

Integrated Report 2020



MINING THE FUTURE

The Sumitomo Business Spirit

Article 1

Sumitomo shall achieve strength and prosperity by placing prime importance on integrity and sound management in the conduct of its business.

Article 2

Sumitomo shall manage its activities with foresight and flexibility in order to cope effectively with the changing times. Under no circumstances, however, shall it pursue easy gains or act imprudently.

SMM Group Corporate Philosophy

Sumitomo Metal Mining Co., Ltd. (SMM), in accordance with the Sumitomo Business Spirit, shall, through the performance of sound corporate activities and the promotion of sustainable co-existence with the global environment, seek to make positive contributions to society and to fulfill its responsibilities to its stakeholders, in order to win ever greater trust.

SMM shall, based on respect for all individuals and recognizing each person's dignity and value, seek to be a forward-minded and vibrant company.

SMM Group Management Vision

By improving technical capabilities, we shall fulfill our social responsibilities as a manufacturing enterprise.

Based on the principles of compliance, environmental protection and operational safety, SMM Group shall pursue maximum corporate value through the securing of resources and the provision of high-quality materials such as non-ferrous metals and advanced materials via its global network.

Formulating a Basic Brand Design

The SMM Group has formulated a brand message as a statement of its intent to realize the long-term vision of becoming the world leader in the non-ferrous metals industry. We have also created a new company logotype, tagline, and logo as the embodiment of this message.

Brand Message

Materials required in the future.

Materials will be required to build a sustainable society.

Materials will be required to create happiness and peace of mind for people.

It has been 430 years since Sumitomo's founding. We, Sumitomo Metal Mining, have inherited the original business of Sumitomo. We stably shoulder the development and operation of mines, smelting and refining which produce metals, and even produce advanced materials. In doing so, we exhibit a unique value as a company unlike any other in the world.

If the supply of our materials were to stop, society would come to a halt. At the same time, mine development must never harm the sustainability of the environment and local communities.

In our DNA is a spirit of taking a broad view as a global citizen and engaging in proper business, together with partners with whom we share a great responsibility toward future generations.

As we enhance our technology, the metals that we discover and extract will serve as materials for dreams and support human progress. Not only for people alive today, but also for those who will be born and live in future generations.

Our mission continues, becoming the future for all.

Company Logotype

Taking the typeface of the Company logotype established in 1983 as a base, and valuing the trust we have earned over a history of more than 430 years, we revised the design to make our Company familiar to and accepted by a wider variety of people than ever.

 住友金属鉱山

 SUMITOMO METAL MINING

Brand Tagline

The resources that we unearth are smelted and refined, becoming materials that shape the future. "MINING THE FUTURE" is a declaration of the value we provide, the meaning of our existence, and our will to continue providing materials that will shape the future. We will use this statement alongside our Company logotype and logo to present a unified expression of our brand.

MINING THE FUTURE

Logo

Taking the shape "SMM," our logo encapsulates our pride in conducting business together with mining, and our willingness to tackle major social issues, to pioneer paths, and to overcome. "SMM" also symbolizes our three-business collaboration among Smelting and Refining, Mineral Resources, and Materials.



*These marks are registered in Japan.

World Leader in the Non-Ferrous Metals Industry

As a World Leader in the Non-Ferrous Metals Industry We Are Aiming to

- Have a global presence in terms of mineral resource interests and metal production volumes (be in the global top five)
- Have leading technology and a unique business model that cannot be easily emulated by other major mineral resource companies
- Be growing sustainably and stably producing a certain amount of profit
- Be actively tackling social issues such as the SDGs
- Have employees working with spirit

The SMM Group possesses leading technology and a unique business model that covers from the securing of resources to the provision of high-functionality materials in house that cannot be easily emulated, even by other major mineral resource companies. This is one of the Group's competitive strengths and means we are able to effectively utilize resources and materials without limits.

Our ambition is to raise our societal value through sustainable growth and become the world leader in the non-ferrous metals industry.

We aim to have a global presence in terms of mineral resource interests and metal production volumes (be in the global top five), to grow sustainably and stably produce a certain amount of profit, to actively tackle social issues such as the SDGs, and to have employees working with spirit. This is what we are aiming for, what our long-term vision of becoming the world leader in the non-ferrous metals industry looks like.

Long-Term
Vision



Targets



Nickel (Ni) ----Annual production capacity of 150 kt

A quantity that will position us as top class globally (about 5th)
A responsible quantity for meeting growing demand, including for battery materials

Copper (Cu) ----Annual production interest of 300 kt

A quantity that will position us as mid-level globally
Achievement expected through participation in the Quebrada Blanca 2 Project → Continue to maintain

Gold (Au) ----Participation in new mine operations through the acquisition of superior interest

Increasing profitability and value of operational experience by participation in superior projects, rather than increasing the number of interests

Materials ----Achievement of annual profit before tax of ¥25.0 billion through portfolio management

Creating a presence as a core business by selecting the best mix of businesses based on the life cycle of each product group

Profit ----Annual profit ¥150.0 billion

A numerical target appropriate for a "world leader in the non-ferrous metals industry"
A level that can be sustainably achieved through steady strategic investment and minimizing opportunity loss

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Integrated Report 2020 Concepts

Resolve to Become the World Leader in the Non-Ferrous Metals Industry and Commitment to Initiatives Aiming to Realize a Sustainable Society

Strict Information Disclosure

When compiling the Introduction, The SMM Group's Creation of Value, Activity Report, A Foundation Supporting the Creation of Value, and Financial Data / Corporate Data sections of Integrated Report 2020, we focused on including the information that is most material to our stakeholders, particularly long-term investors.

In the special features, we introduce our Vision for 2030, which sets out the milestones to be achieved by 2030 in order to realize our long-term vision of becoming the world leader in the non-ferrous metals industry. We also provide explanations of our vision and KPI for the 11 material issues that have been identified, evaluated, and selected from a perspective that incorporates management issues as well as sustainability issues.

We have also mapped our ESG information onto these new material issues and included the basic information in this report, along with a more detailed version in the Supplementary ESG Data Book 2020. By coordinating the data book and this report, we have strived to maintain the quality and volume of information we disclose while presenting it in an easy to read format.

Improving Content Based on an Integrated Approach

In Value Creation Process, we have included details of each process in a more quantifiable format with the aim of clarifying the characteristics of the Group's value creation model.

Furthermore, in Review of Past 3-Year Business Plans, we provide a review of the past two 3-year business plans in order to demonstrate management continuity and add content that evaluates this management from a long-term perspective.

Through this entire report, we express the high ambition of our long-term vision of becoming the world leader in the non-ferrous metals industry and our resolve to achieve this. We also show not only our business strategies, but also our commitment to sustainability, primarily in our initiatives for achieving Vision for 2030.

• Editorial Policy

Since 2016, we have been publishing this integrated report so that all of our stakeholders, including customers, shareholders and investors, and local communities, can gain an even better understanding of our initiatives aimed at sustainable growth and maximization of corporate value, which is the goal of the SMM Group. In this Sumitomo Metal Mining Co., Ltd. Integrated Report 2020, the fifth publication of the integrated report, we provide explanations of the risks and opportunities surrounding our businesses, our competitiveness and the value we provide, and our business models and strategies in a way that further demonstrates how these are interconnected, in order to foster an understanding of the Group's value creation. This includes an introduction to our Vision for 2030, which sets out the milestones to be achieved by 2030 in order to realize our long-term vision.

In this report, CBNC and THPAL are acronyms for Coral Bay Nickel Corporation and Taganito HPAL Nickel Corporation, respectively. Also, unless otherwise stated, the term "ton" refers to a metric ton.

• Referenced Guidelines and Assurance

In editing this report, we referenced the International Integrated Reporting Framework of the International Integrated Reporting Council (IIRC), and the Guidance for Collaborative Value Creation of the Ministry of Economy, Trade and Industry. For information on sustainability, we have complied with the Core option of the Global Reporting Initiative's Sustainability Reporting Standards, and the Company's self-declaration and performance data have received independent assurance.

1. Global Reporting Initiative (GRI): An organization established with the purpose of creating and promoting international guidelines for sustainability reports. The GRI Content Index is on our website: <https://www.smm.co.jp/E/>

• Boundary of the Report

Sumitomo Metal Mining Co., Ltd. (SMM)

The Sumitomo Metal Mining Group
(SMM and consolidated subsidiaries)

Economic Topics

SMM, consolidated subsidiaries and equity-method affiliates

Environmental Topics

SMM, consolidated subsidiaries and one equity-method affiliate
The boundary of the environmental report is stated on p. 6–7. Companies marked with an asterisk (*) and Nittosha Co., Ltd., which we sold in March 2019, are included in the boundary of the report.

Social Topics

SMM and consolidated subsidiaries

• Publication Date

November 2020

Next scheduled publication: November 2021

(Previous publication: November 2019)

• Period Covered

(Some activities before or after the following periods have also been included)

Japan: April 1, 2019–March 31, 2020

Overseas: January 1, 2019–December 31, 2019

• Referenced Guidelines

GRI's Sustainability Reporting Standards
IIRC's International Integrated Reporting Framework
Ministry of the Environment's Environmental Reporting
Ministry of Economy, Trade and Industry's Guidelines
(Fiscal Year 2018 Version)
Guidance for Collaborative Value Creation



• Enquiries

Public Relations & Investor Relations Dept.,
Sumitomo Metal Mining Co., Ltd.
11-3, Shimbashi 5-chome, Minato-ku, Tokyo 105-8716, Japan
Tel: +81-3-3436-7705 Fax: +81-3-3434-2215

Disclaimer The forward-looking statements in this integrated report, including business result forecasts, are based on information available to the Company and on certain assumptions deemed to be reasonable as of the date of release of this report. Actual business results may differ substantially due to a number of factors.

* This document is the English version of the report used in Japan.

Development of the SMM Group

1500

1600

1700

1800

1900

2000

History

Management and Organization

Mineral Resources Business

Smelting & Refining Business

Materials Business

Column

Around 1700
The majority of Nagasaki trade

In the Edo period, about half of all copper produced in Japan for international trade is exported through Nagasaki. In the year 1698, Sumitomo's annual production reaches about 1,500 tons, a quantity that accounts for one quarter of Japan's copper production.

Around 1650
Monjuin Shiigaki

The Sumitomo Business Spirit, which continues to this day, has its origins in the *Monjuin Shiigaki*, written by the founder of the Sumitomo family, Sumitomo Masatomo (1585–1652), in his later years to explain the merchant's frame of mind.

Around 1900
The modernization of industry

Starting in the Meiji Period, with the growth in demand for communications lines, wires for electric lighting, and copper alloy fabricated products, domestic demand for copper increases significantly. The Besshi Copper Mine, which introduces Western-style smelting and refining, supports the industry in Japan.

1894
Large-scale reforestation operations

Large-scale reforestation operations are started after Iba Teigo, the second Director-General, becomes manager of the Besshi Copper Mine. At peak, more than two million trees are being planted annually and Mt. Besshi once again overflows with greenery.



The Besshi Copper Mine in the past (left) and today (right)

Around 1980
The diffusion of stainless steel

Nickel is used as a raw material in stainless steel and special steels. These materials are used in various areas such as communications, medical, construction materials, and the generation of electricity.

Around 2000
Rapidly rising demand for cathode materials for automobile batteries

Against the background of rising environmental awareness, demand has risen rapidly for cathode materials for hybrid and electric vehicle secondary batteries. Through close collaboration with customers, the SMM Group is working to supply high performance, safe battery cathode materials in addition to fulfilling its obligation as a producer of nickel and cobalt, the raw materials of battery cathode materials.

Copper mines

1691
Opening of the Besshi Copper Mine

Gold mines

1917
Start of the gold mine business

Kounomai Mine

Overseas copper mines

1961
Investment and financing contract signed for the Bethlehem Mine in Canada1973
Closure of the Kounomai Mine and the Besshi Copper Mine1979
Closure of the Sazare Mine1985
Start of operations at the Hishikari Mine1986
Acquisition of interest in the Morenci Copper Mine. Full-scale investment in overseas mines2006
Start of production at the Cerro Verde Copper Mine2015
Start of production at the Sierra Gorda Copper Mine2016
Acquisition of additional interest in the Morenci Copper Mine2017
Acquisition of interest in the Cote Gold Mine2019
Acquisition of interest in the Quebrada Blanca Copper Mine

Copper smelting and refining

1590
Start of the copper smelting and refining businessInnovation Topic
Nanban-buki

In Japan at this time, there was no technology for removing the silver from copper ore, so copper was sold and exported at copper prices while it still included silver. Soga Riemon, develops a smelting and refining technology for separating copper and silver, known as *Nanban-buki*. He shares this widely with others in the same business in Osaka, preventing the loss of wealth.

Nickel smelting and refining
1905
Relocation of copper smelting and refining from the Niihama coast to the Shisaka Island1939
Start of the nickel smelting and refining business

Innovation Topic
World-leading nickel smelting and refining technology
In 1939, SMM launches its nickel smelting and refining business and goes on to develop nickel refining technologies such as the MCLE method. In the 2000s, factors such as the diversification of raw material procurement through the practical application of HPAL technology push us toward becoming the world leader in nickel smelting and refining technology.

1960
Entry into the materials businessInnovation Topic
Adding new value to metals

As mining business in Japan undergoes a contraction, attention turns to electronic materials business as a new market. In 1960, SMM begins production of germanium dioxide for use in transistors. Since then, we have continued to provide the market with various electronic materials.

2001
Start of production of cathode materials for automobile batteriesInnovation Topic
Making high-capacity batteries possible

Lithium nickel-cobalt-aluminum oxide (NCA) produced by the SMM Group has high-levels of nickel content which has made high-capacity batteries possible. We are leveraging our strength of being able to provide an integrated production structure that ranges from resource procurement to battery material supply and contributing to extending the range that an electric vehicle can travel on a single charge.

2014
Increase production of battery materials, increase production of SAW filter LT/LN¹

NCA (battery material)

1. LT/LN: Lithium Tantalate and Lithium Niobate. These refer to Lithium Tantalate substrates and Lithium Niobate substrates. Used in chips for information and communication terminal SAW filters.

Mineral Resources Business 1691

Inheriting over 300 years of mining technology

The Besshi Copper Mine operated continuously for 283 years from its opening and made a huge contribution to Sumitomo's development. The opening of the mine presented an opportunity to expand the company's business to include mineral resources business in addition to copper smelting and refining. The mining technology cultivated at the Besshi Copper Mine continues to be inherited by SMM's Mineral Resources Business as it expands across the globe.

Mineral Resources Business 1917

Starting our gold mining business

At a time when the importance of gold as a resource was growing, we acquired the management rights for the Kounomai Mine in Hokkaido. This added gold as a new metal to our Mineral Resources Business portfolio, which had previously been centered on copper.



Smelting & Refining Business 1939

Overcoming smoke pollution at Shisaka Island

In 1939, we realized zero emissions of sulfur dioxide gas, which was a root cause of the smoke damage, becoming the first in the world to solve the problem of smoke damage that was afflicting copper smelters all over the globe.



Mineral Resources Business 1961

Participating in overseas copper mines and acquiring interests

After WWII, the closure of mines in Japan meant that smelting and refining businesses had to switch to resources procured from overseas. In 1961, SMM signed an investment and financing contract with Bethlehem Mine, beginning the company's involvement with overseas mines. To present, SMM has created footholds in mine interests and in 1986 we acquired an interest in the Morenci Copper Mine, known as a superior copper mine.

Mineral Resources Business 1985

Starting operation of the Hishikari Mine

With the closure of the Sazare Mine in 1979, the curtain closes for a time on SMM's heritage of mining technology. However, in 1985, operations begin at the Hishikari Mine and SMM Group's technology begins to chart a new history in a new area. The mine boasts a rich gold content ratio to date and has become a primary source of profit for the Group, and it also plays a role in passing down our mining technology.

Management 1999

Corporate reform since the JCO criticality accident

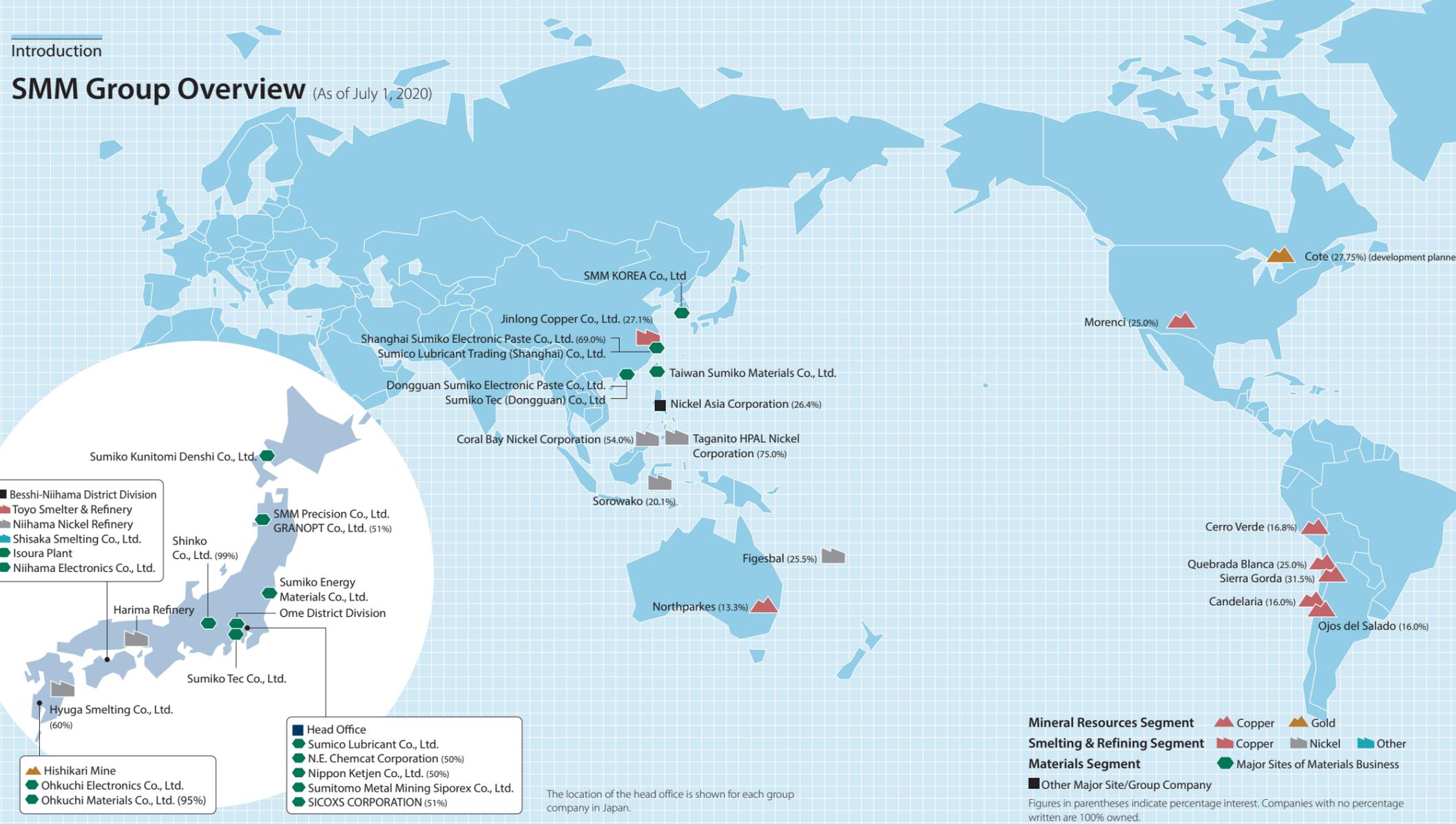
The JCO criticality accident in 1999 was a turning point for the management of the SMM Group. Since then we have taken a strong turn toward returning to core values and thorough compliance through the Corporate Reform Plan. Although more than 20 years has passed since the accident, we will not forget and will pass the lessons learnt on to younger generations.

Materials Business 2014

Increasing the production of battery materials

In 2014, we announced that we were increasing production of cathode materials for automobile batteries and converting the business structure of our Harima Refinery to increase nickel sulfate production. We leveraged our strength of an integrated process from the procurement of nickel raw material through to processing in order to further advance material performance and ensure a stable supply.

SMM Group Overview (As of July 1, 2020)



The location of the head office is shown for each group company in Japan.

Corporate Data

Company name	Sumitomo Metal Mining Co., Ltd.
President & Representative Director	Akira Nozaki
Founded	1590
Incorporated	1950
Capital	¥93.2 billion
Listing	Tokyo Stock Exchange
No. of subsidiaries (consolidated)	56 (including the money held in trust which is deemed to be a consolidated company)
No. of equity-method affiliates	15
Net sales (consolidated)	¥872.6 billion (for the year ended March 31, 2020)
Profit before tax (consolidated)	¥79.0 billion (for the year ended March 31, 2020)

Main Facilities

Head Office	11-3, Shimbashi 5-chome, Minato-ku, Tokyo (Shimbashi Sumitomo Building)
Main Branch	Osaka Branch
Branches	Nagoya Branch (Aichi Prefecture) Besshi-Niihama District Division (Ehime Prefecture)
Plants	Toyo Smelter & Refinery (Ehime Prefecture) Niihama Nickel Refinery (Ehime Prefecture) Harima Refinery (Hyogo Prefecture) Ome District Division (Tokyo) Isoura Plant (Ehime Prefecture)
Mine	Hishikari Mine (Kagoshima Prefecture)
Research centers	Niihama Research Laboratories (Ehime Prefecture) Battery Research Laboratories (Ehime Prefecture) Materials Laboratories (Tokyo) Ichikawa Research Center (Chiba Prefecture)

Main Products

Mineral Resources Segment	Gold and silver ore, copper concentrates, copper, gold
Smelting and Refining Segment	Copper, gold, silver, electrolytic nickel, electrolytic cobalt, ferronickel, palladium, chemical products
Materials Segment	Battery materials, paste, powder materials, crystal materials, thin film materials, magnetic materials, package materials, oil refining catalysts, automotive catalysts, autoclaved lightweight concrete, lubricants

No. of countries and regions where business is conducted

15

◆ Consolidated subsidiaries ● Equity-method affiliates * Included in the boundary of the environmental performance data

Japan

Sumitomo Metal Mining Co., Ltd.*

- Mineral Resources**
- ◆ Sumiko Resources Exploration & Development Co., Ltd.
 - ◆ Sumiko Solomon Exploration Co., Ltd.

Smelting & Refining

- Acids Co., Ltd.
- MS Zinc Co., Ltd.
- ◆ Shisaka Smelting Co., Ltd.*
- ◆ Sumiko Logistics Co., Ltd.*
- ◆ Hyuga Smelting Co., Ltd.*
- Mitsui Sumitomo Metal Mining Brass & Copper Co., Ltd.

Materials

- ◆ SMM Precision Co., Ltd.*
- N.E. Chemcat Corporation
- ◆ Ohkuchi Electronics Co., Ltd.*
- Ohkuchi Materials Co., Ltd.*
- ◆ GRANOPT Co., Ltd.*
- ◆ SICOXS CORPORATION
- ◆ Shinko Co., Ltd.*
- ◆ Sumiko Energy Materials Co., Ltd.*
- ◆ Sumiko Kunitomi Denshi Co., Ltd.*

Asia

Mineral Resources

- ◆ Sumico Lubricant Co., Ltd.*
- ◆ Sumiko Tec Co., Ltd.*
- ◆ Sumitomo Metal Mining Siporex Co., Ltd.*
- ◆ Niihama Electronics Co., Ltd.*
- Nippon Ketjen Co., Ltd.*

Other

- ◆ Igeta Heim Co., Ltd.*
- ◆ JCO Co., Ltd.*
- ◆ Sumiko Technical Service Co., Ltd.
- ◆ Sumiko Techno-Research Co., Ltd.*
- ◆ Sumitomo Metal Mining Engineering Co., Ltd.*
- ◆ Japan Irradiation Service Co., Ltd.*

North America

Mineral Resources

- Cordillera Exploration Co., Inc. (Philippines)

Smelting & Refining

- Jinlong Copper Co., Ltd. (China)
- ◆ Sumitomo Metal Mining Management (Shanghai) Co., Ltd. (China)
- ◆ Sumitomo Metal Mining (Hong Kong) Co., Ltd. (China)
- ◆ Coral Bay Nickel Corporation (Philippines)*
- Nickel Asia Corporation (Philippines)

Other Regions

Mineral Resources

- Compania Contractual Minera Candelaria (Chile)
- Compania Contractual Minera Ojos Del Salado (Chile)
- ◆ Sumitomo Metal Mining Chile Ltda. (Chile)
- ◆ SMM Sierra Gorda Inversiones Ltda. (Chile)
- Sierra Gorda S.C.M. (Chile)
- ◆ SMM-SG Holding Inversiones Ltda. (Chile)
- ◆ SMMQB Holding SpA (Chile)
- ◆ SMM Quebrada Blanca SpA (Chile)
- Quebrada Blanca Holdings SpA (Chile)
- ◆ Sumitomo Metal Mining Peru S.A. (Peru)
- Sociedad Minera Cerro Verde S.A.A. (Peru)
- ◆ Sumitomo Metal Mining do Brasil Ltda. (Brazil)
- ◆ Sumitomo Metal Mining Oceania Pty. Ltd. (Australia)
- ◆ SMM Cerro Verde Netherlands B.V. (Netherlands)
- ◆ SMM CV Holding B.V. (Netherlands)
- ◆ SMM Holland B.V. (Netherlands)

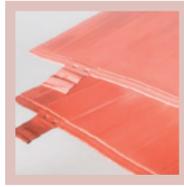
Smelting & Refining

- ◆ Dongguan Sumiko Electronic Paste Co., Ltd. (China)*
- ◆ Shanghai Sumiko Electronic Paste Co., Ltd. (China)*
- ◆ Sumiko Lubricant Trading (Shanghai) Co., Ltd. (China)
- ◆ Sumiko Tec (Dongguan) Co., Ltd. (China)
- ◆ Granopt Optics Trading (Shenzhen) Co., Ltd. (China)
- ◆ Taiwan Sumiko Materials Co., Ltd. (Taiwan)*
- ◆ SMM KOREA Co., Ltd. (South Korea)
- ◆ Sumiko Tec (Thailand) Co., Ltd. (Thailand)

Mineral Resources

- ◆ SMMA Candelaria Inc. (U.S.A.)
- ◆ SMM Exploration Corporation (U.S.A.)
- ◆ Sumitomo Metal Mining America Inc. (U.S.A.)
- ◆ Sumitomo Metal Mining Arizona Inc. (U.S.A.)
- ◆ SMM Morenci Inc. (U.S.A.)
- ◆ SMM Gold Cote Inc. (Canada)
- ◆ Sumitomo Metal Mining Canada Ltd. (Canada)
- ◆ SMM Resources Inc. (Canada)

The Global Non-Ferrous Metal Industry and the SMM Group



The Business Environment Surrounding Copper

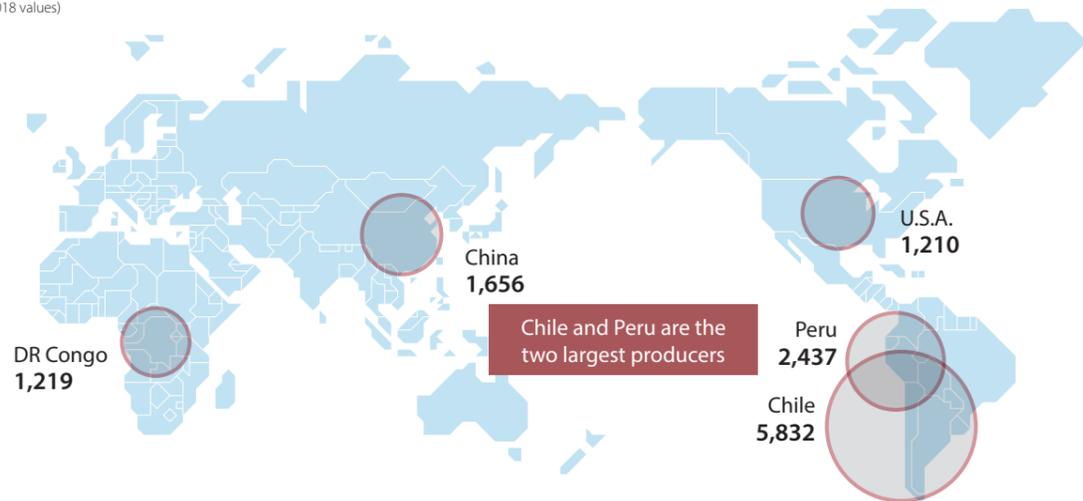
Copper is thought to be the first metal used in human history. It offers high heat and electrical conductivity, is relatively inexpensive, and has superior workability. This has resulted in it becoming an indispensable base metal for electrical wiring and copper alloy fabricated products in a wide range of industries.

Chile and Peru are the world's two largest copper ore producing countries, followed by China and the U.S.

Copper is an indispensable base metal in a wide range of industries, particularly for infrastructure such as electrical wiring and copper alloy fabricated products, and China accounts for about half of global copper demand. Going forward, there is expected to be firm increases in demand along with global economic development. However, on the supply side, with development moving forward on the world's superior mines, the development of new sites will unavoidably occur in increasingly remote locations or higher elevations and with increasingly lower grade ore, making it more difficult. It is thought that this will result in the continuation of the current tight situation, including for recycled products.

World's Largest Copper Ore Producing Countries

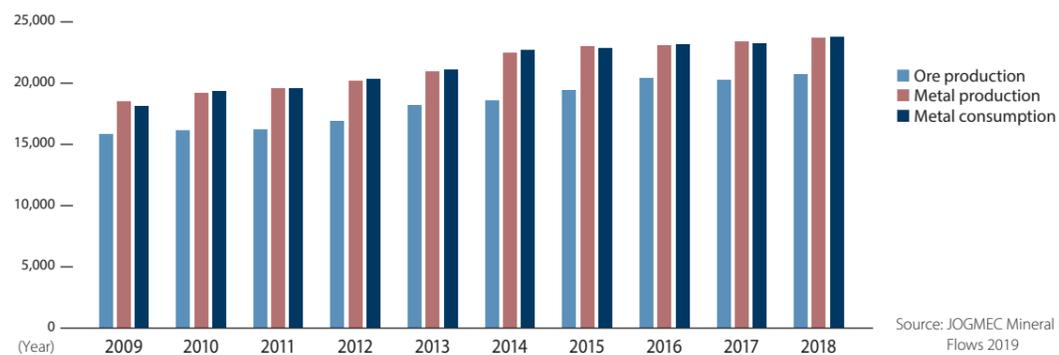
(kt, 2018 values)



Source: JOGMEC Mineral Resource Material Flows 2019

Global Copper Supply and Demand

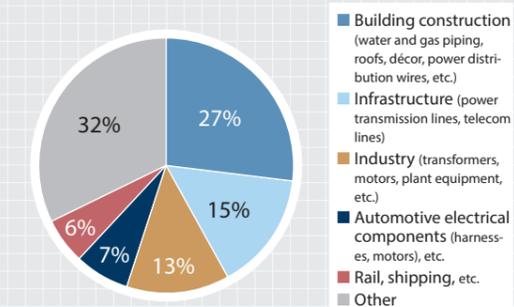
(kt pure copper)



Source: JOGMEC Mineral Resource Material Flows 2019

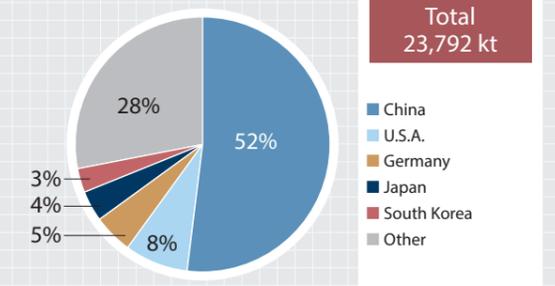
Statistical Data Regarding Copper

Copper End-Use (2019 results)



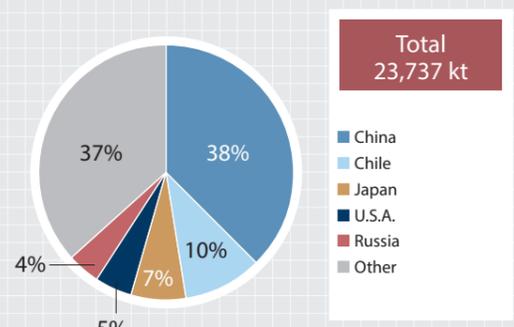
Source: The International Wrought Copper Council (IWCC) and the International Copper Association (ICA)

Copper Metal Consumption by Country/Region (2018 results)



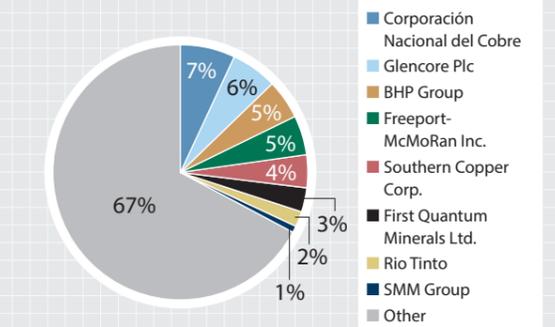
Source: JOGMEC Mineral Resource Material Flows 2019

Copper Metal Production by Country (2018 results)



Source: JOGMEC Mineral Resource Material Flows 2019

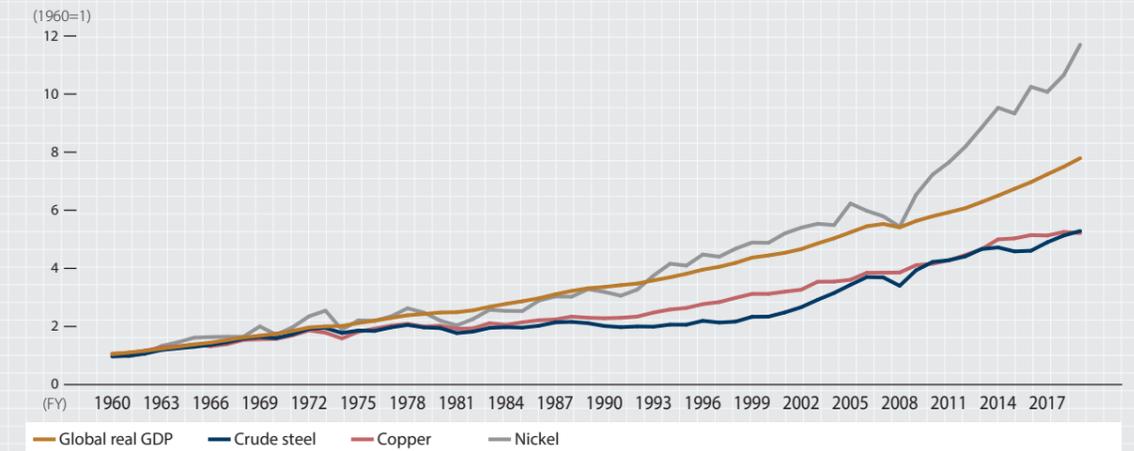
Global Copper Interest Production (2019 results)



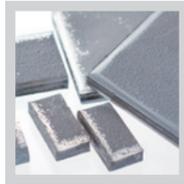
Source: S&P Global

The size of the global copper market is about 24,000 kt
The SMM Group ranks 18th in the world for global copper interest production (FY2019: 260 kt)

Global Resource Demand Trends



Source: Research by SMM



The Business Environment Surrounding Nickel

The main end-use of nickel is in stainless steel and a certain amount of increase in demand is expected. In addition to this, the electrification of the automotive sector has accelerated globally in recent years and an increase in demand for nickel for use in cathode materials for lithium-ion secondary batteries is expected to accompany this.

The Philippines and Indonesia are the world's two largest nickel ore producing countries. The end-use of about 70% of all nickel is in stainless steel and, like copper, China accounts for about half of global demand. In recent years, the growth in demand for nickel has been increasing at a much greater rate than growth in demand for copper and going forward, an increase in demand for use in cathode materials for lithium-ion secondary batteries is expected to accompany the spread of EVs. However, on the supply side, although the supply of products that are not of particularly high grade—so-called “class 2” nickel grades, such as ferronickel and nickel pig iron (NPI), which are mainly used as raw materials for stainless steel production—will be brisk due to development by Chinese companies in countries such as Indonesia, for products in the “class 1” high-grade nickel category used as raw materials in special steels and batteries for EVs, there is a limit to the specific new development that can be carried out and a situation in which demand exceeds supply is expected to continue.

World's Largest Nickel Ore Producing Countries

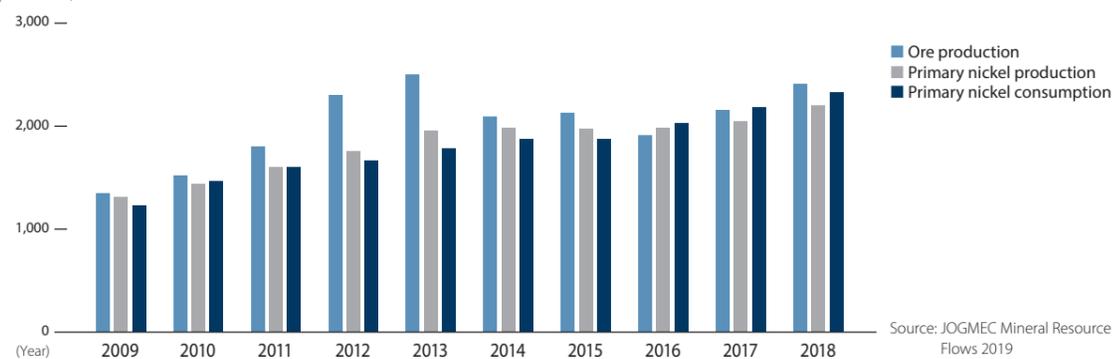
(kt, 2018 values)



Source: JOGMEC Mineral Resource Material Flows 2019

Global Nickel Supply and Demand

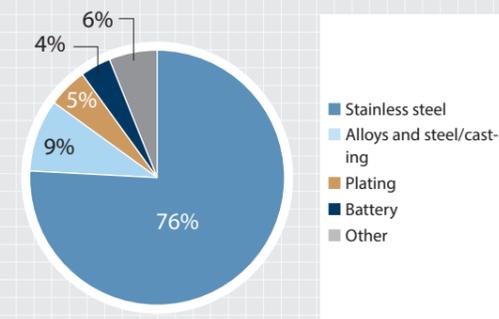
(kt pure nickel)



Source: JOGMEC Mineral Resource Material Flows 2019

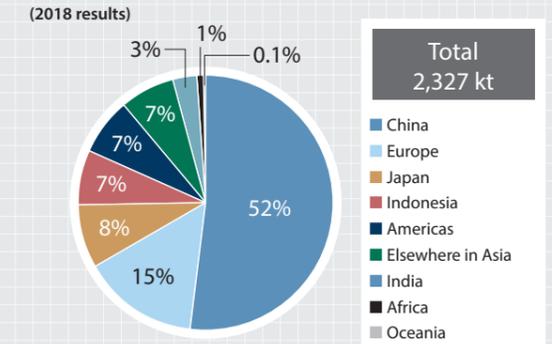
Statistical Data Regarding Nickel

Nickel End-Use



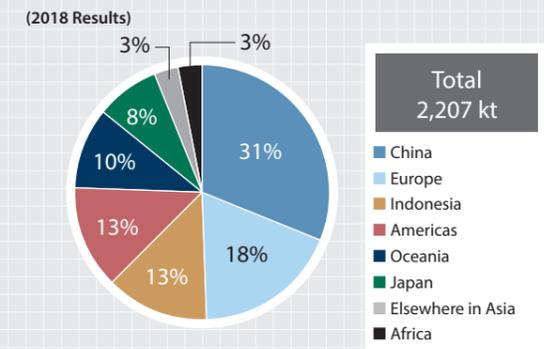
Source: S&P Global Market Intelligence (June 9, 2020)

Nickel Metal Consumption by Country/Region (2018 results)



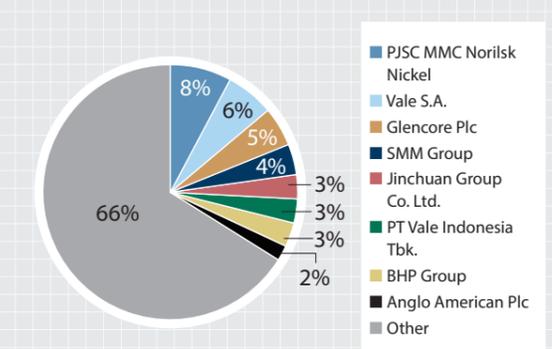
Source: JOGMEC Mineral Resource Material Flows 2019

Nickel Metal Production by Country/Region (2018 Results)



Source: JOGMEC Mineral Resource Material Flows 2019

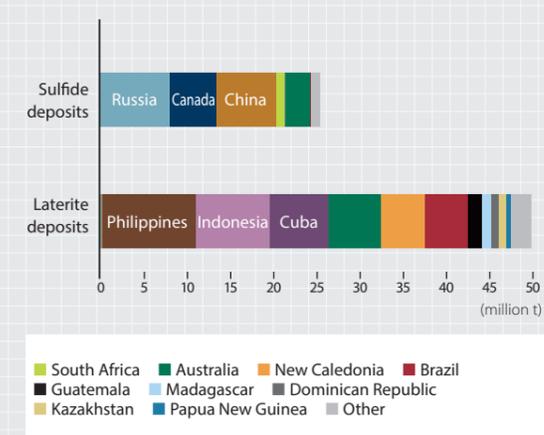
Global Nickel Interest Production (2019 Results)



Source: S&P Global Interest production volume for each company's mines, metal production volume for the SMM Group

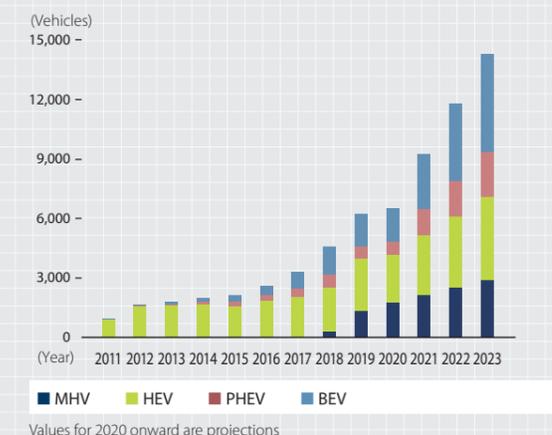
SMM Group is one of the top five producers of nickel as a metal in the world by volume (FY2019: 90 kt)

Nickel in Reserves



Source: S&P Global Market Intelligence (June 10, 2020)

xEV Sales



Values for 2020 onward are projections

Source: B3 Report