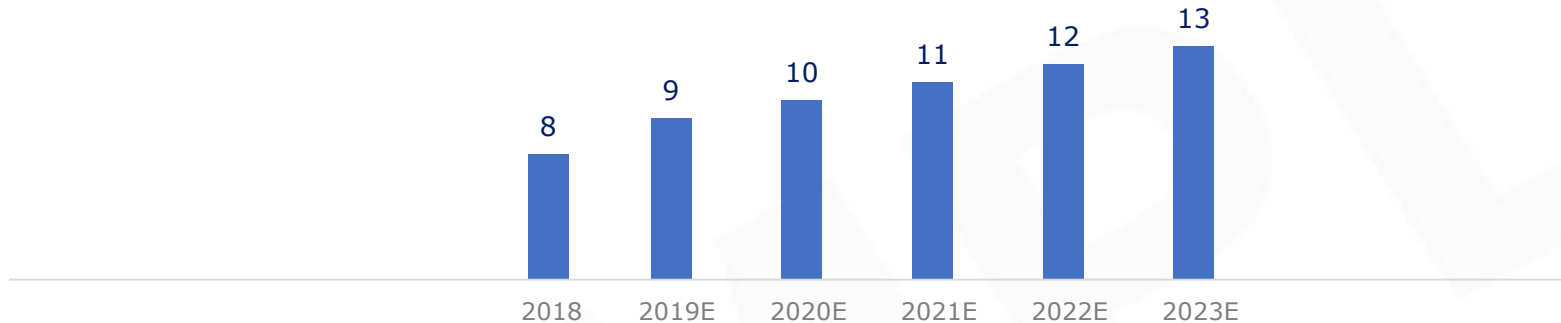


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Globally, nickel based stainless steel consumption is likely to reach xx kilo tonnes in 2023, propelling from xx kilo tonnes in 2018, recording CAGR of xx% for the period spanning 2018-2023. The consumption volume is expected to rise owing to upsurge in the stainless steel requirement in various applications such as wires, rolled rings, precision tubes, strips and 3D forging in Asia and Middle East.

# Global Nickel Non-Stainless Consumption Volume

## Global Nickel Non-Stainless Consumption Volume, 2018-2023 (Kilo Tonnes)

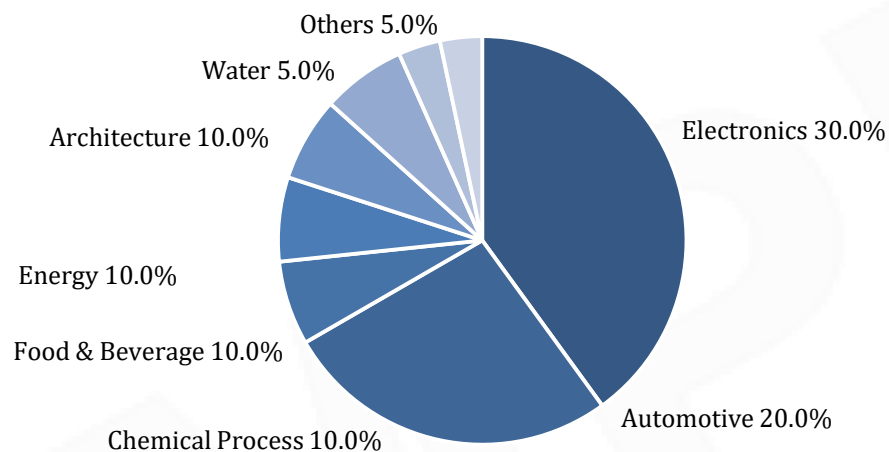


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Nickel demand in non-stainless products is likely to reach xx kilo tonnes in 2023, increasing from xx kilo tonnes in 2018, recording CAGR of xx% for the period spanning 2018-2023. Non-stainless consumption is expected to grow with increasing nickel demand for lithium battery cathodes and in traditional sectors such as plating and super alloys.

# Global Nickel Consumption Volume by End Market

## Global Nickel Consumption Volume by End Market , 2018 (%)



Note: These are dummy figures. Please purchase the report for actual figures.

Electronics accounted for a major share of xx% followed by automotive and chemical process with the shares of xx% and xx%, respectively. Other key industries i.e. food & beverages and energy accounted for xx% and xx% shares in 2018.

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