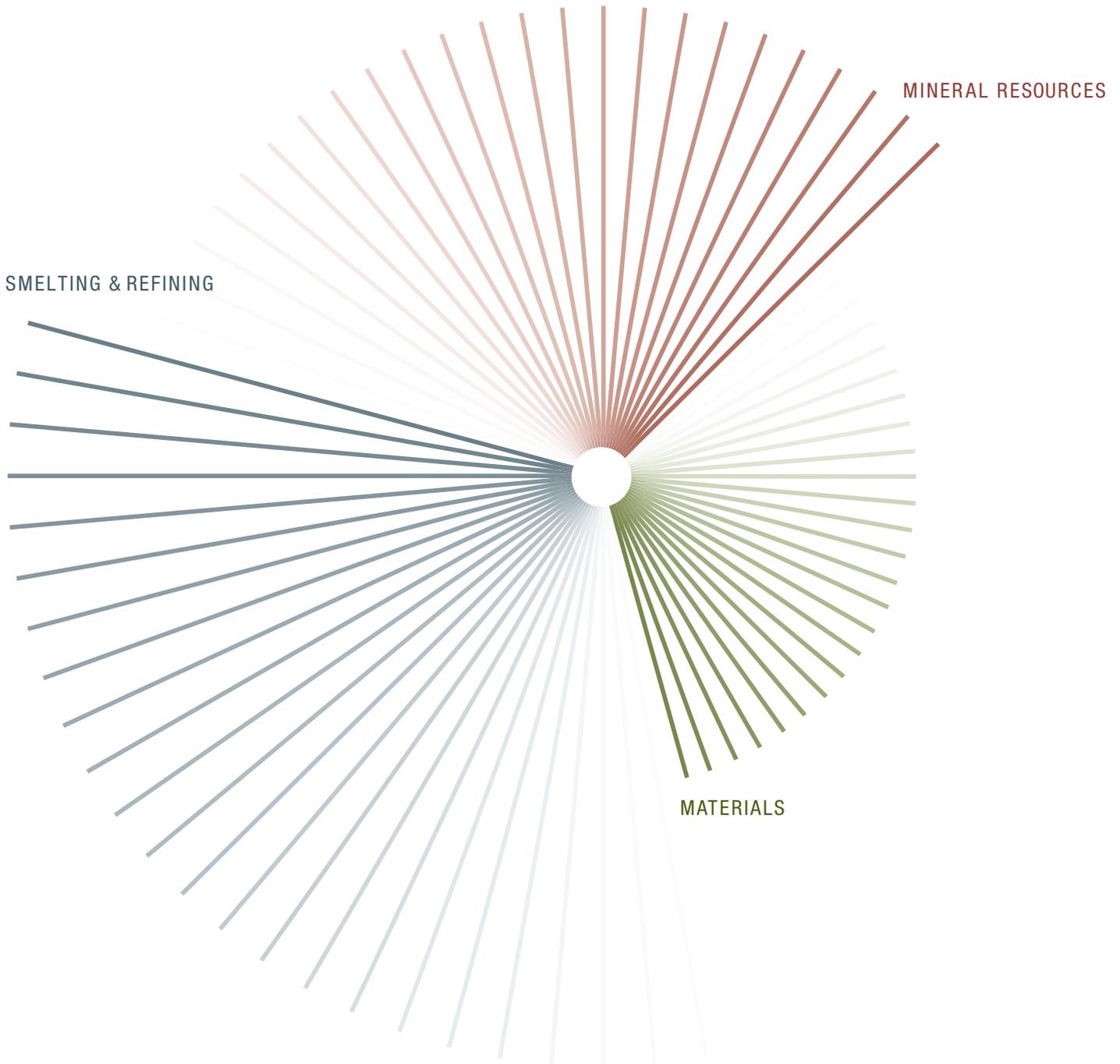


# Integrated Report

## 2018



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## 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 2018, the third publication of the integrated report, we have significantly changed the composition to focus on explanations of the connections and linkages between the various disclosed information, such as material issues that we have identified, and various initiatives, to allow a deeper understanding of SMM Group's creation of value.

Also, we are working to continually improve by taking the comments and requests received in communications over

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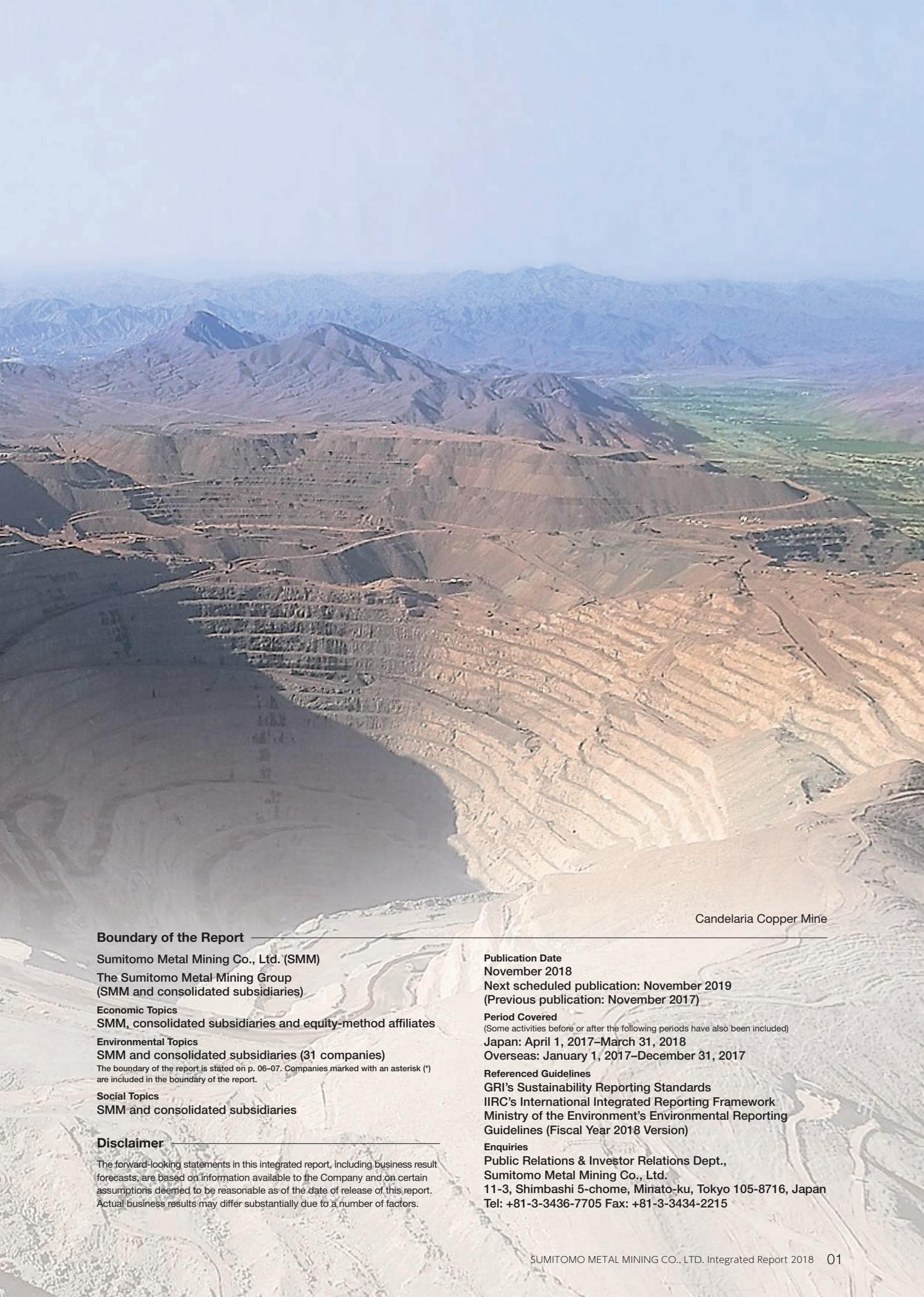
two years with stakeholders who use this report as a tool, and making use of them in the various sections of this report.

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). 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. An index for GRI contents is on our website. <http://www.smm.co.jp/E/>



Candelaria Copper Mine

## 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 and consolidated subsidiaries (31 companies)**

The boundary of the report is stated on p. 06–07. Companies marked with an asterisk (\*) are included in the boundary of the report.

**Social Topics**

**SMM and consolidated subsidiaries**

## 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.

**Publication Date**

**November 2018**

**Next scheduled publication: November 2019  
(Previous publication: November 2017)**

**Period Covered**

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

**Japan: April 1, 2017–March 31, 2018**

**Overseas: January 1, 2017–December 31, 2017**

**Referenced Guidelines**

**GRI's Sustainability Reporting Standards**

**IIRC's International Integrated Reporting Framework**

**Ministry of the Environment's Environmental Reporting**

**Guidelines (Fiscal Year 2018 Version)**

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**Tel: +81-3-3436-7705 Fax: +81-3-3434-2215**

# 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 developing and employing innovative technology, we shall fulfill our social responsibilities as a manufacturing enterprise.

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

# SMM History

As the corporation inheriting the original business of the SMM Group, not only have we responded flexibly to the changes in the surrounding environment based on the Sumitomo Business Spirit, we have also driven the business with a progressive stance. The current strengths of the SMM Group have been formed by the various management decisions and solutions to problems which occurred in that process. We will continue to reinforce our strengths and bring about new strengths through our business activities.



## Employees



## 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. At the SMM Group, the Sumitomo Business Spirit is the common spirit among employees and we work to inculcate common goals and standards of action as guideposts for carrying out duties through various educational opportunities.



1600

## Smelting & Refining Business

### Copper smelting and refining

**1590**  
Start of copper smelting and refining

## The majority of Nagasaki trade

The Edo Period, Japan's production of copper is the largest in the world, at 6,000 tons a year, and it also reaches half of all exports in Nagasaki trade. In the year 1698, Sumitomo's production reaches about 1,500 tons, accounting for one quarter of Japan's copper production.



## Technology



## Nanban-buki

Soga Riemon, who started dealing in copper in Kyoto around 1596 to 1615, develops Japan's first smelting and refining technology for separating copper and silver, known as *Nanban-buki*, and discloses it broadly to others in the same business. Until then, there had been no technology in Japan to remove the silver from copper ore so copper was sold, and exported, at copper prices while it still included silver. With Soga's technology, it was now possible to sell the copper after separating out the silver.



## Local communities



## Overcoming smoke damage

With the modernization of the Besshi Copper Mine, increases in the amount of ore extracted are planned, and the smelter is relocated to the coastal area of Niihama. As a result, agricultural crops in the surrounding area are damaged more and more by the smoke produced by the smelting operations because of the sulfur dioxide gas it contains, becoming severe by 1893. Iba Teigo, the second Director-General, purchases uninhabited islands which don't even have water, and are located about 20 kilometers north of Niihama City, to alleviate the smoke damage, and moves the smelter there in 1905. Sumitomo isn't alone in facing this problem of smoke damage; all copper smelters and refineries around the world face the same problem. But after many years and spending huge sums on research, in 1939 Sumitomo becomes the first smelter in the world to bring about zero emissions of sulfur dioxide gas, which was a root cause of the smoke damage, finally solving the problem of smoke damage after 47 years. In overseas operations today, too, such as in the Philippines, SMM Group works to not only preserve the environment but also aims for co-existence and co-prosperity with local communities by providing support for regional promotion policies which build and preserve a trusting relationship.



**1905**  
Relocation of copper smelting and refining to the Shisakajima Islands

## Mineral Resources Business

### Copper mines

**1691**  
Open the Besshi Copper Mine

With the start of operation at the Besshi Copper Mine, noted at the time as one of the world's largest copper mines, Sumitomo's business expands greatly from a focus on the copper smelting and refining business to newly adding the mineral resources business. Over the following 283 years, until 1973, the mining technologies nurtured at Besshi are continually handed down within SMM's globally expanding mineral resources business.



1700

1800

1900

1910

Copper mines

### 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.



Local communities



Copper smelting and refining

### Gold mines

1917

Start the gold mine business

1920



Sumitomo, whose resource business had centered on copper mines, acquires management rights for the newly discovered Kounomai Mine in Hokkaido at a time of growing importance of gold as a resource. This northern mine, known as "the biggest gold mine in the Orient," enhances the resource business portfolio with gold as a new metal.



### Reforestation business

Forests over a large area vanish because charcoal and lumber must be secured to operate the Besshi Copper Mine. After Iba Teigo becomes manager of the Besshi Copper Mine in 1894, large-scale reforestation operations are carried out, reaching a peak of more than two million trees being planted annually. Even today, the SMM Group works at co-existence and co-prosperity with local communities by working on environmental preservation.



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



1930



SMM launches a nickel smelting and refining business in 1939, a time when new demand is appearing (nickel's discovery was relatively recent, in the 1700s). Subsequently, SMM has come to lead the world in nickel technologies, including the development of the MCLE method and other nickel refining technologies, and in the new millennium, diversifying raw material procurement with the practical implementation of HPAL technology.

### Nickel smelting and refining

1939

Start of nickel smelting and refining

1940



After WWII, Japan ceases domestic mining operations in the non-ferrous metals industry and switches to smelting and refining with resources completely procured from overseas. In 1961, SMM signs an investment and financing contract with Bethlehem Mine (Canada), which is the start of the company's involvement with overseas mines. Continuing to today, SMM is gaining footholds in mines throughout the world.



1950



### Overseas copper mines

### Materials Business

1960

1960

Participation in overseas copper mine development

1960

Entry into the materials business



While the mining business in Japan is undergoing contraction at this time, the electronic materials business comes under attention as a new market. In 1960, SMM begins production of germanium dioxide for use in transistors. Since then, we have provided the market with paste, lead frames, and other electronic materials that leverage metal technologies.



1970

1973

Closure of the Kounomai Mine

1973

Closure of the Besshi Copper Mine

1980

1979

Closure of the Sazare Mine

1971 Start of production at the Toyo Smelter & Refinery

1985

Gold mines Overseas copper mines

1985

Start of operations at the Hishikari Mine

1986 Investment in the Morenci Copper Mine



Facing a decline in ore grade after 283 years of operation, the Besshi Copper Mine is closed. With the closure of the Sazare Mine (Ehime Prefecture; copper) in 1979, the curtain closes for a time on SMM's heritage of mining technology. In 1985, however, operation of the Hishikari Mine begins (Kagoshima Prefecture; gold). SMM's technology has begun to chart a new history in a new area.

1990

1995

Business partners



Finance



### Acquiring an additional interest in the Morenci Copper Mine

The SMM Group starts participating in management of the Morenci Copper Mine, known as a superior copper mine, in 1986 and, in 2016, acquires an additional 13% interest (our total interest: 25%). This is based on the relationship of trust we have built up over 30 years with Freeport-McMoRan Inc., the largest copper producing company in the United States, and operator of this mine.

2000

2005

2006

Start of operations at the Pogo Gold Mine

2005 Start of production at the Cerro Verde Copper Mine

2010



Lithium nickel oxide (battery material)

2015

2015 Start of operations at the Sierra Gorda Copper Mine



2014 Increase production of battery materials Increase production of SAW filter LT/LN<sup>1</sup>

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.

2020

## The diffusion of stainless steel

Nickel is primarily used as a raw material in stainless steel and special steels. These materials play a large role in daily life, being used in various areas such as communications, medical, construction materials, and the generation of electricity.



Nickel smelting and refining

Copper smelting and refining



1992

Customers



Conversion of nickel refining process to MCLE technology

## Start of production of materials for automobile batteries

Against the background of rising environmental awareness, the demand is rising 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.

2001 Entry into the automobile battery materials market



2005

Start of production at Coral Bay Nickel Corporation



2013

Start of production at Taganito HPAL Nickel Corporation

Technology Local communities



## The practical application of the HPAL method on a commercial base

In 2005, SMM is the first in the world to apply the HPAL method to convert low-grade nickel oxide ore into a nickel resource. In addition to contributing to the realization of in-house procurement and effective use of nickel resources that are also being focused on as a raw material for secondary batteries, we are working on co-existence and co-prosperity with local communities through activities that contribute to society in the Philippines, which is where operations are.

Learn about SMM

Value Creation

Review of Operations

Management

Sustainability

# SMM Group Overview

(As of July 15, 2018)

## Corporate Data

Company name	<b>Sumitomo Metal Mining Co., Ltd.</b>
President	<b>Akira Nozaki</b>
Founded	<b>1590</b>
Incorporated	<b>1950</b>
Capital	<b>¥93.2 billion</b>
Listing	<b>Tokyo Stock Exchange</b>
No. of subsidiaries (consolidated)	<b>60</b> (including the money held in trust which is deemed to be a consolidated company)
No. of equity-method affiliates	<b>15</b>
Net sales (consolidated)	<b>¥933.5 billion</b> (for the year ended March 31, 2018)
Recurring profit (consolidated)	<b>¥124.9 billion</b> (for the year ended March 31, 2018)

## 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.\*
- Taihei Metal Industry Co., Ltd.\*
- Hyuga Smelting Co., Ltd.\*
- Mitsui Sumitomo Metal Mining Brass & Copper Co., Ltd.

#### Materials

- SH Materials Co., Ltd.\*
- 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.\*
- Sumico Lubricant Co., Ltd.\*
- Sumiko Tec Co., Ltd.\*
- Sumitomo Metal Mining Siporex Co., Ltd.\*
- Niihama Electronics Co., Ltd.\*
- Niihama Materials Co., Ltd.\*
- Nittosha Co., Ltd.\*
- Nippon Ketjen Co., Ltd.\*

#### Other

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

## Asia

#### 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)
- Taganito HPAL Nickel Corporation (Philippines)\*
- Sumitomo Metal Mining Philippine Holdings Corporation (Philippines)
- PT Vale Indonesia Tbk. (Indonesia)

#### Materials

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

## North America

#### 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.)
- Sumitomo Metal Mining Pogo LLC (U.S.A.)\*
- Stone Boy 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)



■ Consolidated subsidiaries ● Equity-method affiliates

\* Included in the boundary of the performance data of the Environmental Topics



### 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

- 1. Mineral resources segment**  
Gold and silver ore, copper concentrates, copper, gold
- 2. Smelting and refining segment**  
Copper, gold, silver, electrolytic nickel, ferro-nickel, chemical products
- 3. Materials segment**  
Battery materials, thick film 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**  
16

**Legend for Japan:**

- Besshi-Niihama District Division
- 🏭 Toyo Smelter & Refinery
- 🏭 Niihama Nickel Refinery
- 🏭 Shisaka Smelting Co., Ltd.
- 🏭 Isoura Plant
- 🏭 Niihama Electronics Co., Ltd.
- 🏭 Niihama Materials Co., Ltd.

**Legend for Global:**

- 🏠 Head Office
- 🏭 SH Materials Co., Ltd.
- 🏭 Sumico Lubricant Co., Ltd.
- 🏭 Sumiko Energy Materials Co., Ltd.
- 🏭 N.E. Chemcat Corporation (50%)
- 🏭 Nippon Ketjen Co., Ltd. (50%)
- 🏭 Sumitomo Metal Mining Siporex Co., Ltd.
- 🏭 SICOXS CORPORATION (51%)

**Other Japanese Companies:**

- Sumiko Kunitomi Denshi Co., Ltd.
- SMM Precision Co., Ltd.
- GRANOPT Co., Ltd. (51%)
- Shinko Co., Ltd. (97%)
- Ome District Division
- Harima Refinery
- Nittosha Co., Ltd.
- Sumiko Tec Co., Ltd.
- Hyuga Smelting Co., Ltd. (60%)
- Hishikari
- Ohkuchi Electronics Co., Ltd.
- Ohkuchi Materials Co., Ltd. (51%)

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

## Other Regions

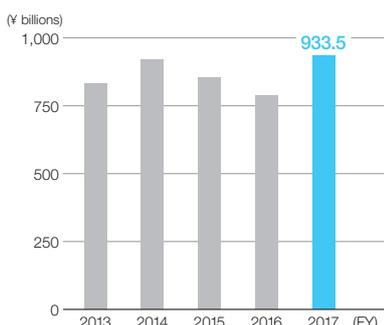
- ### Mineral Resources
- Compania Contractual Minera Candelaria (Chile)
  - Compania Contractual Minera Ojos Del Salado (Chile)
  - Sumitomo Metal Mining Chile Ltda. (Chile)
  - SMM Sierra Gorda Inversiones Ltda. (Chile)
  - Sierra Gorda S.C.M. (Chile)
  - SMM-SG Holding Inversiones LTDA. (Chile)
  - 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 Solomon Ltd. (Solomon Islands)
- ### Smelting & Refining
- Figesbal SA (New Caledonia)
- ### Other
- SMM Holland B.V. (Netherlands)

- ### Mineral Resources Segment
- 🏠 Copper
  - 🏠 Gold
- ### Smelting & Refining Segment
- 🏠 Copper
  - 🏠 Nickel
  - 🏠 Other
- ### Materials Segment
- 🏠 Major Sites of Materials Business
  - 🏠 Other Major Site / Group Company
- Figures in parentheses indicate percentage interest. Companies with no percentage written are 100% owned.

The number of business sites has decreased due to our withdrawal from the lead frame business.

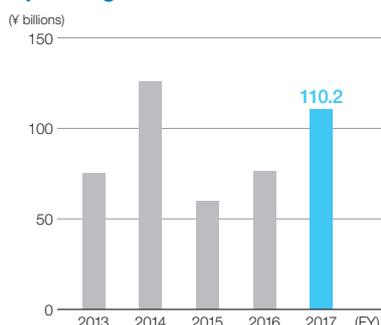
# Financial and Non-Financial Summary

## Net Sales



Consolidated net sales increased by ¥147.4 billion year-on-year to ¥933.5 billion, mainly due to the rise in major non-ferrous metals prices and yen depreciation.

## Operating Income



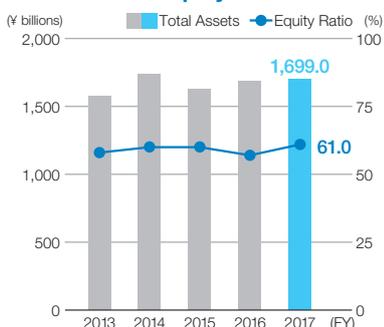
Consolidated operating income amounted to ¥110.2 billion, a year-on-year increase of ¥33.8 billion, mainly due to an increase in net sales.

## Recurring Profit (Loss)

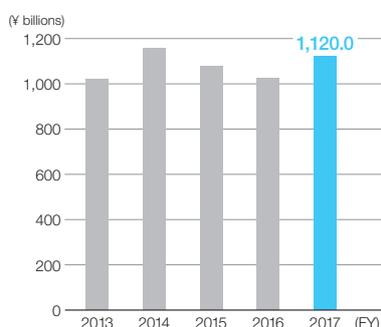


Consolidated recurring profit increased by ¥126.4 billion year-on-year to ¥124.9 billion, mainly due to a decrease in share of loss of entities accounted for using the equity method for Sierra Gorda S.C.M., in addition to an increase in consolidated operating income.

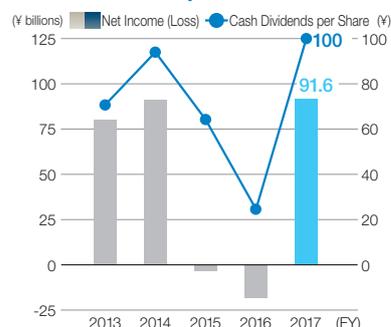
## Total Assets / Equity Ratio



## Net Assets



## Net Income (Loss) / Cash Dividends per Share

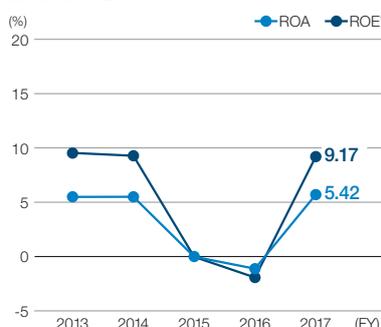


\* SMM consolidated its common stock at a rate of one share for every two shares with October 1, 2017 as the effective date. Figures for cash dividends per share in FY2017 and previous fiscal years have been adjusted to reflect levels after said share consolidation.

## Interest-Bearing Debt to Total Assets Ratio

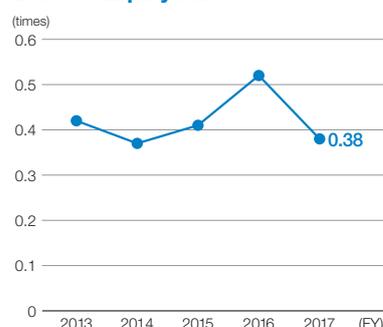


## ROA/ROE\*



\* Shareholders' equity is defined as follows: Total shareholders' equity + Accumulated other comprehensive income

## Debt-to-Equity Ratio\*



## Share Price by Fiscal Year

FY	Annual high (yen)	Annual low (yen)	Year-end (yen)	Volatility
2008	4,100	1,112	1,882	66.2%
2009	3,180	1,936	2,782	38.4%
2010	3,152	2,140	2,862	34.0%
2011	2,932	1,900	2,326	27.9%
2012	3,214	1,580	2,686	33.5%
2013	2,974	2,136	2,592	32.8%
2014	3,898	2,568	3,517	31.1%
2015	4,044	2,074	2,235	40.9%
2016	3,333	1,997	3,167	35.7%
2017	5,491	2,642	4,480	33.7%

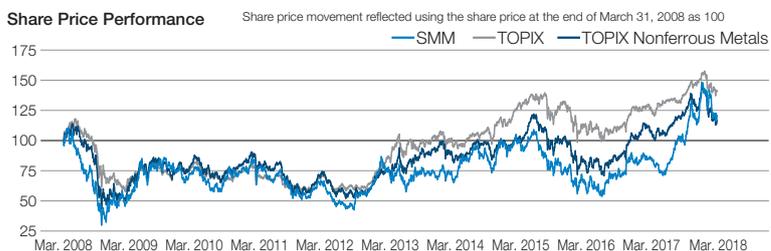
\* Volatility is calculated by annualizing the standard deviation of weekly closing prices for the 52 weeks of the year.  
\* Prices before October 1, 2017 have been recalculated to be in line with the post-consolidation share basis.

## Share Price Performance (TSR)

Investment period	1 year	3 years		5 years		10 years	
	Cumulative and Annualized	Cumulative	Annualized	Cumulative	Annualized	Cumulative	Annualized
SMM	44.6%	32.6%	9.9%	80.0%	12.5%	37.1%	3.2%
TOPIX	15.6%	17.0%	5.4%	79.2%	12.4%	60.6%	4.9%
TOPIX Nonferrous Metals	10.8%	22.6%	7.0%	69.5%	11.1%	32.4%	2.8%

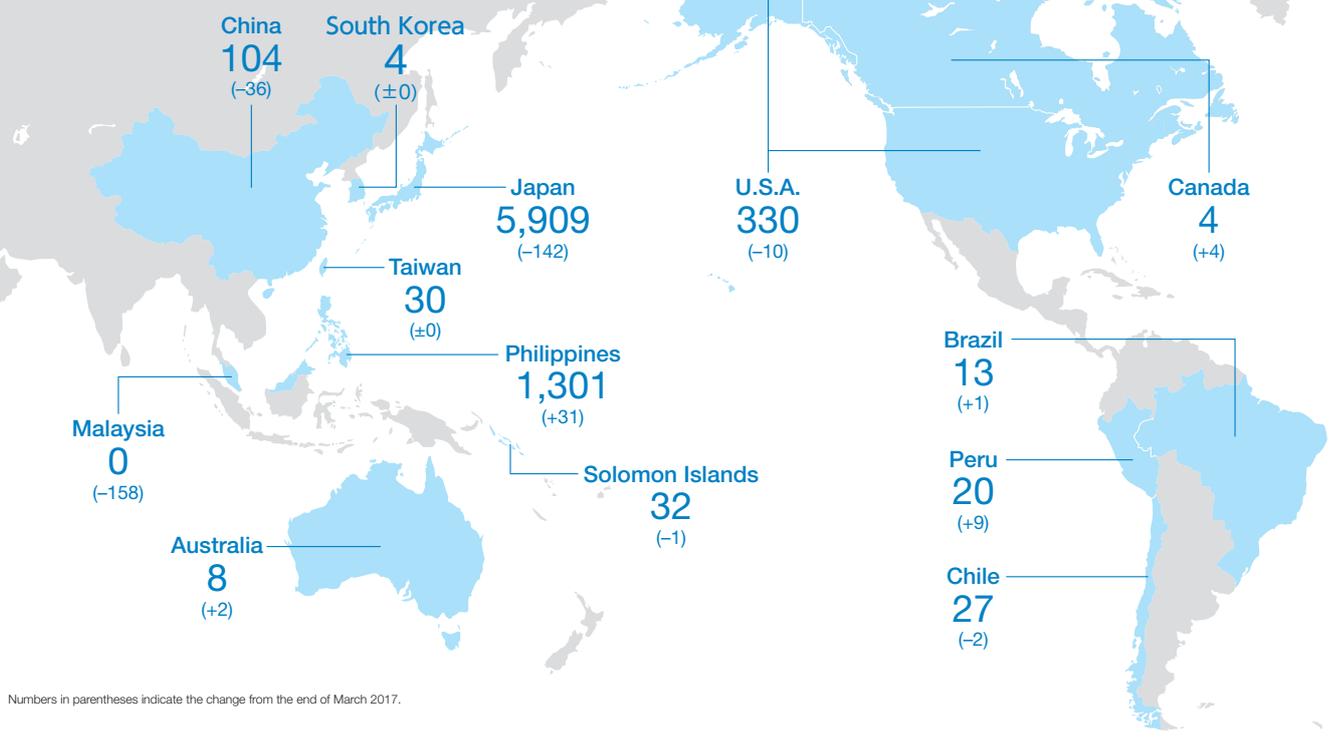
\* TSR (Total Shareholder Return): Calculated using [(share price at the end of the fiscal year ended March 31, 2018) - (share price at the end of the fiscal year X years previous to the fiscal year ended March 31, 2018)] + [total cash dividend per share for the relevant period] ÷ [share price at the end of the fiscal year X years previous to the fiscal year ended March 31, 2018]  
\* Annual cash dividend per share for TOPIX and TOPIX Nonferrous Metals: Calculated using the weighted average of the cash dividend per share value for each stock over the 12 months previous to the base date and the formula used by TOPIX itself

## Share Price Performance



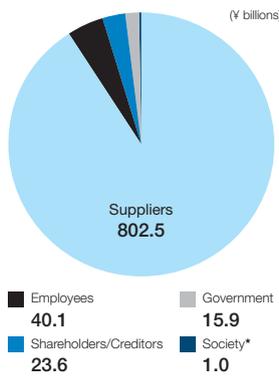
## Number of Employees & Officers by Region, Consolidated

As of March 31, 2018



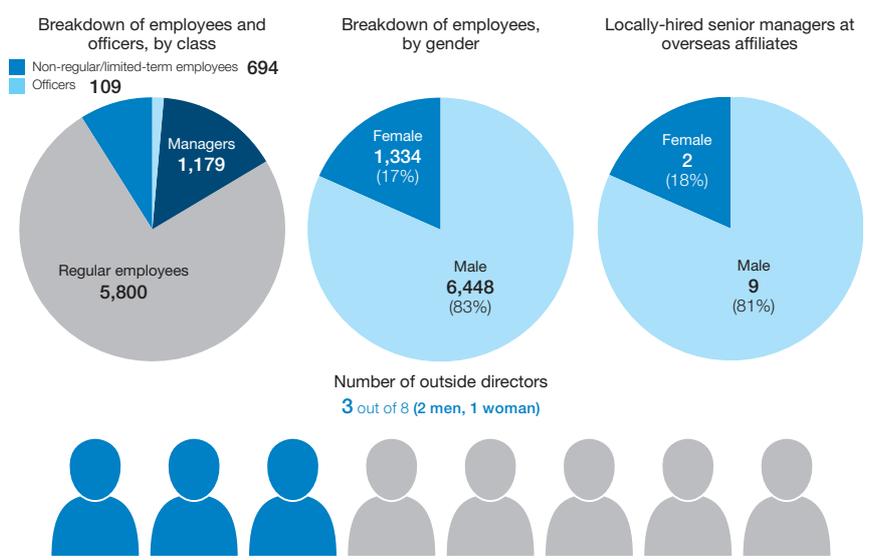
Numbers in parentheses indicate the change from the end of March 2017.

## Distribution of Economic Value to Stakeholders (FY2017)

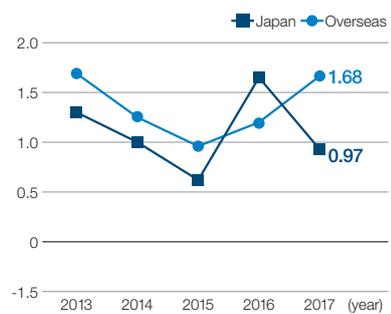


\* Other than the above, there is retained value of ¥79.0 billion. Rent for use of land is minimal and therefore included in "Payments to suppliers."  
 \* In the Philippines (CBNC, THPAL), the ¥0.8 billion expended through the social development management program (SDMP) and other contributions in the same country is included.

## Number of Employees & Officers Worldwide (Consolidated) (March 31, 2018)



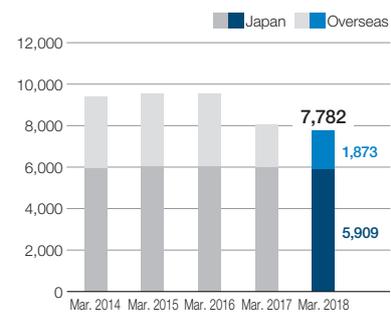
## Occupational Accident Frequency Rate



There was a total of 13 occupational injury accidents (frequency rate of 0.97) at business sites in Japan, a decrease from the previous year, and there were four lost-time accidents, also a decrease.

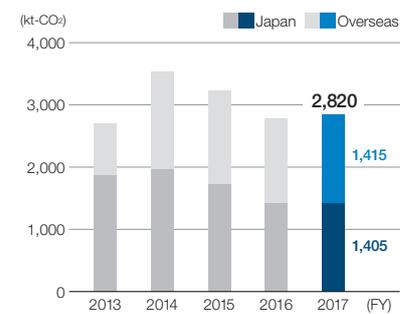
• Frequency rate = number of fatalities and injuries due to industrial accidents ÷ cumulative hours worked × 1,000,000

## Number of Employees & Officers Worldwide (Consolidated) (Excluding temporary employees)



The number of employees, mainly in China and Malaysia, decreased compared to FY2017, a continuation of the decrease from FY2016, due to the sale of the lead frame business.

## CO<sub>2</sub> Emissions



Although emissions were reduced through energy-saving activities and the sale of the lead frame business, increased production in the battery business and a deterioration in operating conditions in overseas smelting and refining businesses resulted in being level with the previous year.



With our eyes always set on the future, we work as a close-knit team with employees in pursuing the creation of enhanced corporate value, aiming for a new leap forward.

Akira Nozaki  
President and Representative Director



**To begin, please tell us your aspirations as you take up your new position as SMM's President.**

**Like my predecessors, I will be resolute in making decisions to enable SMM to grow continuously, always focused on the future.**

SMM's businesses—especially our Mineral Resources and Smelting & Refining businesses—take a long time between when an investment decision is taken and production gets underway. And an even longer cycle is required when we add in the time it takes before profits are generated that can be directed into new investments. Today's SMM was formed from the decisions and efforts made by my predecessors.

I've been working at SMM for more than 30 years, and since 2013 I have been involved in the Company's management as an Executive Officer. So I am more than familiar, intuitively, with the special traits of SMM's business operations that I just described. As such, even after this change of Presidents, there will be no significant changes in how the Company is managed. Like those who have served in this role before me, I will keep a constant eye on the future, my aspiration being to resolutely make decisions that will contribute positively to SMM's future.

In contrast to Mineral Resources and Smelting & Refining operations, our Materials business—the third pillar of SMM's operations—is an area in which changes occur with tremendous speed. In order to project how the materials market is likely to shift beyond each change, and to compete successfully in that market, it's indispensable that we have an internal environment conducive to flexible formation of new ideas, and sharing of

those ideas, by all employees. At the same time, I believe that in the years ahead it will be important to create that same kind of open environment in our Mineral Resources and Smelting & Refining businesses too. In order for SMM to continue being a company that responds to the hopes and expectations of all its stakeholders, as well as a company that wins broad social trust, I will strive to exercise good leadership as its President and, together with all employees, rebuild an open and vibrant organizational climate.

**How did SMM perform in fiscal 2017?**

**Business performance improved significantly, enabling us to finish in the black for the first time in three years. But in the details not everything was totally satisfying.**

In fiscal 2017 our business results finished in positive territory for the first time since fiscal 2014, posting substantial increases in both recurring profit and net income. This outcome was attributable largely to the elimination of the impairment losses booked in fiscal 2015 and fiscal 2016, the result of improved operations at the Sierra Gorda Copper Mine. Also, our operating environment this past year was favorable, as metal prices trended higher and the yen, on average, weakened in the forex markets. Meanwhile, earnings were negatively impacted by previous-year royalty payment obligations in conjunction with the Cerro Verde Copper Mine and by opportunity loss from equipment problems and other factors that prevented operating targets from being achieved.

Fiscal 2017 was the second year in our 2015



We will strengthen the competitive advantages of our unique business model, which interconnects three areas of business.

and in executing projects will, I believe, be a critical challenge as we pursue new growth into the future.

### What changes are taking place in SMM's business environment?

**As development of mineral resources today becomes increasingly severe, I feel the need to further strengthen the competitive advantages of our unique business model.**

Today, the environment surrounding mineral resources development is becoming increasingly severe all around the world—marked by newly imposed restrictions on foreign investments and higher taxation on the mining industry resulting from spreading resource nationalism, lower ore grades in general, and mine sites in increasingly remote locations or higher elevations. Meanwhile, we're beginning to see the major global mineral resource companies incorporating new technologies—IoT and AI, for example—into mine development and business operations, in pursuit of greater efficiency. These represent new possibilities in mineral resources development, and this is an issue that the SMM Group needs to address without delay.

Recently, companies that focus on nickel and cobalt as battery materials amid expansion of the market for electric vehicles are beginning to show interest not only in those materials but also in mineral resources and smelting & refining. Talking to them, I get a sense that companies that operate upstream have difficulty responding to the quality demanded by the end user. In that respect, at SMM we have our own Materials business and can incorporate what the customer

3-Year Business Plan. In our Mineral Resources business, in June 2017 we concluded an agreement on acquisition of interest in the Côté Gold Project in eastern Canada. Operations at the Sierra Gorda Copper Mine were generally stable, and steady profits were generated on our earlier acquisition of additional interest in the Morenci Copper Mine and increased investment in the Cerro Verde Copper Mine. In our Smelting & Refining business, in fiscal 2017 we made progress in converting the business structure of our Harima Refinery and undertook investment targeting increased production of nickel sulfate. In our Materials business, the business structure reforms underway for some time were nearly completed, and in the battery materials segment—an area expected to grow in the years ahead—we invested to increase production. We are moving toward a monthly production capacity of 4,550 tonnes of NCA<sup>1</sup>.

Our business results improved substantially in fiscal 2017, but in the details not everything was totally satisfying. In not a few instances, performance failed to reach target owing, for example, to slow response to changes in the business environment or to opportunities lost because of equipment trouble. Improving our management capabilities both at the workplace

1. NCA: lithium nickel cobalt aluminum oxide, a cathode active material used in lithium rechargeable batteries

wants into our Mineral Resources and Smelting & Refining businesses. Our business model, which interconnects three areas of business—Mineral Resources, Smelting & Refining, and Materials—is unique in all the world and our foremost strength. But I know all too well that we need to strengthen this competitive advantage further.

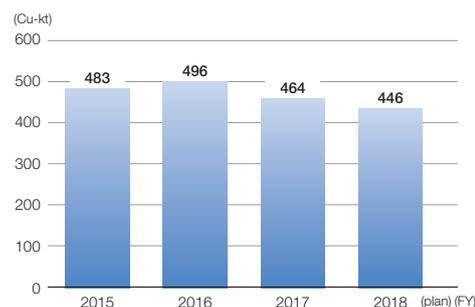
We regularly hold meetings of the general managers of our three business divisions and the Technology Division, giving them an opportunity to exchange views. Up to now, I myself attended those gatherings in my position as the person responsible for the Smelting & Refining business. Now that opportunities for exchanging information and opinions freely at every level within the employee hierarchy are expanding, sharing information is becoming possible as never before.

**Please tell us what initiatives are being taken in the Mineral Resources segment—regarding acquisition of interest in gold mines, for example.**

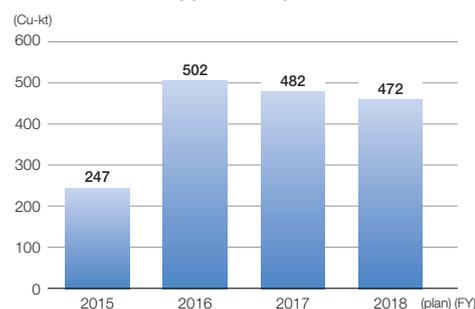
**Operations are now hitting stride at the Sierra Gorda Copper Mine, and we will continue our endeavors to acquire expanded interest in gold mines.**

Concerning our Mineral Resources business, we sent a team of engineers on special assignment to the Sierra Gorda Copper Mine, our biggest undertaking in this segment, to get operations on track. Thanks in part to our success there, after copper, now production of molybdenum is also approaching our initial target level. Going forward, we will develop a structure that, with modest investments, will enable accrual of earnings through

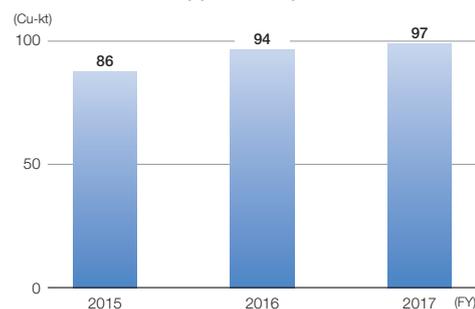
**Morenci Copper Mine production**



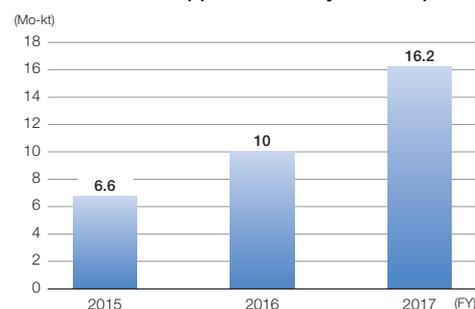
**Cerro Verde Copper Mine production**



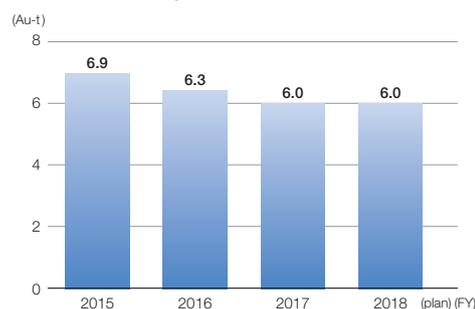
**Sierra Gorda Copper Mine production**



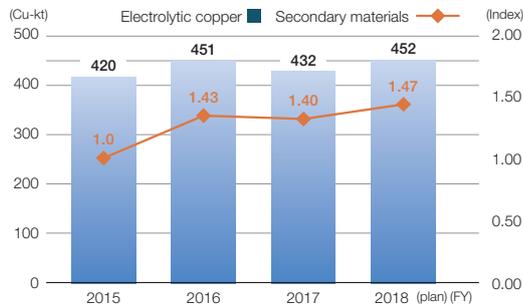
**Sierra Gorda Copper Mine molybdenum production**



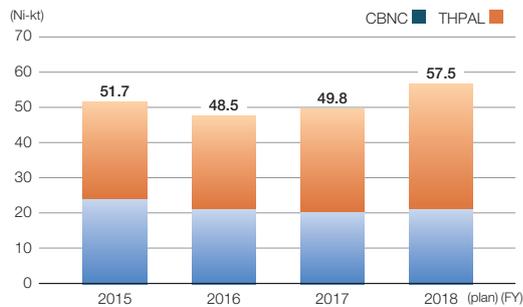
**Hishikari Mine production**



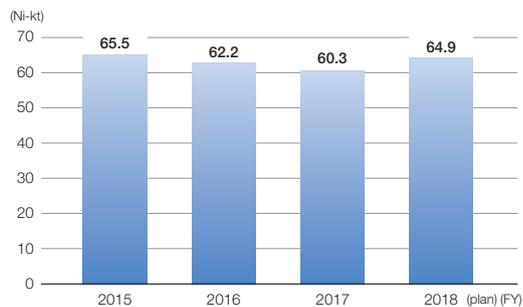
### ■ Electrolytic copper production



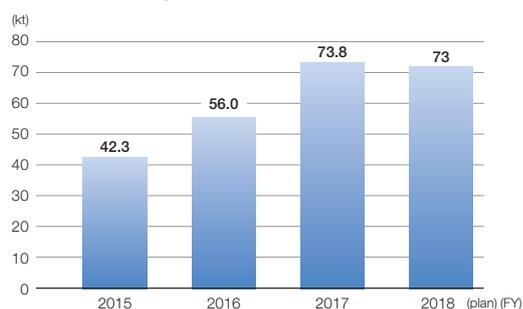
### ■ Mixed sulfide production



### ■ Electrolytic nickel production



### ■ Nickel sulfate production



debottlenecking and other measures that will drive production volumes up between 10 and 20%.

Regarding gold mines, last year we acquired 27.75% interest in the Côté Gold Project in eastern Canada, and currently we are involved in a feasibility study. Besides contributing to our profits, this project offers us a great deal to learn in terms of starting up a mine overseas, operations management, implementing environmental measures, co-existence with the local community and so on, so we hope it will serve as a place where we can accumulate new technologies. The project is also expected to bring major economic benefits both to Canada as a whole and to the region around the mine, and in recognition of this we, along with our project partner IAMGOLD Corporation, have received the prestigious Viola R. MacMillan Award from the Prospectors & Developers Association of Canada (PDAC) (see page 50).

We are still a long way from reaching the target we set in our Long-Term Vision—attributable gold production of 30 tonnes per year—but in the years ahead we will continue taking proactive steps to expand our earnings, selectively choosing which projects offer the best opportunities.

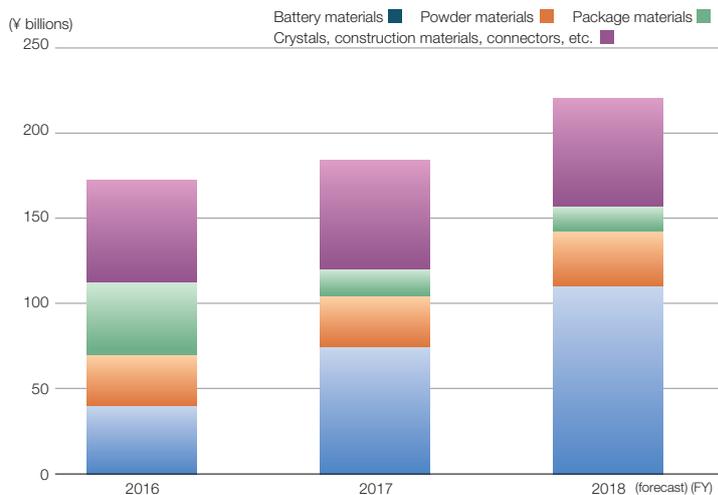
### What strategies do you have in mind to enhance SMM's competitive superiority in the Smelting & Refining business?

**We are converting this segment's business structure and have reinforced our production system for the raw materials used in battery materials. We will further increase the added value of our HPA<sup>2</sup> technology, one of SMM's greatest strengths.**

In our Smelting & Refining business, in order to reinforce our system for producing the raw materials used in battery materials—products in growing demand—we are converting our business structure at the Harima Refinery, already increasing production capacity in nickel sulfate to 49,000 tonnes. The reinforcement initiative took the form of creating a structure that directly supplies the nickel sulfate to the battery materials plant on the same premises. This has resulted in a significant boost in efficiency.

2. HPA<sup>2</sup>: high-pressure acid leaching

## ■ Sales of materials products



Production capacity has also been increased by 20%, to 36,000 tonnes per year, at Taganito HPAL, which supplies nickel/cobalt mixed sulfide to both the Harima Refinery and the Niihama Nickel Refinery. We have also started full-scale recovery of scandium, a by-product of the HPAL process, and our plans now call for commercial production, in conjunction with the Harima Refinery, to commence within fiscal 2018 (see page 54). Construction is also underway of a recovery plant for chromite, a similar by-product. In addition to enhancing our competitiveness in HPAL, a strength unique to SMM, we are opening up new markets.

At Coral Bay Nickel, however, production of mixed sulfide is expected to decrease in the future, partly owing to lower grades of nickel in the local ore. In our quest to achieve our nickel target of 150,000 tonnes set in our Long-Term Vision, we launched a full-fledged feasibility study for the Pomalaa Project in Indonesia in 2018.

**Please tell us what initiatives are being taken today, and what plans for tomorrow, in the Materials segment.**

**We're increasing production of battery materials, a market that's beginning to take off. And we're also focusing on developing new business areas for tomorrow.**

In our Materials business, we have been undertaking structure reforms by concentrating in our core competencies, shifting from package

materials to advanced materials—an area where we can make better use of our technologies. Those reforms were nearly completed within fiscal 2017, and now we have reached a stage where our Materials business can stand on its own as a main pillar of our business, just like our Mineral Resources and Smelting & Refining businesses.

NCA, one of the battery materials we produce, is the mainstay of our Materials segment, and today we continue to take steps to increase its production. In fiscal 2017 we achieved monthly production capability of 3,550 tonnes, and now we're making preparations toward boosting output further to 4,550 tonnes per month. We are also establishing a stable supply structure for nickel hydroxide, which is used in hybrid vehicles.

By contrast, in fiscal 2017 production of crystal materials, of the kind used in smartphones and such, decreased substantially from the level of fiscal 2016, largely due to ongoing inventory adjustments by users. And while it's conceivable that this trend may continue through fiscal 2018, we expect demand to recover at some point. So we will continue to pursue greater operational efficiency and lower costs with an eye on the future.

In another development, in October 2017 we acquired a 51% stake in SICOXS CORPORATION, a company that is developing silicon carbide (SiC) substrates, a material to be used in next-generation power semiconductors. Making use of Sicoxs's substrate production technology, we will focus on creating a new market (see page 63).

## What is your position with regard to sustainability and human resources development?

**These aspects constitute the foundation that supports the sustained growth of SMM's businesses. Maintaining keen awareness of this, we will continue our initiatives in both regards.**

In recent years, interest in sustainability has heightened, as seen in the Sustainable Development Goals (SDGs) and the Paris Agreement. What I personally sense is that even before attention focused on this issue, sustainability and business have continuously been inseparable at SMM. This is a trait and a strength unique to SMM cultivated through our history of more than 420 years.

Mineral Resources and Smelting & Refining are businesses that require long periods of time to achieve. In order to continue carrying on those businesses, it's absolutely essential not just to secure business partners as one might expect, but also to build sustainable relationships with nations and regions and to gain a "social license to operate" (see page 36).

As Coral Bay Nickel Corporation in the Philippines illustrates, SMM has an understanding of social issues in the surrounding region and is performing activities to support their resolution: creating jobs, for example, and building infrastructure, operating schools and hospitals, and improving public hygiene. The reports we receive from Coral Bay Nickel on a regular basis even include the number of local individuals suffering from dengue fever. Our rehabilitation activities in the surrounding area will continue long after business has ended, until a green environment has been restored. These activities are highly regarded within the Philippines, and for four consecutive years Coral Bay Nickel has received the country's "Presidential Mineral Industry Environmental Award" (see page 56).

Discussions with management personnel at the major mineral resource companies and others recently reveal an extreme sensitivity to trends relating to sustainability. At SMM too, we see sustainability as a management issue, and going forward, with a strong sense of consciousness backed by our worldview and sense of moral duty, we aim to continue taking steps to achieve it.

Among such ongoing initiatives, human

resources development is also a vital management issue. In order for all employees to perform to the maximum limit of their individual potential, it's of critical importance to create an organization in which everyone, regardless of age or position, can engage freely in discussions, work closely together, and proceed toward shared goals. I know from personal experience that even when you run up against a wall, you invariably grow if you never flee and squarely face the challenge before you. I will create the environment in which all employees can share in that approach.

In April 2018, SMM, in collaboration with Tohoku University, established a joint research department at the university (see page 65). Its founding objectives are to secure and develop engineers specialized in non-ferrous metal smelting and refining. We believe that continuously developing engineers specialized in these areas—whose numbers are gradually shrinking in Japan—is of extremely vital importance not only for SMM but for the future of Japan as well.

## Has SMM taken any new steps to strengthen its corporate governance?

**In a quest for highly transparent management, we reinforced governance by incorporating the perspective of diversity.**

Reinforcing corporate governance is another important management issue that needs to be addressed in order for any company to fulfill its responsibilities in our global society, and to achieve sustained growth. At SMM, seeking more transparent management, in 2016 we increased the number of our outside directors from two to three. As a result, outside directors now make up more than one-third of our Board, which has eight members. Moreover, the new outside director we appointed in June 2018 is a female, chosen for her truly outstanding background (see page 72). As a result, our Board of Directors meetings are now the scene of lively discussions that, when appropriate, include considerations of diversity.

In conjunction with measures being taken to achieve globalization, we took the decision to adopt International Financial Reporting Standards (IFRS) when disclosing our results information. The new standards have gone into effect starting with the current fiscal 2018.

We will strive for engagement with our stakeholders and aim for sustained growth.



### In closing, may we ask for a message to SMM's stakeholders?

**Through a variety of opportunities we strive for active dialogue, aiming for sustained growth together with all our stakeholders.**

Fiscal 2018 is the final year of our 2015 3-Year Business Plan. Under this plan, we have focused on sowing and growing the seeds that will enable our next leap forward. These initiatives—which include stabilizing operations at the Sierra Gorda Copper Mine, converting the business structure of the Harima Refinery, and undertaking structure reforms in the Materials business—are steadily coming to reap results. In fiscal 2018, in addition to driving forward the measures we took last year, we will further focus on creating the foundation for our forward leap.

In our subsequent 3-Year Business Plan, to start in fiscal 2019, development of the Cote Gold Mine will get underway on full scale, which should propel our business to a new phase. In pursuit of achievement of our Long-Term Vision, I will proactively take under consideration acquisition of mine interests and other measures.

As I noted at the outset, for SMM to achieve sustained growth into the future, it's vital to have a vantage point that enables us to look well into the future. In the Mineral Resources and Smelting & Refining businesses, a very long amount of time is needed to carry out development and get operations underway; moreover, project-related risks are by no means negligible. Meanwhile, to take hold of opportunities for business expansion through acquisition of interests, for example, requires swift decision making. I believe that for this purpose too, it's of great importance to maintain a sound financial foundation.

To win understanding of our corporate position and of my policies toward management, I pledge to strive for ever-more active dialogue with all stakeholders. People, first and foremost, are the energy that drives a company forward—toward its future. Going forward, together with all employees we will devote our collective capabilities to making SMM a company that can address the tasks at hand with a positive attitude. And together with all our stakeholders, we will continue to pursue sustained growth for tomorrow.

# Relationship between the Long-Term Vision and the Vision for 2020

The SMM Group has established the Long-Term Vision and the Vision for 2020 (which states “The Kind of Company that We Would Like to be in 2020”) to indicate our approach to creating value. The activities to attain these twin goals are inseparable for sustainable growth and maximization of corporate value, and we are proceeding on them as a single Vision.

## Long-Term Vision

Our Long-Term Vision is a goal to execute a continuous growth strategy aimed at a stable supply of materials and products over the long term. In order to attain the

Long-Term Vision, which has a target year of 2021, we set out a medium-term business plan every three years as a mid-term strategic goal.

### Long-Term Vision

## Become a World Leader in the Non-Ferrous Metals Industry & an Excellent Company of Japan

### Long-Term Vision Targets

## Become a World Leader in the Non-Ferrous Metals Industry

### Copper

Annual production interest

**300** kt

With regards to copper, our 300,000-ton target of annual production from our interests is in sight, with the additional interests in the Morenci Copper Mine and stable operation at the Sierra Gorda Copper Mine, in addition to copper mines already in operation. However, we are pursuing the possibility of obtaining further interests.

### Nickel

Annual production capacity

**150** kt

In FY2017, we produced a total of approximately 94,000 tons, when converted to pure nickel, and are very close to achieving stable annual production of 100,000 tons. In addition, our long-term vision draws the idea of raising that to 150,000 tons annually by securing new mineral resources.

### Gold

Annual production interest

**30** t

Through entry into the Côté Gold Project we increased our annual production interests approximately 2.7 tons. However, due to our sale of the Pogo Gold Mine, there is still a large gap with our FY2021 target of 30 tons, so we are continuing to search for superior opportunities.

### New Materials

Recurring profit

**5** billion

Through collaboration between the Materials Division and the Research & Development Division, we aim to accelerate new materials development and aim for an annual profit contribution of ¥5 billion from new materials by FY2021.

## An Excellent Company of Japan

Net sales

**1** trillion

Net income

**100** billion

# Sustainable Growth and Maximization of Corporate Value

## Vision for 2020

—and the Six CSR Areas of High Priority—



### Effective Use of Resources

A company that generates resources using innovative technology

KPI

- Develop and implement technologies to efficiently recover resources (low-grade/hard-to-process ores)
- Develop new and effective uses for by-products
- Promote recycling



### Environmental Preservation

A company that uses advanced technologies to reduce environmental impacts and contributes to preserving the global environment

KPI

- Advance biodiversity preservation initiatives
- Maintain our record of zero significant environmental accidents



### Contribution to Society and Local Communities

A company that earns trust and contributes to regional development through our business and social contribution activities rooted in each region

KPI

1. Communicate with local communities to recognize social issues in regions where we do business, and implement programs to support solutions to those issues.
  2. Provide support for the improvement of educational infrastructure and the maintenance and development of academic activities, culture, tradition, and art in countries where we do business.
  3. Provide support for recovery and reconstruction after large-scale disasters.
- Allocate financial resources for initiatives 1 to 3 above.



### Respect for People and Human Rights

A company where diverse human resources exercise their ability sufficiently and take a vibrant and active part in each field

A company that works with its stakeholders to strive for a society that actively respects human rights

KPI

- A company where employees can take a vibrant and active part
- Respect diversity
- Develop human resources
- Prevent major human rights infringements



### Occupational Health and Safety

A company that accords safety the highest priority and provides comfortable working environments

KPI

- Ensure safety
- Provide comfortable working environments



### Stakeholder Communication

A company that works to communicate transparently with all worldwide stakeholders to deepen mutual understanding

KPI

- Encourage deeper mutual understanding with employees
- Encourage mutual understanding with local communities and citizen groups
- Encourage mutual understanding with shareholders and investors
- Encourage mutual understanding with other stakeholders

# The SMM Group's Value Creation Process

The SMM Group will continuously grow by stably supplying basic materials and high-quality products through collaboration by its mineral resources business, smelting and refining business, and materials business. At the same time, these businesses can have a considerable impact on the environment. Accordingly, we contribute to a sustainable society by working toward global environmental preservation, development of products with low environmental impact, and co-existence with local communities.

## Seven strengths nurtured over 420 years



### Continually honed technology

Our technology, accumulated and honed over many years, enables the stable supply of high-quality materials and products. Our HPAL technology, for example, marks the world's first success in commercialization of this technology, and is a major strength of our company.



### Employees who share our Business Spirit and goals

Employees share our goals and corporate philosophy, which are based on the Sumitomo Business Spirit, and support the SMM Group's creation of value. Aiming to achieve our goals, employees respect human rights and put their capabilities to work in each of their fields.



### Solid relationships with business partners

Strong relationships of trust with partners are vital in the stable operation and development of mines. The SMM Group builds solid relationships of trust through technical cooperation and other collaboration.



### Relationships of trust with local communities

Holding up co-existence with local communities as part of our corporate philosophy, the SMM Group has built relationships of trust with these communities over many years through varied activities. These relationships support the long-term operation of our businesses.



### Safe labor environment

While many major mineral resource companies have an occupational accident frequency rate of two to four, the SMM Group has maintained a rate of about one. Establishing and maintaining this safe labor environment enables stable work by employees and provides a foundation for the stable supply of products.



### Good relationships with customers

Good relationships of trust born from careful attentiveness are a strength in our relationships with customers. A perfect example is seen in our highly regarded battery materials, products created through collaboration with market leading customers from the research and development stage.



### A sound financial standing

The acquisition of interests can at times require bold investment decisions accompanied by financial risk. A sound financial standing is indispensable in reducing such risk. The SMM Group maintains an equity ratio of about 60%, compared with around 30–40% for other major mineral resource companies. Our robust financial standing supports decision-making on large-scale investments.

2021

### Long-Term Vision

**Become a world leader in the non-ferrous metals industry and an excellent company of Japan**

Nurtured strengths

Our three-business process

Current value

Spiraling up toward goals

# Sustainable growth and maximization of corporate value

## Created value

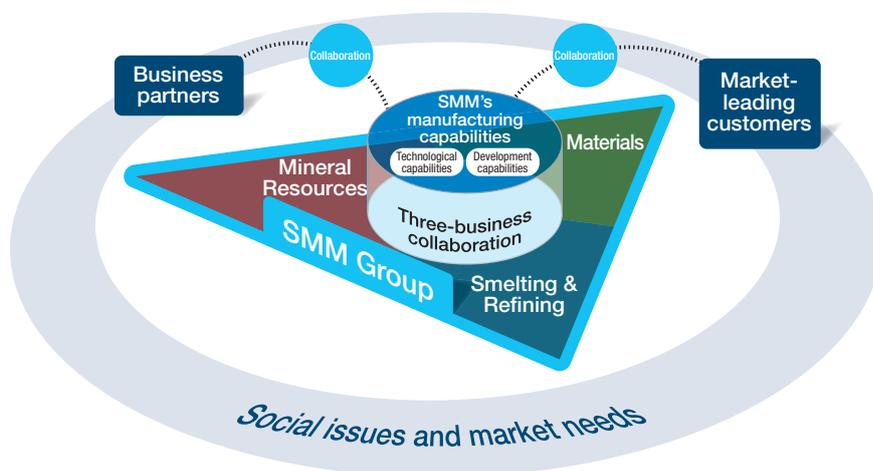
Sustainable growth through the securing of mineral resources and the stable supply of basic materials and high-functionality materials

Contribution to sustainable society through global environmental preservation, development of products with low environmental impact, and co-existence with local communities

## Our three-business process

The SMM Group is leveraging the strengths produced by its globally unique, seamless collaboration of three businesses: mineral resources, smelting and refining, and materials. In addition, it is advancing its business, with a focus on manufacturing capabilities based on technological and development capabilities cultivated over many years. Furthermore, we

also collaborate with market-leading customers in areas such as product development, and collaborate with business partners primarily through the development and management of mines. By maximizing the effects of these three types of collaboration, we can respond flexibly and effectively to social issues and market needs.



Created value

creation

### Mineral Resources Business

The mineral resources business takes the first step towards extracting the natural mineral resources that have lain dormant underground over the ages, and turning them into metals. Making good use of the skills accumulated through 283 years of operating the Besshi Copper Mine, from 1691 to 1973, and other businesses, we participate in mining operations as a professional mine developer and operator in regions around the world, while pursuing myriad exploration projects, and proceeding with surveys to develop new mines.

### Smelting & Refining Business

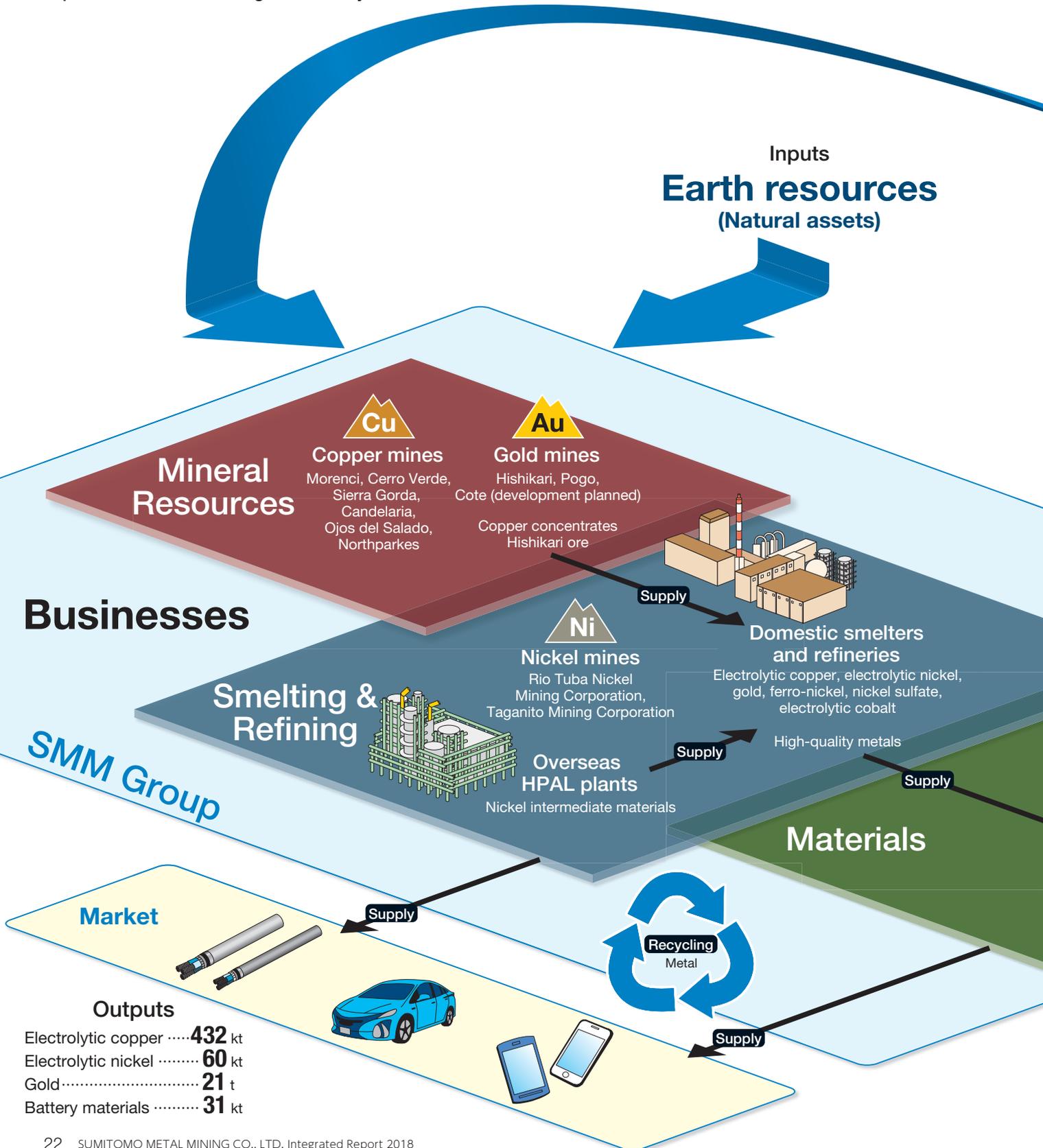
The smelting and refining business produces metals, particularly copper, nickel, and gold, from ores and other such material. Over the 420 years since 1596, when Soga Riemon perfected the *Nanban-buki* method of separating silver from copper, the business has continuously passed down and developed smelting and refining technologies. And today, too, the company possesses world-class smelting and refining technology, and cost competitiveness. We are also the only company in Japan to produce electrolytic nickel and electrolytic cobalt.

### Materials Business

The materials business produces and supplies advanced materials and the like by applying core technologies to add a range of values to metals and materials procured by the smelting and refining business and others. We work with nickel and various other metals to supply products focused on environment and energy, such as electric vehicle secondary battery materials, and information communications related areas.

Through the collaboration of our **three core businesses**, we contribute to the stable supply of goods from basic materials to high-quality products

“Excavating ore, a natural resource, making it into metal materials by smelting and refining, and adding new value to those materials.” The materials we handle and the value we add vary through the ages, but the essence of this business process remains unchanged over the years.



**Continually honed technology**  
(Intellectual assets and manufacturing assets)

Have received **4** Okochi Memorial prizes (the "Production Special Prize," the "Technology Prize," and 2 "Production Prizes")

Have received **4** Japan Institute of Invention and Innovation awards (the "Imperial Invention Award," the "Japan Patent Office Director's Award," the "Japan Business Federation Chairman's Special Award," and the "Invention Award")

The number of prizes shown above are totals to the present.

**Employees who share our Business Spirit and goals**  
(Human assets)

In Japan **5,909** Overseas **1,873**

**Good relationships with customers**  
(Society and related assets)

**Solid relationships with business partners**  
(Society and related assets)

Number of engineers dispatched to overseas mines in which SMM has an interest **27**  
Number of countries and regions where business is conducted **16**

**Relationships of trust with local communities**  
(Society and related assets)

Distribution of value, proportion of payments to local suppliers, local employment (refer to the below outcomes)

**Safe labor environment**  
(Human assets, organizational assets, and manufacturing assets)

Accident frequency rate,\* Japan **0.97**  
Accident frequency rate,\* overseas **1.68**

\* Frequency rate = number of fatalities and injuries due to industrial accidents ÷ cumulative hours worked x 1,000,000

**A sound financial standing**  
(Financial assets)

Have maintained consolidated equity ratio of at least **50%**, since FY2006  
Total assets **¥1,699 billion**

# Seven strengths

Re-input (asset) strengths that have been fortified through business, and aim for sustainable growth

## Suppliers

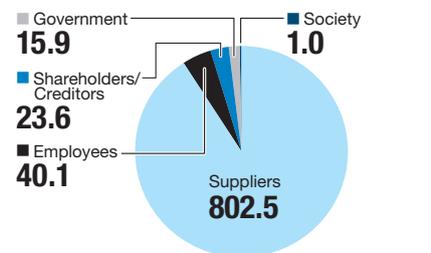
Raw materials & other materials  
Energy

Supply

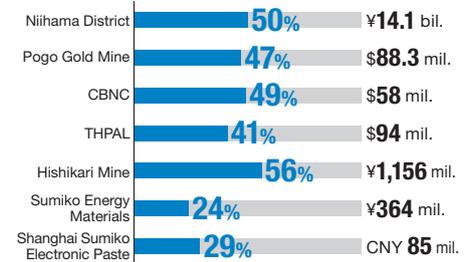
Battery materials,  
crystal materials,  
powder materials,  
package materials,  
catalysts,  
construction materials

(FY2017 results)

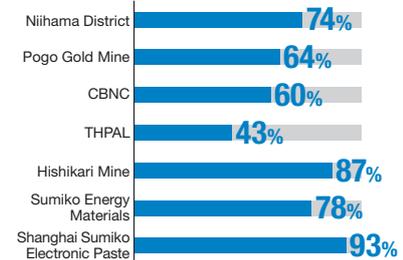
### Distribution of Economic Value to Stakeholders



### Amount and Proportion of Payments Made to Local Suppliers



### Local Hiring Rate



## Outcomes (Created value)

- Sustainable growth through the securing of mineral resources and the stable supply of basic materials and high-functionality materials
- Contribution to sustainable society through global environmental preservation, development of products with low environmental impact, and co-existence with local communities

# Addressing the needs of society through collaboration among our three businesses of mineral resources, smelting and refining, and materials

Continued rapid growth is forecast for the electric vehicle market. SMM supplies cathode materials for the lithium-ion batteries which can be called the heart of these vehicles. Our cathode materials are infused with the technology and know-how that we have nurtured through the long traditions of our smelting and refining business and our mineral resources business. Through collaboration among our three businesses, mineral resources, smelting and refining, and materials, we are able to produce high-quality materials that address the issues and needs of society.

# Smelting & Refining Business

## Providing metals that support society and industry

Learn about SMM

Value Creation

Review of Operations

Management

Sustainability

### The foundation of our business is in the *Nanban-buki* smelting and refining technique

Copper is said to be the first metal that humans began to use. With the advance of civilization, applications for the metal expanded to utensils, coins, and building materials. Today, copper is widely used in plumbing, electric wiring, electronics, motors, generators, and more, supporting both society and industry.

SMM was founded in 1590 when Soga Riemon opened a copper blowing and coppersmith shop near Gojo Ohashi in Kyoto. “Copper blowing” is what is today called copper smelting and refining. After great pains, Soga Riemon created *Nanban-buki* technology based on methods learned from a foreigner. An advanced technology of the time, *Nanban-buki* made it possible to obtain high-purity copper from crude copper, and separate out the valuable silver contained in the crude copper.

In recent years, demand for copper has been growing in the automotive sector. A single vehicle uses 20 to 30 kg of copper, an amount that is expected to increase several times over with the proliferation of electric vehicles. Our Toyo Smelter & Refinery in Saijo, Ehime Prefecture, is a copper refinery boasting world-class productivity that ships 450,000 tons of electrolytic copper every year.

### Enabling efficient recovery from low-grade nickel ore

Nickel is a metal vital to contemporary society as a raw material in plating and in alloys such as stainless steels. SMM was the first to commercialize nickel refining in Japan, in 1939. Since then, nickel production has become a pillar of our smelting and refining business, on a par with copper.

In 2005, SMM established technology known as the HPAL (high pressure acid leaching) method, which efficiently recovers nickel from low-grade ore that had earlier been discarded. Then, at Coral Bay Nickel Corporation on Palawan Island in the Philippines, we were the first in the world to successfully launch commercial production of nickel intermediates (nickel-cobalt mixed sulfide). Through this, we achieved the effective use and stable supply of limited nickel resources. In 2014, we established Taganito HPAL Nickel Corporation in Mindanao Island in the Philippines. Together, the two companies boast an annual production capacity of 60,000 tons of nickel intermediates.

These nickel intermediates are sent to the Niihama Nickel Refinery in Niihama, Ehime Prefecture, and to the Harima Refinery in Hyogo Prefecture, where they are further refined into electrolytic nickel, electrolytic cobalt, and nickel sulfate. In recent years, demand for nickel and cobalt has been growing for use as battery materials.

## Column

### Recovering scandium from nickel ore

Using HPAL technology, SMM recovers the rare-earth element scandium from the process of nickel intermediate production, and has created technology to turn the material into a product as scandium oxide. At Taganito HPAL Nickel Corporation, we have constructed a scandium intermediate manufacturing plant and at the Harima Refinery, have established a process for producing scandium oxide from intermediates. We plan to begin commercial production of 7.5 tons per year in 2018. Scandium is found in ore in exceedingly small amounts, and is a difficult metal to refine. When added to aluminum, it strengthens the aluminum and enables it to be welded, which makes it promising as a material for aircraft bodies. There are also expectations for applications where it is used as an electrolyte and anode material, improving performance in solid oxide fuel cells, which offer high power generation efficiency. We have further constructed a plant at Taganito HPAL Nickel Corporation to recover the stainless steel raw ingredient chromite from the process for nickel-cobalt mixed sulfide manufacturing, and plan to launch production in 2020.

# Mineral Business

## From development of to development of

### The 280 years of tradition supporting the mineral resources business

One hundred years after the company's founding by Soga Riemon, a promising copper deposit was found in Besshi, Iyo Province (now Ehime Prefecture). The following year, the Sumitomo family obtained mining authorization from the Tokugawa Shogunate, and embarked upon copper mine development. With the introduction of modern technologies from the Meiji Era onward, the amount excavated from the mine increased greatly and made major contributions to the industrial advancement of Japan. The history of the Besshi Copper Mine came to an end in 1973, but the technologies and experience gained at the mine are carried forward in today's mineral resources business and smelting and refining business.

With the closure of Sazare Mine (Shikokuchuo City, Ehime Prefecture) in 1979, the mineral resources business in Japan came to a halt momentarily. In 1981, however, a high-grade gold ore vein was discovered in the town of Hishikari (currently Hishikari, Isa City) in the northern part of Kagoshima Prefecture, and ore extraction began in 1985. Hishikari Mine, currently the only gold mine in Japan engaging in commercial-scale production, ships about 6 tons of gold per year, and has produced 236 tons since the start of ore extraction (as of March 2018). While its scale is small, the mine boasts a world-class gold content ratio.

### SMM's mineral resources development strategy and our mission as a supplier

With copper raw materials shifting to imports after the closure of mines in

# Resources

## the Besshi Copper Mine resources worldwide

Japan, SMM set its policy on securing mineral resources through capital participation in copper mines overseas. In 1986, we made a capital investment in the Morenci Copper Mine in the U.S., followed by capital investments in copper mines in Chile and Australia. In 1995, SMM discovered gold deposits in Pogo, Alaska, and started operating the Pogo Gold Mine in 2006. SMM also acquired an interest in the Côté Gold Project in Canada in 2017, where we are continuing to aim at production launch in 2021.

Hishikari Mine, the only mine of its kind in Japan, plays an important role as a place for human resources education in which the skills and experience needed for mine operation are handed down. SMM also dispatches engineers to the overseas mines in which we invest, and engages in human resource development at those sites. Worldwide, outstanding ore veins are becoming depleted, and new discoveries become more difficult every year. At the same time, amid a growing trend toward “resource nationalism,” by which countries seek to hoard resources, building relationships of trust with the mining companies that are our partners and with local communities also leads to the securing of new mineral resources interests.

### Advising appropriately inside and outside the company as mineral resource development professionals

The work of the Mineral Resources Div. has a broad range, covering process development and operational management such as from mineral resource exploration to the evaluation of ore grade and mineral resource volume, mining, and plant launches. Our long experience with mineral resource exploration, and mine development and management,

also sees use in overseas mineral resource development, where our performance has earned a high reputation among overseas mining companies.

Although we have enhanced our mineral resource exploration with cutting-edge technologies such as electromagnetic exploration and remote sensing using satellites and aircraft, in the end, it is humans that make decisions. It is here that the experience and knowledge SMM has built up is put to use. In addition, as the knowledge of our mineral resource engineers extends beyond gold and copper and into a wide range of ores and geology, we are able to draw on their geological perspectives to offer appropriate advice on ore quality and volume within the company and to customers of our Non-Ferrous Metals Div. and the Materials Div., even concerning ores other than the copper, gold, and nickel that our Non-Ferrous Metals Div. procures.

The Minerals Resources Div. has the role of supplying raw material ores to the Non-Ferrous Metals Div. By procuring raw materials from within the company, the Non-Ferrous Metals Div. is able to reduce risk and constrain costs, while also helping reduce risk for the Mineral Resources Div. by acting as a stable outlet for that division’s supply. Unlike major mineral resource businesses, we have built a vertical business model that includes the downstream materials business, as we work to ensure stable supply of product along with efficiency and differentiation in our businesses.

# Materials Business

## Materials technology that addresses the demands of the times

### Providing cathode material for EV batteries

In response to the issues of climate change and air pollution, the movement is growing to expand the use of EVs (electric vehicles) in European countries, China, and many other countries. In the past, EVs suffered from a short running distance per charge, but the adoption of high-performance batteries has extended running distance and increased the practicality of EVs. Lithium-ion automobile batteries are representative of today's high-performance batteries, and SMM's Materials Div. supplies the lithium nickel oxide (NCA) that is used as a cathode material.

SMM has earned the trust of customers for its ability to supply NCA and for its quality. SMM is the only company in the world that offers an integrated production chain that runs from mineral resources to cathode material, the key to the lithium-ion batteries at the heart of EVs.

### Building close relationships with customers and capturing their needs

Our connection to automobile batteries begins with the provision of cathode material for the nickel-metal hydride battery of the first-generation Toyota Prius. Following that, SMM and Panasonic Corporation jointly embarked upon the development of next-generation lithium-ion batteries using

NCA as a cathode material. This lithium-ion battery was adopted by an advanced EV manufacturer, and our NCA production output has increased every year since. Our cathode material is also used in the lithium-ion battery of the Toyota Prius PHV (plug-in hybrid vehicle). Through joint development and close communication with customers, we are creating a framework for accurately discerning the products and functions that will be demanded in the future, and for offering stable supply of high-quality products.

At present, automobile manufacturers and battery manufacturers are seeking to minimize the cobalt contained in cathode materials, for reasons of resources and cost. Development is also moving forward on new types of batteries, such as solid-state batteries. SMM is engaged in the development of new cathode materials with an eye toward the direction of such technological developments and the needs of customers. SMM has also decided to participate in the all-Japan solid-state Li-ion battery research & development project led by the New Energy and Industrial Technology Development Organization (NEDO).

### SMM's strength: An end-to-end framework for mineral resources, smelting and refining, and materials

The production of metal materials is always affected by fluctuations in the market for raw materials, with nickel and cobalt in particular prone to large price fluctuations.

## Sustainability from a broad perspective



**Tomio Shida**

Senior Staff Writer and Editorial Writer  
Nikkei Inc.

ESG investing, which urges companies to consider the environment and human rights issues through investment, and the Sustainable Development Goals (SDGs) have become key words of the times, appearing frequently even on the pages of our paper. Both are issues advocated by the United Nations, and both call for long-term perspectives.

In order to maintain comfortable living for the world's population, which now numbers over seven billion, the proliferation of renewable energy and electric vehicles (EVs) is indispensable. The metal materials such as copper and nickel that the SMM Group handles will become all the more necessary. It goes without saying that sustainability with consideration of the environment and human rights will be demanded in the development of copper and other resources. All sustainability issues are connected.

The pursuit of sustainability must not be nearsighted. In that sense, the SMM Group's collaboration among the three businesses of mineral resources, smelting and refining, and materials is also an approach that pursues sustainability from a broad perspective. I would like for the company to consider sustainability from a variety of angles, and act as a pacesetter of Japanese companies.

With our own nickel smelting and refining business and the ability to procure nickel and cobalt in-house, SMM is able to offer stable production of cathode materials.

This strength of ours is also put to use in the recycling of used batteries, which we have undertaken since the 1990s. In 2017, we used the smelting and refining processes of our Toyo Smelter & Refinery and Niihama Nickel Refinery to successfully recover copper and nickel from lithium-ion batteries. Following this nickel metal hydride battery recycling, we have subsequently achieved "battery to battery" recycling.

As seen in this example, the downstream Materials Div. understands markets and the needs of customers, the Non-Ferrous Metals Div. supplies raw materials, and the Materials Div. assesses mineral resource trends and performs resource evaluations of raw material ores. Through this vertical collaboration, we are able to steadily procure raw materials, stably supply product without pause, and respond to production increases, all in line with customers' plans. There is no company besides SMM that has created this sort of business structure.



## Emphasize “cognition,” “conceptualization,” and “action” to maximize sustainable growth and corporate value, and develop the next generation of managerial human resources

**Along with growing recognition of the SDGs and ESG investment, sustainable contribution to society is becoming an indispensable standard for estimating corporate value.**

**SMM has long carried forward the Sumitomo Business Spirit, which values reputation in society and mutual relationships of trust.**

**At the same time, we are making great efforts to develop the next generation of managerial human resources who will take over the business in the future, so that we can respond to new business models and changing business conditions.**

**In 2015, we undertook a full-scale renewal of our Vision for 2020, and identified specific targets and KPIs for future human resources development. We are moving forward with a transformation that incorporates new perspectives, including mechanisms for human resources development, and the creation of a free and open corporate culture.**



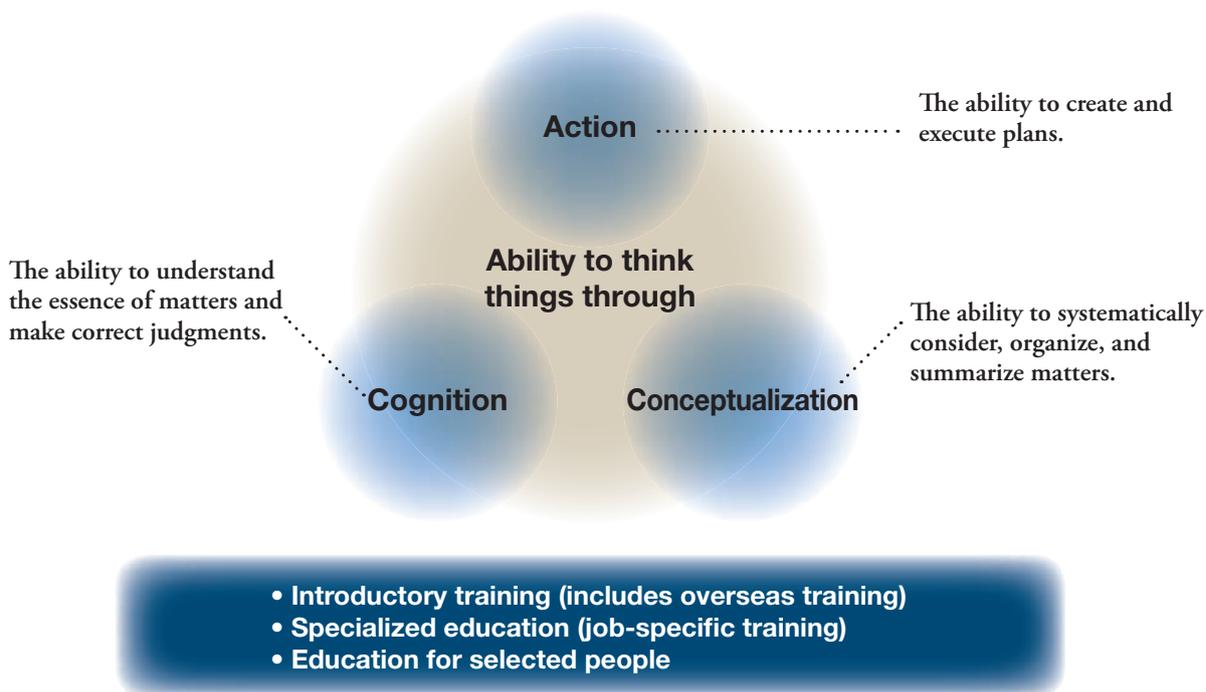
## Creating a vision for and working to develop the next generation of managerial human resources, based on three key words

SMM pursues an original business model that brings together our three businesses of mineral resources, smelting and refining, and materials. While the mineral resources and smelting and refining businesses call for a long-term perspective, the materials business requires us to quickly capture changes in the times and supply materials that meet customers' demands. Achieving collaboration among our businesses requires new capabilities in the management human resources who will lead the next generation. It is important that these managers are equipped with acute sensibilities to aptly incorporate changes in society into business, while maintaining a high-level global and long-term

perspective. They must be equipped with keen discernment rooted in a thorough acquaintance with their respective fields, and must further expand that potential to create new societal value. Moreover, to negotiate for interests in mines, manage overseas sites, and otherwise lead global projects, it is important that they also possess human appeal while competing with the leaders of the world's major mineral resource businesses.

SMM has set "cognition," "conceptualization," and "action" as three key words for the capabilities sought in the next generation of managerial human resources, and is continually working to develop these managers.

The skills required of SMM's next generation of managerial human resources



### Working style reform to nurture people

In FY2017, the SMM Group began to tackle working style reform. One of our goals is to achieve an average of 1,900 working hours or less per year for all employees, and a maximum of 240 hours per year of overtime and holiday work, by FY2019.

The purpose of the reform is not merely the shortening of working hours, but also the

associated creation of new value. Our aim is to recreate a free and open corporate culture in which all employees can use their limited time effectively and engage in work with motivation. We believe that this reform is also extremely important in the development of the next generation of managerial human resources.

# Education of the next generation of managerial human resources, beginning with introductory training for new employees

## Introductory training

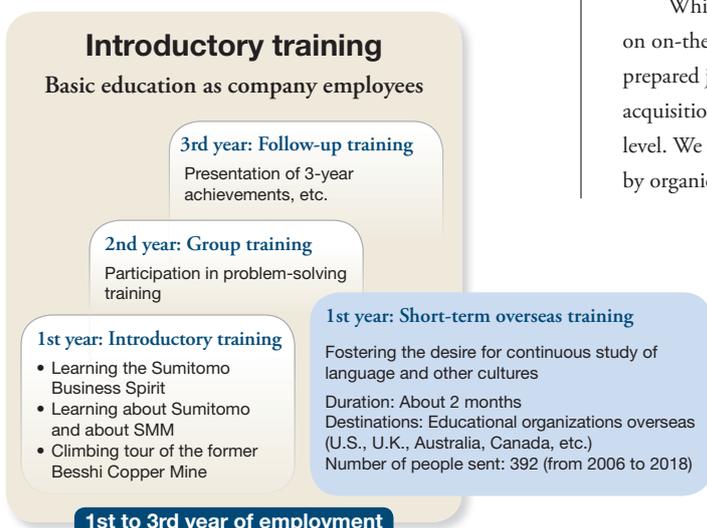
### Learning the Sumitomo Spirit and nurturing a global perspective

For management track employees who will be the next generation of managerial human resources, we position the first three years with SMM as a period for learning the fundamentals as working adults and conduct proprietary off-the-job training (Off-JT). From April to June in employees' first year, we conduct introductory training. In this program, participants learn about the Sumitomo Business Spirit by climbing into the former Besshi Copper Mine to observe the initiatives of their forerunners, and by visiting Kyoto, Sumitomo's birthplace, to directly view company historical materials. The curriculum lets participants learn about

SMM's commitment to manufacturing and its stance toward earning the trust of society, through means including hands-on experience.

To quickly foster an awareness among participants as global human resources, we also conduct short-term overseas training for new employees during their first year. The aim of this training is the improvement of language abilities as well as the enhancement of motivation to learn about other cultures. Following this, we conduct Off-JT in the second and third years of employment matched to employees' growth.

While our human resources development is based on on-the-job training (OJT), we have also systematically prepared job capability-specific Off-JT programs for the acquisition of skills necessary for employees' job type and level. We proceed with flexible human resources development by organically combining this OJT and Off-JT.



Climbing tour of the former Besshi Copper Mine



Short-term overseas training

### Human resources development through joint research with Tohoku University

SMM has set up a joint research division within the Institute of Multidisciplinary Research for Advanced Materials, Tohoku University. Its objectives are the evolution of technologies related to non-ferrous metal smelting and refining in Japan, and the development and securing of young engineers. In recent years, the number of non-ferrous metal refining engineers in Japan has been declining. In addition to joint

research, SMM advances cooperation with other companies in the industry and with other universities, makes efforts to maintain and expand non-ferrous metal smelting and refining courses within university education, and conducts seminars and plant tours, as we work to develop human resources who will shoulder the next generation of the non-ferrous metal smelting and refining industry in Japan.

## Enhancing qualities as specialists

In order to develop the next generation of managerial human resources who will shoulder management and projects in the future, it is important to nurture qualities as specialists. SMM places a focus on job-specific human resources development for the first 10 years of employment. We carefully consider a full series of career steps matched to each individual's qualities, and conduct training appropriate to the trainee's job type and area of business.

While we have OJT as the foundation of job-specific training, we also conduct proprietary Off-JT matched to specific fields, centered on acquisition of qualifications, overseas training, and on-site practical training. This type of training is not only for technical jobs such as those in mineral resources and smelting and refining, we carry out similar human resources development matched to the characteristics of each of the fields of accounting, personnel, and other clerical jobs.

Other education programs unique to SMM include the Mining School (see p. 49), where, after joining the company, exploration and mining engineers learn operational

fundamentals, technology, safety management, and more at the Hishikari Mine; and the Smelting & Refining University (see p. 57), where metallurgy-related engineers learn the fundamentals of refining technologies through Off-JT classes and practical training.



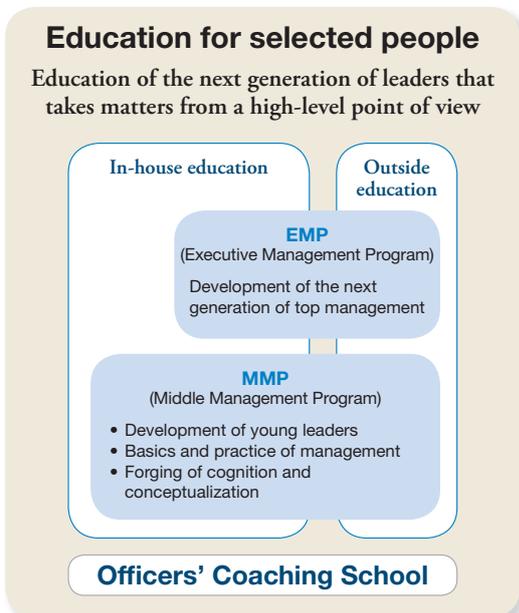
## Developing the next generation of leaders for sustainable growth

The development of senior management is also a key theme for SMM in achieving sustainable growth. We select senior management candidates at every level of the company, and conduct training aimed at developing leaders.

The SMM Middle Management Program offers training aimed at the section manager level. In the program, participants learn diverse management abilities, including the knowledge and conceptual methods that they are expected to inherit as the company's top management, as well as systematic management skills and a company-wide

management perspective, by learning through in-house education and at outside educational institutions. We offer the similar SMM Executive Management Program for the general manager level, with content aimed at network-building and gaining the knowledge and experience required of the next generation of top management. Content includes case studies and "inter-school contests" that allow networking with training participants from other companies. Another proprietary training program is the Officers' Coaching School, where participants learn leadership and knowledge unique to the company. Officers who are also at the top of every job type serve as instructors in this program.

Our human resources are becoming more diverse with the advance of diversity management, and the environment surrounding human resource development is also changing under working style reform and other factors. Even as we carry forward the Sumitomo Business Spirit, we quickly adapt to such changes in society as we advance reforms and engage in human resources development from a high-level point of view.



SMM MMP

# The SMM Group's Risks and Opportunities

As the SMM Group engages in value creation, it identifies, classifies and organizes the risks and opportunities that affect that value. We then use those results in making medium- to long-term strategies and, by undertaking actions through a risk management system (RMS), we strive to more reliably maximize corporate value and contribute to a sustainable society.

## The SMM Group's RMS

SMM's RMS identifies and evaluates risks, particularly risk of serious infringement of laws and social values, risk of significant adverse effects to society or a third party, risk that invites serious damage to the social credibility of SMM, and risk of serious adverse effects on business operations, and then manages these risks according to priority.

## External environment/ social issues

### Strong environmental awareness

①

Climate change

④ ⑦

Biodiversity

④

### Growing awareness of human rights

① ③

### Metal price and forex movement

②

### Development of an information society

### Natural resource depletion

② ⑤

Trend towards new mine development in higher and more remote locations

② ⑤ ⑤

Ores becoming lower grade and more difficult to process

③ ⑤

### Heightening mineral resource nationalism

⑥ ⑧

### Commodification of technology

## Risks

### Especially serious risks out of those specified and managed by the RMS

- ① Explosions and fires
- ② Leakage of harmful substances (into air, water, or soil)
- ③ Earthquakes
- ④ Discharge of slag and the like due to dam or culvert failure
- ⑤ Terrorism, abduction, riots, or other such incidents
- ⑥ Theft of explosives or poisonous materials
- ⑦ Pandemic of a new strain of influenza or other disease

### Managerial risks

- ① Decline in profits due to fall in commodity prices and yen appreciation
- ② Increase in cost of investing in and operating mines
- ③ Increased taxation and rise in resource procurement risk
- ④ Increase in investment and operation costs due to tightened regulation
- ⑤ Fiercer competition for acquiring superior mining sites
- ⑥ Decline in the superiority of HPAL technology
- ⑦ Delays to development, operation, or expansion of sites, or the removal of permissions, due to opposition by local people or government action
- ⑧ Decline in selling prices or losing competitiveness of materials products

## Opportunities

### Managerial opportunities

- ① Rapid production increase of electric vehicles/higher demand for nickel and cobalt as battery materials
- ② Increasing demand for high-speed communication devices and movement toward multiband, increasing demand for SAW filters or LT/LN
- ③ Decline in metal prices/major mineral resource companies' asset reclassification
- ④ Increasing demand for stable procurement of conflict-free materials
- ⑤ Increasing demand for nickel from low-grade ore as a resource

● = Especially serious risk out of those specified and managed by the RMS  
○ = Risk caused primarily by external factors ○ = Opportunity

## Governance

RMS

CSR Management

Business Process

Seven Strengths

Each individual risk and opportunity is classified as to whether it is a risk with potential to cause a serious environmental accident or disaster, in which case it will be managed through our RMS, or a managerial risk or opportunity.

Regarding risks managed through the RMS, we strive to maintain responsible operations, primarily through a management process involving risk identification and evaluation, preventive measures, proactive mitigation measures, and rapid response in the case of occurrence.

For managerial risks or opportunities, we reduce the risk or strategically turn it into an opportunity and maximize the effect by leveraging our business processes and seven strengths.

Furthermore, regarding the implementation of each of these activities, their appropriateness from a CSR point of view is properly evaluated and responded to in advance under an effective governance structure.

## Handling of risk or opportunity

Responsible operation based on risk management

Reduce risk or convert to opportunity via strengths

Use strengths to leverage opportunity

Strategic PDCA

## Specific strategies regarding risks or opportunities

- ① - ⑦ Implement and maintain risk management (preventive measures, proactive mitigation measures, etc.) through RMS**  
[Risk management \(p. 84\)](#)
- ① ② ③ Minimize costs by increasing operational efficiency and productivity at highly cost-competitive mines and refineries**  
[Smelting & refining business \(p. 53\)](#)
- ② Accelerate development of technology for strengthening ability to handle hard-to-process ores**  
[Effective use of resources \(p. 92\)](#)
- ④ ⑦ Cultivate relationships of trust with local communities, employees who share SMM's philosophy and goals**  
[Stakeholder communication \(p. 97\)](#)
- ⑥ Maintain cost advantage by recovering and commercializing scandium and chromite, by-products of HPAL technology**  
[Development of new applications and effective use of by-products \(p. 54\)](#)
- ⑧ Maintain a positive development cycle and strengthen technological capabilities through continued good relationships with customers**  
[Materials business \(p. 60\)](#)
- ② ⑤ Use HPAL technology to obtain nickel (Ni) and cobalt (Co) from low-grade oxide ore, a challenge for other companies at commercial production level**  
**① ⑤**  
[Utilizing unused resources \(p. 55\)](#)
- ③ ⑤ Maintain a good management base for interest acquisition based on sound financial standing and robust relationships with partners**  
[Financial strategies \(p. 44\)](#)  
[Mineral resources business \(p. 50, 51\)](#)
- ① ④ ⑤ Establish our superiority as a supplier and reduce procurement risk for customers, including making resource origins transparent, by developing a consistent business process from interest acquisition to material production**  
[Special feature 1 \(p. 24\)](#)  
[Responsible mineral sourcing \(p. 87\), partnerships with outside organizations \(p. 81\)](#)  
[The SMM Group's business process \(p. 22\)](#)
- ② Leverage our many years of experience developing crystal technology (growth, processing, etc.) to maintain our superiority and handle production increases**  
[Materials business \(p. 58\)](#)

[Related information \(reference page\)](#)

# Material Issues for the SMM Group

SMM Group has identified 26 material issues based on risks and opportunities in the practice and execution of our Long-Term Vision and our Vision for 2020. These issues can be organized according to why we address them: material issues related to the sustainability of our business, material issues related to the growth of our business, and material issues underlying all of our activities.

**Related information** See p. 82, 83 for information on the Identification of Material Issues.

## Material Issues Related to the Sustainability of Our Business

As the SMM Group's business involves mine development and other large-scale developments, its impacts are particularly great in local communities surrounding the developments. Furthermore, its scope encompasses the economy, the environment, human rights, and many more factors. We must conduct mining in places where mineral resources are found, we are not able to continue our business removed from those locations. At the same time, given the self-evident truth that mineral resources eventually reach depletion through mining, we must give utmost consideration to our impact on local communities, which continue even after the mines close.

For these reasons, we consider the earning of a "social license to operate" through relationships of trust with communities as a major premise of our business continuity, along with our legal licenses to operate.

Among the 26 material issues we have identified, 14 that we position as issues related to the sustainability of our business are shown at right.

As these material issues can be connected to the benefit or harm of local communities, we believe they are of high concern to stakeholders such as local residents and local authorities. Actively working on these issues, and aiming for maintenance and improvement, leads to the building of relationships of trust with communities, which in turn has a positive impact on stable business operations.



### Consideration of the Ecosystem and Preservation of Biodiversity

- Energy conservation at SMM business sites <sup>4</sup>
- Respect for nature preservation areas <sup>6</sup>
- Preservation and restoration of ecosystems in areas where we do business <sup>7</sup>
- Minimizing chemical substance emissions into the air, water, and soil <sup>8</sup>  
(including in our portfolio companies and supply chain)
- Reduction of release and transfer volume of chemical substances <sup>9</sup>
- Waste management <sup>10</sup>



### Contribution to Society and Local Communities

- Community investments <sup>11</sup>
- Local hiring <sup>12</sup>
- Local procurement <sup>13</sup>
- Utilization of partnerships <sup>14</sup>
- Management of closed mines <sup>15</sup>
- Recovery support for areas affected by devastating disasters <sup>16</sup>



### Occupational Health and Safety

- Ensure safety <sup>22</sup>
- Secure occupational health <sup>23</sup>

## Material Issues Underlying All of Our Activities

Underlying all of our activities is respect for human rights. Protection of employees' human rights, protection of indigenous peoples' and local residents' human rights, and avoidance of contributing to human rights infringements with our supply chain are among the particularly important issues.

Also, communication with stakeholders is important in the SMM Group's business achieving regular engagement and building relationships of trust with local communities, while maintaining our social license to operate, too. We aim to deepen mutual understanding with stakeholders through open dialogue.

## Material Issues Related to the Growth of Our Business

In a society undergoing great changes as time and technological innovation advance, the business of the SMM Group stably provides materials and products that can be widely used in industry and society. Our business supports the progress of technology in a wide range of fields, including mobile society and information and communications, contributing to affluent lifestyles for people around the world. While our business has a direct impact on societies and economies, it must meet the needs of changing times and continue to grow. Among the identified material issues, the six material issues related to the growth of our business are shown at right.



### Effective Use of Resources

- Utilizing unused resources <sup>1</sup>  
(low-grade/hard-to-process ores)
- Development of new applications and effective use of by-products <sup>2</sup>
- Exploration and development of new resources <sup>3</sup>



### Development and Stable Supply of Products with Low Environmental Impact

- Development of products and technologies that contribute to reducing environmental impact <sup>5</sup>



### Development of Human Resources and Making the Most of Diverse Human Resources

- Human resources development <sup>17</sup>
- Diversity and equal opportunity <sup>18</sup>



### Communication and Respect for Human Rights

- Protection of employees' human rights <sup>19</sup>
- Avoidance of contributing to human rights infringements with our supply chain <sup>20</sup>
- Respect for the rights of indigenous populations <sup>21</sup>
- Engagement with local communities <sup>24</sup>
- Engagement with employees <sup>25</sup>
- Communication with shareholders and investors <sup>26</sup>

The numbers <sup>1</sup> through <sup>26</sup> indicate the 26 material issues. See p. 82 for details.

# Background and Approaches to Material Issues

## Consideration of the Ecosystem and Preservation of Biodiversity

International efforts to address the risk of climate change continue to move forward, as seen in the example of the Paris Agreement. As a Group that has relatively high CO<sub>2</sub> emissions and handles many chemical substances, our stance with respect to environmental aspects is extremely important. Moreover, it is highly likely that the preservation of biodiversity and residents' living environments in regions of development is directly linked to people's lifestyles and interests, requiring significant consideration of environmental aspects. Furthermore, it is necessary that we continue the sustained management of mine effluent processing and of tailings dams, which accumulate tailings and slag, even after the end of mining operations.

The SMM Group places particular emphasis on the prevention of environmental pollution. While continuously enhancing our response in terms of both facilities and management, we conduct training and education for parties concerned, to enable the minimization of outside impacts in the unlikely event of trouble.

## Contribution to Society and Local Communities

By actively engaging in economic activities such as procurement from local suppliers and employment of people from communities around our business operations, and by improving infrastructure needed for our business and making it available for public use, we are directly involved in stabilizing the livelihoods of the local residents who are also our employees and suppliers, and being directly involved in invigorating economic activity in the region overall. Making other social contributions, such as operating schools and hospitals and improving sanitation, is also important in enhancing mutual prosperity in local communities and building relationships of trust.

The SMM Group believes that improving the living environments in these regions through such initiatives leads to the sustainable development of the Group's business in the regions.



Dressmaking training for women in the area of operation as employment assistance (Philippines)

## Occupational Health and Safety

We believe that a safe and comfortable workplace environment is not only necessary for employees but also leads to relationships of trust with the company, and improving motivation, and to lowering the possibility of the materialization of various risks. It also exerts positive impacts in improved hiring and employee retention rates and in reduced turnover rates, and leads to improving product supply stability, productivity, and yields, as well as reducing costs.

In the SMM Group, we promote safety-related activities under a basic policy that nurtures a safety culture and enhances line management. To secure occupational health, we assess the status of dust, noise, specified chemical substances, and organic solvents, aiming at achieving comfortable workplace environments, and enhance occupational health and safety management by making necessary improvements to work environments.



Foreseeing danger before and during work (inside the Hishikari Mine)

## Communication and Respect for Human Rights

Consideration of human rights in our regions of operation spans the right to freedom and physical safety, freedom of mobility and residence, the right to property, and more. In development and the carrying out of business, the proper consideration of human rights has an impact on the smooth execution of projects and business operation. Artisanal and small-scale mining, which can present problems with child labor and the working environment in the development region, requires particular attention. The emergence of problems can affect operations, and can be viewed as involvement in human-rights violations. It is crucial that the SMM Group engages in close exchange of information with the mines and business sites that we

### Effective Use of Resources

The mining of natural resources reduces and eventually depletes reserves, ending the role of the site when it becomes mined out. To continue our mineral resources business and smelting and refining business, and ensure stable earnings, it is vital that we secure new mine resources and interests, and that we make effective use of unused mineral resources. We must also efficiently smelt and refine increasingly low-grade and difficult to process raw materials, as well as advance technological development to make effective use of byproducts. While doing so, we must also further enhance our cost competitiveness through the smelting and refining technologies that are the strength of our smelting and refining business, such as the HPAL technology and the MCLE technology.

At the same time, in an environment of limited resources, recycled materials also form an effective part of the resource cycle. We are pushing ahead with the development of efficient recovery technologies, and are tackling these issues within the context of cost optimization.



Côté Gold Project

operate, as well as with our partner companies at mines where we hold interests, and take due consideration to prevent human-rights violations.

Under the SMM Group Policy on Human Rights, our Group conducts necessary awareness education for all employees, appropriately monitors conditions through hotlines and human rights due diligence, and works to respond to situations promptly and appropriately.

Under the belief that transparent, timely, and appropriate disclosure of information is a responsibility of companies, we strive to impartially disclose information to all stakeholders. We aim to build mutual understanding through communication, so that we can engage in business aligned with our stakeholders.

### Development and Stable Supply of Products with Low Environmental Impact

Against a backdrop of environmental destruction, climate change, population increase, and numerous other social issues, the scale of the market for products and services that address these issues is expected to grow. The development of products with low environmental impact will not only contribute to CO<sub>2</sub> reduction through products that leverage our advantages in technology and business processes, but will also have a great effect on the improvement of our corporate value while resolving issues in society.

At present, the importance of stable supply and product development is growing for automobile secondary battery materials, which have vigorous demand, and are an area in which we plan to grow in partnership with market-leading customers.



Photo credit: Toyota Motor Corporation

### Development of Human Resources and Making the Most of Diverse Human Resources

Human resources support the growth of these businesses. In order for us to respond appropriately to changes in circumstances and to assuredly seize business opportunities, it is crucial that we develop diverse human resources who share both the company's goals and the Sumitomo Corporate Philosophy, which is based on the Sumitomo Business Spirit.

The SMM Group operates a development cycle based on a human resources development system composed of three areas: OJT (on-the-job training) as the foundation, self-development, and OFF-JT. By doing so, we strive to develop the human resources necessary to achieve our growth strategies. In recent years, we have moved forward with a particular focus on the development of global human resources, the development of the next generation of management, and support for participation by women.



Introductory training for new employees at Shisakajima Islands

# Progress of the 2015 3-Year Business Plan

## Status of Progress of the 2015 3-Year Business Plan

The top priorities in the 2015 3-Year Business plan for our mineral resources business are full-scale production at the Sierra Gorda Copper Mine and acquiring new gold mine interests. The Sierra Gorda Copper Mine suffered a decline in production in FY2016 due to trouble with facilities, but in FY2017 we strengthened facility maintenance and improved operation rates, resulting in an increase in production volume. Regarding new gold mines, we are participating in the Côté Gold Project in Canada.

In our smelting and refining business, we completed a project that increased annual production of nickel from Taganito HPAL Nickel Corporation from 30,000 tons to 36,000 tons and also began recovery of scandium and chromite, by-products of the HPAL production process. In the copper smelting business, we continued to operate at full-scale operation and, by increasing the processing of profitable raw materials, we maintained profitability as a top-class copper smelter and refinery business on a global level.

In our materials business, in FY2017 we established a battery materials production system that increased monthly production from 1,850 tons to 3,550 tons and we are currently working on further raising monthly production to 4,550 tons. For LT/LN, although we established a production system that increased monthly production from 300,000 pieces to 400,000 pieces, sales volumes fell significantly short of those initially planned so we are now working toward reducing costs and improving yield for the next period of high demand.

We are continuing to focus resource allocation on research and development and are working on accelerating the development of new materials products and innovating resource smelting and refining technology.

## 2015 3-Yr Business Plan Priorities and Status

### Mineral Resources

#### Full-scale production at the Sierra Gorda Copper Mine

Improving capacity utilization

#### Acquisition of new gold mine interests

Participating in the Côté Gold Project in Canada

### Smelting & Refining

#### Expanding Taganito HPAL Nickel Corporation

Construction for 20% production increase completed

#### Advancing growth strategies using peripheral HPAL technologies

Decision to start commercial production of scandium and chromite

#### Enhancing competitiveness of the copper smelting business

Continuation of full-scale operation and increased processing of profitable materials for maintained profitability as a top-class copper smelter and refinery business on a global level

### Materials

#### Profit contribution from expanded battery material and LT/LN production

Battery materials contributed to an increase in sales and profits with the establishment of a production system to increase production.

Promoting LT/LN cost reductions and thorough yield improvement to prepare for increased demand.

#### Sustainable innovation and adaptation of next-generation products

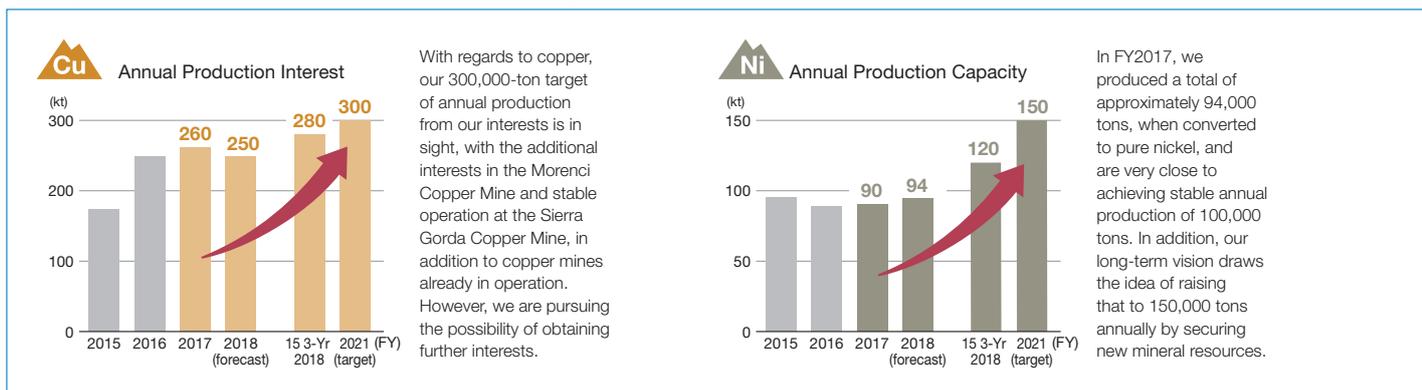
Aiming to market new products through collaboration with the R&D division and building close relationships with customers

### R&D

#### Developing new products and processes

Continuing to focus resource allocation on research and development and working on accelerating the development of new materials products and innovating resource smelting and refining technology

## Targets of and Initiatives toward Our Long-Term Vision



## Changes in the Business Environment Surrounding SMM

The overall global economy during FY2017 shifted tracks from recovery to expansion. Although protectionism grew in the United States, and geopolitical risks surrounding the situations in North Korea and the Middle East were heightened, global stock prices remained high reflecting improvements in corporate earnings and the easing of concerns over the slowing-down of the Chinese economy. In the non-ferrous metals industry, both copper and nickel prices continued an upward trend in general, and rose year-on-year. In industries related to the materials business, demand for automobile battery materials continued to increase. As for materials such as those for smartphones, the selling environment remained firm overall, although there was significant impact from customers' prolonged inventory adjustment for crystal materials. Exchange rates generally stayed within a narrow range.

In FY2018, the overall global economy is expected to continue its gradual growth, including strong performance in the United States, a continued gradual recovery in Japan and Europe, and continued economic upturns in China and other emerging nations. However, there is no small number of uncertain factors threatening an economic downturn, including the economic outlook of China and other emerging nations as well as resource-rich countries, increased protectionism in the United States, and the trend set off by the UK's exit from the EU. In the non-ferrous metals industry, copper and nickel supply and demand is expected to remain in a near state of equilibrium or face a slight supply shortage, while prices are expected to maintain levels in line with the balance of supply and demand. As for industries related to the materials business, in general, favorable conditions are expected to continue in the areas of automotive applications and communications.

## ■ Changes in the Business Environment

### 1. Increase in cost of mine development

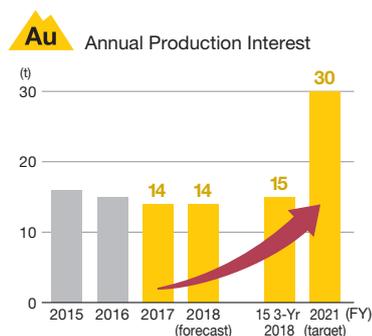
- 1) Higher, deeper, and more remote locations of mines
- 2) Handling declining ore grade and difficult-to-process ores (impurities)
- 3) Strengthening of environmental regulations
- 4) Higher hurdles to acquire a social license to operate

### 2. Growth of mineral resource nationalism

- 1) Export restrictions on unprocessed ores, etc.
- 2) Moves to introduce various royalties
- 3) Moves to strengthen taxation
- 4) Moves to strengthen environmental regulations

### 3. Global EV acceleration and massive reform through IoT, AI, etc.

- 1) Development of business partnerships to secure raw materials
- 2) Entry of players from different industries and stiffening of competition accompanying structural changes



Through entry into the Côté Gold Project we increased our annual production interests approximately 2.7 tons. However, due to our sale of the Pogo Gold Mine, there is still a large gap with our FY2021 target of 30 tons, so we are continuing to search for superior opportunities.



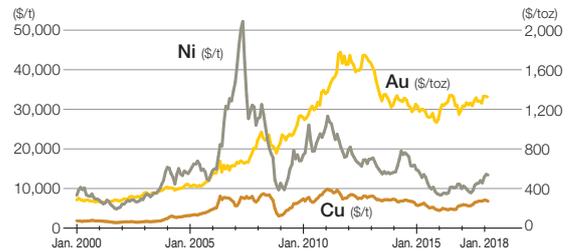
Through collaboration between the Materials Division and the Research & Development Division, we aim to accelerate new materials development and aim for an annual profit contribution of ¥5 billion from new materials by FY2021.

# FY2017 Results and FY2018 Plan

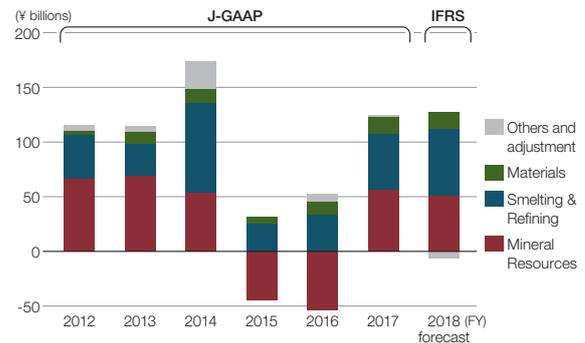
## Review of FY2017 Results

Consolidated net sales in FY2017 increased by ¥147.4 billion on a year-on-year basis to ¥933.5 billion, mainly due to the rise in major non-ferrous metals prices and yen depreciation. Consolidated operating income amounted to ¥110.2 billion, a year-on-year increase of ¥33.8 billion, mainly due to an increase in net sales. Consolidated recurring profit increased by ¥126.4 billion year-on-year to ¥124.9 billion, mainly due to a decrease in share of loss of entities accounted for using equity method for the Sierra Gorda Copper Mine, in addition to an increase in consolidated operating income. Profit attributable to owners of parent increased by ¥110.2 billion year-on-year to ¥91.6 billion, due mainly to an increase in consolidated recurring profit.

## Metal Prices

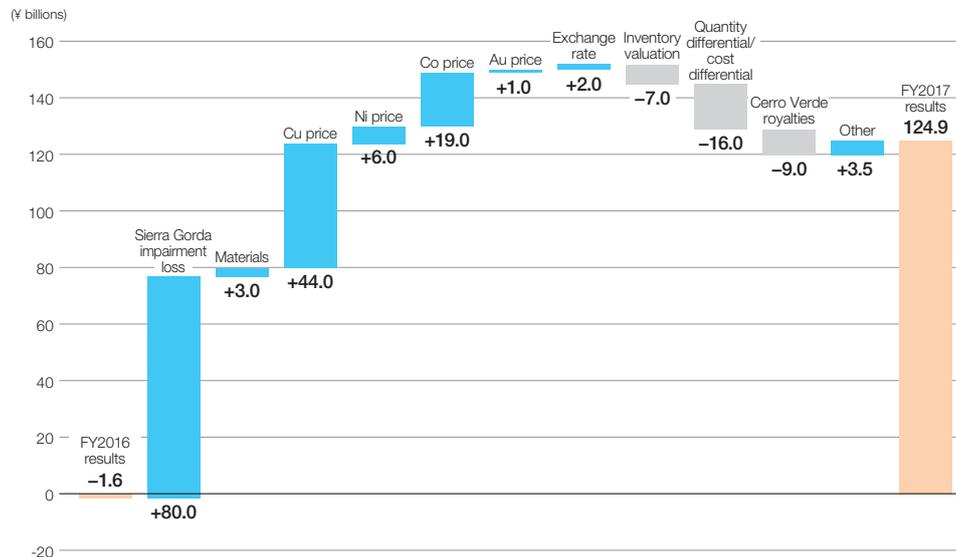


## Segment Profits (Loss)



The data used for values shown for fiscal years up to and including FY2017 is based on recurring profit or loss (J-GAAP), while data used for forecasts for FY2018 is based on profit before tax (IFRS).

## Recurring Profit Analysis (FY2016 vs. FY2017) (Segment Profit = Recurring Profit)



## Mineral Resources Segment

Segment loss recovered significantly year-on-year, mainly due to a decrease in share of loss of entities accounted for using equity method for the Sierra Gorda Copper Mine and an increase in copper prices, despite the reporting of royalties levied on mining companies for prior years at the Cerro Verde Copper Mine.

## Smelting & Refining Segment

Segment profit grew compared to the previous fiscal year, due mainly to the rise in non-ferrous metals prices as well as depreciation of the yen. Production levels and sales volume of gold increased year-on-year. However, production levels and sales volume of nickel, ferronickel, and copper declined year-on-year. Production levels of Coral Bay Nickel Corporation and Taganito HPAL Nickel Corporation remained at levels similar to the previous fiscal year.

## Materials Segment

Segment profit grew compared to the previous fiscal year, due mainly to strong sales of battery materials amid growing demand, despite a significant year-on-year decline in the sales volume of crystal materials for materials for smartphones due to prolonged inventory adjustment by customers, and the impact of withdrawal from the lead frame business.

## FY2018 Plan

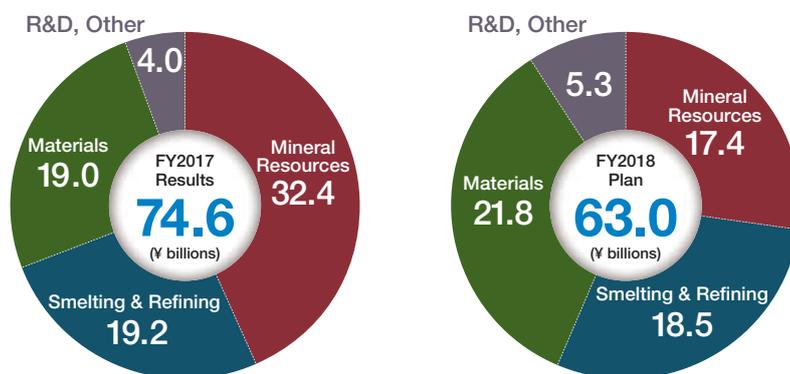
In FY2018, although prices of non-ferrous metals are expected to rise, net sales are expected to remain roughly on par with FY2017, due mainly to the appreciation of the yen and lower volume of ore sold. Consolidated net sales are expected to reach ¥930.0 billion, with profit before tax of ¥121.0 billion, and profit attributable to owners of parent of ¥94.0 billion.

## Capital Expenditure Related to Environmental Preservation

(¥ millions)

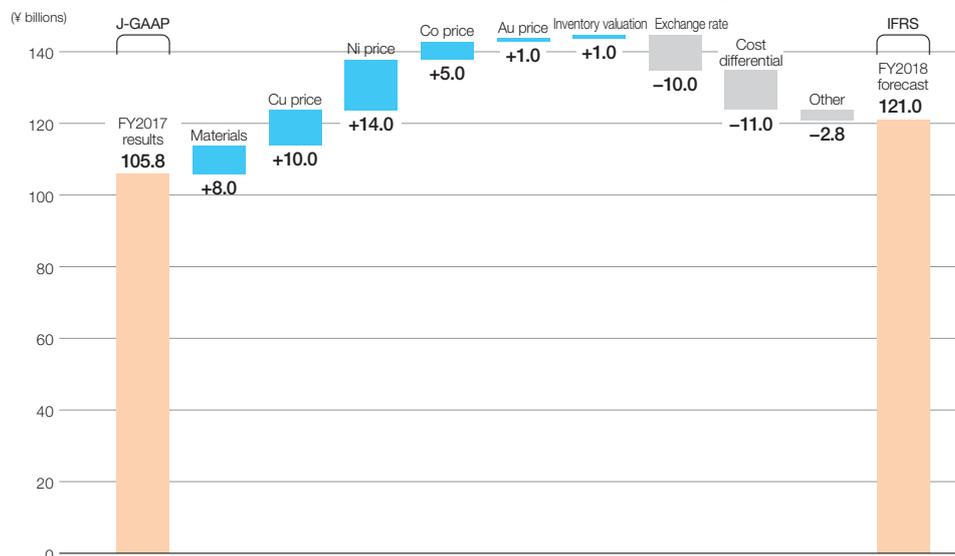
FY	Pollution prevention/ environmental preservation	Energy conservation	Total
2017	4,343	198	<b>4,541</b>
2018 (plan)	6,927	93	<b>7,020</b>

## Capital Expenditures (FY2017 Results and FY2018 Plan)



For FY2018, we plan capital expenditures of ¥63.0 billion, a decrease of ¥11.6 billion from ¥74.6 billion in FY2017. Major investments include ¥11.2 billion for increasing production of battery materials and ¥1.0 billion for launching a chromite recovery business.

## Analysis of Profit Before Tax (FY2017 Results vs. FY2018 Forecast) (Segment Profit = Profit Before Tax)



### Mineral Resources Segment

Due to factors such as the effects of the appreciation of the yen and a reduction in capacity utilization at Pogo Gold Mine, net sales for the segment are expected to decrease by ¥8.1 billion year-on-year to ¥151.0 billion, and segment profit is expected to decrease by ¥4.8 billion year-on-year to ¥51.0 billion.

### Smelting & Refining Segment

Due to factors such as the effects of the appreciation of the yen, net sales for the segment are expected to decrease by ¥40.8 billion year-on-year to ¥630.0 billion. However, segment profit is expected to increase by ¥13.0 billion year-on-year to ¥61.0 billion.

### Materials Segment

Due to factors such as an increase in sales of crystal materials, net sales for the segment are expected to increase by ¥41.6 billion year-on-year to ¥227.0 billion and segment profit is expected to increase by ¥7.8 billion year-on-year to ¥15.0 billion.

The Company has decided to voluntarily apply IFRS from FY2018. Consequently, our forecasts of segment profit or loss for FY2018 are calculated based on IFRS. Furthermore, this time only, the FY2017 business performance figures are approximations of segment profits and losses calculated on the basis of profit before tax according to J-GAAP for reference purposes, since an accurate, simple comparison with values is not possible.

## Approach to Finance

### Maintaining a Sound Financial Standing in Preparation for Risk and Medium- to Long-Term Investments

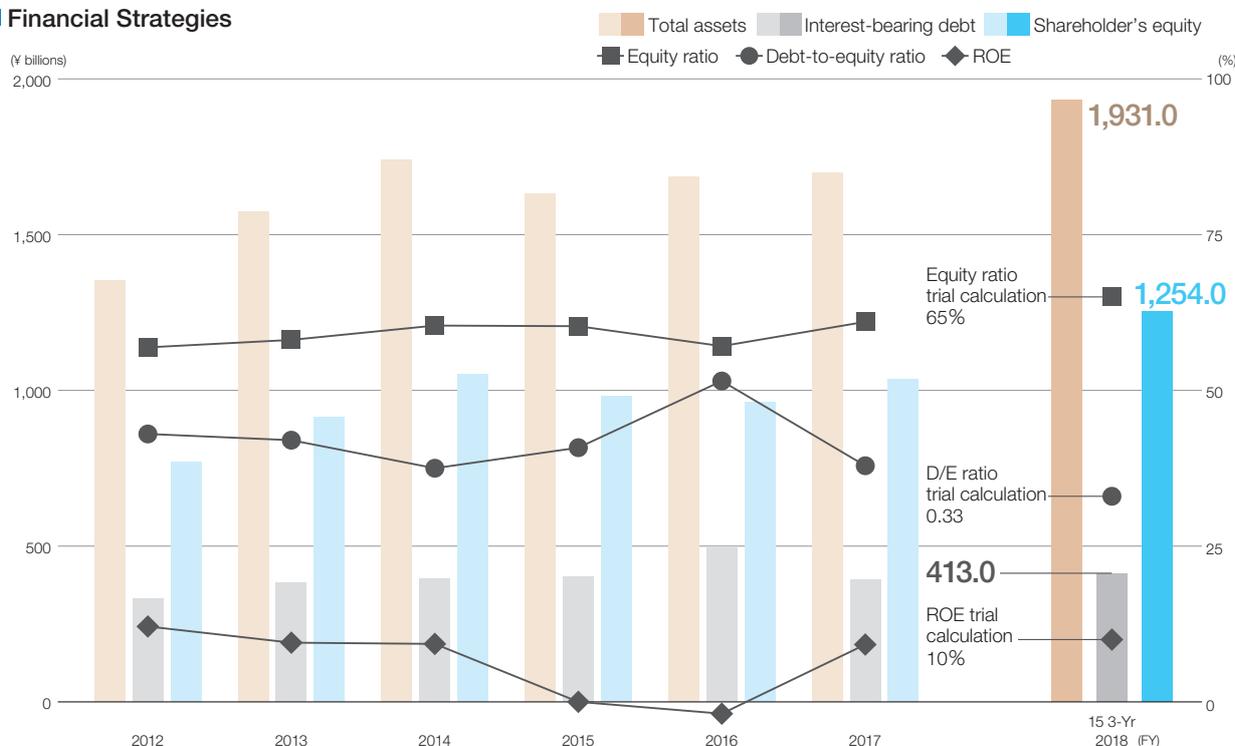
The short-term performance of SMM's core businesses, mineral resources, and smelting and refining, is greatly affected by the volatility of non-ferrous metal prices and foreign exchange rates.

To prepare for risks and medium- to long-term investments, the SMM Group has always strived to maintain the soundness of its financial standing, and has maintained a consolidated equity ratio of at least 50% since FY2006. Under our 2015 3-Yr Business Plan, which covers FY2016 to 2018, we are continuing to leverage this strong financial base and concentrate management resources into priority areas, actively invest to acquire

interests and operate overseas mines, enhance smelting and refining facilities in Japan and overseas, and expand battery production capacity.

Improving ROA is an important management barometer for the SMM Group. However, in mining or smelting and refining projects, it usually takes about five years before starting to recover the investment. By the nature of our business, it is difficult to engage in projects while simultaneously aiming simply to improve ROA or ROE for a certain year. Therefore, SMM sets ROA improvement as a medium- to long-term goal.

### Financial Strategies

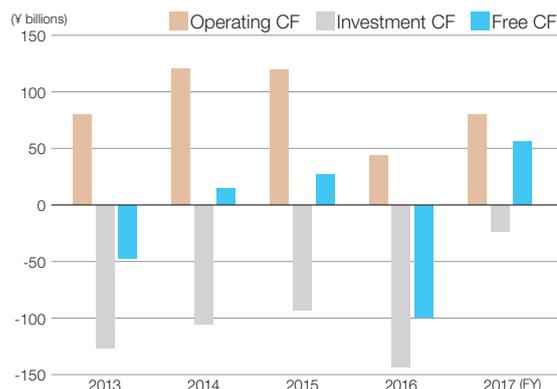


### Approach to Funding

We believe it is necessary to maintain a certain amount of liquid funds on hand based on overall demand for funds such as large-scale overseas mining or processing projects or strategic expansions within the materials business. This is essential from the standpoint of management stabilization.

Under that premise, we will procure funding that is favorable in accordance with the use of the funds, and also comprehensively consider the outlook for non-ferrous metal prices and currency exchange, and interest rate markets.

### Cash Flow Trends



# Approach to Investment

## Cautiously Assessing Profitability and Executing Carefully Selected Investments

The SMM Group works to enhance its competitiveness in both raw materials procurement and manufacturing to overcome a deteriorating business environment. In terms of cost competitiveness of smelting and refining in particular, we have set a target to become world-class, or at least ranking in the top one-third.

Due to uncontrollable factors such as changes in the balance of supply and demand for commodities and the impacts of natural disasters, it is not always possible to purchase the raw materials for non-ferrous metals in the necessary quantities or at economical prices. To hedge against such unforeseen changes, we do everything possible to secure stable sources by developing and acquiring interests in overseas mines, as well as through increasing SMM's holding ratio of these sources.

With respect to the development and acquisition of such sources, we select investments carefully through strict profitability assessments leveraging our extensive

experience and knowledge of exploration and mine valuation, and fully taking risks into account to avoid any additional expenditure or increase of mining costs arising from uncertainty.

In FY2016, we increased our existing 12% interest in the Morenci Copper Mine with the acquisition of an additional 13% from Freeport-McMoRan Inc. The mine boasts world-class copper production and a long history of operation in the U.S. We believe that this mine will play a vital role in SMM's mineral resources business.

The needs and demands in the materials market change rapidly, even though a high level of product development capabilities and the input of considerable amounts of management resources are often required. In order to meet those needs, the SMM Group will build close, trusting relationships with leading companies in the market, and will grow together with them to ensure stable supply and by undertaking ceaseless cost reductions.

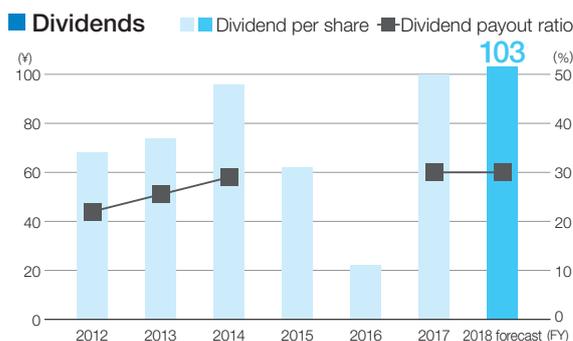
## Major Projects

Project name	FY2015	FY2016	FY2017	FY2018 and later
<b>Mineral Resources</b> Cu Sierra Gorda Copper Mine	● Start commercial production	● 110-kt production structure		● Start debottlenecking
Cu Morenci Copper Mine	● Start expanded full-scale production	● Acquisition of additional interest (12%→25%)		
Cu Cerro Verde Copper Mine		● Start expanded full-scale production		
Ni Solomon			● Decision to withdraw	
Au Cote			● Acquisition of interest and start feasibility study	
<b>Smelting &amp; Refining</b> Ni THPAL			● 36-kt production structure	
Ni Pomalaa Project			● Conduct DFS	● Decision on investment
Ni Harima Refinery nickel sulfate		● Second line launch		● 49-kt production structure
<b>Materials</b> Battery materials		● NCA 1,850-t structure	● NCA 3,550-t structure	● NCA 4,550-t structure ● Launch ternary materials
Crystal materials (LT/LN)	● Decision on production increase	● 300-k piece production structure		● (400-k piece production structure)

# Approach to Dividends

## Dividend Policy

SMM determines the balance between dividends and the internal reserve by taking into consideration factors such as future business development, sound financial standing, operating performance and the payout ratio. As our financial strategy in the 15 3-Yr Business Plan, we have the policy of maintaining a consolidated equity ratio above 50% while also having a consolidated dividend payout ratio of at least 30% based on operating performance, in order to sustain our sound financial standing.



SMM consolidated its common stock at a rate of one share for every two shares with October 1, 2017 as the effective date. Dividends per share trends for FY2017 and previous fiscal years shown in the graph above have been adjusted to reflect levels after said share consolidation.

## Mineral Resources Business

SMM uses the technology accumulated from operating Besshi Copper Mine (opened in 1691) and incorporates it in operations of Hishikari Mine (opened in 1985) and other overseas mines (since 2006). Additionally, SMM acts as a professional mine developer and operator seeking out superior resources in regions around the world, while participating in mining operations, pursuing exploration projects, and proceeding with surveys to develop new mines.



**Hiroshi Asahi**

Director,  
Managing Executive Officer,  
General Manager of Mineral Resources Div.

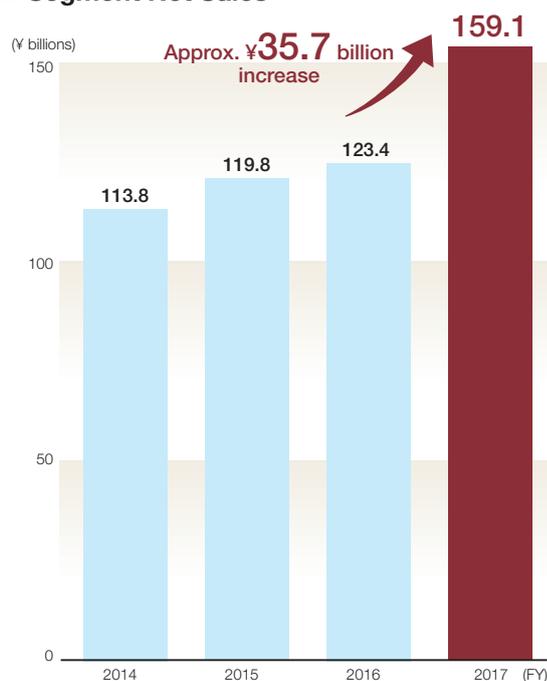
### Business Environment and Priority Measures for the 2015 3-Year Business Plan

Prices of non-ferrous metals in FY2017 saw copper and gold continue to go up with prices for both being higher than in the previous fiscal year. We expect the market for non-ferrous metals to continue to perform strongly in FY2018, maintaining levels roughly in line with the balance of supply and demand. Meanwhile, conditions grow more difficult for the environment surrounding resource development, so SMM is focusing on efforts that include advancing

technologies in areas such as exploration and mineral processing, while also strengthening partnerships with nations, local communities, and resource companies around the world.

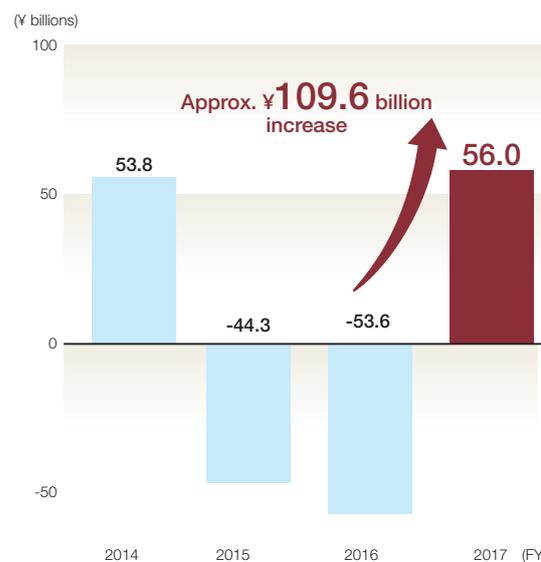
In our mineral resources business, we are promoting full-scale production at the Sierra Gorda Copper Mine and the acquisition of new gold interests as priority measures of our 15 3-Yr Business Plan.

#### ■ Segment Net Sales



Hishikari Mine continued to operate smoothly so 6.0 tons of gold were sold, as planned. Pogo Gold Mine's production volume was roughly level with the previous fiscal year at 8.4 tons, while production volume for the Morenci Copper Mine declined year-on-year, partially due to a decline in the grade of copper ore.

#### ■ Segment Profit



Segment profit improved significantly year-on-year due to factors including a rise in copper prices and a decrease of investment loss by equity method associated with the Sierra Gorda Copper Mine, and despite the recording of royalties on Cerro Verde Copper Mine from past fiscal years that were levied on mining businesses.

## FY2017 Initiatives

Hishikari Mine operations proceeded according to plan. At the Pogo Gold Mine, despite a decline in the grade of gold ore, an increase in the amount of ore extracted kept performance level with the previous fiscal year. Production volume at the Morenci Copper Mine declined year-on-year due to a decline in the grade of copper ore, but this fiscal year was the first full year of seeing the effects of increasing our interest to 25%, which resulted in an increase in the production and sales volumes reflected in our results.

At the Sierra Gorda Copper Mine, we focused on making improvements through initiatives such as dispatching a team of SMM engineers to provide technical support. As a result, processing volume is currently at a level close to full-scale operations. In FY2017, full year copper production volume increased year-on-year to 97,000 tons.

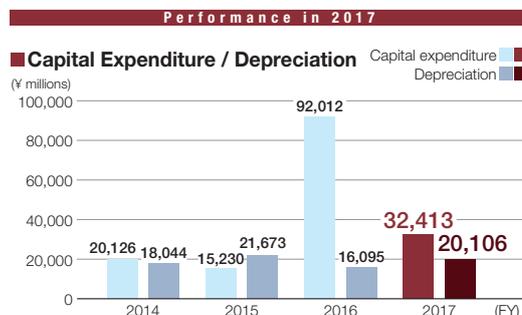
With regard to acquiring new interests in gold, which is deviating from the targets set forth in the Long-Term Vision, we acquired a 27.75% interest in the Côté Gold Project in Canada. We also decided to withdraw from a nickel exploration project we had been proceeding on in the Solomon Islands.

In the mineral resources segment, net sales were ¥159.1 billion (up 29% compared to FY2016), a significant improvement, due to factors including a rise in copper prices and a decrease of impairment loss at the Sierra Gorda Copper Mine, and despite the recording at Cerro Verde S.A.A. of royalties from past fiscal years that were levied on mining businesses. We also recorded a profit of ¥56.0 billion, the first time in the black in three years.

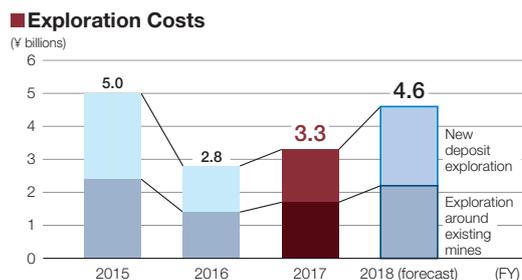
## FY2018 Priority Measures and the Outlook Going Forward

At the Sierra Gorda Copper Mine, we will continue advancing improvements aimed at increasing the stability and efficiency of operations and work on expanding production volume.

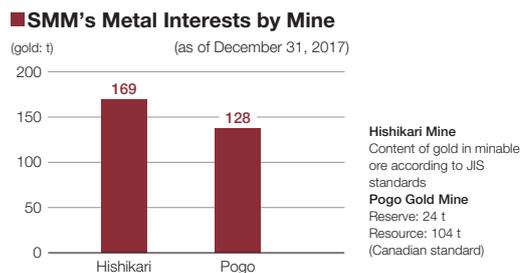
Regarding the Côté Gold Project, in which we have newly acquired an interest, we are currently conducting a feasibility study and are engaged in discussions with the aim of making the decision to transition to construction within FY2018. Operations are expected to begin in 2021. Regarding gold mines, we will continue to focus on our own exploration and activities aimed at acquiring interests. We will also continuously engage in initiatives



In FY2017, in addition to investment such as developing lower ore bodies at the Hishikari Mine, we acquired a 27.75% interest in the Côté Gold Project in Canada and invested in mining rights.



In FY2018, we will proceed with active exploration with a particular focus on gold.



Metal reserves by mine, calculated as of December 31, 2017, are 169 tons (almost no change from last fiscal year) at Hishikari Mine and 128 tons (down 9 tons from last fiscal year) at Pogo Gold Mine.

aimed at acquiring interests for copper mines as well.

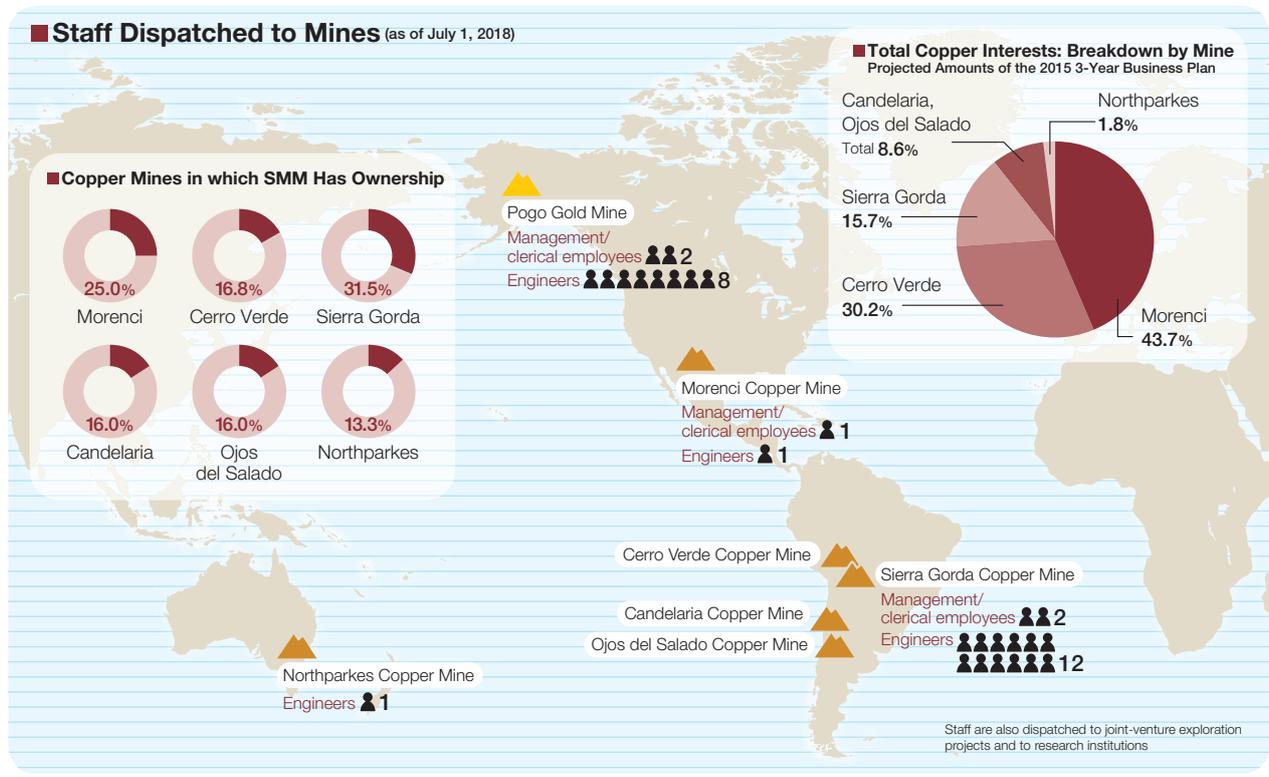
With respect to FY2018 segment performance, we are expecting net sales of ¥151.0 billion and profits of ¥51.0 billion.

Due to the voluntary application of IFRS, segment profit for the upcoming fiscal year is calculated based on income before income taxes.

# Mineral Resources Business

## Strengths of the Mineral Resources Business and Activities that Support Growth Potential and Sustainability

Strength 1	Strength 2	Strength 3	Strength 4
<p><b>Accumulated mining and exploration technology</b></p> <p>Along with utilizing the Hishikari Mine as a site for nurturing mining engineers, SMM fosters human resources with expertise in and knowledge of mine exploration, development, and operation. We also dispatch engineers to overseas mines in which we hold an interest.</p>	<p><b>Robust relationships of trust with our partners</b></p> <p>In preserving our mine interests, SMM goes beyond just investing and dispatches employees and forms cooperative technology relationships. This leads to stable operations and improvements at mines which enable us to earn a high degree of trust from our partners.</p>	<p><b>Co-existing with local communities</b></p> <p>By carrying out dialogue with stakeholders, we listen to the needs and concerns of local communities, striving for responsible environmental management and developing and operating mines in harmony with these groups.</p>	<p><b>High-precision techniques for evaluating profitability</b></p> <p>When acquiring mine interests, the vast amounts of mine-related information that we have accumulated over many years enables us to conduct highly-accurate profitability evaluations concerning reserves, investment amounts, risk, and other aspects.</p>



### Waste Management

#### The Appropriate Management of Tailings Dams (Slag Accumulation Sites)

The sustainable development and operation of mines requires a variety of initiatives to minimize the impact on the environment. One of these is managing accumulation sites for the spoil, slag and deposits produced by mines.

In regard to global conditions, tailings dams have collapsed at mines in Canada and Brazil and, as a result, the ICMM (International Council on Mining and Metals) formulated a new basic policy on tailings dam

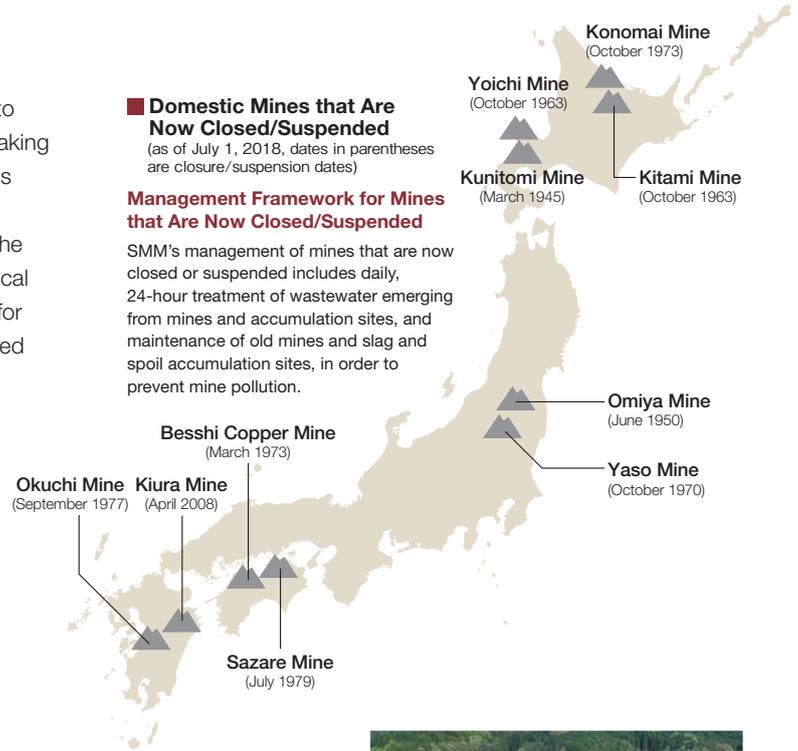
management in December 2016. In Japan, the Great East Japan Earthquake caused tailings dam accretion leakages at mines no longer in operation, affecting rivers, railways, and farmland. Accordingly, the Ministry of Economy, Trade and Industry revised its Technology Policy in 2012, meaning that at facilities for which “special conditions”<sup>1</sup> apply, stability evaluations for large-scale seismic vibration<sup>2</sup> are mandatory.

As a member of the ICMM, SMM is responding to both domestic and international conditions by undertaking stabilization measures for tailings dams in 56 locations nationwide that are managed by the SMM Group. Of the 10 locations to which the “special conditions” in the Ministry of Economy, Trade and Industry’s new technical guidelines apply, measures were deemed necessary for a total of five facilities at the Okuchi (Kagoshima, closed in 1977) and Konomai (Hokkaido, closed in 1973) mines. Roughly ¥4.5 billion was invested on stabilization work at these mines for tailings dams to which “special conditions” do not apply, seismic resistance is being reevaluated for midscale seismic vibrations based on the previous technical guidelines. Stabilization work is being performed in turn for each of the six locations that were determined to be insufficient.

**Domestic Mines that Are Now Closed/Suspended**  
(as of July 1, 2018, dates in parentheses are closure/suspension dates)

**Management Framework for Mines that Are Now Closed/Suspended**

SMM’s management of mines that are now closed or suspended includes daily, 24-hour treatment of wastewater emerging from mines and accumulation sites, and maintenance of old mines and slag and spoil accumulation sites, in order to prevent mine pollution.



- (1) Inner-aggregation slime storage areas filled higher than the base embankment; (2) accumulation sites that are saturated or where the permeation level is within 10 m of the accumulation surface (excluding cases where the permeation level or saturated portion is below the dam crest of the base embankment); (3) accumulation sites with accumulations of 50,000 m<sup>3</sup> or more (including even those below 50,000 m<sup>3</sup> if there are important structures immediately below and or damage could result from an outflow).
- The highest level of seismic vibrations conceivable at the time of installation.



Stabilization work at the Okuchi slag accumulation site no. 1 (left) and greened state following the work (above)



**Human Resources Development**

**SMM’s Mining School for Cultivating Mining Engineers**

Hishikari Mine is one of the largest working gold mines in Japan. It is also our main business site and plays an important role as a place for cultivating mining engineers and passing on advanced technological capabilities.

As mining operations require engineers with advanced, specialized knowledge and experience, the SMM Group assigns new graduates of mining and geology to Hishikari Mine for four or five years of on-the-job training (OJT) which provides them with specialized skills and the fundamentals of mine operation technologies. After graduating from the Mining School, they are sent to support existing mines overseas, or to identify and develop new mining projects, resulting in engineers who are capable of performing at locations all over the world.



New employees receiving training inside the mine

# Mineral Resources Business



## Contribution to Society and Local Communities

### Awarded the Viola R. MacMillan Award by the PDAC

SMM and IAMGOLD Corporation, a Canadian gold producer, were jointly awarded the 2018 Viola R. MacMillan Award by the Prospectors & Developers Association of Canada (PDAC).

SMM has acquired a 27.75% interest in IAMGOLD's Côté Gold Project and is actively participating in developing the project. The Côté Gold Project is a large-scale open pit mining development project being advanced in the Abitibi region of eastern Canada, one of the world's leading gold belts. Currently it is at the feasibility study stage and upcoming explorations may reveal additional resource volumes.

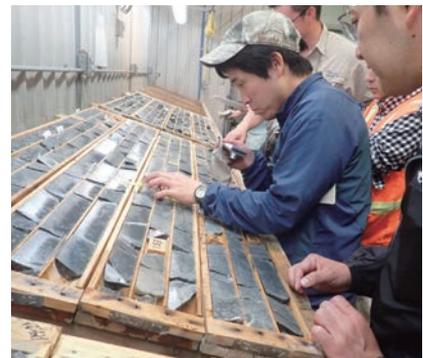
SMM and IAMGOLD have concluded a joint venture agreement and the project has made great strides forward under our strong partnership. The plentiful expertise to be accumulated in areas such as the management of overseas development projects has proven to be invaluable for SMM's mineral resources business. Furthermore, the Côté Gold Project is not only promising to become an important asset for both companies but is also expected to have significant economic effects for Canada and the local community.

We received this Award because these activities are appreciated. The award is named after Viola MacMillan, who contributed to the operation of the PDAC for many years and is given to individuals or organizations



The award ceremony at the PDAC Convention. From the left: Hiroshi Asahi, Director, Managing Executive Officer and General Manager of SMM's Mineral Resources Division; Edward Thompson, PDAC Award Committee member; Donald K. Charter, Chairman & Director of IAMGOLD.

demonstrating leadership in management and financing for the exploration and development of mineral resources. The PDAC has about 7,500 individual and corporate members worldwide and the annual PDAC Convention is regarded as the premier international event for the mineral industry. SMM is the first Japanese recipient of an award from the PDAC.



Field investigations as part of the Côté Gold Project

**From:  
Stephen J. J. Letwin  
President and CEO  
IAMGOLD Corporation**

**A message to the management and stakeholders  
of Sumitomo Metal Mining Co., Ltd. from Stephen J. J. Letwin,  
President & CEO, IAMGOLD Corporation**

## **The Côté Gold Project: the joint venture between Sumitomo Metal Mining Co., Ltd. & IAMGOLD Corporation**

I am delighted to address this message to the many people who contribute to the success of Sumitomo Metal Mining Co., Ltd., inside and outside the company.

Earlier this year, IAMGOLD Corporation was honoured to share the PDAC 2018 Viola R. MacMillan Award with Sumitomo which recognizes the value of our joint commitment to Côté Gold - one of Canada's largest undeveloped gold deposits - and the innovative spirit which can help us turn this project into a 'mine of the future'.

While Sumitomo and IAMGOLD may be based on opposite sides of the world, we share many values. We are bound by a resolute commitment to operational excellence, financial discipline and the highest standards of sustainability as we strive to benefit not only our businesses, but society as a whole.

It's clear that with Sumitomo's expertise in building and operating world-class mines, IAMGOLD has found a valuable partner. We believe our joint venture represents a significant step forward for both companies.

We thank you for your support and look forward to achieving great things together.



**Stephen J. J. Letwin**

President & CEO,  
IAMGOLD Corporation

# Smelting & Refining Business



**Nobuhiro Matsumoto**

Executive Officer,  
General Manager of Non-Ferrous Metals Div.

SMM smelts and refines raw materials procured from a variety of sources, mainly from mines where we have an interest, into such metals as copper, nickel, and gold. SMM possesses world-class smelting and refining technology; we were the first in the world to commercialize recovery of nickel from low-grade nickel oxide ore, which had been difficult with conventional technologies. We are working on polishing this technology and on strengthening our sales and other capabilities through cooperation between the three businesses.

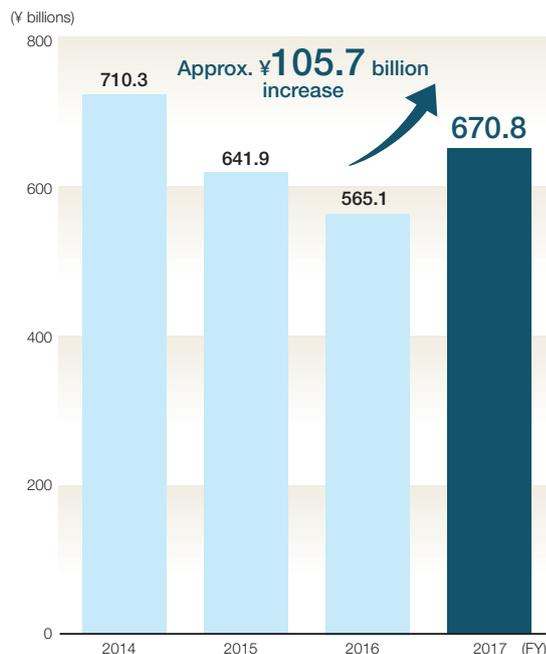
## Business Environment and Priority Measures for the 2015 3-Year Business Plan

In the FY2017 business environment, non-ferrous metal prices rose, with the prices for copper and nickel both growing year-on-year, which together with factors such as the depreciation of the yen resulted in favorable conditions overall. Going forward we expect supply and demand for copper and nickel to stay roughly balanced or fall a little short on the supply side, resulting in the same basic price trend continuing. Also, we are expecting demand for the

high-purity nickel material that we produce to get even stronger going forward as the expansion of the market for secondary batteries for eco-friendly cars increases.

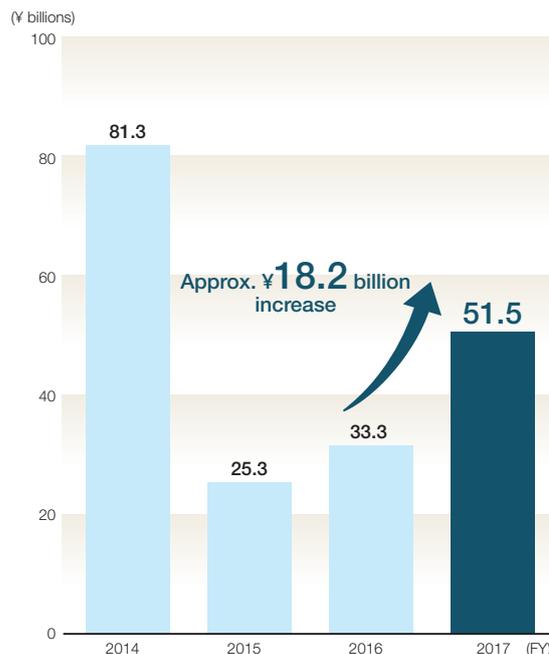
In our smelting and refining business, we are promoting the expansion of Taganito HPAL Nickel Corporation (THPAL), advancing growth strategies using peripheral HPAL technologies, and enhancing competitiveness of the copper smelting business as priority measures of our 15 3-Yr Business Plan.

### ■ Segment Net Sales



Production levels and sales volume of gold increased year-on-year, but production levels and sales volumes of copper, nickel, and ferro-nickel decreased. Production volumes of nickel intermediate materials at CBNC and THPAL were roughly level with the previous fiscal year.

### ■ Segment Profit



Segment profit grew year-on-year, mainly due to increases in non-ferrous metal prices and depreciation of the yen.

## FY2017 Initiatives

Production levels and sales volume of gold increased year-on-year. Production levels and sales volumes of copper and nickel decreased year-on-year mainly due to a decline in ore grades. Production levels at Coral Bay Nickel Corporation (CBNC) and THPAL remained roughly level with the previous fiscal year.

In FY2017, we further enhanced efforts aimed at transitioning operations at the Harima Refinery and achieved a 49,000-ton nickel sulfate production structure. At THPAL, we achieved a 36,000-ton structure.

At the Toyo Smelter & Refinery, in addition to maintaining its 450,000-ton structure at full production we worked on improvements to increase yields and reduce costs. And at Hyuga Smelting Co., Ltd., which produces ferro-nickel, we continued to engage in initiatives to enhance productivity, such as by securing higher-grade nickel ores and increasing the processing capabilities of its electric furnaces.

As a result of these initiatives, the smelting and refining segment's net sales were ¥670.8 billion (up 19% compared to FY2016) and profits were ¥51.5 billion (up 55% compared to FY2016).

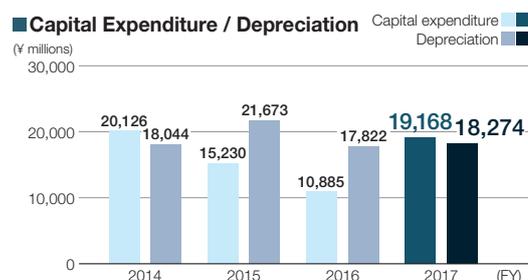
## FY2018 Priority Measures and the Outlook Going Forward

We will maintain the production structures built in FY2017 and continue to implement improvements aimed at increasing productivity and reducing costs. New initiatives will include advancing development of a process for recovering cobalt, which our current recycling process is unable to do, to return lithium-ion secondary batteries to resources. We expect operations at a pilot plant to begin within FY2018.

HPAL technology is one of SMM's strengths and in order to focus on increasing its competitiveness, we plan to start commercial production of scandium at THPAL in FY2018. We are also proceeding with the construction of a plant for recovering chromite, another byproduct of the HPAL process, with production forecast to begin in 2020. Also, to realize our long-term goal of a 150,000-ton nickel production structure, we will proceed with serious considerations regarding investment in the Pomalaa Project being advanced in Indonesia.

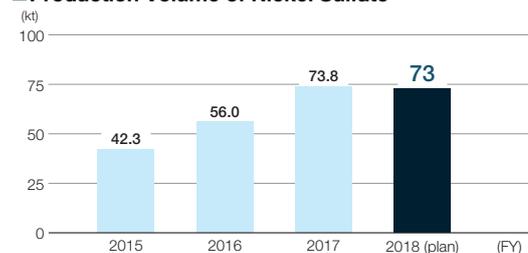
With respect to FY2018 segment performance, we are expecting net sales of ¥630.0 billion and profits of ¥61.0 billion.

## Performance in 2017

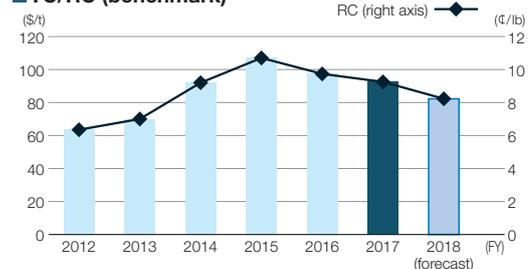


Capital expenditure in FY2017 includes strengthening nickel sulfate production facilities and investment in overseas facilities such as THPAL.

## Production Volume of Nickel Sulfate



## TC/RC (benchmark)



TC: Treatment Charge

RC: Refining Charge

Costs included as part of the conditions of purchase of metal ores (copper concentrates, nickel ore, etc.). For example, the purchase price for copper concentrates uses the following conditions: LME price at a specific time minus the TC/RC used in the transaction (plus various other conditions).

Due to the voluntary application of IFRS, segment profit for the upcoming fiscal year is calculated based on income before income taxes.

# Smelting & Refining Business

## Strengths of the Smelting & Refining Business and Activities that Support Growth Potential and Sustainability

### Strength

1

#### Refineries with robust cost competitiveness

We have achieved world-class cost competitiveness in copper and nickel smelting and refining through measures to improve production efficiency implemented over more than 40 years of operations at the Toyo Smelter & Refinery, and the combination of HPAL technology and the MCLE process<sup>1</sup> of the Niihama Nickel Refinery.

### Strength

2

#### Use of low-grade nickel oxide ore with HPAL technology

Producing nickel intermediates from low-grade nickel oxide ore using HPAL technology, allows for the efficient use of limited nickel resources and the stable supply of cost-competitive nickel raw material.

### Strength

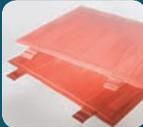
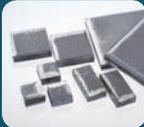
3

#### Co-existence with local communities

By carrying out dialogue with stakeholders, listening to the needs and concerns of local communities, and operating our smelters and refineries in harmony with these groups and with responsible environmental management, we strive to stably supply our products.

1. MCLE = Matte Chlorine Leach Electrowinning

### SMM Group Refineries and Their Main Products

Toyo Smelter & Refinery	Niihama Nickel Refinery	Hyuga Smelting Co., Ltd.	Shisaka Smelting Co., Ltd.
 Electrolytic copper	 Electrolytic nickel	 Ferronickel shot	 Zinc oxide pellets
 Copper sulfate	 Electrolytic cobalt	 Green sand	 Iron containing pellets
 Gold ingots	 Nickel sulfate		
 Slag sand	 Nickel chloride		
 Gold shot			
 Silver shot			
	 Nickel sulfate		
		 MS (mixed nickel-cobalt sulfides)	

### Growth

#### Development of New Applications and Effective Use of By-Products

#### Full-Scale Commercial Production of Scandium and Chromite

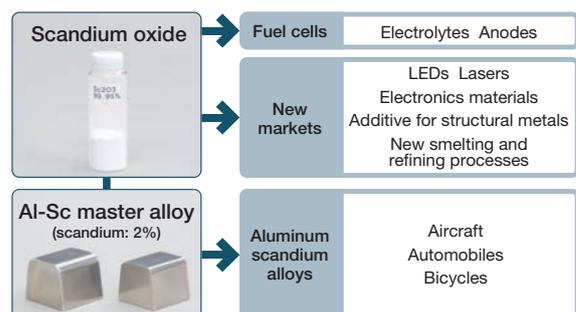
SMM is beginning the full-scale commercial production of scandium and chromite. These are produced as byproducts of HPAL technology, which SMM was the first in the world to successfully commercialize, and we are proceeding with the construction of a recovery plant at THPAL.

Scandium is expected to be used in applications such as fuel cells, and SMM has already concluded a long-term sales agreement with a major US-based company that will use it for fuel cells. And chromite is used widely as a material for specialty steels, such as stainless steel.

By proceeding to efficiently recover these resources,

SMM will increase the added value of HPAL technology and further improve the superiority of its nickel business.

#### Potential of Scandium





## Utilizing Unused Resources

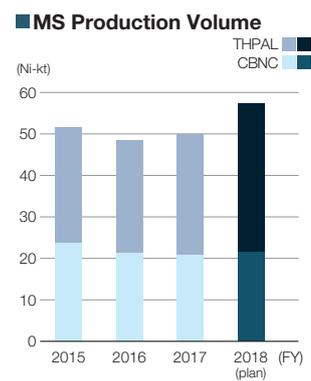
### Producing High-Quality Products from Low-Grade Nickel Oxide Ore

At Taganito HPAL Nickel Corporation (THPAL) in the Philippines, we produce a mixed nickel-cobalt sulfide called mixed sulfide (MS). Next, the Niihama Nickel Refinery and Harima Refinery in Japan refine this MS, producing electrolytic nickel, electrolytic cobalt, nickel sulfate, etc. This HPAL process enables the recovery of nickel and cobalt from low-grade nickel oxide ore, which couldn't be smelted and refined with traditional technology. It is garnering attention as a way of effectively using previously untapped resources.

Nickel and cobalt are used in cathode materials for automotive secondary batteries. In recent years, auto manufacturers around the world have been planning to increase production of electric vehicles (EV), so the stable supply of raw materials is a pressing issue. As a result, although commercial production at THPAL started at 30,000 tons per year, the target for its eventual production capacity was revised upwards from initial plans to 36,000 tons per year. Investment in increasing production capacity proceeded according to plan and in FY2017, we achieved a capacity of 36,000 tons. Also, enhancement of the nickel sulfate plant at the Harima Refinery, aimed at processing the increased amount of MS produced into a raw material for battery materials, was completed in 2016.

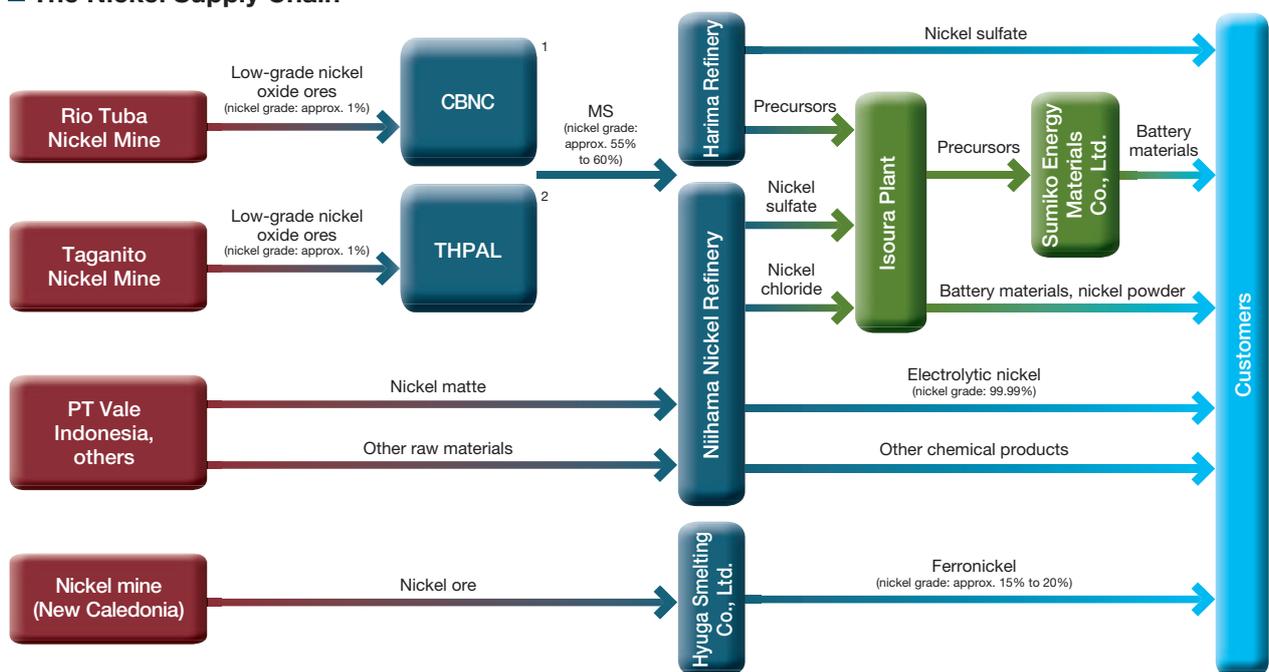
Starting with nickel and cobalt, SMM can procure

resources for which demand is expected to rise by our supply chain, and our manufacturing process centered on HPAL technology has realized the commercial production of high quality products at low cost. Being able to manufacture and stably provide users with materials, especially nickel and cobalt, for which supply and demand and prices vary widely, is an SMM strength that other battery material manufacturers do not have.



Low-grade nickel oxide ore for THPAL

## The Nickel Supply Chain



1. Coral Bay Nickel Corporation (CBNC): Shareholders: Sumitomo Metal Mining Co., Ltd. (54%); Mitsui & Co., Ltd. (18%); Sojitz Corp. (18%); Nickel Asia Corporation (10%). Head Office: Rio Tuba, Bataraza, Palawan Province, Philippines.  
 2. Taganito HPAL Nickel Corporation (THPAL): Shareholders: Sumitomo Metal Mining Co., Ltd. (75%); Mitsui & Co., Ltd. (15%); Nickel Asia Corporation (10%). Head Office: Taganito, Surigao del Norte Province, Philippines.

# Smelting & Refining Business



## Contribution to Society and Local Communities

### Coral Bay Nickel Corporation (CBNC) Wins Presidential Mineral Industry Environmental Award for Fourth Consecutive Year

CBNC, an SMM Group company in the Philippines, is working on the rehabilitation of tailings dams, which is planting greenery to restore vegetation. The objective of this rehabilitation is to establish a self-supporting, sustainable ecosystem, and through such measures as improving the soil, it is resuscitating a broad tract of green land. CBNC is working with Rio Tuba Nickel Mining Corporation (RTN), a supplier of raw material ore, on social contribution programs in 22 villages (barangays), under the SDMP.<sup>1</sup> Examples of initiatives being advanced include infrastructure development, operation of schools and hospitals, establishment of educational programs, improvement of sanitation, and other initiatives, based on exchanges of ideas with local communities.

CBNC's work with tailings dams and other activities has been appreciated, and in 2017, the company received the Presidential Mineral Industry Environmental Award from the Department of Environment and Natural Resources of the Philippines for the fourth consecutive year. This award is given based on a comprehensive evaluation of the plant that includes environmental management, safety management, regional conservation and contributions

to the local community and, as a result, it is the most prestigious award in the Philippine mining industry. In addition, CBNC also received the Best Mining Forest Award (second place) and the Safest Mineral Processing Extraction Award, winning all three awards just as it did in 2016.

CBNC's activities have attracted attention from all over the world, and it has welcomed observation missions from many countries. Going forward, too, the company will work on socially responsible operations, not only by minimizing its environmental impact, but also by further intensifying its social contribution activities, including providing infrastructure for surrounding communities and engaging in local hiring and procurement.

1. SDMP: Social Development and Management Program, a social contribution program established under the Philippine Mining Act.



Award ceremony for the 2017 Presidential Mineral Industry Environmental Award



## Consideration of the Ecosystem and Preservation of Biodiversity

### Reducing the Environmental Impact of Constructing New Plants

CBNC and THPAL in the Philippines produce electrolytic nickel intermediates. To construct a refinery in the Philippines, we first had to obtain an Environmental Compliance Certificate (ECC) from the Department of Environment and Natural Resources (DENR). This required submitting an Environmental Impact Assessment (EIA).

When constructing the refinery, we sought adequate dialogue with the Philippine government, local authorities and local citizens right from the planning stage. Efforts were made to construct a plant that would have a minimal impact on the environment. For example, a pier used to deliver sulfuric acid and methanol to the plant was made to circle around the coral reef, and wastewater outlets were also positioned to ensure the reef's protection.

CBNC began operations of the refinery in April 2005 based on a design certified by the DENR, and was followed by THPAL in October 2013. The refineries have set up Environmental Management Offices (EMO) as

bodies to promote environmental initiatives in operations. Besides environmental surveys by the EMO, the environment is monitored by a team of representatives from organizations such as the DENR, local authorities and NGOs which carry out regular sampling of the air, water, flora and fauna. With this sort of environmental monitoring, we check that the construction and operation of plants do not have serious impacts on the ecosystem, while keeping environmental impacts from wastewater and other factors to a minimum.



Coral transplanting by CBNC

Growth

## Human Resources Development

### Launching a “Smelting & Refining University” to Cultivate Engineers

From March to July 2017, SMM held a “Smelting & Refining University.” This was a new educational program aimed at new employees working in metal-related roles. It was attended by employees recruited in FY2016 who have already been assigned to divisions and, after having gained a little experience, have them learn anew in an off-the-job environment, with the aim of providing them with problem-solving abilities by linking workplace production and theory.

In recent years, universities with non-ferrous metal curricula have reduced the time spent learning about metallurgical processes and there are fewer chances to study the theory behind the actual production of refined products. Also, SMM divisions handling metals have seen an increase in new employees who have majors other than materials (formerly metallurgy), so creating venues where they can acquire specialized knowledge after joining the company has become a pressing human resource development concern.

The 2017 Smelting & Refining University involved two lectures a week, given by lecturers including researchers from the Niihama Research Laboratories and section managers from various plants. Participants said that

understanding the differences in production at different plants will prove to be a useful asset and the program gave them a valuable opportunity to acquire specialized knowledge and learn how to approach problems as a smelting and refining engineer. Going forward, we intend to continue holding the Smelting & Refining University program and focus on cultivating smelting and refining engineers to take over the skills and technologies developed by us.



The opening ceremony of the Smelting & Refining University

Growth

## Utilizing Unused Resources

### Receiving a 2018 Invention and Innovation Award

SMM’s “Method for wet-smelting of nickel oxide ore”<sup>1</sup> has won the “Japan Business Federation Chairman’s Special Award”<sup>2</sup> at the 2018 Invention and Innovation Awards given by the Japanese Institute for Promoting Invention and Innovation. Also, President and Representative Director (at that time) Yoshiaki Nakazato was awarded the “Award for Achievement in Invention.”<sup>3</sup>

The Japanese Institute for Promoting Invention and Innovation established the Invention and Innovation Awards with the aim of contributing to the encouragement and cultivation of innovation, enhancing Japanese science and technology, and promoting industry. SMM received these awards in recognition of realizing the commercialization of a smelting and refining process for recovering nickel and cobalt from low-grade oxide ore using HPAL technology.



The June 12, 2018 awards ceremony

1. Japanese patent number 4525428.
2. The award was accepted by five representatives of SMM, including Adviser Naoyuki Tsuchida and General Manager of the Technology Div. Masaki Imamura.
3. If the inventions that win the award were produced by a corporate organization, then the award is presented to the representative of the organization.



# Materials Business

Since the 1960s, SMM has been leveraging the strengths of its mineral resources and smelting and refining businesses to develop its materials business. In recent years, we have been carrying out structural reform centered on advanced materials, cultivating the battery and crystal materials business pillars, and are close to contributing to profits. In addition, we are actively working on developing new areas of business.



## Harumasa Kurokawa

Director,  
Senior Managing Executive Officer,  
General Manager of Materials Div.

### Business Environment and Priority Measures for the 2015 3-Year Business Plan

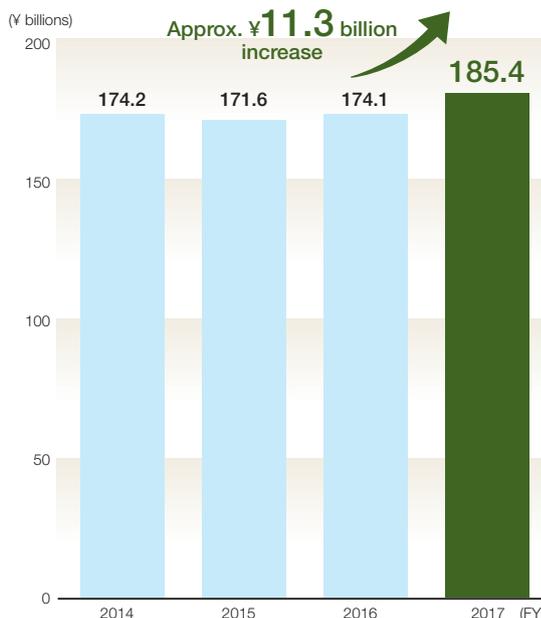
FY2017 saw a generally strong environment surrounding the electronics materials industry, although many changes were seen. The electric vehicle (EV) market grew, which drove an increase in demand for automobile battery materials, an area SMM is focusing on. Regarding SAW filters used in smartphones, a decrease in smartphone production in China and other countries prolonged inventory adjustments by customers, resulting in a decline in sales.

The EV market is becoming fully established on a global scale, so we forecast continued growth in demand for battery materials. Regarding crystal materials for SAW filters, we predict that customer

inventory adjustments will continue for the time being, but the smartphone and other markets are still showing signs of growth, so we expect demand to recover. We will keep a close watch on market movements and maintain a production structure that enables a quick response.

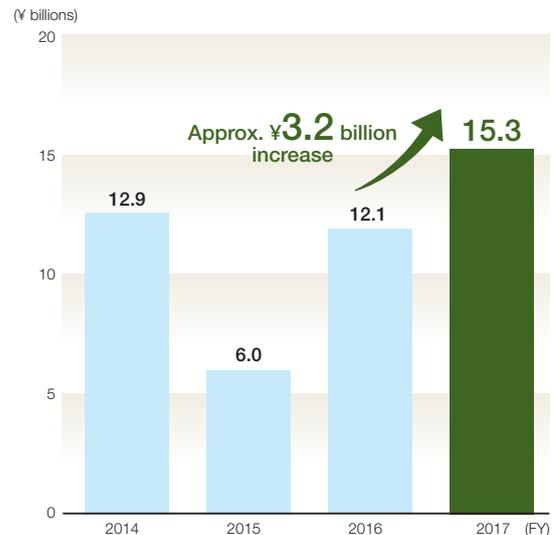
In our materials business, profit contribution from expanded production of battery and crystal materials, and continuous creation of next-generation products and making them strong competitors, have been positioned as priority measures of our 15 3-Yr Business Plan.

#### ■ Segment Net Sales



Net sales increased due to factors including significant year-on-year growth in automobile battery material production volume and sales following investment in increasing production.

#### ■ Segment Profit



Segment profit increased due to a rise in demand for battery materials and powder materials for use in automobile applications, despite a significant year-on-year fall in sales of crystal materials for smartphone components due to customer inventory adjustments.

## FY2017 Initiatives

For battery materials, we invested in increasing production of NCA, a material used in batteries for EVs, for a 3,550-ton monthly production structure, and proceeded to strengthen facilities. We are also close to completing the enhancement of structures that contribute to profits, such as the expansion of production of nickel hydroxide for use in hybrid vehicles. Sales of crystal materials fell significantly year-on-year due to a slump in demand. In regard to creating new business, we acquired 51% of the shares of SICOXS CORPORATION, a company developing SiC<sup>1</sup> substrates for use in next-generation power semiconductors.

Regarding our withdrawal from the lead frame business, we have completed the transfer of our overseas operations and we continued to undertake structural reform.

As a result of these initiatives, the materials segment's net sales were ¥185.4 billion (up 7% compared to FY2016) and profits were ¥15.3 billion (up 27% compared to FY2016).

## FY2018 Priority Measures and the Outlook Going Forward

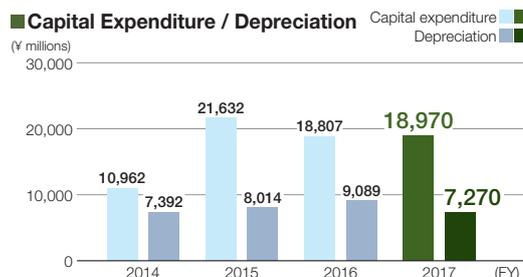
For battery materials, in FY2017 we realized a 3,550-ton monthly NCA production structure. We have already started enhancing this, aiming for a 4,550-ton monthly production structure, and we will continue to watch market trends closely and consider further increases. For crystal materials, we will optimize production structures to increase efficiency and reduce costs, and put together a structure that enables a quick response to changes in demand.

In FY2018, we plan to begin operation of a pilot plant for our SiC business, with the aim of quickly realizing commercialization. We will also continue with the establishment of a pilot plant to produce high-purity nickel oxides for fuel cells to meet the needs of new markets.

With respect to FY2018 segment performance, we are expecting net sales of ¥227.0 billion and profits of ¥15.0 billion.

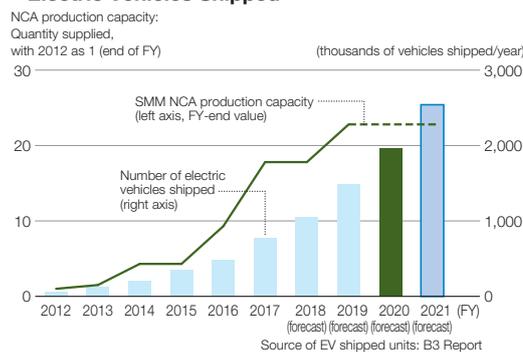
1. SiC: Silicon carbide

### Performance in 2017



We are investing in enhancing battery material production facilities.

### NCA Production Capacity and Number of Electric Vehicles Shipped



It is forecast that demand for electric vehicles will continue to grow significantly going forward. SMM is increasing production of NCA, a cathode material, in accordance with this growth.

Due to the voluntary application of IFRS, segment profit for the upcoming fiscal year is calculated based on income before income taxes.



## Strengths of the Materials Business and Activities that Support Growth Potential and Sustainability

### Strength

1

#### Rolling out products leveraging core technologies

SMM is building a profitable product portfolio leveraging its core technologies, while dedicating effort to products in fields with growing demand—fields related to the environment and energy, as well as information communications. When formulating strategies, we consider how each product fits into the overarching strategy for the materials business, and then make decisions for each business domain.

### Strength

2

#### Relationships with market-leading customers

We take information provided by customers and connect it to making even better products by reflecting it in quality improvements. Collaboration with customer R&D departments, SMM's smelting and refining business, and others, enables us to produce a stable supply of products that meet customer needs.

### Strength

3

#### Co-existence with local communities

We are working to maintain employment levels and moving forward with restructuring our business by shifting to growth products and adopting new business projects at each business site in balance with securing profitability for the materials business.

### SMM Products in Daily Life



Growth

## Utilizing Unused Resources

### Achieving Japan's First "Battery to Battery" Recycling

SMM is implementing the first recycling in Japan of lithium-ion secondary batteries. This process recovers the copper and nickel from used batteries. By processing the recovered nickel into battery materials, we have achieved "battery to battery" recycling for waste lithium-ion secondary batteries.

Compared with nickel-metal hydride batteries, the amounts of valuable metals contained in lithium-ion secondary batteries are small, making the development of cost-effective recycling processes difficult. SMM resolved such issues through a fusion of the advanced technologies it has accumulated. We have established a processing flow that combines the copper pyrometallurgical refining process of the Toyo Smelter & Refinery and the nickel hydrometallurgical refining process of our Niihama Nickel Refinery. By accurately controlling the concentration of impurities in the raw materials, we have recovered copper and nickel. The recovered nickel is first processed into nickel sulfate at our Niihama Nickel Refinery, and then into cathode materials for secondary batteries at our Isoura Plant. Through this cycle, we have achieved Japan's first "battery to battery" recycling from

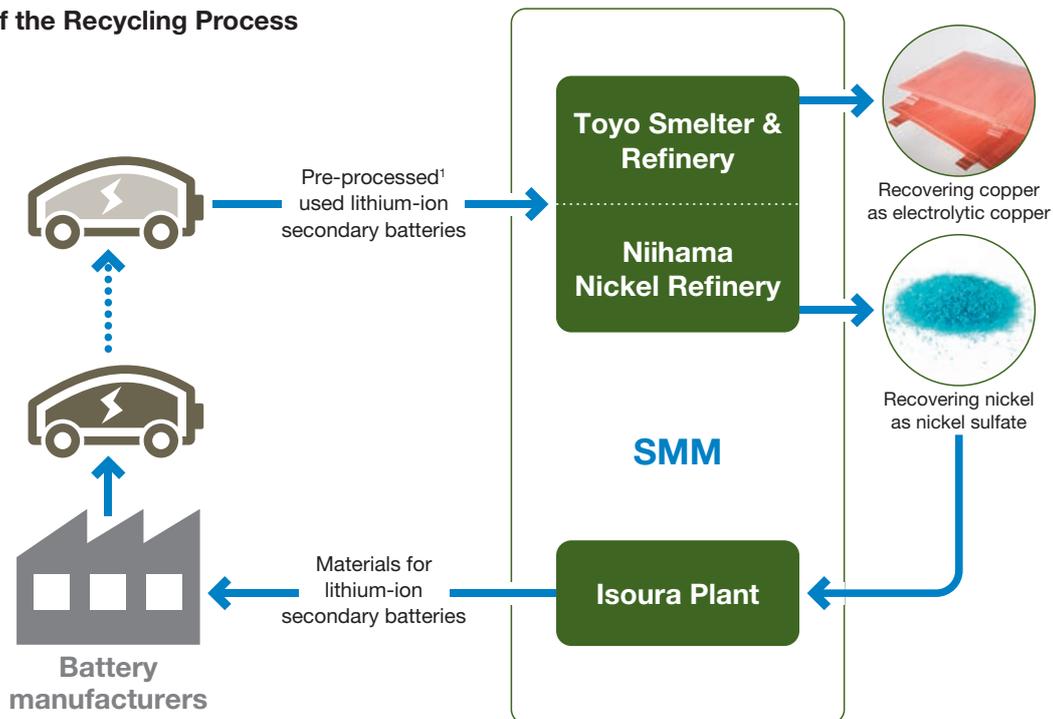
waste lithium-ion secondary batteries.

The high-purity nickel used in lithium-ion secondary battery cathode materials is rare even among nickel products. It is important for SMM, as a manufacturing company, to establish a stable and efficient system to supply materials using this high-purity nickel to customers. It is also an initiative that will contribute to global resource recycling and to the formation of a sound material-cycle society in Japan. SMM will continue to develop unique technologies in our field.



Isoura Plant

#### Flow of the Recycling Process



1. Pre-processed: to make it harmless by heat treatment or other means



**Development of Products and Technologies that Contribute to Reducing Environmental Impact  
Tackling Global Warming Through the Supply of Materials**

The SMM Group sees supplying manufacturers in Japan and overseas with specialty materials to support the functions of products with a low environmental impact to be one of its contributions to a more sustainable society. By focusing on energy-related materials, the SMM Group is expanding its business in domains related to the creating, storing, and saving of energy.

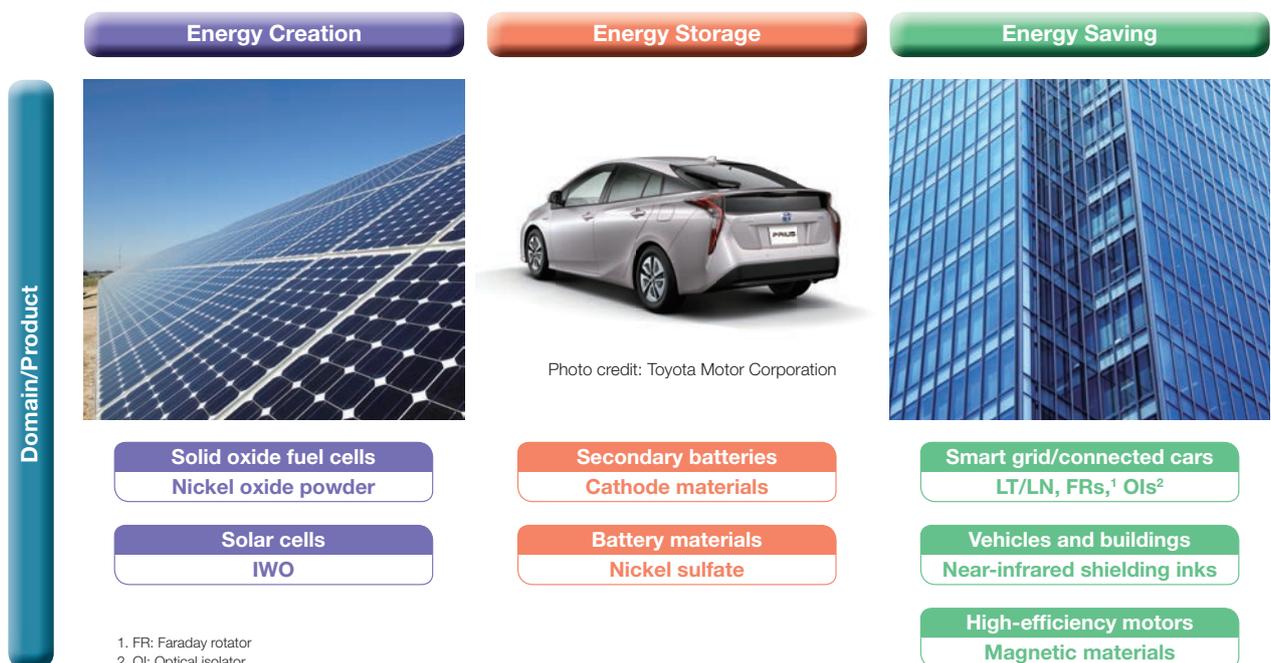
In the energy creation domain, we provide nickel oxide powder, which is used in the electrodes of solid oxide fuel cells (SOFC). Fuel cells are clean and highly efficient power generation systems that convert hydrogen and oxygen into electricity and heat, and their use is expected to grow as plans to promote them are being formulated in countries all over the world.

In the energy storage domain, we are contributing to the realization of a mobile society with low environmental impact by engaging in the supply of high-quality nickel-containing materials for cathodes used in the batteries required by environmentally friendly vehicles, such as EV. In the auto industry, initiatives to suppress greenhouse gas emissions are being promoted globally, as demonstrated in Europe, China, and California, and demand for these kinds of vehicles is growing greatly as a result.



In the energy saving domain, we are manufacturing functional inks, such as cesium tungsten oxide (CWO) to block infrared rays. Films with these inks are applied to glass, or included in an interlayer film or directly in polycarbonates, to block the near-infrared rays contained in sunlight, therefore greatly reducing temperature increases. Currently, these are being widely used in vehicle windows, building windows, and semi-transparent roofs when design or allowing daylight in is an important consideration, and are making a significant contribution to energy efficiency.

**SMM Group's Contribution to Environmentally-Friendly Products**



1. FR: Faraday rotator  
2. Oi: Optical isolator

Growth

## Development of Products and Technologies that Contribute to Reducing Environmental Impact

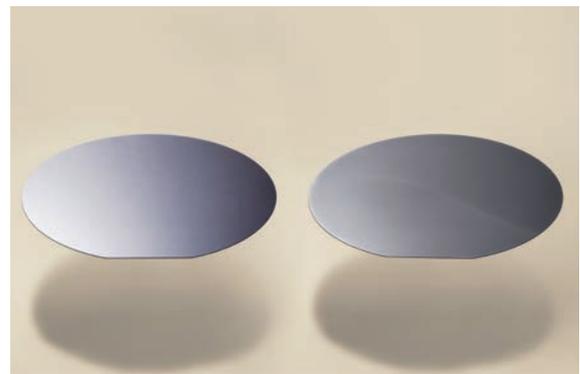
### Development of Silicon Carbide (SiC) Substrates

In October 2017, SMM and Kaga Electronics Co., Ltd. concluded a joint venture contract and stock transfer agreement for SMM to acquire 51% of the shares of SICOXS CORPORATION, a Kaga Electronics subsidiary.

SICOXS is a development company that possesses the technology to manufacture SiC substrates using a bonding technology. Demand is expected to grow for SiC as a material for semiconductors, including power semiconductors, which control electric power. Power semiconductors containing SiC reduce energy loss and make it possible for devices to be made smaller, so new markets for this material are expected to emerge, particularly for use in hybrid vehicles and EV.

The bonding technology possessed by SICOXS can greatly reduce manufacturing costs, which is an issue in the manufacture of SiC substrates. SMM is proceeding with development to mass produce SiC substrates by combining SICOXS' unique technology with the substrate production technologies we have already cultivated. We

will also leverage Kaga Electronics' information gathering abilities and sales network in the field of electronics with the aim of realizing swift commercialization.



Silicon carbide wafers

Growth

## Development of Human Resources and Making the Most of Diverse Human Resources

### Exploring New Businesses with the "Foresight Project"

SMM's biggest strength lies in our business model of collaboration between our three core businesses: mineral resources, smelting and refining, and materials. We are working to deepen this collaboration and generate new added value and are also engaging in creating new businesses developed independently of existing ideas. One initiative aiming to do this is the "Foresight Project," which is being advanced primarily by the Materials Division.

This project introduces ways to foresee future trends, and it involves creating ideas for original new businesses and products that are not just extensions of existing business lines. Project members were selected from across the company using an aptitude test and they held discussions about theories of social change that anticipate the future. These theories were then discussed in regard to the technologies possessed by SMM and in the end created 10 themes. These themes are now being

carefully examined by teams from the Technology Division and Materials Division with the aim of quickly forming concrete proposals.



A discussion in the Foresight Project

# Research & Development

We are concentrating research and development resources on themes that can further contribute to business operations, such as increasing sales and cutting costs, as well as engaging in medium- to long-term research and development with a view to developing next-generation products and commercialization.

We are also establishing a framework for research and development through open innovation involving collaboration with external institutions, such as advancing academic-industrial research and development partnerships, as well as focusing heavily on human resources development.



**Masaki Imamura**

Managing Executive Officer,  
General Manager of Technology Div.

## Business Environment and Priority Measures for the 2015 3-Year Business Plan

**Research and Development Strategy and Structure**  
SMM advances research and development company-wide, with the Technology Division at the core. Within the selection and concentration that we perform in our core businesses of mineral resources, smelting and refining, and materials, we prioritize allocation of research and development costs, and position smelting and refining process technology, powder synthesis and surface treatment technology, crystal growth and processing technology, and exploration, mining, and mineral processing technology as core technologies. We also consider analysis technology, computer aided engineering and analysis technology, and information and communications technology (ICT) as fundamental technologies, and are carrying out focused development on clearly defined technology domains. The core of our research and development is carried out at four research and development sites:

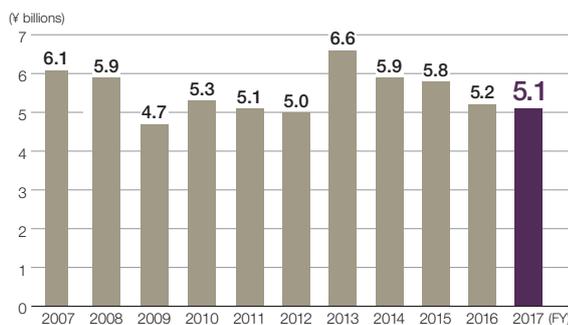
Niihama Research Laboratories, the Battery Research Laboratories, the Materials Laboratories, and the Ichikawa Research Center. We are also advancing technological development using technologies such as IoT through the ICT Promotion Office.

### Key Research Themes

We collaborate with each business division on developing products and production technology and are also focusing on medium- to long-term research and development with a view to developing next-generation products and commercialization.

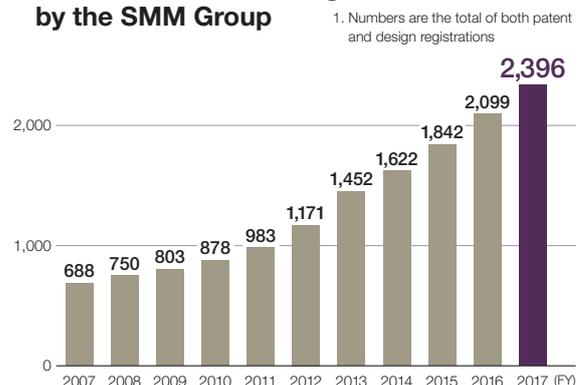
As for battery materials, we are focused on enhancing functionality, such as increasing the capacity of cathode materials for lithium ion batteries used in hybrid and electric vehicles, and are proceeding with putting those results in mass production. We are also engaged in the development

### Research and Development Expenses



Recent years have seen a trend of around ¥5-6 billion per year. About 10-20% of the total is mineral resource and smelting and refining-related research and development expenses, while the rest is materials-related research and development expenses and basic research costs.

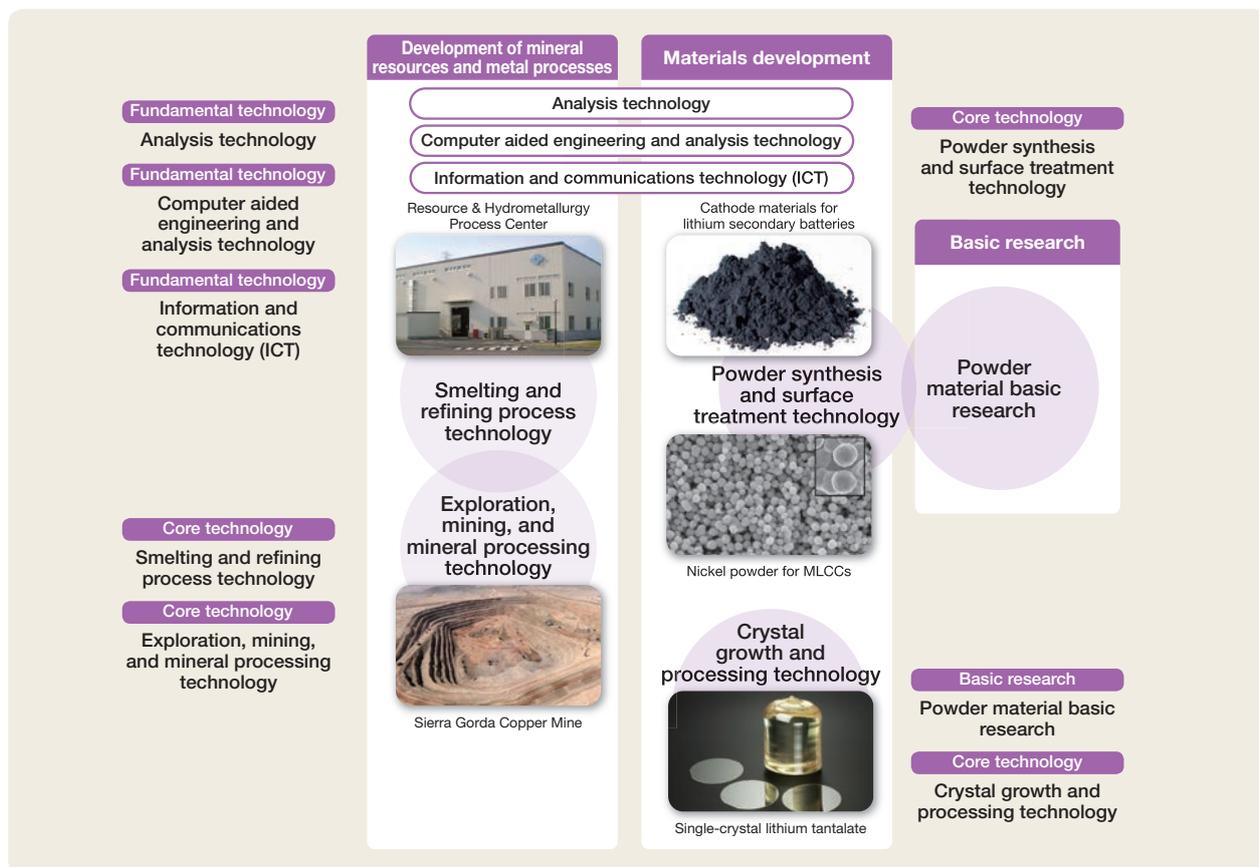
### Number of Patents<sup>1</sup> Registered by the SMM Group



<sup>1</sup> Numbers are the total of both patent and design registrations

We are actively promoting the construction of a patent network, as well as patent applications that contribute to stable business operation and development, and research and development.

## Research and Development by the SMM Group

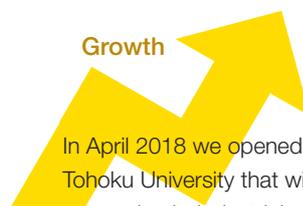


of next-generation materials through initiatives, such as participating in a project for developing solid-state lithium ion batteries being advanced by the New Energy and Industrial Technology Development Organization (NEDO).

For crystal materials, we are developing crystal growth and wafer processing technologies with the aim of reducing the cost of producing lithium tantalate and lithium niobate substrates for SAW filters contained in communication devices, such as smartphones. We are also actively developing original technologies involving silicon carbide (SiC), a new area we are commercializing.

Regarding the smelting and refining process, we are developing a process for separating and refining cobalt from used lithium ion batteries, which cannot be recovered using current recycling processes, and expect to have a pilot plant in operation during FY2018. Furthermore, as well as further evolving our world-class HPAL technology for extracting nickel, we are developing pyrometallurgical smelting and refining processes that differ from HPAL. We are also starting development of techniques for recovering lithium through the application of hydrometallurgy.

Takeshi Kubota (second from right), who was executive vice president at the time, shakes hands with Yoshinori Yajima (third from right), Tohoku University's Executive Vice President for Industry-University Collaboration, at a joint press conference



## Human Resources Development

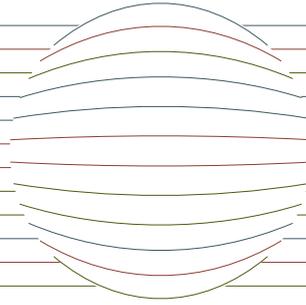
### Open Innovation and Cultivating Personnel

In April 2018 we opened a joint research division with Tohoku University that will operate for five years under an academic-industrial collaborative structure and will engage in joint research on non-ferrous metal smelting and refining and promote the cultivation of human resources. We are also proceeding with a similar joint research and personnel development initiative with Kyushu University.

Additionally, in the area of new materials development, too, we are establishing a framework for joint development with external institutions and cultivating a flexible environment through initiatives such as posting SMM researchers at university research labs. Going forward, we will continue to expand our collaboration with external partners in areas such as open innovation, and focus on personnel development with a medium- to long-term perspective.



# Corporate Governance



## Basic Approach

SMM views corporate governance as a disciplinary framework both for maximizing the corporate value of the SMM Group and for ensuring sound management practices. As such, it is one of the most important management issues.

SMM has established the following SMM Group Corporate Philosophy based on the Sumitomo Business Spirit.

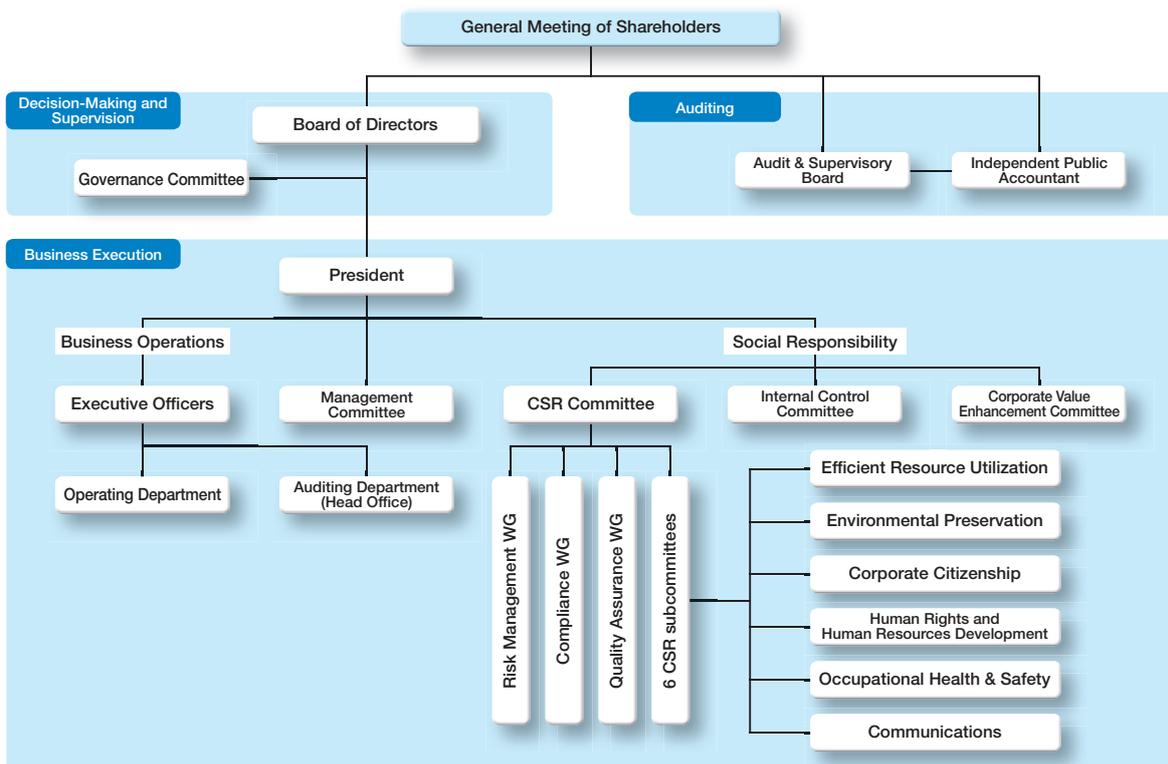
- (1) Sumitomo Metal Mining Co., Ltd. (SMM) in accordance with the Sumitomo Business Spirit, shall, through the performance of sound corporate activities and the promotion of sustainable co-existence with the global environment, seek to make positive contributions to society and to fulfill its responsibilities to its stakeholders, in order to win ever greater trust.
- (2) 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.

Through striving to enhance our corporate governance, SMM will conduct efficient and sound business activities, make positive contributions to society, and fulfill our responsibilities to our shareholders and all other stakeholders in order to realize the SMM Group Corporate Philosophy.

### Governance Framework

SMM has adopted Audit & Supervisory Board and executive officer systems to ensure effective execution, monitoring, and supervisory functions within management. The Company is managed by three systems, namely (1) the Board of Directors, in charge of major decisions and supervision, (2) representative directors and executive officers, in charge of the execution of business, and (3) the Audit & Supervisory Board members and independent public accountant, in charge of auditing.

## Corporate Governance Framework



## Decision-Making and Business Execution Structures and System

### Directors and the Board of Directors

SMM's Articles of Incorporation provide for a Board of Directors of up to ten members, each appointed for one year, and the "Chairman and Representative Director" is the Chairman of the Board. Furthermore, our policies stipulate that one-third or more of directors shall be independent outside directors. Currently, SMM has three outside directors among our eight directors. With regard to our directors being eight in number, we have determined that this is an appropriate number for ensuring agility and active discussion by the Board.

SMM works toward continuous improvement of the functions of the Board of Directors and conducts an evaluation of its effectiveness every year in order to verify whether it functions appropriately and, based on the findings, to enact appropriate measures, such as ameliorating problems.

### System of Internal Memorandums for Approval and the Management Committee

The basic method for making decisions on business execution is to examine and approve such matters through the system of internal memorandums. The Management Committee holds meetings for important management matters that require

deliberation, thereby conducting careful decision-making and rational business judgment based on diverse perspectives.

The Management Committee is composed of the president, senior managing executive officers, and other executive officers. The Chairman of the Board as well as the outside directors, and Audit & Supervisory Board members may attend Management Committee meetings. Among matters to be resolved by the Board of Directors and matters to be approved by the president, the Management Committee will deliberate from a broad perspective on matters determined to require deliberation and then will determine whether those matters will be referred to the Board of Directors. The Committee also fulfills the function of supporting approval granted by the president.

### Executive Officer System

Substantial authority has been delegated to executive officers whose authority and responsibilities have been clearly defined to reinforce their executive function. Appointed by the Board of Directors, executive officers are entrusted with important positions (such as heading an operational division, a department or an office at SMM's headquarters) and are expected to perform their duties with the specific authority assigned to each position.

## Auditing System

### Audit & Supervisory Board

At least half of the Audit & Supervisory Board members will be outside Audit & Supervisory Board members with a variety of expertise and diverse perspectives. Audit & Supervisory Board members from within SMM will conduct audits based on the particular characteristics of full-time members, such as by collecting information within the Company, and outside Audit & Supervisory Board members will conduct audits that make use of their areas of expertise.

In order to ensure managerial soundness and increase the corporate value of SMM, and in accordance with the audit policies, audit plans, and other such matters prescribed by the Audit & Supervisory Board, each Audit & Supervisory Board member will attend meetings of the Board of Directors, the Management Committee, and other important meetings, receive reports and, when necessary, request explanations from directors, executive officers, and employees regarding the status of the performance of their duties, inspect important approval and other such documents, and examine the status of operations and assets at the head office and other major business sites. At meetings of the Audit & Supervisory Board, standing Audit & Supervisory Board members shall report the details of onsite audits that have been conducted solely by standing Audit & Supervisory Board members as well as of meetings that were not attended by outside members.

### Collaboration between the Internal Audit Department, Independent Public Accountant and Audit & Supervisory Board Members

The Internal Audit Department regularly undertakes internal audits on the status of business execution across the SMM Group. The Department provides an explanation of its audit plans to Audit & Supervisory Board members while passing on all relevant information. At the same time, Audit & Supervisory Board members provide details of audit plans determined at meetings of the Audit & Supervisory Board to the Internal Audit Department, attend meetings when reports on the results of internal audits are delivered to executive officers and the heads of operational divisions and, when required, accompany staff of the Internal Audit Department when conducting internal audits. KPMG AZSA LLC, an independent registered public accounting firm, audits the consolidated financial statements and the effectiveness of the internal control over financial reporting. Audit & Supervisory Board members provide details of audit plans to the independent public accountant. Audit & Supervisory Board members in turn receive explanations regarding audit plans and reports on audit results from the independent public accountant. In this manner, close collaboration is maintained between the independent public accountant and Audit & Supervisory Board members.

## Outside Directors and Outside Audit & Supervisory Board Members

At important meetings such as those of the Board of Directors, outside directors are expected to express their views from a broad perspective based on their knowledge, experience, abilities, and insight and are expected to fulfill the function of providing objective supervision from a standpoint independent from the representative

directors and the executive directors. Outside Audit & Supervisory Board members use their specialized expertise and diverse perspectives to offer supervision, provide valuable comments at Board of Directors and other meetings, and exercise oversight.

## Director and Audit & Supervisory Board Member Compensation

Maximum limits on the total amounts of compensation for directors and compensation for Audit & Supervisory Board members will be determined by resolution of the General Meeting of Shareholders. If bonuses are paid to directors, then the total amount of bonuses to directors, excluding outside directors, will be determined in the same way.

The president & representative director, with the authorization of the Board of Directors, will determine the amount of director compensation. The specific amount of basic compensation for each director will be calculated by reflecting the individual performance of the director (calculated with position-specific evaluation items such as division performance, the degree to which individual targets set in accordance with medium- to long-term business strategies are being achieved, and safety results (number of labor accidents), etc. as standards) on a base compensation amount determined in consideration of the consolidated performance of the SMM Group; the compensation amount will then be determined after receiving the advice of the Governance Committee. The specific amount of each director's bonus will be calculated by reflecting the individual performance of each director, which is calculated with the same position-specific evaluation items as the above standards, on a base bonus amount determined in consideration of the consolidated performance of the SMM Group; the bonus amount will then be determined after receiving the advice of the Governance Committee. However, because of the importance placed on the outside directors fulfilling a supervisory function from a standpoint

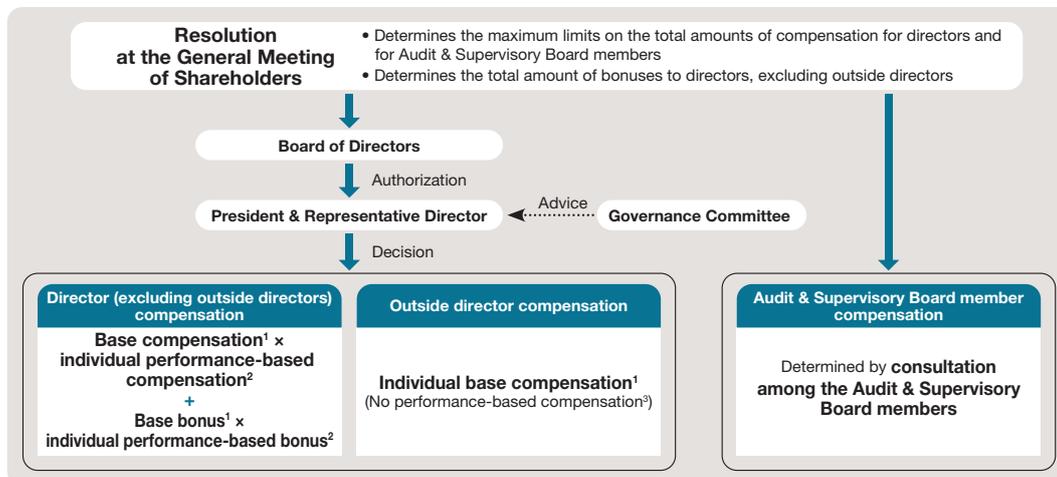
independent from business execution, individual performance will not be reflected and only the base compensation amount with no bonuses will be paid to outside directors. The amount of basic compensation for each individual Audit & Supervisory Board member will be determined by consultation among the Audit & Supervisory Board members at the Audit & Supervisory Board within the total compensation amount approved by the General Meeting of Shareholders.

### FY2017 Director and Audit & Supervisory Board Member Compensation

Officer Classification	Number of Officers	Total Compensation	Total Compensation by Type	
			Basic Compensation	Bonus
Directors (excluding outside directors)	8	¥249 million	¥187 million	¥62 million
Audit & Supervisory Board members (excluding outside Audit & Supervisory Board members)	3	¥58 million	¥58 million	—
Outside directors	3	¥37 million	¥37 million	—
Outside Audit & Supervisory Board members	3	¥21 million	¥21 million	—

Note 1: In addition to the aforementioned, an employee salary portion totaling ¥19 million was paid to one person who serves concurrently as a director and executive officer.  
 Note 2: In order to demonstrate managerial responsibility for the impairment loss incurred at Sierra Gorda S.C.M. during FY2016, the president & representative director and one director, each voluntarily returned 30% of their April 2017 basic compensation (monthly amount). The above amounts for director (excluding outside directors) total compensation and basic compensation show amounts after the voluntary returns were made.

### Procedures for Determination of the Amount of Compensation for Directors and Audit & Supervisory Board Members



1. Takes into consideration the consolidated performance of the Group.  
 2. Calculated reflecting the following position-specific evaluation items: Division performance, the degree to which individual targets set in accordance with medium- to long-term business strategies are being achieved, safety results (number of labor accidents), etc., and other individual items for evaluating each position.  
 3. Stipulated due to SMM's emphasis on oversight functions from a standpoint independent of business execution.

## Takeover Defense Measures

At the 91st Ordinary General Meeting of Shareholders in June 2016, SMM received approval for the partial renewal of “takeover defense measures.” The period of validity of the renewed takeover defense measures will last for three years until the conclusion of the 94th Ordinary General Meeting of Shareholders in June 2019.

The Company believes that the persons who control decisions on the Company’s financial and business policies need to be persons who understand the sources of the Company’s corporate value and who will make it possible to continually and steadily ensure and enhance the Company’s corporate value and, in turn, the common interests of its shareholders. Hence, the Company has adopted takeover defense measures to protect its corporate value and the common interests of shareholders against an aggressive acquisition that would harm that corporate value and those common interests of shareholders.

The takeover defense measures set out procedures that acquirers must adhere to in advance and include requirements for

acquirers to furnish information. Under the Japanese legal system, a party making an acquisition proposal does not have a duty to furnish information. Having takeover defense measures in place guarantees that a party making an acquisition proposal will furnish information and allows shareholders to compare statements by the acquirer and SMM management before deciding which course of action is preferable.

Additionally, if certain conditions specified in the takeover defense measures are met, such as the acquisition having the potential to harm the Company’s corporate value or the common interests of shareholders, the gratis allotment of Stock Acquisition Rights will be exercised and the ratio of voting rights in the Company held by the acquirer will be diluted. Exercise of this measure requires the decision by an Independent Committee comprised of outside directors (independent officers), etc. in order to guarantee fairness and objectivity.

## Formulating Corporate Governance Guidelines

SMM has established Corporate Governance Guidelines which cover our basic philosophy on corporate governance and our

corporate governance framework, including our relationship with stakeholders.

[WEB](#) Corporate Governance Guidelines [WEB](#) Corporate Governance Report

<http://www.smm.co.jp/E/ir/management/governance/>

## Outside Directors and Outside Audit & Supervisory Board Members

### Outside Director Hitoshi Taimatsu

#### Reason for Appointment

He was appointed as an outside director with the expectation of leveraging both his specialized knowledge as a researcher in materials engineering and his organizational management experience at his university.

#### Attendance at Meetings

In FY2017, the Board of Directors convened 17 times (12 regular meetings and 5 extraordinary sessions). He attended all meetings.

### Outside Director Kazuhiisa Nakano

#### Reason for Appointment

He was appointed as an outside director with the expectation of leveraging his wealth of knowledge and experience in company management and natural resources business in order to offer suitable oversight of SMM operations.

#### Attendance at Meetings

In FY2017, the Board of Directors convened 17 times (12 regular meetings and 5 extraordinary sessions). He attended all meetings.

### Outside Director Taeko Ishii

#### Reason for Appointment

Based on her specialist knowledge and wealth of experience as a lawyer, she was appointed as an outside director to provide advice to SMM on business matters, particularly from a compliance perspective.

#### Attendance at Meetings

She is a new outside director appointed at the Ordinary General Meeting of Shareholders in June 2018.

### Outside Audit & Supervisory Board Member Junichi Kondo

#### Reason for Appointment

Based on his wealth of financial institution experience, he was appointed as an outside Audit & Supervisory Board member.

#### Attendance at Meetings

In FY2017, the Board of Directors convened 17 times (12 regular meetings and 5 extraordinary sessions), and the Audit & Supervisory Board convened 15 times. He attended all meetings of both.

### Outside Audit & Supervisory Board Member Yuichi Yamada

#### Reason for Appointment

Based on his auditing experience accumulated over many years at audit firms as well as his extensive knowledge of accounting, he was appointed an outside Audit & Supervisory Board member.

#### Attendance at Meetings

After his appointment as an Audit & Supervisory Board member, in FY2017, the Board of Directors convened 12 times (9 regular meetings and 3 extraordinary sessions), and the Audit & Supervisory Board convened 10 times. He attended all meetings of both.

## Initiatives to Strengthen Governance at SMM

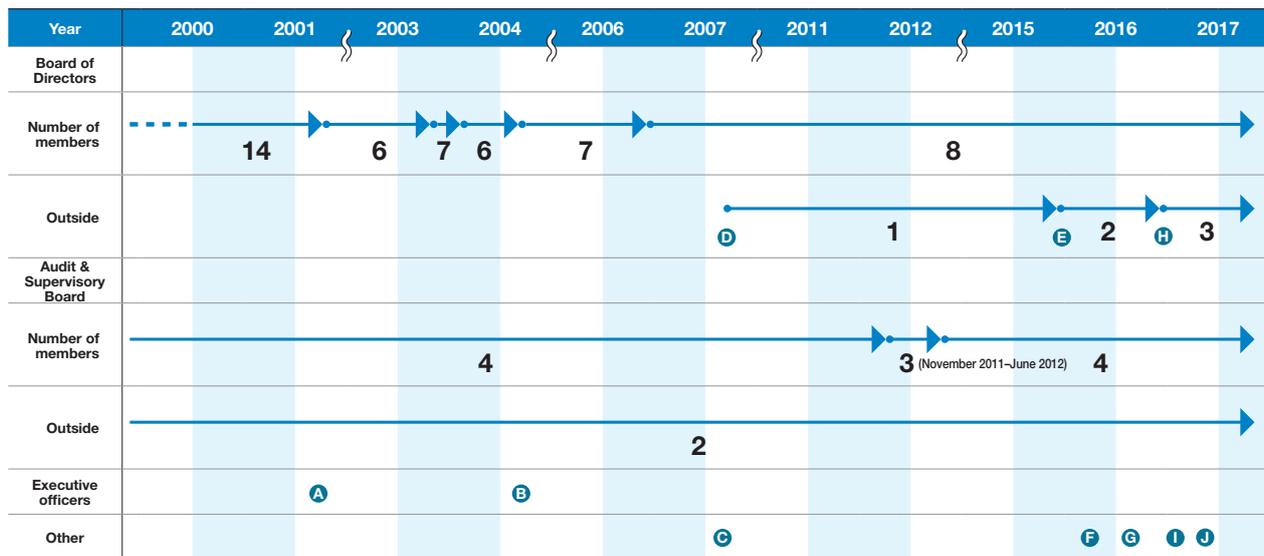
SMM positions corporate governance as one of the most important issues in our management, and is taking steps to strengthen governance.

In FY2016, we conducted discussions on what our Board of Directors should ideally be, and shared this understanding within the Board. In addition, as a new initiative, we convened an Outside Directors Council meeting as a venue for exchanging

ideas among outside directors and outside Audit & Supervisory Board members.

To achieve even better corporate governance going forward, we will appropriately review our corporate governance framework in accordance with revisions to laws, changes in social conditions, and other external factors.

## Transitions in Governance at SMM



- June 2001** Introduction of the executive officer system **A**

Introduced the executive officer system with the aim of separating decision-making and supervisory functions in management, and further enhancing and strengthening the functions of each of these.

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- June 2004** Specific regulations concerning executive officers in the Articles of Incorporation **B**

Changed management from 14 directors to 6 directors and 14 executive officers.

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- February 2007** Introduction of takeover defense measures **C**

Introduced countermeasures to large-scale acquisitions of the Company's shares (takeover defense measures)

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- June 2007** Appointment of an outside director **D**

Appointed one outside director in order to strengthen corporate governance through objective management decisions by an independent, external director. Shortened the term of directors from two years to one year to clarify management responsibilities.

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- June 2015** Board of Directors composition changed to include two outside directors **E**

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- November 2015** Establishment of a Governance Committee and evaluation of the effectiveness of the Board of Directors **F**

Established a Governance Committee, which is not based on legal direction or necessity, for the purpose of obtaining objective advice from the Chairman of the Board and outside directors, who are not executive officers. Started analyzing and evaluating the effectiveness of the Board of Directors in FY2015.

---

- February 2016** Establishment of Corporate Governance Guidelines **G**

Established the SMM Corporate Governance Guidelines which cover our basic philosophy on corporate governance and our corporate governance framework.

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- June 2016** Board of Directors composition changed to include three outside directors **H**

Appointed three outside directors in order to have one third or more of the directors in the Board of Directors be outside directors.

---

- August 2016** Outside Directors Council meeting held **I**

Started convening Outside Directors Council meetings as a venue for discussion attended only by outside directors and outside Audit & Supervisory Board members, providing an opportunity for outside directors and outside Audit & Supervisory Board members to exchange information and share understanding.

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- December 2016** Discussion of what the Board of Directors should ideally be **J**

The Board deliberated what SMM's Board should ideally be, reaffirming that the Board make a point of making decisions.

## Evaluation of the Effectiveness of the Board of Directors

According to the Corporate Governance Code formulated by the Financial Services Agency and the Tokyo Stock Exchange, Inc., the effectiveness of the entire board of directors should be analyzed and evaluated and a summary of those results should be disclosed. Referring to each director's self-evaluation is a

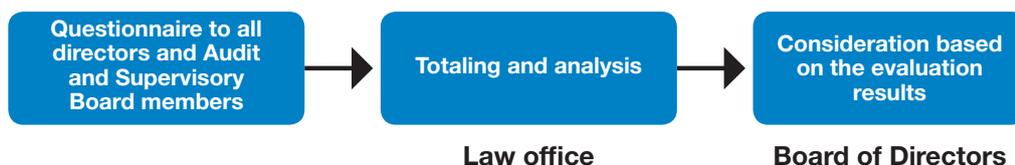
large pillar of this evaluation of the effectiveness of the board of directors. Also, the same is stipulated in SMM's Corporate Governance Guidelines, and the Board has been carrying out evaluations of itself, regarding appropriate decision-making and supervisory functions, since FY2015.

## Overview of the Evaluation of Effectiveness

For the analysis and evaluation of the effectiveness of the Board of Directors, the Board carries out a questionnaire targeting the directors and Audit and Supervisory Board members every year. To make sure the responses are not seen by administrative staff, the responses are sent to an external law office, where the results are analyzed. The questionnaire covers mainly the supervisory

function of the Board of Directors, its size, composition, and overall operation, training of the directors, the provision of information such as the site visits by outside directors, and self-evaluations. The Board analyzes and evaluates the effectiveness of itself based on external evaluation by the law office.

### The Process of Evaluating the Effectiveness of the Board of Directors



## FY2017 Evaluation Results and Initiatives Going Forward

The response on the FY2017 self-evaluations done by each director was that overall, initiatives are being undertaken at an acceptable level. The Company's Board of Directors compared this to what the Board of Directors should ideally be, which was discussed in FY2016, and confirmed that there were no major issues with their effectiveness, and that they are demonstrating their supervisory function through decision-making. Regarding the revision of standards for resolutions and reporting to the Board of Directors (as of April 1, 2017), that was undertaken based on the FY2016 evaluation of effectiveness of the Board of Directors, and the systemization of site visits by outside directors, both were evaluated as being appropriately improved.

In FY2017, from the viewpoint of working on the efficiency of discussions and enhancing deliberations related to important

items for management, there were the opinions that the method of reporting compliance violations should be reviewed and time should be spared for discussions of management issues and policies. As a result of these opinions, in addition to starting the use of a table-type report for compliance violations (but for serious issues individual reports will be used as before), it was decided to establish opportunities to discuss management issues and policies about twice a year from FY2018. With this, the president explained about the policy for drawing up the next medium-term management plan at the regular meeting, in August 2018, and opinions were exchanged.

Going forward, we will strive to continually improve the effectiveness of the Board of Directors.

# Directors and Audit & Supervisory Board Members

(As of July 1, 2018)

## Directors



### 1 Yoshiaki Nakazato

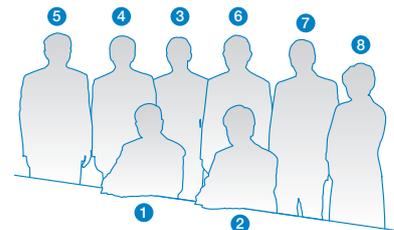
Chairman and Representative Director

Born: 1953  
 April 1976 General Manager of Administration Dept., Electronics Div.  
 December 1997 General Manager of Corporate Planning Dept.  
 June 2004 Executive Officer  
 June 2005 Director  
 June 2006 General Manager of Affiliated Business Administration Dept.  
 June 2007 Managing Executive Officer  
 June 2008 General Manager of Advanced Materials Div.  
 October 2008 General Manager of Semiconductor Materials Div.  
 June 2009 Executive Officer  
 June 2010 General Manager of Advanced Materials Div.  
 June 2012 Managing Executive Officer  
 June 2012 Representative Director  
 June 2013 Senior Managing Executive Officer  
 June 2013 President and Representative Director  
 June 2018 Chairman and Representative Director (Present Position)

### 2 Akira Nozaki

President and Representative Director

Born: 1960  
 April 1984 April 1984  
 July 2010 Corporate Planning Dept.  
 May 2012 Administration Dept., Sierra Gorda Project Dept.  
 June 2013 Executive Officer  
 June 2014 Senior Deputy General Manager of Non-Ferrous Metals Div.  
 June 2014 Director  
 June 2015 General Manager of Corporate Planning Dept.  
 June 2016 General Manager of Non-Ferrous Metals Div.  
 June 2018 Managing Executive Officer  
 June 2018 President and Representative Director (Present Position)



### 3 Harumasa Kurokawa

Director, Senior Managing Executive Officer, General Manager of Materials Div.

Born: 1957  
 April 1981 General Manager of Toyo Smelter & Refinery, Copper & Precious Metals Business Unit, Non-Ferrous Metals Div.  
 June 2004 General Manager of Nihama Nickel Refinery, Non-Ferrous Metals Div.  
 January 2007 General Manager of Administration Dept., Non-Ferrous Metals Div.  
 April 2008 Executive Officer  
 June 2011 Senior Deputy General Manager of Non-Ferrous Metals Div.  
 June 2013 Senior Deputy General Manager of Technology Div.  
 June 2014 Managing Executive Officer  
 June 2014 General Manager of Technology Div.  
 June 2017 Director (Present Position)  
 June 2017 Senior Managing Executive Officer (Present Position)  
 June 2017 General Manager of Materials Div. (Present Position)

### 4 Hiroshi Asahi

Director, Managing Executive Officer, General Manager of Mineral Resources Div.

Born: 1958  
 April 1982 April 1982  
 April 2008 Joined the Ministry of International Trade and Industry (current Ministry of Economy, Trade and Industry)  
 March 2010 Director for Technology Affairs of the Ministry of Economy, Trade and Industry  
 July 2012 Deputy Director-General for Energy and Environment of the Ministry of Economy, Trade and Industry  
 June 2013 Director-General for Technology Policy Coordination of the Ministry of Economy, Trade and Industry  
 October 2013 Left the Ministry of Economy, Trade and Industry  
 June 2014 Joined the Company  
 June 2014 Engineering Dept., Mineral Resources Div.  
 June 2014 Executive Officer  
 June 2014 Senior Deputy General Manager of Mineral Resources Div.  
 June 2017 Director (Present Position)  
 June 2017 General Manager of Mineral Resources Div. (Present Position)  
 June 2018 Managing Executive Officer (Present Position)

### 5 Hiroyuki Asai

Director, Managing Executive Officer, General Manager of Corporate Planning Dept.

Born: 1958  
 April 1980 General Manager of Ome District Div., Advanced Materials Div.  
 October 2008 General Manager of Personnel Dept.  
 June 2011 Executive Officer  
 June 2012 General Manager of Human Resources Development Dept.  
 October 2015 General Manager of Public Relations & Investor Relations Dept.  
 June 2016 Managing Executive Officer (Present Position)  
 June 2017 Director (Present Position)  
 June 2018 General Manager of Corporate Planning Dept. (Present Position)

### 6 Hitoshi Taimatsu

Outside Director

Born: 1951  
 April 1994 Professor of the Mining College of Akita University  
 April 1998 Professor of the Faculty of Engineering and Resource Science of Akita University  
 April 2006 Director of the Radioisotope Research Center of Akita University  
 April 2008 Member of the Education and Research Council of Akita University  
 April 2008 Vice Dean of the Faculty of Engineering and Resource Science of Akita University  
 April 2010 Professor of the Graduate School of Engineering and Resource Science of Akita University  
 April 2010 Vice Dean of the Graduate School of Engineering and Resource Science of Akita University  
 June 2015 Director of the Company (Present Position)  
 April 2016 Professor of the Graduate School of Engineering Science of Akita University  
 April 2017 Visiting professor of Akita University (Present Position)

### 7 Kazuhisa Nakano

Outside Director

Born: 1948  
 April 1971 April 1971  
 April 2003 Joined Idemitsu Kosan Co., Ltd.  
 June 2004 Executive Officer and General Manager of Personnel Department of Idemitsu Kosan Co., Ltd.  
 June 2005 Director of Idemitsu Kosan Co., Ltd.  
 June 2007 Managing Director of Idemitsu Kosan Co., Ltd.  
 June 2009 Executive Vice President and Representative Director of Idemitsu Kosan Co., Ltd.  
 June 2009 President and Representative Director of Idemitsu Kosan Co., Ltd.  
 June 2013 Chairman and Representative Director of Idemitsu Kosan Co., Ltd.  
 June 2015 Executive Advisor of Idemitsu Kosan Co., Ltd.  
 June 2016 Director of the Company (Present Position)  
 June 2017 Retired from Executive Advisor of Idemitsu Kosan Co., Ltd.

### 8 Taeko Ishii

Outside Director

Born: 1956  
 April 1986 Registered as a lawyer  
 April 1986 Joined Ryoichi Wada Law Firm  
 March 1992 Established Ohta & Ishii Law Firm  
 June 2018 Director of the Company (Present Position)

## Audit & Supervisory Board Members



### 1 Kazushi Ino

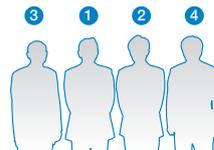
#### Senior Audit & Supervisory Board Member (Standing)

Born: 1959  
 April 1982 Joined the Company  
 December 2010 General Manager of Administration Dept., Advanced Materials Div.  
 June 2012 General Manager of Legal & General Affairs Dept.  
 June 2014 Executive Officer  
 Senior Deputy General Manager of Materials Div.  
 June 2017 Senior Audit & Supervisory Board Member (Standing) (Present Position)

### 2 Yasuyuki Nakayama

#### Audit & Supervisory Board Member (Standing)

Born: 1959  
 April 1982 Joined the Company  
 June 2001 Finance & Accounting Dept.  
 April 2012 General Manager of Administration Dept., Semiconductor Materials Div.  
 July 2012 General Manager of Semiconductor Materials Business Unit, Materials Div.  
 October 2014 President and Representative Director of Shinko Co., Ltd.  
 June 2016 Audit & Supervisory Board Member (Standing) (Present Position)



### 3 Junichi Kondo

#### Outside Audit & Supervisory Board Member

Born: 1950  
 April 1973 Joined Export-Import Bank of Japan  
 April 1999 Director of General Administration and General Services Department of Export-Import Bank of Japan  
 October 1999 Director of Corporate Finance Department of Japan Bank for International Cooperation (JBIC) (which was formed as a result of integration between the former Export-Import Bank of Japan and the former Overseas Economic Cooperation Fund)  
 April 2001 Director of Personnel Department of JBIC  
 November 2002 Executive Director of JBIC  
 October 2003 Resident Executive Director, Osaka Branch of JBIC  
 October 2005 Senior Executive Director of JBIC  
 September 2007 Resigned from Senior Executive Director of JBIC  
 January 2008 Corporate Advisor of Tokyo Electric Power Company, Incorporated  
 February 2012 Corporate Advisor of ITOCHU Corporation  
 January 2015 President and Representative Director of Japan Institute for Overseas Investment  
 June 2016 Audit & Supervisory Board Member of the Company (Present Position)

### 4 Yuichi Yamada

#### Outside Audit & Supervisory Board Member

Born: 1954  
 March 1988 Registered as a certified public accountant  
 August 2003 Partner of ASAHI & Co. (current KPMG AZSA LLC)  
 June 2008 Board Member of KPMG AZSA & Co. (current KPMG AZSA LLC)  
 June 2016 Left KPMG AZSA LLC upon reaching mandatory retirement age  
 July 2016 Established Yuichi Yamada Certified Public Accountant Firm  
 June 2017 Audit & Supervisory Board Member of the Company (Present Position)

## Executive Officers

An asterisk indicates the officer is also serving concurrently as a director.

### President

#### \* Akira Nozaki

### Senior Managing Executive Officer

#### \* Harumasa Kurokawa

General Manager of Materials Div.

### Managing Executive Officers

#### \* Hiroyuki Asai

General Manager of Corporate Planning Dept., in charge of Secretarial Dept., Public Relations & Investor Relations Dept., Internal Audit Dept.

#### Masahiro Morimoto

General Manager of Finance & Accounting Dept., in charge of Purchasing Dept., Information System Dept.

#### Masaki Imamura

General Manager of Technology Div.

#### \* Hiroshi Asahi

General Manager of Mineral Resources Div.

### Executive Officers

#### Atsushi Idegami

Senior Deputy General Manager of Materials Div.

#### Suichi Yasukawa

General Manager of Human Resources Development Dept., General Manager of Personnel Dept., in charge of Legal & General Affairs Dept.

#### Fumio Mizuno

General Manager of Engineering Div.

#### Atsushi Kaikake

General Manager of Safety & Environment Control Dept., in charge of Quality Assurance Dept.

#### Nobuhiro Matsumoto

General Manager of Non-Ferrous Metals Div.

#### Fumikazu Oshita

Senior Deputy General Manager of Mineral Resources Div.

#### Masahiro Kamiya

Senior Deputy General Manager of Non-Ferrous Metals Div., in charge of Osaka Branch

#### Isao Abe

Senior Deputy General Manager of Materials Div.

#### Takahiro Kanayama

General Manager of Besshi-Niihama District Div.

#### Ryoichi Sato

Senior Deputy General Manager of Mineral Resources Div.

#### Kazunori Takizawa

Senior Deputy General Manager of Materials Div.

#### Hiroshi Yoshida

Senior Deputy General Manager of Non-Ferrous Metals Div.

## Messages from the Outside Directors



SMM has eight directors, three of whom are outside directors. Each of these outside directors fulfills an important role in the Company's corporate governance, leveraging their experience and knowledge to provide comments at Board of Directors and other meetings. In 2018, Ms. Taeko Ishii was newly appointed as an outside director. Here we introduce messages from the three outside directors.



### Hitoshi Taimatsu

Mr. Taimatsu has held positions at Akita University as a professor in the Mining College of Akita University and Faculty of Engineering and Resource Science, the director of the university's Radioisotope Research Center, and vice dean of the Graduate School of Engineering and Resource Science. Currently he is serving as a visiting professor of the university, specializing in materials engineering. In FY2016, he was presented with the Award for Distinguished Achievements in Research by the Japan Society of Powder and Powder Metallurgy. He has served as an outside director at SMM since 2015.

**As an outside director, it is important to take society's perspective. I believe that time is taken to thoroughly discuss safety management.**

In the past, I was involved in the management of a university. However, universities and companies are operated differently and have different stakeholders. As for myself, at a university I am an expert with knowledge and experience, when it comes to a company with a variety of stakeholders, I am a regular member of society who doesn't have much experience or knowledge regarding management of a company. Now, taking part in the management of SMM as an outside director, I think it is most important that I maintain this stance.

During discussions at meetings of the Board of Directors, I particularly focus on technical and safety aspects of the business. When we receive detailed reports on compliance and safety management from the business divisions, I believe that time is taken to discuss them thoroughly. When making judgements at these meetings, I don't just focus on content, but also place importance on what kind of process is being developed.

I also deepen my understanding of the businesses by visiting workplaces, such as plants, including joining Audit & Supervisory Board members on site visits. I am particularly interested in the development of engineers, and I try to participate in research report meetings for young engineers, so that I can hear from them directly.

SMM's greatest strength is the experience and technology it has accumulated since its founding. I don't think there are any other companies in Japan that have this kind of technological capability in the non-ferrous mineral resources and smelting and refining fields. I think the Company has stayed in business for 420 years because it has always valued the voices of employees and the communities in which it does business and has kept a sound position in relation to society. Going forward, I want the Company to maintain this approach and to continue to be a company that employees and their families can be proud of.

**To realize sustainable growth, it is not enough to just focus on current management. It is also important to discuss what the Company will become in the future.**

I have long years of experience participating in the management of a company that differs from SMM by developing oil, coal, and the like. I leverage this experience to actively make comments at meetings of the Board of Directors. The discussions at these meetings are very vigorous and I feel the content can often be very deep, sometimes requiring new detailed reports from business divisions.

Businesses in fields such as mineral resources and smelting and refining require an extremely long time before operations produce a profit. Also, resource reserves shrink as the years go by, and compensating for this requires investment with a long-term perspective. In order to realize future growth, it is sometimes necessary to make decisions that involve a certain amount of risk. As an outside director, I want to use my personal experience to contribute to making these risk-taking decisions.

If you were to ask me to raise an issue, I would say cultivating personnel. In the recruitment and training of human resources, a global perspective, recruiting and training overseas, is crucial. In addition, to cultivate personnel who can take on the management of the Company in the future, we should take a forward-looking approach that takes governance into account and involves delegating authority to senior employees. To realize sustainable growth, it is not enough to just focus on current management. It is also important to discuss what the Company should aim to become in the future. For example, the Company's long-term vision is to "become a world leader in the non-ferrous metals industry and an excellent company of Japan," but what specifically would such a company be like? From here on, I want the Company to also deepen discussion on topics with a focus on the near future.



### **Kazuhisa Nakano**

Mr. Nakano has been involved in company management for a long time, having previously served as both president and chairman of Idemitsu Kosan Co., Ltd. As the domestic market was becoming mature during his time at Idemitsu, he swiftly steered the company toward overseas development, promoting a growth strategy that included decisions such as investment in an oil refinery project in Vietnam. He has served as an outside director at SMM since 2016.

## **Establishing an environment in which talented personnel can perform is an important issue not just for Japanese society, but also for SMM**

Recently, the human resources and labor issues facing Japan include excessive working hours and getting women participating in the workforce. Going forward, Japan's working population will shrink rapidly. Unless we are able to realize an environment in which women, and indeed all talented personnel, can perform, sustainable growth will not be possible. I think these same important issues also apply to SMM.

I have been participating in the human resources and labor field as a lawyer for over 30 years. "Although it might be sound legal reasoning, it just doesn't work like that in company management..." In my time as a corporate lawyer, I've worked with many

companies and I have heard this kind of statement often. Each time, I have kept a firm stance as a legal expert and given my advice. Companies that do not practice compliance cannot increase in value. I intend to continue this approach at SMM and as an outside director, I will fully leverage my experience up to now and give my opinion.

I am also SMM's first female director. I feel I can play a positive role in reflecting women's unique perspective and sensibilities in the management of the Company.

This is also a new challenge for me as my first experience of serving as an outside director. I am greatly looking forward to learning many things.



### **Taeko Ishii**

Ms. Ishii was registered as a lawyer in 1986. She is a member of the Dai-ichi Tokyo Bar Association. She is particularly knowledgeable about legal practice concerning relationships between labor and management. Published works include "Legal Practices for Handling Problem Employees," and "A Q&A on Practice Relating to Equality Law, Childcare and Caregiver Leave Law, and Part-time Worker Law." She was newly appointed as an outside director at SMM in 2018.

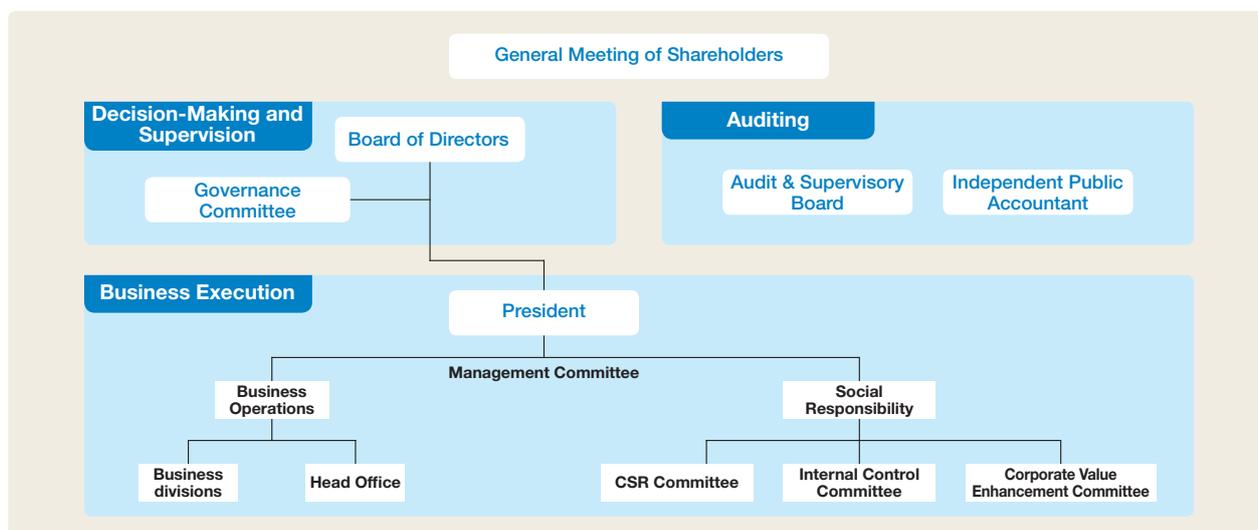
## Our Approach to Business and Sustainability

### The Board of Directors and Social Responsibility at SMM

SMM's Board of Directors oversees activities and progress toward Vision for 2020, the long-term vision that we seek to achieve through the value creation process and our business processes.

In executing our business under the responsibility of our president, we divide business activities into "business operations" that we discuss and execute, and "social responsibility," in which we discuss and respond to issues related to the sustainability of our business and issues related to the growth of our business. In the Management Committee, which serves

directly under the president, deliberations are held from a broad perspective on matters to be resolved by the Board of Directors and matters to be approved by the president, and have been determined to require deliberation, such as key management policies, management strategy, management plans, and capital expenditures. Also, in addition to deciding whether those matters will be referred to the Board of Directors, the committee supports approval granted by the president.



**Related information** See p. 18, 19 for information on the long-term vision and Vision for 2020.

### The Social Responsibility of the SMM Group

With the stable supply of mineral resources and materials as our mission, the SMM Group must fulfill its social responsibility, meeting the conditions of an every-changing society. To do that, it is important that we achieve continuous growth in our business, improve our corporate value, thoroughly enforce internal control

and oversee initiatives for internal control, and promote the SMM Group's social responsibility. In the execution of these activities and our corporate activities, we execute work through balanced business activities, and decide on important work in Board of Directors meetings.

### Committees and Framework

#### ■ Corporate Value Enhancement Committee

Working primarily through our Corporate Value Enhancement Committee to increase our corporate value, we position projects in excess of a certain investment value and expected return value in our mineral resources, smelting and refining, and materials businesses as large-scale projects. We categorize these large-scale projects under the labels "Sowing," which spans from narrowing down projects to selection; "Planting," which covers determination of the project organization to completion of construction for the project; "Nurturing," which ranges from the start of production to achievement of the design capacity; and "Harvesting," which covers ongoing verification of the project

through full production. For each of these, the committee receives status reports on project progress, and offers on-the-spot counsel and instruction.

The Corporate Value Enhancement Committee is chaired by the president, who appoints a senior managing executive officer who is not a general manager of a business division to serve as vice-chairman. General managers and deputy general managers of business divisions, the General Manager of Technology Div., the General Manager of Engineering Div., and the heads of related operational divisions in the Head Office serve as committee members, holding regular meetings twice a year.

## Internal Control Committee

To enforce internal control, we work primarily through the Internal Control Committee to build, maintain, and improve internal control systems in our group. The creation of internal control systems for the proper and efficient execution of business leads to enhanced legal compliance, efficiency, and transparency in management. We view internal control systems as vital tools in securing the sustainable growth of our group, and are working to strengthen

initiatives through the Internal Control Committee.

The committee operates with the president as chairman, the executive officer supervising the Internal Audit Dept. as the vice-chairman, and the general manager of the Internal Audit Dept. and other heads of related operational divisions in the Head Office as committee members.

## CSR Committee

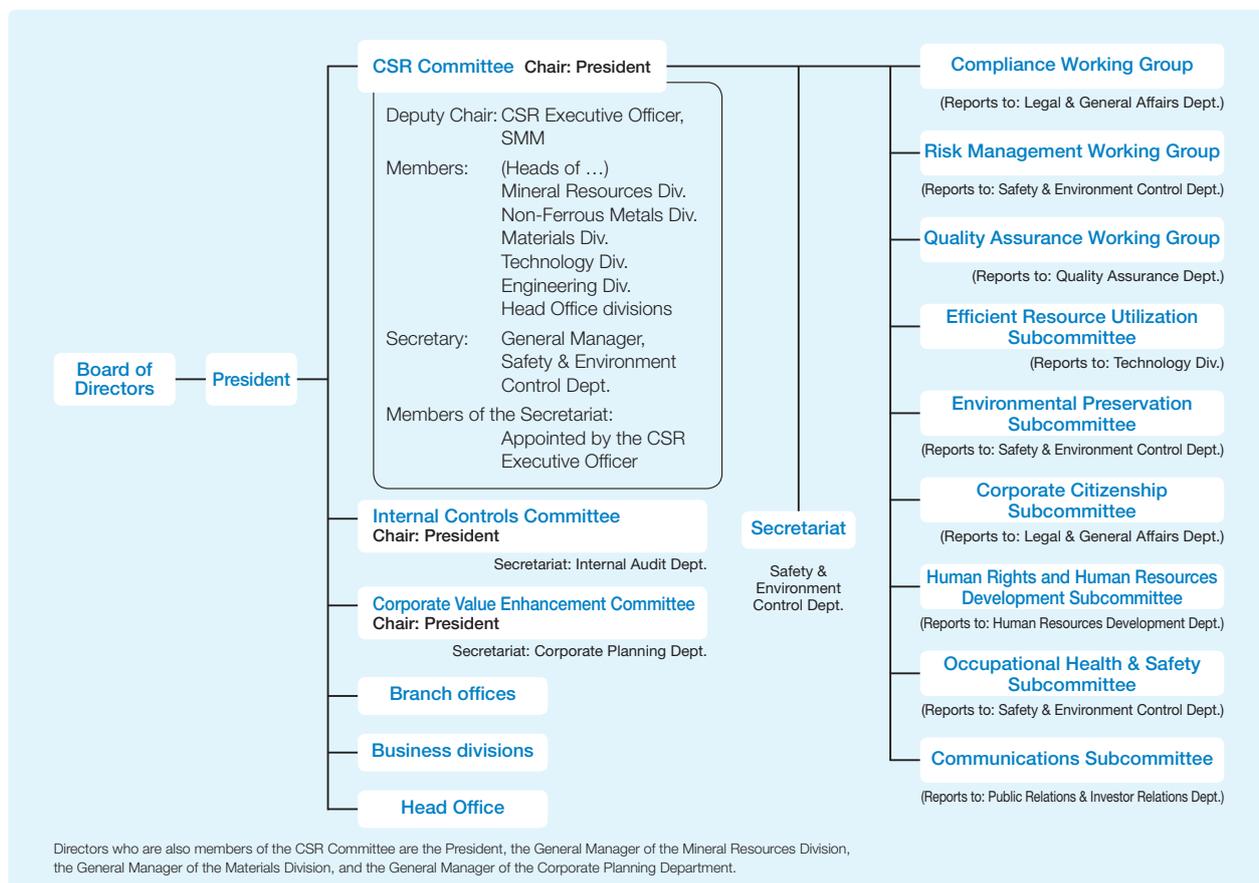
Working primarily through our CSR Committee to carry out our corporate social responsibility, we conduct deliberations on CSR policy, CSR areas of high priority, proposals to modify Vision for 2020, annual plans for CSR activities, and other key matters involving CSR activities, as well as deliberating and deciding on indicators for evaluating our progress toward Vision for 2020, regular evaluations and the launch of corrective measures concerning CSR activities, the provision of information concerning our work on CSR activities, information exchanges, explanations of key policy measures, sharing of knowledge, and major issues concerning CSR activities. We continue such initiatives with the goal of sustainable co-existence with the global environment, as set forth in the SMM Group Corporate Philosophy.

Attached to the CSR Committee are three working groups—the Compliance, Risk Management, and Quality Assurance

Working Groups—and six subcommittees, including the Efficient Resource Utilization Subcommittee, that address the six CSR areas of high priority.

Meeting twice a year, the CSR Committee is chaired by the president, with the CSR executive officer participating as deputy chair, the general managers of divisions, the General Manager of the Technology Div., the General Manager of the Engineering Div., and the heads of operational divisions in the Head Office as committee members, and the Safety & Environment Control Dept. as secretariat.

The six subcommittees and three working groups are under the jurisdiction of the relevant divisions, and draft and execute annual targets and plans in line with the KPIs set for each material issue.



## Risk Management

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The president is the person responsible for risk management (RM), and he formulates RM policy for each fiscal year. Based on this policy, each of our sites also formulates a fiscal year RM action plan, through which it engages in RM. For specifically identified serious risks, we engage in risk reduction measures that include drills simulating the materialization of risks, while strengthening our ability to respond to emergency situations.

SMM has a Crisis Management Framework for addressing particularly serious risks that carry the potential for serious damage and which must be dealt with by the SMM Group as a whole. Actions under the RMS include RM internal audits, risk reassessment during the RM Promotion Campaign, and RM patrols, allowing us to check for any changes that would impact RM activities.

## Compliance Initiatives

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The president is the person responsible for compliance initiatives and he appoints an executive to be in charge. The president, directors, and executive officers promote compliance initiatives. The SMM Group goes beyond compliance with laws, regulations, Articles of Incorporation, and its own rules, working to fulfill the moral and social responsibilities demanded of us as

a member of society, through sound corporate activities. As a rule, we report all violations of compliance by the SMM Group to the Board of Directors so as to halt such incidents at the outset. The Board of Directors monitors whether there is an appropriate framework for compliance and whether that framework is being effectively operated.

## Human Rights Management

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As well as being a corporate social responsibility, respect for human rights is something that should be valued for every single individual as a human being. The human rights of not only SMM employees but also stakeholders must be protected equally. In order to achieve this, the SMM Group provides the

necessary awareness education to all employees, in addition to implementing proper monitoring through the establishment of human rights hotlines, the conduct of human rights due diligence, and by taking prompt and appropriate action when a human rights problem is confirmed.

## Quality Control

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The president is the person responsible for quality control, and he addresses quality assurance by determining a Company-Wide Quality Policy and setting the SMM Quality Standards for each fiscal year. Based on these SMM Quality Standards, each business division sets forth division-specific quality targets, and the entire group is aligned when conducting quality activities.

The Quality Assurance WG meets two times a year, with

the Head Office Quality Assurance Dept. serving as Secretariat. In addition to deliberations on key measures for the promotion of quality assurance, the meetings feature reports on progress toward departmental targets and quality control status, including the reduction of complaints against the company. This sharing of information is then incorporated into further improvements in our quality control framework.

## Occupational Health and Safety Management

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With the president as the person responsible for occupational health and safety, the executive officers of the Safety & Environment Control Dept. execute work related to occupational health and safety. Also, each sector of our Head Office organization and each business site assigns a health and safety officer in charge of functional coordination relating to health and safety issues.

The general manager of each business site is appointed health and safety manager of that site, as provided for by the

Japanese Industrial Safety and Health Act. Health and safety management is advanced within the organization according to instructions given by the health and safety manager of each business site.

Constructive discussions on ways to improve health and safety in the workplace take place during meetings of the Occupational Health and Safety Committee comprising representatives from both labor and management.

## Environmental Management

Upon consideration of the SMM Group's environmental risk, the president sets targets (SMM Group environmental targets) every year as the person responsible. Acting on these targets, each business division's lines (i.e., workplaces and companies) operate environmental management systems established on the basis of the ISO 14001 standard, with the Safety & Environment Control Dept. providing cooperation, support, and functional direction as the Secretariat for these actions.

As for environmental management systems which serve as the basis for environmental preservation activities, the Head

Office, branches and all production bases and sites responsible for closed and suspended mines in the SMM Group have acquired ISO 14001 certification. In addition, any new production bases are also required to acquire certification as quickly as possible. Furthermore, since the occurrence of accidents at any time during the development of a mine creates the risk of significant environmental impacts, SMM works with our partners to mitigate environmental risks even at mines we do not operate, such as mines in which we hold an interest.

## The Basic Approach and Policies of the SMM Group

### SMM Group Code of Conduct

In 2000, the year after the JCO criticality accident<sup>1</sup> of September 1999, the SMM Group formulated a Corporate Reform Plan and embarked on a new beginning with three initial priorities:

1. Reconfirmation and Thorough Execution of the Corporate Philosophy;
2. Reinforcement of Corporate Organization;
3. Reform of Corporate Culture.

Based on the above, in 2004, we established the SMM Group Corporate Philosophy and the SMM Group Code of Conduct to be applied throughout the SMM Group. The Code of Conduct was revised in 2008 in line with the full-scale launch of our CSR activities and revised again in 2015 for responding to globalization and strengthening of CSR activities to further advance initiatives steadily put in place based on our long-term vision articulated in the 2012 3-Year Business Plan.

#### ■ SMM Group Code of Conduct (categories only)

- |  |  |
|--|--|
| 1. Compliance: Abidance by Laws and Rules                | 11. Handling of Intellectual Property                          |
| 2. Respect for Individuals                               | 12. Assurance of Quality                                       |
| 3. Assurance of Health and Safety                        | 13. Stance toward Performance of Sales and Purchasing          |
| 4. Development of Human Resources                        | 14. Stance toward Entertainment and Gifts                      |
| 5. Risk Management                                       | 15. Severance of Relationships with Socially Disruptive Forces |
| 6. Adherence to a Progressive Stance                     | 16. Concern for the Global Environment                         |
| 7. Respect for Teamwork, Promotion of Good Communication | 17. Attitude in the Performance of Global Business Activities  |
| 8. In Harmony with Society and Local Communities         |  |
| 9. Separation of Corporate Business and Personal Affairs |  |
| 10. Collection, Management and Usage of Information      |  |

See p. 119 for details of these 17 items.

Established April 2004

Revised April 2015

**Related information** See p. 2 for information on the SMM Group Corporate Philosophy.

1. JCO criticality accident: On September 30, 1999, criticality occurred as uranium was being handled at an SMM subsidiary, JCO Co., Ltd. Two workers died from radiation injuries as a result. This accident caused immeasurable suffering to the local community, with citizens living close to the plant forced to evacuate.

## CSR Policy

On the basis of our CSR Policy, the SMM Group actively engages in six CSR areas of high priority: Effective Use of Resources, Environmental Preservation, Contribution to Society

and Local Communities, Respect for People and Human Rights, Occupational Health and Safety, and Stakeholder Communication.

### ■ CSR Policy

- 1 SMM shall work to combat global warming by promoting recycling and effective resource utilization while also targeting technological innovation and continuous improvements in energy efficiency.
- 2 SMM shall promote sustainable co-existence with society by respecting the needs of local communities in which we operate around the world.
- 3 To continue sound business activities, SMM shall respect human rights and shall try to be a company in which diverse human resources take active parts.
- 4 According safety the highest priority, SMM shall provide safe, comfortable working environments and seek to eliminate occupational accidents.
- 5 SMM shall strengthen communications with all stakeholders to build healthy, trust-based relationships.

Established October 2008  
Revised July 2012

## Corporate Governance Guidelines

SMM views corporate governance as a disciplinary framework both for maximizing the corporate value of the SMM Group and for ensuring sound management practices. As such, it is one of the most important management issues.

Through striving to enhance our corporate governance,

we will conduct efficient and sound business activities, make positive contributions to society, and fulfill our responsibilities to our shareholders and all other stakeholders in order to realize the SMM Group Corporate Philosophy.

### Related information

See the following link for information about SMM's Corporate Governance Guidelines and Corporate Governance Report: <http://www.smm.co.jp/E/ir/management/governance>

## SMM Group Policy on Human Rights

SMM established the SMM Group Policy on Human Rights in 2010. The SMM Group is constructing a Group-wide human rights management program that incorporates a human rights due diligence framework based on the UN's Guiding Principles

on Business and Human Rights. We aim to build a structured system to prevent and avoid complicity in either direct or indirect violations of human rights, and to make possible more appropriate responses, including relief, to concerns that arise.

### ■ SMM Group Policy on Human Rights

The SMM Group's policy on human rights, in accordance with the SMM Group Corporate Philosophy and the SMM Group Code of Conduct, has been established as follows.

- 1 The SMM Group will comply with domestic laws and international standards relating to human rights and encourage persons within the Group, as well as outside parties over which the Group has influence, to work toward the realization of a society without human rights infringements.
- 2 The SMM Group will not allow harassment or other incidents of a discriminatory nature within the Group and will make efforts to prevent such incidents from occurring among outside parties over which the Group has influence.
- 3 The SMM Group will not engage in child labor or forced labor and will make efforts to prevent child labor or forced labor from occurring among outside parties over which the Group has influence.
- 4 The SMM Group will show other considerations to human rights in addition to items 1-3 above within the Group and in relationships with outside parties over which the Group has influence.
- 5 The SMM Group will establish appropriate measures and procedures for responding to human rights problems should they occur.
- 6 The SMM Group will identify and stay aware of the current and changing state of human rights in the world, as well as the impact of corporations in the area of human rights, and carry out awareness-raising activities and other necessary measures on an ongoing basis.

Established August 2010  
Revised October 2015

## Company-Wide Quality Policy

To achieve continuous improvement in the products the SMM Group manufactures and sells, we have established a Company-Wide Quality Policy, upon which each business division sets forth its quality policy. We pursue product creation that combines

outstanding safety, quality, and the environment in a way possible only for the SMM Group, excavating ore, a natural resource, making it into metal materials by smelting and refining, and adding new value to those materials.

### ■ Company-Wide Quality Policy

Provide quality to satisfy our customers through continual improvements of quality assurance and control systems.

- 1 Pursue quality levels that stand out from the trends of the time
- 2 Abide by laws and rules and strive to create products incorporating safety and environmental considerations

Established January 1994  
Revised January 2007

## Partnerships with Outside Organizations

SMM participates in the international organizations listed below, issues declarations of support, complies with the organizations' rules, and supports their activities. As a company in the mining

and metal refining industries, we undertake initiatives for the sustainable development demanded of us.

International Council on Mining and Metals (ICMM) <https://www.icmm.com/>  
Extractive Industries Transparency Initiative (EITI) <https://eiti.org/>

**Related information** See p. 118 for information on the 10 Principles of the ICMM, ICMM Position Statements, and the EITI Principles.

## Sustainability Strategies and Our Commitment

### Material Issues for SMM

#### SMM's Stakeholders

At the SMM Group, the following entities were identified as stakeholders that are affected by the Group, or affect the Group: Customers, Shareholders, Employees, Regional Communities, Creditors, Business Partners, Citizens Groups, and Government

Agencies. The SMM Group aims to maximize its corporate value with a specific target established as the SMM Group's proper objective for each stakeholder.

#### ■ The SMM Group's Stakeholders and Proper Objectives regarding Each Stakeholder

<b>To Customers</b>	Be a company that accurately understands customer needs and has comprehensive competitiveness with an edge over other firms with respect to technology, quality, delivery and costs.
<b>To Shareholders</b>	Be an excellent entity in which to invest: one that pursues maximum corporate value through efficient management and sound governance, disburses dividends matching its business performance, and discloses information as appropriate.
<b>To Employees</b>	Be a company that provides a favorable work environment, clearly defines the roles of all individuals within the organization, and makes employees proud to work for it.
<b>To Regional Communities</b>	Be a company that coexists well with its regional communities and that makes positive contributions to those regions' development.
<b>To Creditors</b>	Be a company that has earning capacity, outstanding financial strength, and trustworthiness.
<b>To Business Partners</b>	Be a company that possesses outstanding technological strength, places importance on integrity and trust, and is capable of co-prosperity.
<b>To Citizens Groups</b>	Be a company that is keenly alert to its social responsibilities and undertakes appropriate communication.
<b>To Government Agencies</b>	Be a company that implements compliance fully and makes positive contributions for the benefit of the countries and regional communities where it is undertaking its projects.

## Identification of Material Issues

To achieve the continuous creation of value, the SMM Group assesses, categorizes, and organizes the risks and opportunities that affect that value, reflecting them in our medium- to long-term strategies (see p. 34, 35). In our sustainability strategies, we identified 26 material issues (see p. 36, 37) in 2015 based on SMM's material issues identification process in Steps 1-4 below,

and take a strategic approach toward six CSR areas of high priority: Effective Use of Resources, Environmental Preservation, Contribution to Society and Local Communities, Respect for People and Human Rights, Occupational Health and Safety, and Stakeholder Communication.

### Step 1 June 2014

#### Identification of sustainability issues

As sustainability issues, we identified a variety of issues that positively or negatively impact the formation of a sustainable society. In doing so, we focused on the guidelines at right, with the result that we identified 102 issues. We further consolidated the issues according to their shared qualities, in the end identifying 58 sustainability issues.

#### Guidelines referenced

- Aspects of the GRI Sustainability Reporting Guidelines Version 4 (G4)
- Issues in ISO 26000
- Principles and position statements of the ICMM
- The Ten Principles of the United Nations Global Compact
- Items noted in the DJSI and other corporate assessments

### Step 2 July 2014–August 2014

#### Assessment of materiality and identification of material issues

We evaluated these issues on the two axes of materiality for stakeholders and materiality for the business of the SMM Group. We identified 26 material issues for which importance is high on both axes and for which our current initiatives should be strengthened.



#### Main perspectives in evaluation of materiality

##### Materiality for stakeholders

- Degree of impact on stakeholders' immediate rights
- Opinions of stakeholders
- Requests directed at the SMM Group, organizations to which we belong, and our industry
- Social issues in areas where we operate, and the scale of these social issues
- Scale of the potential negative or positive impacts of our business

##### Materiality for the business of the SMM Group

- Degree of impact on our social license to operate
- Degree of relationship with our business policy and business strategy
- International social norms and industry rules
- Opportunities for income and sources of competitiveness in the future

### Step 3 September 2014–November 2014

#### Consideration of draft revisions to the Vision for 2020 and KPIs

We categorized the identified material issues into our Six CSR Areas of High Priority and formulated draft revisions to the Vision for 2020, in line with our targets and our approaches for addressing the organized material issues as a Group. We also

identified specific targets and KPIs for assessing our degree of achievement toward the Vision for 2020.

(Specific targets and KPIs correspond to the targets of the relevant subcommittee. See Activities and Achievements for the Six CSR Areas of High Priority (p. 92–97) for details)

### Step 4 December 2014–March 2015

#### Validation

The Chairman, President, and all 24 executive officers took part in 15 hours of deliberations on the considered material issues, the Vision for 2020, the specific targets, and the KPIs, with a focus on verifying consistency with our business policy

and business strategy. Validation of the final draft was carried out through confirmation by the CSR Committee and decision by the Board of Directors.

## ■ Regarding Boundaries

In the process to identify material issues, as a result of analyzing and verifying the effects on our own business activities and in the supply chain, the boundaries for the material issues below were established as follows. Boundaries other than these apply to the SMM Group (see p. 6–7 for the Group's scope).

SMM Group & Suppliers	Topic: <b>Environmental</b>	Emissions (Material issue <b>8</b> )
	Topic: <b>Environmental</b>	Effluents and Waste (Material issue <b>8</b> )
Suppliers	Topic: <b>Human Rights</b>	Supplier Human Rights Assessment (Material issue <b>20</b> )

## Setting Targets for SMM's Material Issues

For information about our thinking, targets, and KPIs concerning material issues in the six CSR areas of high priority (Effective Use of Resources, Environmental Preservation, Contribution to Society and Local Communities, Respect for People and

Human Rights, Occupational Health and Safety, and Stakeholder Communication), as well as our FY2017 performance, issues, and FY2018 plans, see the sections on our thinking and our performance on p. 92 and later.

## Response to Complaints and Comments Directed at Our Group

In terms of human rights-related response, our group has established the Speak Up System direct hotline for employees, conducts human rights due diligence on employees and suppliers, creates regular opportunities for communication with local communities, and engages with those communities. Each of

our domestic and overseas workplaces acts as a point of contact for complaints related to the environment, while sales and other sites act as points of contact for complaints about products and services. Our website features a page that directs viewers to points of contact for all types of inquiries.

**Related information** See p. 86 for information on the Speak Up System.  
See the following link for contact information: <http://www.smm.co.jp/E/contact/>

## Evaluation of Sustainability

The CSR Committee reviews the activities of each area based on reports from working groups and subcommittees. Reviews include activity progress reports and activity plans for the next fiscal year, evaluations of the company's environmental,

social, and economic performance, the execution of corrective measures where necessary, and the implementation of our PDCA (Plan-Do-Check-Act) cycle.

## Activities for Sustainability and Growth

### Risk Management

#### Risk Management Framework

Setting SMM risk management (SMM RM) as a cornerstone to strengthen our corporate structure, the SMM Group has established an enterprise risk management system (RMS) built on Six Principles.

The president of SMM is the highest responsible person for SMM RM, and formulates RM policies every fiscal year.

The SMM RM framework, our responses to the manifestation of risks, and other matters related to risks are set forth in the company regulations. The progress of RM activities across the SMM Group is checked by the RM Working Group under the CSR Committee. The RM Working Group checks current RM issues, annual RM policy, annual RM action plan progress, and strengthens the Group-wide risk awareness level, and so on. Each RM activity throughout the Group is driven by an RM Promotion Officer placed in each division.

In the SMM Group, the top management of each division or business site formulates and enacts an annual RM action plan based on present conditions. Serious risks registered in the databases are addressed to reduce the risks in accordance with the annual RM action plans under the PDCA cycle concept, and the outcomes of activities are evaluated, and the RM action plans are improved. Drills based on the assumption that a risk materializes are planned, and evaluations of these drills are used to increase group capability to respond to emergency situations. The SMM Group also has a Crisis Management Framework to address what it calls SMM Group-wide Serious Risks, if they materialize.

Furthermore, SMM RMS activities include RM internal audits to check RM performance and reassess risk during the RM Promotion Campaign to check for any changes that would impact RM activities.

The SMM Safety & Environment Control Dept. educates people in the company about the RMS and takes RM patrols as opportunities to assess the operational status of the RMS in divisions, at business sites, and at group companies, and offer support to the RM activities of these. To ensure that SMM RM activities are effective, the department manages the RM Working Group and RM Promotion Officers, conducts RM internal audit seminars, and gives counsel for drills.

#### Principal Managed Risks

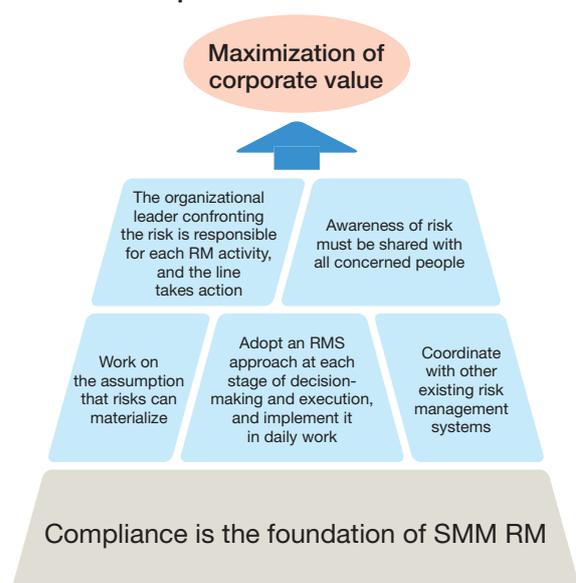
Each organization that forms a unit of RM activity performs a review of risk registration sheets as needed when changes occur, or regularly during the Risk Promotion Campaign in September with special attention given to the risks noted below.

- Explosions and fires
- Natural disasters
- Quality failure
- Terrorism / abduction
- Violation of intellectual property rights
- Others Other risks include those originating from moral misconduct, such as fraudulent accounting, information leaks, human rights issues, and malfeasance.
- Environmental pollution
- Legal violations
- Occupational accidents
- Pandemics

#### Initiatives

The SMM RM policy for FY2018 proclaims, "Top management will take the lead in deciding what the organization must do, and controlling business risks." As sound business operation forms the basis for contribution to society, top management works to prevent occupational accidents, compliance violations, environmental accidents, quality issues, and other problems; leads new businesses and projects to success, and in crises, by exercising leadership for BCP-based activities.

#### The Goals of Risk Management and the Six Principles of RM Activities



## Responding to Natural Disaster Risks

Each site enacts measures against natural disasters, such as earthquakes, tsunamis, floods, liquefaction, landslides, and volcanic eruptions, in accordance with each site's hazard level. In addition to ongoing measures such as seismic reinforcement of buildings, stockpiling of food and water, and evacuation drills, in recent years improvements including shoreline reinforcement, strengthening of wastewater treatment capability, installing extra water storage tanks, and enhancement of emergency supplies have been implemented.

## Implementing Drills

Each business site engages in drills that simulate the occurrence of environmental accidents, fires, earthquakes, and other

emergencies. These drills are planned according to purpose, including hands-on, in-service drills conducted in line with scenarios and response procedures, workshop-based drills in which participants are presented with a situation to be addressed, and "blind scenario" training that tests instantaneous response capabilities.

## SMM RMS Adoption at Overseas Business Sites

At overseas business sites, SMM RM is mainly managed by general managers and other staff from SMM corporate. To further instill SMM RM, local staff participate in RM activities as well. New overseas business sites work on adopting SMM RM under the support of the managing business divisions, and overseas group businesses that have already adopted the SMM RMS.



Drill for transport of injured people  
(Nittosha Co., Ltd.)



Drill for evacuating injured people via stairs  
(Shinko Co., Ltd.)



Drill to respond to the abduction of employees  
stationed abroad (SMM Head Office)

## Targets and Action Plan to Address Issues

### Prevention of Serious Industrial Accidents

#### Issues

Prevention of serious accidents such as occupational accidents, explosions or fires originating in equipment and processes, and leakage of hazardous substances (chemical solutions, gases, petroleum products, mining sediments, etc.)

#### Action plan for improvements

- Solid execution of risk assessment and risk response before the start of operations
- Improvement and renewal of existing facilities and processes that present elements of risk
- Improvement of management techniques through review of operational procedures and education/training

### Review of Business Continuity Planning (BCP)

#### Issues

Creation of continuity plans for businesses required to continue

#### Action plan for improvements

- Inspection of disaster readiness plans and business recovery plans, and continuous review through response drills
- Consideration of and response to the necessity of frameworks for continuing the provision of products and services, without depending on the recovery of production sites and supply chains

### Group-Wide Strengthening of Crisis Management

#### Issues

Response to diversifying risks, including natural disasters and acts of terrorism

#### Action plan for improvements

- Promotion of efficient deliberation and action on Group-wide risk response preparations by the Crisis Management Committee
- Improvement of competence through drills in cooperation with business sites and the SMM Head Office, incorporating supervision and guidance from experts

## Compliance Management and Improvement

Compliance management is performed according to our internal basic compliance regulations. We have established the Compliance Working Group under the CSR Committee to promote and improve compliance management. The Compliance Working Group provides and exchanges information, and discusses policy and key measures concerning the promotion of compliance to the SMM Group.

In FY2017, the Compliance Working Group convened and confirmed the following.

### 1. Compliance Monitoring

Looking at our compliance status in FY2017, there were no major violations concerning the environment, products, or services, or major violations of laws or regulations, including competition laws.

### 2. Review of Compliance Training

The SMM Group's compliance requires ethics-based conduct and decision-making that go beyond abidance by the laws and regulations, and that key matters related to compliance are made known to employees through a range of various training programs.

Also, in order to prevent serious violations of the law from occurring, we have the following company regulations, and we work to promote compliance.

#### Company Regulations Concerning Compliance

- Regulations on insider trading prevention and information management
- Regulations on the safeguarding of personal information
- Export administration regulations
- Regulations on the management of confidential information
- Regulations for the prevention of bribery, etc.

### Speak Up System

In situations where problems or doubts under the SMM Group Code of Conduct occur, and consultation with superiors fails to bring forth an appropriate response, employees are able to use the Speak Up System to directly report the matter to: (i) in-house liaisons which are the general managers of the Legal & General Affairs Department, the Safety & Environmental Control Department, and the Internal Audit Department; or (ii) outside liaisons which are designated attorneys. The source of the information is always kept secret and if, for any reason, the informant is treated unfairly, the person who initiated the unfair treatment will be punished appropriately.

In FY2017, there were five cases brought up through the SMM Group Speak Up System. Broken down, these were three cases involving harassment, one case involving employee management, and one case involving salary and hiring. Each of these consultations was handled appropriately.

**Related information** See p. 119 for information on the SMM Group Code of Conduct.

### Participants of Compliance Education (FY2017)

Type of seminar	Target	Gender	Participants
Compliance seminar for general managers	Officers	Male	36
		Female	0
Lecture on systems to prevent bribery	Younger than 30	Male	29
Briefing on systems to prevent bribery		Female	8
Introductory training for new employees	Employees	Male	93
		Female	10
Seminar for newly promoted E-class employees/section managers	50 and older	Male	175
		Female	1
JCO Study Center training	Officers	Male	0 <sup>1</sup>
		Female	0
	Employees	Male	361
		Female	90

Note: Attendees include those belonging to equity-method affiliates. The information in this table covers Japan.  
1. All attendees completed the course in previous fiscal years.

## Initiatives for Respect for Human Rights

### Responsible Mineral Sourcing

The SMM Group Policy on Human Rights (established and enacted in 2010; see p. 80) establishes that “the SMM Group will not engage in child labor or forced labor” and that we will “make efforts to prevent child labor or forced labor from occurring among outside parties over which the Group has influence.” We conduct responsible mineral sourcing under this policy.

With regard to “conflict minerals” (gold, tin, tantalum, and tungsten) in particular, reporting requirements and regulations on businesses are being strengthened in the U.S. and Europe. This is due to resources mined from the Democratic Republic of the Congo and nine surrounding countries being involved in child labor, forced labor, and other human-rights violations, and in the expansion and prolonging of conflict by providing financial resources for armed groups. To ensure that the smelting and refining of gold in our business does not make use of conflict minerals, in FY2012 we began operating in accordance with the Responsible Gold Guidance of the London Bullion Market Association (LBMA) and undergo periodic audits by a third party organization.

The SMM Group’s Coral Bay Nickel Corporation (CBNC) plant on Palawan Island and Taganito HPAL Nickel Corporation (THPAL) plant on Mindanao Island in the Philippines receive supplies of low-grade ores from surrounding mines, from which we produce mixed nickel-cobalt sulfides and then manufacture electrolytic nickel, electrolytic cobalt, and other products at the Niihama Nickel Refinery in Japan. In recent years, cobalt has become another target of responsible mineral sourcing for which we must prevent child labor and forced labor, and for which our company is aiming for transparency in the supply chain.



LBMA Responsible Gold Certificate

### Suppliers, Local Communities, and Employees

The SMM Group engages in the following initiatives, based on the SMM Group Policy on Human Rights.

#### 1. Suppliers

As a component of our human rights management program, starting in 2015 our mineral resources, smelting and refining, and materials divisions, in cooperation with the Purchasing Department, ask about 60 of our largest suppliers by annual transaction value to respond to a triennial questionnaire on human

rights. Based on the results, the divisions and the Purchasing Department each designate one company, or four total, as a target of inspection, and make visits to survey the companies.

When conducting business with mining companies that are new suppliers to our smelting and refining business, we perform environmental due diligence (environmental DD) to evaluate how those companies carry out environmental management. In FY2017, there were no new suppliers for which we conducted environmental DD.<sup>1</sup>

#### 2. Local Communities

There are occasions when we inevitably have to ask local citizens to relocate to make way for development of the mine or the construction of associated facilities. On such occasions, we seek the consent and understanding of local citizens beforehand and offer alternative land. Even after relocation, we continue to provide support through initiatives to repair and maintain homes and help to restore people’s livelihoods.<sup>1</sup>

Moreover, we conduct regular exchanges of information with Friends of the Earth Japan (FoE Japan) on river water quality, the living conditions of local communities, and other topics concerning the areas surrounding our CBNC and THPAL plants in the Philippines.<sup>2</sup>

#### 3. Employees

We launched full-scale operation of a human rights management program in FY2014, and conducted a basic survey regarding human rights at business sites and group companies in Japan and overseas in FY2016. At sites where issues were identified, we are making improvements and conducting on-site inspections as required.

To deepen awareness of human rights and prevent related issues, we conduct human rights education appropriate to the circumstances, such as when joining the company, when one is promoted, and when one is sent overseas. Every December, which includes Human Rights Week, we also conduct human rights education for all employees in business sites and group companies in Japan and overseas.

To prevent harassment, every site appoints a person to be in charge of prevention. We have also set up a consultation hotline and engage in ongoing initiatives to combat this issue.<sup>1</sup>

1. See p. 110 for details on Sustainability Data: Social and Environmental Assessment Initiatives.  
2. See p. 116 for details on Sustainability Data: Stakeholder Engagement.

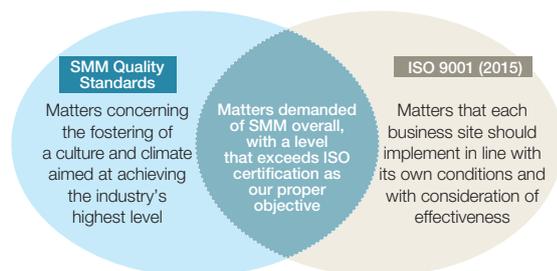
### SMM Quality Standards

In January 2016, we started operating under the SMM Quality Standards, which has the proper objectives for quality control, to effectively operate the quality management systems of the SMM Group's business sites.

Every fiscal year, each business site sets and acts in accordance with a target level for the SMM Quality Standards, and checks its achievement of quality control levels through self-assessment and through second-party audits by the Quality Assurance Department.

In FY2017, audits were performed at 27 business sites in the SMM Group, and we confirmed that the level of quality control has increased at all of the sites.

In FY2018, we will continue to conduct quality activities and second-party audits at business sites, and will undertake revision of the SMM Quality Standards to further heighten the level of quality control we must aim for.



Conceptual diagram of SMM Quality Standards: The relationship between ISO 9001 (2015) and the SMM Quality Standards

### Development of Human Resources

To continually provide quality that satisfies customers, it is necessary for employees themselves to think and take action, so as to be able to respond to ever-changing demands and circumstances. As a component of our education activities, we are stepping up “minipro” improvement activities and small-group activities to firmly establish a culture in which employees identify and improve on-site issues independently, paving the way for organizational growth.

We are also working to improve the effectiveness of quality management systems; we have conducted training four times since 2016 to develop quality control representatives who will improve the control level of the SMM Quality Standards.

### Strengthening Our Internal Quality Audits

As incidents of inappropriate quality control continue to occur, there is increasing concern over quality control within society as a whole. At all companies in the SMM Group, we performed quality audits for falsification of inspection data, and were able to confirm that at the present time there are no quality issues that would cause the loss our customers' trust.

We work to develop internal quality auditors who can find falsification of inspection data or other violations of procedure, and, in addition to strengthening internal quality audits as a function for checking quality control, will construct a framework for checking the implementation status of internal quality audits at all business sites.



An SMM Quality Standards audit (Hyuga Smelting Co., Ltd.)



Quality control representative training (Besshi district)

## Disclosure of Information on Products and Services

Most items in the SMM Group product lineup are supplied as raw or processed materials for use by customers for manufacturing. Information customers require in order to handle our products properly from safety and environmental perspectives, as well as information needed to enable them to supply final products, is basically communicated in product specifications at the time of contracting, during technical discussions and via product inspection certificates and SDS, based on prior and the latest information, proprietary knowledge and necessary studies.

SMM products supplied as final products to customers are carefully designed, incorporating considerations toward safety and environmental compatibility, and are only delivered after thorough trials and inspections carried out during their manufacture.<sup>1</sup>

We make sure that information utilized for the above is always appropriate through management systems, reviewing it based upon the latest technology, laws and regulations and demands from customers.

## Communication with Customers

As for raising the level of customer satisfaction, first we will improve methods of measuring and evaluating customer satisfaction and then work to increase customer satisfaction through effective measures after accurately identifying the issues at hand. To that end, accurate and ample communication with customers is crucial. By keeping stakeholders in mind, we build products with quality, improving the yield of our products and contributing to resource and energy reduction efforts.

## Information on SMM Products Requiring Disclosure by Labeling and Applicable Products/Services

Information requiring disclosure	Applicable products/services
The sourcing of components of the product or service	All products/services containing substances requiring management under legislation while no such information requirement is addressed to our main products (raw materials and internally-processed materials).
Content, particularly with regard to substances that might produce environmental or social harm	All products/services containing substances requiring management under legislation
Safe use of the product or service	All products/services containing substances requiring management under legislation
Environmental/social harm from disposal of the products	All products/services containing substances requiring management under legislation

### Methods for Providing Information

#### Provision of Information Relating to Specifications

- We indicate product specifications requested by the customer on the order received sheet to provide necessary information to them.

#### Provision of Information Relating to Chemicals

- The SMM Group uses SDS, etc. to provide information on chemical substances contained in products, complying with regulations for chemical substances and usage, regarding health and safety.

#### Other Initiatives

- The SMM Group also engages in transactions such as the sale of different types of lubricants to general consumers. In line with related laws and regulations, we provide information on products and services in this area through labeling, advertisements and explanations to ensure correct understanding.

## Issues and Targets

All employees are aligned toward the objectives and future direction, and actively take part in reaching targets, so we are able to achieve quality that customers trust completely. This requires decisions and implementation based on facts obtained through external and internal communication. To ensure this is done, we will continue to implement initiatives to effectively utilize the quality management system through various activities based

on the SMM Quality Standards, including quality management education for the manager of each site.

Further, regarding product safety and information disclosure, we are providing information on substances contained in our products and materials and we will work to strengthen systems for accurate and rapid responses to customer requests.

1. We also conduct surveys linked to life cycle assessments (LCA) for copper, nickel and zinc through substance-specific associations.



**SDGs Initiatives**

**SMM is launching initiatives to learn about and deepen our understanding of the SDGs.**

How can we contribute to a society in which no one is left behind? As we begin to formulate our Vision for 2030, the SMM Group is starting from activities to learn about and deepen our understanding of the Sustainable Development Goals (SDGs), which have the same target year.

**Learning about and understanding the SDGs to formulate our Vision for 2030**

In 2008, the SMM Group identified material issues that are vital to both stakeholders and to the SMM Group's business and toward which we must strengthen our initiatives. We organized these into six areas of high priority, formulated our Vision for 2020, and have been engaging in activities centered on the six subcommittees of the CSR Committee. As 2020 will be here the year after next, we are preparing to formulate a Vision for the next 10 years, with 2030 as its target, drawing on our evaluation of the degree of accomplishment, identified issues, and other aspects of Vision for 2020. The SDGs also set 2030 as their target year, and address a wide range of issues surrounding economies, societies, and the environment, with the aim of achieving a sustainable society in which no one is left behind. Viewing consideration of the SDGs as indispensable in considering the next Vision, all executives and employees of the SMM Group believe that it is important to learn about and deepen understanding of the SDGs' 17 goals and 169 targets, and the background behind their formulation.

**Let's learn about and deepen our understanding of the SDGs! (Declaration aimed at Group executives and employees)**



**SMM launches support for Group executives and employees learning about the SDGs!**

From June 2018, we held a total of 10 "SDGs Lectures" (250 participants) at the Head Office, the Besshi-Niihama District Division in Ehime Prefecture, and the Hishikari Mine in Kagoshima Prefecture. The lectures were headed by Kaori Kuroda, Executive Director of CSO Network Japan, who was involved in the formulation of Japan's guidelines for the SDGs. For employees who were unable to attend the lectures, we made available an e-learning program created by our company (learning time: about 15 minutes), and began support for learning about the SDGs aimed at the formulation of Vision for 2030.



An SDGs Lecture (Head Office)

## Our main initiatives concerning the SDGs in FY2017

### Lectures on our business and CSR, and the SDGs at two symposiums



Asahi World Forum 2017  
“Overcoming Divides for Our Future”  
(October 3, 2017; sponsor: The Asahi Shimbun Company)



Nikkei Social Innovation Forum  
“Considering Sustainable Society through the SDGs”  
(November 22, 2017; sponsor: Nikkei Inc.)

Atsushi Kaikake, General Manager of Safety & Environment Control Dept. and the Executive Officer in charge of CSR, spoke at two symposiums on the topic of SDGs: the Asahi World Forum 2017 on October 3, 2017, sponsored by The Asahi Shimbun Company; and the Nikkei Social Innovation Forum on November 22, 2017, sponsored by Nikkei Inc.

The content of both talks covered SMM's history, CSR initiatives, business activities, and more, with a focus on examples of initiatives prioritized in business activities such as environmental considerations and co-existence with local communities. As an example that demonstrates SMM's concept of contributing to society by shouldering its corporate responsibilities as a member of society, the talks introduced employee education on human rights, occupational safety, and environmental preservation initiatives, such as restoration of the ruined the Besshi Copper Mine through reforestation, and the rehabilitation of tailing dams currently underway at business sites in the Philippines.

The talks also revealed how, for SMM, CSR activities are an integral component of business activities, are founded on the Sumitomo Business Spirit that has been valued throughout the company's 420-year history, and share an affinity with the SDGs.

### Cooperating with a student contest for achievement of the SDGs



University SDGs ACTION! AWARDS  
(March 10, 2018; sponsor: The Asahi Shimbun Company)

SMM offered special cooperation with the University SDGs ACTION! AWARDS sponsored by The Asahi Shimbun Company to support young peoples' contributions to the SDGs. This program solicits and screens ideas based on the outcomes of research and initiatives by the students, young researchers, university NPOs, student groups, and other targets of the program.

At the final screening on March 10, 2018, SMM Managing Executive Officer Hiroyuki Asai delivered a talk and presented the Sumitomo Metal Mining Award to university students who conducted a survey of urban mining businesses in Southeast Asia.

# Activities and Achievements for the Six CSR Areas of High Priority

## Effective Use of Resources

Goals and KPIs	FY2017 Achievements	Issues and Targets	FY2018 Plans
<b>1. Develop and implement technologies to efficiently recover resources (low-grade/hard-to-process ores)</b>			
1) Promote rational use of low-grade nickel ore (make nickel produced from low-grade ores 2/3 of nickel production overall)	<ul style="list-style-type: none"> <li>Built stockpiles according to grade near the CBNC plant (April 2017), conducted test receipt of external ores, and otherwise continued measures aimed at the efficient utilization of remaining recoverable ores</li> </ul>	<ul style="list-style-type: none"> <li>Obtain permissions for new CBNC mining zones</li> </ul>	<ul style="list-style-type: none"> <li>Work to extend life of existing mines, and seek understanding from authorities in the Philippines regarding permissions for new mining zones</li> </ul>
2) Achieve profitability in our copper business by developing processing technologies for low-grade/hard-to-process ores	<ul style="list-style-type: none"> <li>Participated in a project by JOGMEC to develop technologies for reducing impurities in copper raw materials. Also commenced joint research with universities on technologies to recover fine particles, which is difficult to perform with conventional mineral processing technologies</li> </ul>	<ul style="list-style-type: none"> <li>Examine the application of technologies for actual concentrate and process concentrated products containing impurities</li> </ul>	<ul style="list-style-type: none"> <li>Cooperate with peers to develop technologies for reducing impurities through pyrometallurgical processing, mineral processing, bioleaching or combinations of these</li> </ul>
3) Develop efficient gold mining technologies	<ul style="list-style-type: none"> <li>Examined the application of mining methods that are even lower-cost than current methods at the Pogo Gold Mine</li> </ul>	<ul style="list-style-type: none"> <li>Optimize mining methods to the characteristics of each deposit and design implementation for those methods</li> </ul>	<ul style="list-style-type: none"> <li>Bring low-cost mining technologies to maturation and expand the scope of their application</li> </ul>
4) Participate in sea-floor resource development projects (contribute to the development of mining technologies and processing solutions)	<ul style="list-style-type: none"> <li>Continued participation in the massive sulfide deposit development and cobalt-rich ferromanganese crust (CRC) development projects by JOGMEC. Conducted conceptual design for CRC miners and basic testing for concentration processes using mineral processing technology</li> </ul>	<ul style="list-style-type: none"> <li>Secure CRC mined tonnage and plan and implement pilot tests</li> </ul>	<ul style="list-style-type: none"> <li>Evaluate the economic efficiency of massive sulfide deposit development and continue CRC mineral processing and smelting and refining tests</li> </ul>
<b>2. Develop new and effective uses for by-products</b>			
1) Recover and market scandium from nickel oxide ore	<ul style="list-style-type: none"> <li>Completed construction of the scandium recovery plant in October 2017 and commenced test operation</li> </ul>	<ul style="list-style-type: none"> <li>Stabilize operation of the recovery plant and cultivate new markets</li> </ul>	<ul style="list-style-type: none"> <li>Develop production technologies for high-purity scandium</li> </ul>
2) Recover raw material for iron and steel manufacturing from nickel oxide ore (commercialize chromite and hematite)	<ul style="list-style-type: none"> <li>Advanced preparations to build a chromite recovery plant and in December 2017 obtained internal approval for construction</li> </ul>	<ul style="list-style-type: none"> <li>Further the design and construction of the plant according to plan</li> </ul>	<ul style="list-style-type: none"> <li>Further the construction of equipment with the aim to complete construction by April 2020</li> </ul>
<b>3. Promote recycling</b>			
Improve our effective use of recycled resources	<ul style="list-style-type: none"> <li>Continued to develop recycling processes for secondary lithium batteries. Specifications for a pilot plant were largely finalized</li> </ul>	<ul style="list-style-type: none"> <li>Collection of secondary battery scrap and verification of the recycling processes</li> </ul>	<ul style="list-style-type: none"> <li>Build pilot plant and start operation</li> </ul>

## Environmental Preservation

Goals and KPIs	FY2017 Achievements	Issues and Targets	FY2018 Plans
<b>1. Advance biodiversity preservation initiatives</b>			
1) Implement global warming countermeasures			
(1) Expand materials business for products contributing to a low carbon society (creating, storing, and saving energy) Achieve a 5-fold expansion of revenue (measured against FY2011) from materials for products contributing to a low carbon society	<ul style="list-style-type: none"> <li>Revenue from materials for products contributing to a low carbon society in FY2017 was 6 times that of FY2011, meeting the goal</li> </ul>	<ul style="list-style-type: none"> <li>Accommodate expanded demand for secondary battery materials, such as for EV use</li> </ul>	<ul style="list-style-type: none"> <li>Start up expanded production according to plan to produce additional quantities of secondary battery materials</li> <li>Work to further expand sales of infrared shielding inks</li> </ul>
(2) Reduce CO <sub>2</sub> emissions from operations Continue to reduce CO <sub>2</sub> emissions equivalent to approximately 1% per year	<ul style="list-style-type: none"> <li>Made 35 capital investments based on an internal scheme for promoting effective energy-saving and CO<sub>2</sub> reduction (management of capital expenditure program to reduce CO<sub>2</sub> by 20 kilotons by 2020), with total investment amounting to ¥362 million (based on the budget)</li> </ul>	<ul style="list-style-type: none"> <li>Ascertain and evaluate actual reductions of CO<sub>2</sub> emissions for each investment project conducted in FY2017</li> </ul>	<ul style="list-style-type: none"> <li>Be sure to implement 40 investment projects in FY2018 with a budgeted investment amount of ¥261 million</li> </ul>
Contribute to CO <sub>2</sub> emission reductions by constructing a plant using HPAL, etc., which has significant energy saving advantages over other technologies such as nickel pig iron	<ul style="list-style-type: none"> <li>Conducted additional survey about HPAL plant being considered for construction in Pomalaa, Indonesia</li> </ul>	<ul style="list-style-type: none"> <li>Confirm potential for commercialization</li> </ul>	<ul style="list-style-type: none"> <li>Carry out a definitive feasibility study (DFS)</li> </ul>
(3) Develop and use renewable energy to contribute to CO <sub>2</sub> emission reductions	<ul style="list-style-type: none"> <li>Our solar power output in Kashima City, Ibaraki Prefecture in FY2017 was 3,280 MWh (13% more than planned). CO<sub>2</sub> reductions came to 1,925 t. Completed construction increasing the number of panels to further increase power output (22% increase over output target)</li> </ul>	<ul style="list-style-type: none"> <li>Further expand utilization of renewable energy</li> </ul>	<ul style="list-style-type: none"> <li>Continue examining the introduction of renewable energy in Japan and overseas</li> </ul>
<b>2) Steadily develop and adopt technologies for reducing environmental impacts</b>			
(1) Implement a planned approach for minimizing the emission of chemical substances	<ul style="list-style-type: none"> <li>Considerably reduced quantities of nickel compounds emitted into the air by Hyuga Smelting Co., Ltd., meeting the goal</li> </ul>	<ul style="list-style-type: none"> <li>Promote the widespread investigation pertaining to the reduction of the concentration of boron in mine drainage at Hishikari Mine, including developing treatment technologies through joint research with universities and the possibility of returning the boron underground</li> </ul>	<ul style="list-style-type: none"> <li>Continue reductions of chemical substance emissions</li> </ul>
(2) Contribute to environmental preservation through forestation, etc.	<ul style="list-style-type: none"> <li>Carried out greening of 41 hectares at CBNC and THPAL combined</li> <li>The Solomon Project vegetation rehabilitation tests were completed in the previous fiscal year with support from Sumitomo Forestry Co., Ltd., and the results collected. The collected vegetation rehabilitation guidelines and manuals were translated into English and presented to the government and local communities</li> </ul>	<ul style="list-style-type: none"> <li>Conserve ecosystems by steadily implementing tree planting and soil fertility initiatives</li> <li>The Solomon Project is completed</li> </ul>	<ul style="list-style-type: none"> <li>Continue greening at CBNC and THPAL</li> </ul>
(3) Verify the environmental impacts of our portfolio companies and supply chain, and implement measures to reduce risks	<ul style="list-style-type: none"> <li>Met periodically with mine owners who serve as our suppliers at CBNC and THPAL to examine measures to reduce the concentration of heavy metals in rivers</li> </ul>	<ul style="list-style-type: none"> <li>Continue to implement measures to reduce environmental risk</li> </ul>	<ul style="list-style-type: none"> <li>Have both CBNC and THPAL encourage suppliers to apply measures to stabilize heavy metal concentrations</li> </ul>
<b>2. Maintain our record of zero significant environmental accidents</b>			
1) Improve strength against earthquake and severe weather at closed mine sites	<ul style="list-style-type: none"> <li>Completed work to improve strength against earthquakes at one sedimentation basin and one waste rock dump at closed mine sites</li> </ul>	<ul style="list-style-type: none"> <li>Further reduce the risk of accumulation sites</li> </ul>	<ul style="list-style-type: none"> <li>Be sure to carry out measures in line with the 3-Year Business Plan. Carry out work to improve strength against earthquakes at 2 accumulation sites at closed mine sites (All plans scheduled to be completed)</li> </ul>
2) Prevent significant environmental accidents by strengthening environmental risk management	<ul style="list-style-type: none"> <li>Replaced the control devices at some closed mine sites. Reinforced leakage countermeasures for gas systems at smelters and refineries within and outside Japan. Replaced old utilities at materials business sites</li> </ul>	<ul style="list-style-type: none"> <li>Implement plans and continue inspections</li> </ul>	<ul style="list-style-type: none"> <li>Continue measures for preventing significant environmental accidents</li> </ul>

## Contribution to Society and Local Communities

Goals and KPIs	FY2017 Achievements	Issues and Targets	FY2018 Plans
<b>1. Communicate with local communities to recognize social issues in regions where we do business, and implement programs to support solutions to those issues</b>	<ul style="list-style-type: none"> <li>Continued activities that contribute to society such as supporting infrastructure at CBNC and THPAL</li> <li>Ran the Sumiko Energy Materials Co., Ltd.'s plant in Naraha, Fukushima Prefecture, contributing to the creation of employment in an area affected by the Great East Japan Earthquake</li> <li>Bestowed the President's CSR Award on one workplace</li> <li>Increased the number of business sites reporting the ratio of local hiring and local procurement to SMM</li> </ul>	<ul style="list-style-type: none"> <li>Secure people desiring to be employed at Sumiko Energy Materials Co., Ltd.</li> </ul>	<ul style="list-style-type: none"> <li>Continue to make social contributions at CBNC and THPAL</li> <li>Have each of the business sites in Japan exchange ideas and work on further enhanced social contribution activities</li> <li>Continue to receive reports of the ratio of local hiring and local procurement</li> </ul>
<b>2. Provide support for the improvement of educational infrastructure and the maintenance and development of academic activities, culture, tradition, and art in the countries where we do business</b>	<ul style="list-style-type: none"> <li>Continued to provide scholarships in the areas near overseas mine development sites</li> <li>Continued to provide support for NPO Kaibigan, which helps the poor to attend school in the Philippines</li> <li>Promoting relocation of Higurashi Villa, which was built on Shisaka-island 110 years ago, in the Besshi district</li> </ul>	<ul style="list-style-type: none"> <li>Be continually aware of the status of scholarships being awarded in the areas near overseas mine development sites</li> </ul>	<ul style="list-style-type: none"> <li>Continue the current support for scholarships and overseas NPOs</li> <li>Continue the relocation of Higurashi Villa and maintain other Sumitomo remains in Besshi district</li> </ul>
<b>3. Provide support for recovery and reconstruction after large-scale disasters</b>			
1) Provide support taking into consideration the relationship between the affected area and SMM Group's business	<ul style="list-style-type: none"> <li>Made donations for areas affected by damage from the torrential rain in July 2017 in the northern part of Kyushu, Japan, and for areas affected by the typhoon in the Philippines in December 2017</li> <li>Streamlined the management system for the Council for Promotion of Measures for Stranded Commuters around Shimbashi Station and proactively participated in drills</li> </ul>	<ul style="list-style-type: none"> <li>Improving the precision of operational rules through drills and the like by the Council for Promotion of Measures for Stranded Commuters around Shimbashi Station</li> </ul>	<ul style="list-style-type: none"> <li>Provide appropriate support for major disasters which occur inside or outside Japan based on the level of damage and the relationship with SMM's business operations</li> </ul>
2) Provide continuous support for the people and areas affected by the Great East Japan Earthquake	<ul style="list-style-type: none"> <li>Continued to provide donations to scholarship funds for orphans in the three disaster-affected prefectures (Iwate, Miyagi, and Fukushima), which we have been doing since FY2012</li> </ul>	<ul style="list-style-type: none"> <li>Close communication with the three disaster-affected prefectures in order to understand future support needs</li> </ul>	<ul style="list-style-type: none"> <li>Continue to provide support to earthquake orphans</li> </ul>

## Respect for People and Human Rights

Goals and KPIs	FY2017 Achievements	Issues and Targets	FY2018 Plans
<b>1. A company where employees can take a vibrant and active part</b>			
1) Work satisfaction Make continual improvements based on the results of employee satisfaction surveys	<ul style="list-style-type: none"> <li>President held a briefing session sharing management information</li> <li>Held training sessions for general managers and section managers on OJT implementation and coaching</li> <li>Introduced tools supporting workplace improvement</li> </ul>	<ul style="list-style-type: none"> <li>Effort needed to raise understanding of the current management environment</li> <li>Support employees in gaining satisfaction from their work</li> </ul>	<ul style="list-style-type: none"> <li>Enhance methods for sharing information, such as providing management information briefings through e-learning</li> <li>Cultivate instructors from within the company to lead training on coaching, and roll out sessions for general employees</li> <li>Provide continuous support through workplace support tools (various training sessions)</li> </ul>
2) Mental health			
(1) Optimize the work environment through training and the reduction of overly long working hours	<ul style="list-style-type: none"> <li>Shared the "Working Style Reform 2017 Initiative" and each workplace formulated goals and worked toward them</li> <li>Continued establishing systems that enable flexible working styles, such as expanding the times for optional staggered working hours and introducing a system for working at home</li> </ul>	<ul style="list-style-type: none"> <li>Although average working hours for the company as a whole have decreased, improvements have yet to be seen at certain workplaces</li> <li>It is difficult to assess the effects quantitatively</li> </ul>	<ul style="list-style-type: none"> <li>Consider and implement measures for easing the burden on workplaces and individuals that are not seeing many effects from other initiatives</li> </ul>
(2) Reduce mental health afflictions in employees	<ul style="list-style-type: none"> <li>Proceeded with the input of entries into the personalized medical record database and followed up on entries for employees experiencing mental health difficulties</li> </ul>	<ul style="list-style-type: none"> <li>Create a structure to prevent mental health difficulties and support individuals experiencing mental health difficulties</li> </ul>	<ul style="list-style-type: none"> <li>Encourage health management that considers both the physical and mental health of employees and establish a support structure</li> </ul>

Goals and KPIs	FY2017 Achievements	Issues and Targets	FY2018 Plans
<b>2. Respect diversity</b>			
1) Support the active contribution of women at SMM (domestically)			
(1) Target number of female managers: 10 or more	<ul style="list-style-type: none"> <li>Five female managers as of March 31, 2018</li> <li>Created a development roadmap that includes external training and exchange</li> </ul>	<ul style="list-style-type: none"> <li>Finely tuned support that covers life events is needed</li> </ul>	<ul style="list-style-type: none"> <li>Implement training and strive to develop candidates</li> <li>Consider and implement finely tuned support measures</li> </ul>
(2) Target proportion of female employees in the recruitment of management track employees: 1/3	<ul style="list-style-type: none"> <li>Recruitment in FY2018 included 4 women out of 23, a ratio of about 17% (compared to about 15% in FY2017)</li> <li>Implemented initiatives including conducting various PR activities and endowed lectures, participating in Shirucafe®, and expanded recruitment for technical positions through open applications</li> </ul>	<ul style="list-style-type: none"> <li>Although PR activities have increased interest in the company, we are not meeting our target</li> </ul>	<ul style="list-style-type: none"> <li>In addition to creating a comfortable working environment and implementing PR activities, consider and implement measures that incorporate branding into recruitment activities to appeal to women with technical backgrounds</li> </ul>
2) Promote non-Japanese employees as key personnel	<ul style="list-style-type: none"> <li>Considered future globalization initiatives</li> </ul>	<ul style="list-style-type: none"> <li>A mechanism aligned with SMM business and regional businesses is needed</li> </ul>	<ul style="list-style-type: none"> <li>Listen to the needs of each division and advance initiatives in line with these needs</li> </ul>
3) Employ people with disabilities Establish and achieve an internal target for the number of employees with disabilities in the Group domestically	<ul style="list-style-type: none"> <li>Held seminars and formulated action plans at each business site and group company</li> <li>The employment rate for people with disabilities as of April 1, 2018 was 2.24%</li> </ul>	<ul style="list-style-type: none"> <li>Respond to the rise in the statutory employment rate for people with disabilities</li> <li>Respond to the tightening of criteria for determining disabilities</li> </ul>	<ul style="list-style-type: none"> <li>Implement action plans at each business site and group company and support these efforts</li> <li>Circulate information on laws and regulations and reaffirm the number of employees with disabilities</li> </ul>
4) Establish a strategy and supportive framework as a means to facilitate initiatives 1 to 3 above	<ul style="list-style-type: none"> <li>Notified employees regarding the framework for promoting diversity</li> <li>Held diversity workshops</li> </ul>	<ul style="list-style-type: none"> <li>Provide information on diversity</li> </ul>	<ul style="list-style-type: none"> <li>Consider and implement measures that raise awareness of diversity, including ones using events such as Human Rights Week</li> </ul>
<b>3. Develop human resources</b>			
1) Continue the program for select employees after confirming the effectiveness of selective training initiatives	<ul style="list-style-type: none"> <li>The FY2017 program was steadily implemented</li> </ul>	<ul style="list-style-type: none"> <li>Issues remain regarding scheduling and implementation methods</li> </ul>	<ul style="list-style-type: none"> <li>Update and improve the program and continue implementation</li> </ul>
2) Develop broad-based training to boost the level of our workforce Provide training opportunities to all employees: 100% participation in training courses	<ul style="list-style-type: none"> <li>Introduced online courses for learning languages and started considering lessons that use Skype</li> </ul>	<ul style="list-style-type: none"> <li>The ratio of employees using online language classes and e-learning is still low</li> </ul>	<ul style="list-style-type: none"> <li>Introduce more user-friendly language learning tools, etc., and enhance support for self-development</li> </ul>
3) Enhance training for locally hired executive managers overseas	<ul style="list-style-type: none"> <li>Held overseas executive manager training in November 2017 (6 participants)</li> </ul>	<ul style="list-style-type: none"> <li>There is a great need for this training course</li> </ul>	<ul style="list-style-type: none"> <li>Continue to implement training for the executive managers at overseas business sites</li> </ul>
4) Conduct training for further support for the active contribution of female employees	<ul style="list-style-type: none"> <li>Held interviews with general managers regarding development methods and created a roadmap that includes a training program</li> </ul>	<ul style="list-style-type: none"> <li>Finely tuned support that covers life events needed</li> </ul>	<ul style="list-style-type: none"> <li>Implement external training and exchange and support female employees in their development</li> <li>Consider and implement finely tuned support measures holding regular interviews</li> </ul>
<b>4. Human rights</b>			
1) Prevent major human rights infringements			
(1) Hold regular education on the SMM Group Human Rights Policy: applicable to all workplaces	<ul style="list-style-type: none"> <li>Held human rights education at all workplaces in December 2017</li> </ul>	<ul style="list-style-type: none"> <li>It is difficult to assess the effects of the education quantitatively</li> </ul>	<ul style="list-style-type: none"> <li>Consider and implement measures to eradicate harassment at each business site and group company</li> </ul>
(2) Establish human rights hotlines (offering multiple means for reporting): applicable to all workplaces	<ul style="list-style-type: none"> <li>Posted a chart in the in-house bulletin showing the framework for promoting diversity</li> </ul>	<ul style="list-style-type: none"> <li>Further instill the framework for promoting diversity</li> </ul>	<ul style="list-style-type: none"> <li>Reorganize the framework for promoting diversity</li> <li>Continue to implement training for hotline staff</li> </ul>
(3) Make employees aware of the SMM direct hotline: applicable to all workplaces	<ul style="list-style-type: none"> <li>Notified employees of the SMM direct hotline through internal education sessions</li> <li>Responded appropriately when incidents occurred involving human rights</li> </ul>	<ul style="list-style-type: none"> <li>Continue to notify employees of hotline</li> </ul>	<ul style="list-style-type: none"> <li>Continue to implement initiatives notifying employees of SMM Group hotlines through methods such as various training sessions</li> </ul>
(4) Implement regular human rights due diligence (human rights DD) in three categories (employees, supply chain, local communities): once every 3 years	<ul style="list-style-type: none"> <li>Implemented on-site interviews at 4 companies in the supply chain and a test-run of human rights DD on the local community in the Hishikari region</li> </ul>	<ul style="list-style-type: none"> <li>Consider direction for the next medium-term management plan period</li> </ul>	<ul style="list-style-type: none"> <li>For employees: Conduct on-site investigations at business sites where necessary</li> <li>For local communities: Consider the direction of investigations at overseas business sites</li> <li>For the supply chain: Implement on-site interviews as planned</li> </ul>

# Occupational Health and Safety

Goals and KPIs	CY2017 Achievements	Issues and Targets	CY2018 Plans
<b>1. Ensure safety</b>			
<p>1) Make our final target zero occupational accidents overall</p> <hr/> <p>2) Reduce occupational accidents to three or fewer per year by 2020 and establish frameworks for achieving this target (Applicable to all domestic Group employees)</p> <hr/> <p>3) Halve the frequency rate of occupational accidents by 2020 (Applicable to all domestic and overseas Group employees) Reduce the frequency rate from 1.28 (CY2011) to 0.60 (CY2020)</p>	<p><b>Number of injury accidents</b></p> <p><b>Japan</b> Employees: 4 lost time (1 fatal accident<sup>1</sup>); 13 in total Contractors: 5 lost time; 11 in total</p> <p><b>Overseas</b> Employees: 2 lost time; 10 in total Contractors: 1 lost time (fatal accident<sup>2</sup>); 11 in total</p> <p><b>Frequency rate for occupational accidents in Japan and overseas:</b> 1.19 (Japan: 0.97, overseas: 1.68)</p> <p><b>Status of activities in Japan</b></p> <ul style="list-style-type: none"> <li>● Awareness of safety was raised among the top management at business sites through patrols and education of newly appointed business site top management</li> <li>● Made and distributed guidelines for supervisors to help increase the level of safety management</li> <li>● Carried out <i>Anzen Dojo</i> and hazard simulation training in line with the circumstances at each business site</li> <li>● Used the fatal accidents as an opportunity to promote measures to make facilities safer. Promoted comprehensive inspections (horizontal deployment) and promoted measures.</li> <li>● Got an understanding of how risk assessment is carried out through a health and safety officer meeting</li> </ul> <p><b>Status of activities overseas</b></p> <ul style="list-style-type: none"> <li>● Carried out safety training at Philippine business sites to increase sensitivity to danger</li> <li>● Introduced individual employee hazard prediction</li> <li>● Started to introduce hazard simulation training</li> </ul>	<p><b>Japan</b></p> <ul style="list-style-type: none"> <li>● Maintain awareness of the safety-first policy among the top management at business sites</li> <li>● Improve line management and foster safety culture</li> <li>● Promote the use of safety staff and <i>Anzen Dojo</i> students (safety leaders)</li> <li>● Develop workers by providing them with knowledge and experience so they can act cautiously, and become aware of and prevent danger, especially before dangerous situations arise</li> <li>● Pick out facilities that can cause critical disasters and make them safe</li> <li>● Enhance the effectiveness of risk assessments</li> </ul> <p><b>Overseas</b></p> <ul style="list-style-type: none"> <li>● Systematically promote assistance to overseas business sites</li> </ul>	<p><b>Japan</b></p> <p>Implement plans that include the following items, and are suited to business sites and review the plans appropriately</p> <ul style="list-style-type: none"> <li>● Thoroughly implement the division safety policy</li> <li>● Continue patrols and education of newly appointed business site general managers</li> <li>● Implement priority-oriented safety activities based on the three realities principle (real places, real facts, real things) <ul style="list-style-type: none"> <li>- Improve line management with guidelines for supervisors</li> <li>- Promote the use of <i>Anzen Dojo</i> students with leadership by the top management</li> <li>- Enhance hazard simulation courses so they lead to effective hazard prediction activity</li> <li>- Stimulate communication both inside and outside the workplace (form a culture where employees can support each other)</li> <li>- Promote facility safety measures based on the 2017 general inspection</li> <li>- Raise the effectiveness of the risk assessment system through review</li> </ul> </li> </ul> <p><b>Overseas</b></p> <ul style="list-style-type: none"> <li>● Strengthen checks and actions in various types of activities</li> </ul> <p><b>Overseas</b></p> <ul style="list-style-type: none"> <li>● Accelerate the promotion of the current policies</li> <li>● Promote the safety activities of the Philippine business sites <ul style="list-style-type: none"> <li>- Plan to introduce and promote hazard simulation</li> </ul> </li> </ul>
<b>2. Provide comfortable working environments</b>			
<p>1) Provide healthy working environments</p> <p>(1) Achieve zero new cases of employees with occupational disease (requiring treatment) (Applicable to all domestic and overseas Group employees)</p> <hr/> <p>(2) Achieve zero Control Class 3 workplaces (excluding locations stipulated in guidelines, etc.) and reduce Control Class 2 workplaces (Applicable to all domestic business sites)</p>	<ul style="list-style-type: none"> <li>● No new cases of occupational disease</li> <li>● Control Class 3 workplaces (figures in parentheses are FY2016 results) in FY2017 Dust 1 (3), lead 1 (0), nickel compound 8 (2), arsenic, etc. 1 (2), cobalt, etc. 10 (1), chlorine 1 (1), noise 2 (1)</li> <li>● Control Class 2 workplaces (figures in parentheses are FY2016 results) in FY2017 Dust 5 (3), lead 2 (2), nickel compound 14 (4), arsenic, etc. 3 (2), cobalt, etc. 12 (5), chlorine 0 (2), noise not collected</li> <li>● Modified the legally-compliant chemical substance risk assessment database to make it easier to use</li> </ul>	<ul style="list-style-type: none"> <li>● Strengthen initiatives for occupational health</li> <li>● Prevent worsening of the work environment when increasing volume and establishing new operations</li> <li>● Improve the method for understanding the work environment by making the status visible</li> <li>● Enhance the ability to formulate concrete programs</li> <li>● Use the opinions of both internal and external experts</li> <li>● Prevent worsening of improved workplace environments due to deficient management</li> <li>● Comply with continuing revisions of chemical substance-related laws</li> </ul>	<ul style="list-style-type: none"> <li>● Make top management of business sites strongly aware of the importance of occupational health</li> <li>● Secure the work environment and make procedures before changing operation conditions and when planning new operations (facility capacity verification, etc.)</li> <li>● Proceed with improving and strengthening PDCA visualization, improvement, and maintenance</li> <li>● Improve the sharing of knowledge and skills, increase the number of workers with qualifications, use both internal and external experts and enhance the improvement of the work environment</li> <li>● Provide thorough guidance in the three occupational health managements: work management, work environment management, and health management</li> <li>● Comply with laws early, before revisions</li> </ul>
<p>2) Implement other working environment improvements</p>	<ul style="list-style-type: none"> <li>● Continued to carry out mental health checks and held report meetings to improve the workplace environment</li> <li>● Distributed books to each business site on countering back pain and used this as an opportunity to strengthen measures against back pain</li> </ul>	<ul style="list-style-type: none"> <li>● Bring about a workplace where workers can work easily and comfortably</li> </ul>	<ul style="list-style-type: none"> <li>● Continue the guidance in making comfortable workplaces during work patrols</li> <li>● Continue the collaboration with the Personnel Department: understand the status of mental checks</li> <li>● Consider health management</li> </ul>

1. A worker was caught in automatically operating equipment at Hyuga Smelting Co., Ltd.  
2. Attacked by a bear

## Stakeholder Communication

Goals and KPIs	FY2017 Achievements	Issues and Targets	FY2018 Plans
<b>1. Encourage deeper mutual understanding with employees</b> 1) Continue conducting employee awareness surveys	<ul style="list-style-type: none"> <li>The results of analysis of the employee awareness survey conducted in 2016 were reported in the in-house bulletin under "How will we use the survey results." Information was shared regarding improvements for items in which scores had fallen compared to the previous survey</li> </ul>	<ul style="list-style-type: none"> <li>Preparations for the fourth survey to be conducted in 2019</li> </ul>	<ul style="list-style-type: none"> <li>Share information that supports the cultivation of a free and open corporate culture through channels such as the in-house bulletin</li> <li>Consider expanding the items surveyed and scope of the 2019 employee awareness survey</li> </ul>
2) Hold regular dialogues with workers' unions or representatives from employees	<ul style="list-style-type: none"> <li>A survey regarding the situation of regular dialogue with employees was conducted at business sites and group companies. It confirmed that effective dialogue is taking place</li> </ul>	<ul style="list-style-type: none"> <li>The KPIs and measures to promote mutual understanding with employees are not clear</li> </ul>	<ul style="list-style-type: none"> <li>Expand dialogue to include not only workers' unions and representatives of employees but also employees themselves and continue considering KPIs and measures that encourage mutual understanding between the company and employees</li> </ul>
<b>2. Encourage mutual understanding with local communities and citizen groups</b> 1) Continue regular meetings with local communities and participate in community activities	<ul style="list-style-type: none"> <li>A survey on emergency response from the community to environmental accidents was conducted at business sites and group companies. It confirmed that frameworks are in place for maintaining necessary communication with community actors, starting with government agencies</li> </ul>	<ul style="list-style-type: none"> <li>Verify measures required for conducting normal communications with local communities which anticipates serious industrial accidents</li> </ul>	<ul style="list-style-type: none"> <li>Build a framework for communicating risk to local communities using the Besshi-Niihama District Division as a model</li> </ul>
2) Carry out cooperative activities with NGOs/NPOs	<ul style="list-style-type: none"> <li>Held regularly scheduled meetings with environmental NGOs in June and November</li> </ul>	<ul style="list-style-type: none"> <li>None</li> </ul>	<ul style="list-style-type: none"> <li>Continue holding regular meetings with NGOs</li> <li>Encourage understanding of the company's business among NGOs, NPOs, experts, and others</li> </ul>
<b>3. Encourage mutual understanding with shareholders and investors</b> 1) Publish integrated reports and improve their content	<ul style="list-style-type: none"> <li>Published the Japanese version of the SMM Integrated Report 2017 on September 29, and the English version on November 13</li> </ul> <p><b>Main external awards</b>            Encouragement Award for Integrated Reporting at the fifth WICI Japan Awards            Prize of Excellence at the 21st Environmental Communication Awards            Selected as a "Company with excellent integrated report" and a "Company most nominated by external asset managers for a most-improved integrated report" by the GPIF (Government Pension Investment Fund)</p>	<ul style="list-style-type: none"> <li>Listen to investors' and shareholders' opinions and reflect these in future reports, and consider ways of composing reporting materials that make SMM's creation of sustainable value easy to understand</li> </ul>	Add and flesh out the following components in the 2018 Integrated Report with the aim of making an easier-to-understand report: <ul style="list-style-type: none"> <li>Flesh out the description of management's approach to material issues in line with the shift to the GRI Standards</li> <li>Disclose the governance situation by including an assessment of the company's governance by the outside directors</li> <li>Include a feature section that explains the characteristics of our business model and examples of cooperation</li> </ul>
2) Promote dialogue with investors	<ul style="list-style-type: none"> <li>Visited shareholders and those responsible for voting rights at institutional investors as part of shareholder relations (SR) activities. When major overseas shareholders visited Japan, the president himself met with them and deepened communications.</li> <li>Company rules and IR Policy were revised to include fair disclosure rules the company decided to introduce following revisions to the Financial Instruments and Exchange Act. The general manager of the Public Relations &amp; Investor Relations Dept. was made the person responsible for information disclosure and internal briefing sessions were held</li> <li>In February 2018, the company held its first briefing session for individual investors</li> </ul>	<ul style="list-style-type: none"> <li>With fair disclosure rules in mind, steadily promote initiatives aimed at fair, appropriate, timely, and active information disclosure and response in conformity with the rules</li> <li>Further strengthen governance and conduct appropriate information disclosure based on revisions to the Corporate Governance Code</li> </ul>	<ul style="list-style-type: none"> <li>Continue key SR visits by top management to long-term shareholders (institutional investors)</li> <li>Strengthen unearthing of institutional investors intending to be long-term shareholders</li> <li>Continue holding briefings for individual investors</li> <li>Firmly establish the appropriate use of fair disclosure rules</li> <li>Undertake the further strengthening of governance and appropriate disclosure upon revising the Corporate Governance Code</li> </ul>
<b>4. Encourage mutual understanding with other stakeholders</b>	To raise awareness of SMM and encourage understanding of our business, we carried out the following publicity activities: <ul style="list-style-type: none"> <li>Completely renewed the company brochure, published the Japanese version in February 2018, and the English version in April</li> <li>Advertised in newspapers (Yomiuri Shimbun: a total of 8 times, twice a month; Asahi Shimbun: October 25, 2017; Nikkei: November 22, 2017), on public transport (rolling news feeds on the bullet train and digital signage: December 2017), and through radio commercials (March 2018)</li> <li>Created a 30-second video to raise awareness of the company and broadcast it through digital signage at major stations such as Tokyo Station</li> </ul>	<ul style="list-style-type: none"> <li>Verify the effects of PR activities through the results of internal and external surveys and use in publicity activities from the next fiscal year onwards</li> </ul>	Strengthen our capabilities to disseminate information that leads to an improvement in corporate value and appropriately gauge effects created <ul style="list-style-type: none"> <li>Expand CSR activities in cooperation with relevant internal divisions and conduct PR regarding ESG, which is of great interest externally</li> <li>Continue to implement effective advertising activities</li> <li>Strengthen our ability to conduct PR through the media</li> <li>Expand information dissemination tools (online, improve content)</li> </ul>

# Sustainability Data

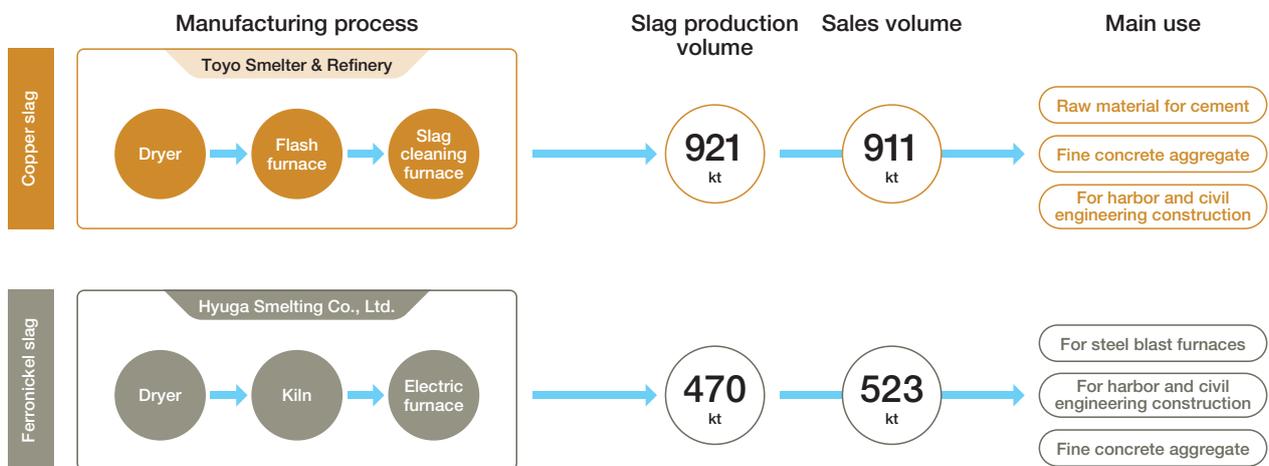
## Effective Use of Resources

### Percentage of Recycled Input Materials Used

FY	2015	2016	2017
Total volume of materials used (kt)	11,795	11,041	10,427
Recycled materials (kt)	233	222	221
Percentage of recycled input materials used (%)	2.0	2.0	2.1

The SMM Group procures copper and precious metal scrap from the market and recovers valuable and precious metals from electric arc furnace dust and used printed circuit boards, among other sources. In FY2017, the proportion of recycled materials such as copper alloy secondary materials and electric arc furnace dust was about the same level as in FY2016. The ratio of recycled materials in products was also level year-on-year, at 23.9% (23.2% in FY2016) as production of electrolytic copper from recycled copper materials was approximately 103 kilotons in FY2017.

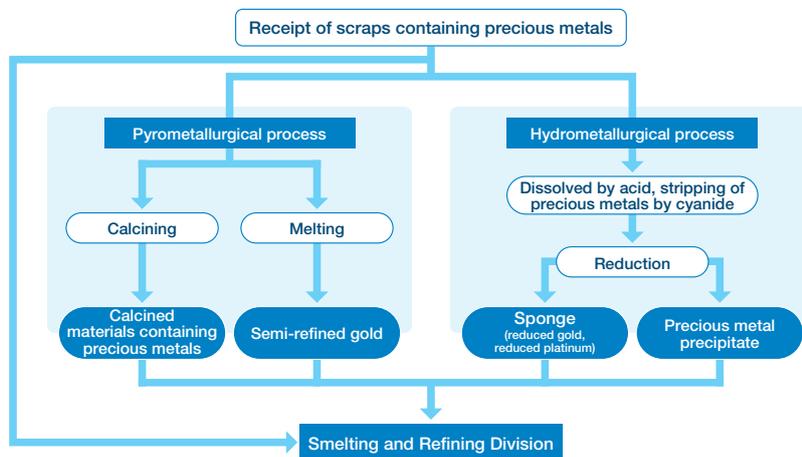
### Slag as a Recycled Material



Copper slag is a by-product produced during smelting at the Toyo Smelter & Refinery, which manufactures electrolytic copper. The main use for copper slag (almost one-half of the total volume) is cement production in Japan and overseas. With an iron content of about 40%, copper slag is widely used as a source of iron for cement.

The ferronickel slag at Hyuga Smelting Co., Ltd., which manufactures ferro-nickel used as a raw material for stainless steel, is mainly used as steel blast furnaces. With a magnesia content of about 30%, ferro-nickel slag is used as a source of magnesia for blast furnace flux.

### Precious Metal Retrieval: Flow Diagram



Collecting the likes of discarded household appliances and discarded electronic parts, as well as scrap created in the manufacturing process of those articles, from across Japan, SMM uses them as raw materials, and recovering and recycling precious metals (gold, silver, platinum, etc.).

After sorting the collected raw materials into parts that contain precious metals and those that do not, SMM uses the pyrometallurgical or hydrometallurgical process, depending on the composition and other aspects of the parts, to condense them, then transports them to the Toyo Smelter & Refinery.

The Toyo Smelter & Refinery smelts and refines those condensed raw materials along with other copper and precious metal raw materials, then recycles them into high-grade precious metals.

# Global Environmental Considerations

## Environmental Management System and Education

### ■ Environmental Education

Name of activity	Targeted employees	Purpose, contents (simple overview)
EMS Internal Auditor Training Course	New internal environmental auditors	Training of new internal auditors for the EMS conforming to ISO 14001 (2015)
EMS Internal Auditor Course for moving to the ISO 14001 (2015) standard	Internal environmental auditors	Moving internal auditors with qualifications conforming to ISO 14001 (2004) to the 2015 version
Environmental e-learning (Environmental Laws)	Managers and supervisors, internal environmental auditors	Explanation of Japan's mandatory standards and notification procedures
Environmental e-learning (Environmental Laws, Basic)	Managers and supervisors, internal environmental auditors	Promote understanding of the spirit and idea of Japan's laws
Education of newly-appointed business site general managers	Newly-appointed business site general managers	Promote understanding of the importance of the relationship between corporations and the environment and raise self-awareness and environmental awareness as the business site general manager
Conference for environment managers	Environment managers of each of the business sites	Improve knowledge of Japan's environmental laws and regulations, enhance environmental management capabilities, raise self-awareness
Periodically send out information	Business site general managers	Periodically provide information about revisions of laws and important precedents via an e-mail magazine
Compliance training	Business site general managers	Provide information about environment-related compliance and raise self-awareness
Education about environmental preservation for mid-career hires	Mid-career hires at the Head Office	Impart knowledge about SMM's environmental preservation initiatives
Education about environmental preservation for new employees	New college-graduate employees hired at the Head Office	Impart knowledge about SMM's environmental preservation initiatives and raise self-awareness
Education about environmental preservation for newly-promoted section managers	Newly-promoted section managers	Provide information about SMM's environmental preservation initiatives and raise self-awareness
Periodic education about the Chemical Substances Control Law	Division environment managers	Overview of the Chemical Substances Control Law, checking for revision information, and preventing omissions of notification
Explanatory meeting: overseas chemical substance regulations	Head Office sales representatives	Give information to sales representatives about overseas chemical substance regulations

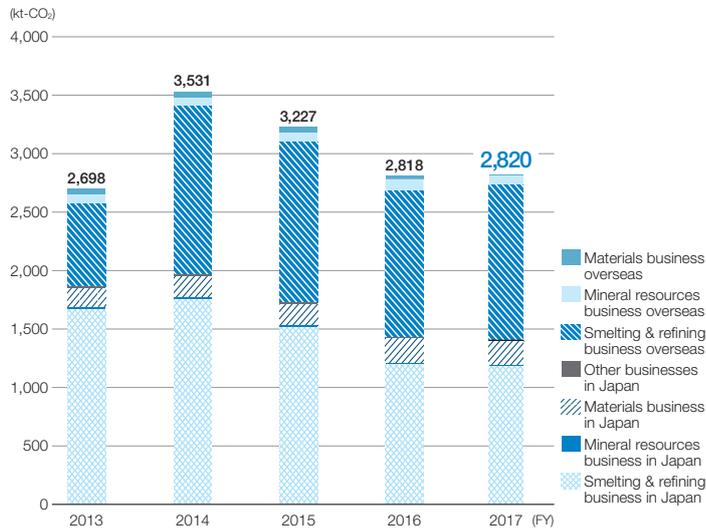
### ■ Laws Covered in the Environmental e-learning Courses

Environmental Laws	Environmental Laws, Basic	Environmental Laws	Environmental Laws, Basic
Basic Environment Act	Basic Environment Act	Water Pollution Control Act	Water Pollution Control Act
—	Basic Act on Biodiversity	Soil Contamination Countermeasures Act	—
Basic Act on Establishing a Sound Material-Cycle Society	Basic Act on Establishing a Sound Material-Cycle Society	PRTR Law	PRTR Law
—	Act on the Promotion of Environmental Conservation Activities through Environmental Education	Poisonous and Deleterious Substances Control Act	—
—	Law Concerning the Promotion of Business Activities with Environmental Consideration	Waste Management and Public Cleansing Act	Waste Management and Public Cleansing Act
—	Act on Promotion of Global Warming Countermeasures	PCB Special Measures Law	—
Act on the Rational Use, etc. of Energy	Act on the Rational Use, etc. of Energy	—	Act on Promoting Green Purchasing
Air Pollution Control Act (including the content of the Act on Pollution Prevention Systems in Specified Factories)	Air Pollution Control Act		

The SMM Group has established two e-learning courses on environmental laws with the objective of raising levels of compliance, and employees, especially managers and supervisors involved in environmental management and internal environmental auditors, are taking part in the courses. Moreover, course content, which is updated in line with legal amendments, is also used after learning to check legal requirements and for education on environmental laws in the workplace. The e-learning course on Japan's main environmental laws introduced in the second half of FY2008 covers ten laws that are deeply related to the business of SMM and provides explanations of mandatory standards and notification procedures. As failing to comply with these requirements constitutes a violation of the law, employees must be certain to keep them in mind when conducting business. In the second half of FY2013, an e-learning course entitled Environmental Laws, Basic was released in order to deepen understanding about the underlying spirit of the law and to encourage employees to execute their duties to the best of their ability. Given not only compliance with regulations and obligations, but also the voluntary risk management and information disclosure demanded of businesses today, the course provides a stepping stone for properly conducting business. This course covers 12 laws, including the Basic Environment Act, the Basic Act on Biodiversity, and the Basic Act on Establishing a Sound Material-Cycle Society.

## Prevention of Global Warming

### CO<sub>2</sub> Emissions

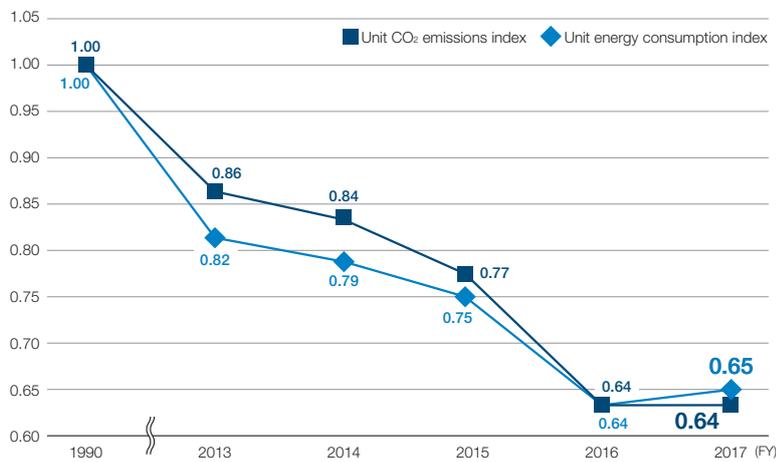


With regard to CO<sub>2</sub> emissions by the SMM Group in FY2017, CO<sub>2</sub> emissions decreased in Japan due to factors such as energy-saving efforts and decreases in production volumes of copper, nickel, and ferronickel. However, due to a worsening of operation conditions in the Group's smelting and refining business overseas, CO<sub>2</sub> emissions for FY2017 were on a par with those in FY2016 at 2,820 kt-CO<sub>2</sub>. Additionally, CO<sub>2</sub> emissions pertaining to domestic transport, which constitutes indirect emissions, came to 23 kt-CO<sub>2</sub>. Having augmented the Kashima Solar Power Plant in Kashima, Ibaraki Prefecture, CO<sub>2</sub> reductions attributable to solar power generation were approximately 1.7 kt-CO<sub>2</sub>.

SMM will continue to promote energy-saving activities in FY2018 as well, and anticipates reductions of 21 kt-CO<sub>2</sub> for the year.

- Figures for both Japan and overseas were calculated using emission factors derived in a manner conforming to the "Act on Promotion of Global Warming Countermeasures" of Japan. Figures include non-energy-derived CO<sub>2</sub> emissions (419 kt-CO<sub>2</sub>), which are not subject to the Act on Promotion of Global Warming Countermeasures, in addition to CO<sub>2</sub> emissions that accompany emissions activities, which are subject to said Act. CO<sub>2</sub> emissions derived from purchased electricity in Japan were calculated in a manner conforming to the market-based methods using emission factors of electric power suppliers. For overseas emission factors, the most recent per-country emission factors disclosed by the International Energy Agency (IEA) were used.
- Figures were revised as a result of a careful review of CO<sub>2</sub> emissions in FY2016.

### Unit Energy and CO<sub>2</sub> Emissions Index<sup>1</sup> (Scope: Smelting and refining business in Japan)



In the SMM Group's smelting and refining business in Japan, unit energy for FY2017 was on a par with that for FY2016. This is likely due to the fact that a degradation in unit energy resulting from decreases in the production volumes of copper, nickel, and ferronickel was offset by the effects of improvements from energy-saving activities, which served to curb the increase in unit energy.

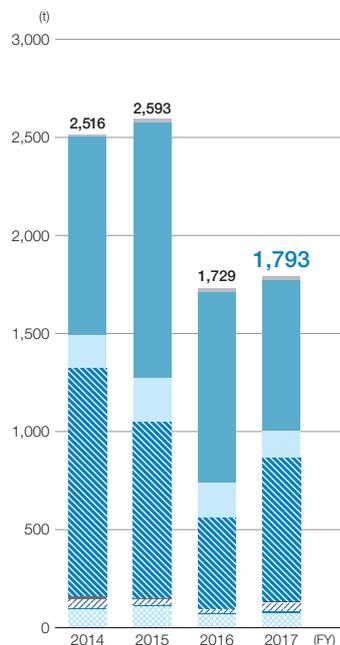
SMM is a member of the Japan Mining Industry Association (JMIA), an organization of nonferrous metal smelters, as well as a participant in "The Commitment to a Low Carbon Society" led by the Japan Business Federation (Keidanren).

SMM will also continue to promote energy-saving activities such as thorough energy management and the updating of energy-saving facilities, and will also proactively endeavor to introduce renewable energy and use unutilized heat as the company aims to reduce unit energy by an average of at least 1% per year and further lower CO<sub>2</sub> emissions over the medium to long term.

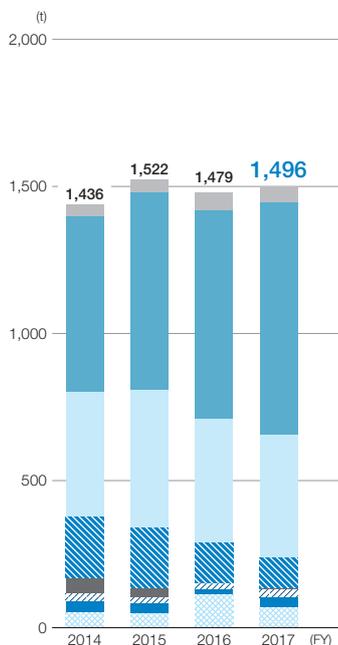
1. Unit energy and CO<sub>2</sub> emissions index: The amount of energy consumed and CO<sub>2</sub> emitted during the production of 1 ton of product, assuming the FY1990 value to be 1 (including fuels used as reducing agents).

## ■ Emissions into the Atmosphere

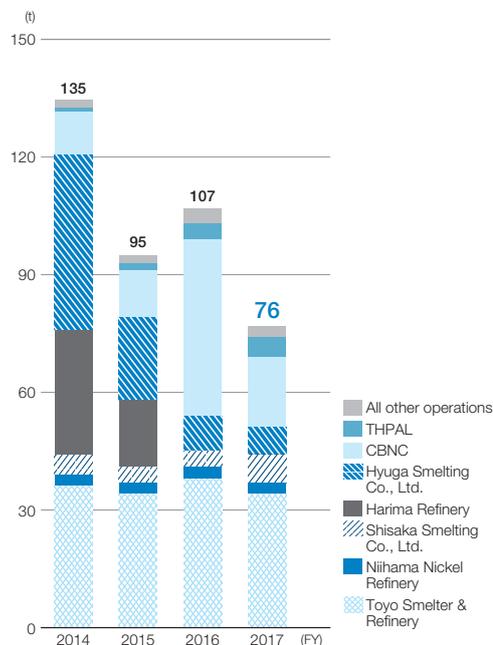
### Volume of SOx Emissions



### Volume of NOx Emissions



### Volume of Soot and Dust Emissions



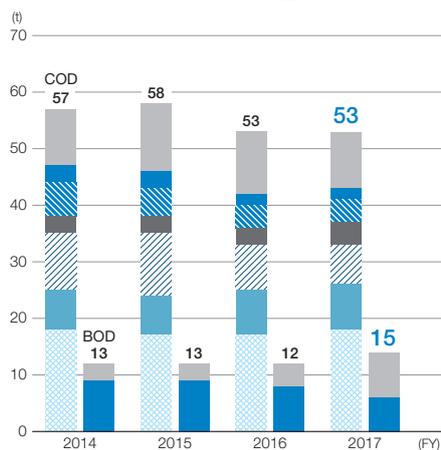
Each emissions figure was calculated based on measurement results for soot and smoke.

The volume of SOx emissions during FY2017 increased by about 4% year-on-year. Hyuga Smelting Co., Ltd. saw an increase of about 58% due to factors such as the state of operation. Taganito HPAL Nickel Corporation saw a decrease of 21% due to the use of low sulfur carbon. Changes in the volume

of NOx emissions remained flat with an increase of about 1% year-on-year. The volume of soot and dust emissions decreased by about 29% year-on-year. At Coral Bay Nickel Corporation, that figure decreased by about 60% due to maintenance of the exhaust system equipment.

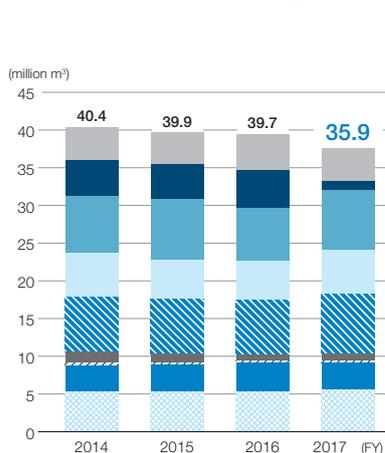
## ■ Emissions into Water

### COD and BOD Pollutant Loads

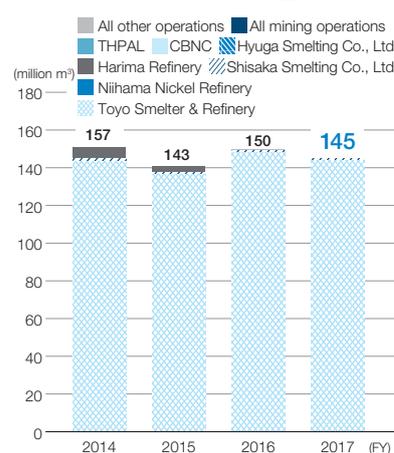


The COD<sup>1</sup> pollutant load in FY2017 was very much the same year-on-year, while the BOD<sup>2</sup> pollutant load increased by about 29%. Many SMM Group business sites face onto Japan's Seto Inland Sea and are subject to controls on the total amounts of COD, nitrogen and phosphorous emissions under the Act on Special Measures Concerning Conservation of the Environment of the Seto Inland Sea.

### Freshwater Withdrawal Volume



### Seawater Withdrawal Volume



Based on the tallies of water withdrawn measured by each site, freshwater withdrawal volume decreased by about 10% year-on-year to approximately 35.9 million m<sup>3</sup>. This was due to diversion water<sup>3</sup>, which is unrelated to production, being excluded from withdrawal and release at mines. Seawater withdrawal volume decreased by about 3% year-on-year. This was attributable to the decrease in production volume at the Toyo Smelter & Refinery.

1. COD (Chemical Oxygen Demand): Measured for emissions into seas, including emissions into rivers flowing into enclosed seas.

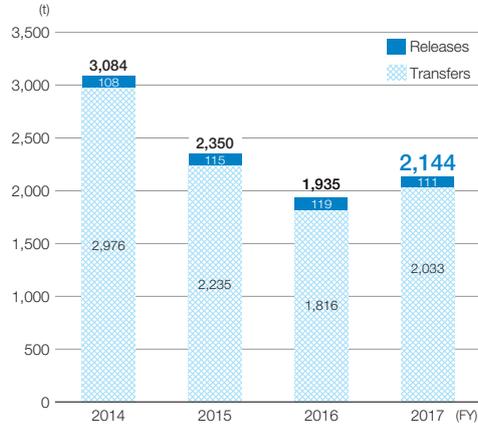
2. BOD (Biochemical Oxygen Demand): Measured for emissions into rivers, excluding emissions flowing into enclosed seas.

3. Diversion water: Water that flows into the site as an input and flows out of the site as an output without being used for production purposes.

When diversion water is excluded from freshwater withdrawal volume in FY2016, that volume comes to 35.5 million m<sup>3</sup> for an increase of about 1%.

■ Release Control for Chemical Substances

Release and Transfer Volume of PRTR Substances



An overview of releases and transfers of chemical substances based on Japan's Pollutant Release and Transfer Register (PRTR) system in FY2017 is as follows.

The number of data-submitting sites in the SMM Group was 27 (27 in FY2016). The Group has 45 substances requiring registration (42 in FY2016).

The total release and transfer volume (releases + transfers) came to 2,144 t, an increase of about 11% year-on-year, due to an increase in transfers. In turn, the increase in transfers was due to an increase in the volume of iron clinkers<sup>1</sup> to undergo final disposal as industrial waste after being generated as a byproduct at Shisaka Smelting Co., Ltd., as well as due to an increase in manganese transferred outside of business sites.

For release volume, discharges into the atmosphere increased by about 23%. The main factor behind this was an increase in releases of dichloromethane at the Ome District Division. Moreover, there were no substances that deplete the ozone layer.

Discharges into water decreased by about 12%. This was primarily due to decreases in both the concentration of boron in eruptions of water and in eruption volume at Hishikari Mine.

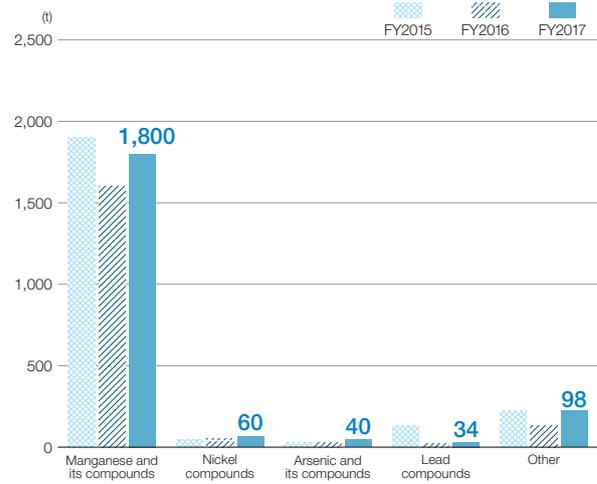
With regard to Persistent Organic Pollutants (POPs), SMM is currently storing, managing, reporting, and detoxifying polychlorinated biphenyl (PCB) in accordance with Japan's Act on Special Measures Concerning Promotion of Proper Treatment of PCB Waste. Additionally, the company is handling dioxins in accordance with Japan's Act on Special Measures against Dioxins.

1. Iron clinker: The residue remaining during the processing of electric arc furnace dust after recovering zinc. The residue able to be sold is called "iron pellets," and the residue to be disposed of is called "iron clinkers."

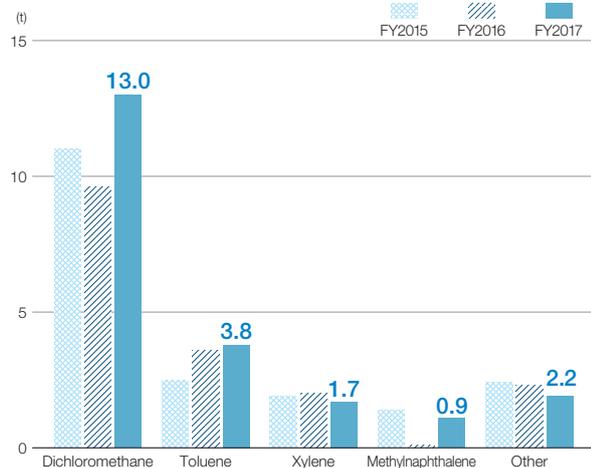
Breakdown of Releases, by Destination



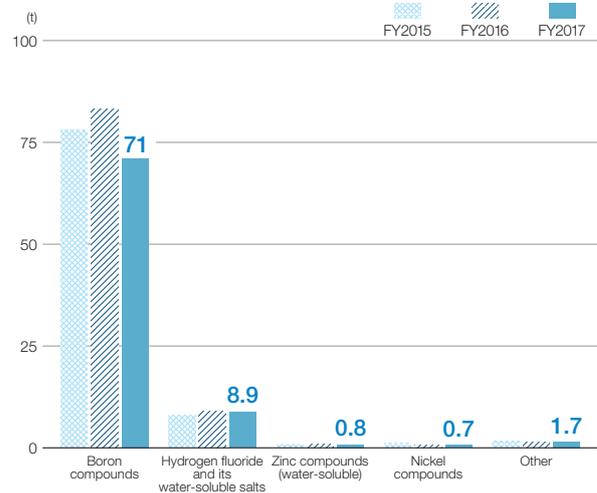
Breakdown of Transfers



Breakdown of Releases into the Atmosphere

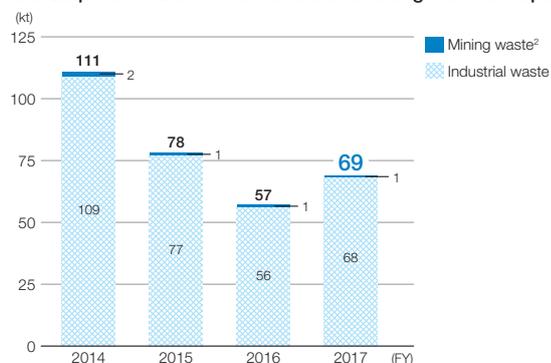


Breakdown of Releases into Water



## Final Disposal Volumes of Industrial and Mining Waste in Japan

Final Disposal Volumes<sup>1</sup> of Industrial and Mining Waste in Japan



1. Includes waste destined for landfills and incineration without heat recovery.

2. Mining waste in the form of wastewater sludge generated by mine-affiliated Toyo Smelter & Refinery that is landfilled within the business site.

The SMM Group has long been making efforts to reduce industrial waste in Japan and the amount of wastewater sludge (mining waste) that undergoes final disposal from the mine-affiliated Toyo Smelter & Refinery. The total final disposal volume in FY2017 was 69 kt, which was an increase of about 12 kt from FY2016. The main factor behind this increase was an increase in the final disposal volume of iron clinkers at Shisaka Smelting Co., Ltd.

## Waste, by Type and Treatment Method (FY2017)

Volume of Waste (Hazardous<sup>3</sup>/Non-hazardous<sup>4</sup>)

Processing method <sup>5</sup>	Volume of Waste (kt)		
	Total	Hazardous	Non-hazardous
Recycling	29	6	23
Landfill	8,479	66	8,413
Incineration	1	0	1
Volume reduction, etc.	2	1	1
<b>Total</b>	<b>8,511</b>	<b>73</b>	<b>8,438</b>

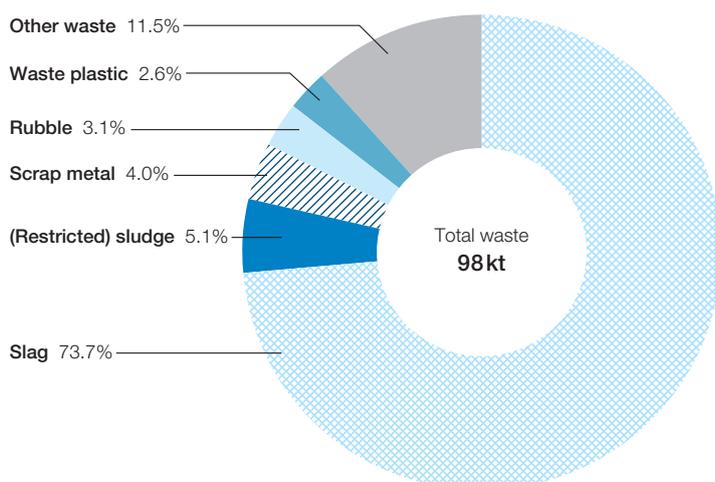
Treatment Method (kt)	
Bury on company grounds	8,413
Contracted disposal	98

3. In general, this depends upon definitions in the countries concerned. Since Japan does not have such laws or regulations, SMM applies the following definition: "Specially controlled industrial waste and waste delivered to controlled landfill sites (excluding designated inert waste that should have been delivered to landfill sites for inert industrial waste, but was disposed of at controlled landfill sites due to the distance limitation)."

4. Waste other than hazardous waste.

5. Treatment methods outside of the company were verified based on the written agreement with the disposal company and the manifest.

### Breakdown of Industrial Waste (in Japan) by Type of Waste



## Material Flows within Business Activity (FY2017)

### INPUTS (Resources & Energy)

Raw Materials		Recycled Materials <sup>1</sup>		Materials	
Gold and silver ore	1,095 kt	Copper scrap	135 kt	Silica sand (for copper smelting)	188 kt
Copper concentrates	1,338 kt	Secondary zinc	12 kt	Chemicals (lime-based)	1,281 kt
Nickel oxide ore	7,424 kt	Secondary precious metals	3 kt	Chemicals (sodium-based)	96 kt
Nickel matte, etc.	42 kt	Scrap for metalworking	0.3 kt	Chemicals (magnesium-based)	13 kt
Raw material for batteries	21 kt	Electric arc furnace dust	71 kt	Sulfuric acid	789 kt
ALC raw material, incl. silica rock	208 kt	ALC waste	177 t	Cement, etc.	143 kt
Raw material for metalworking	0.5 kt				
Hydrotreating catalyst raw material	55 kt				

Percentage of recycled input materials used  
**2.12%**

Energy <sup>2</sup>	Consumption	Energy Value
Non-renewable sources		
Heavy oil	48,598 kL	1,993 TJ
Coal/coke	503,422 t	12,990 TJ
Diesel/gasoline/kerosene	22,800 kL	854 TJ
LPG/LNG	8,953 t	455 TJ
City gas/natural gas	8,066 ML	366 TJ
Purchased electricity	1,610,179 MWh	15,699 TJ
Purchased steam	76,542 GJ	78 TJ
Sub-total		32,435 TJ
Renewable sources		
Wood pellets	1,155 t	22 TJ
Sub-total		
Total energy consumption	—	32,456 TJ

Water <sup>3</sup>	
Total volume of fresh water withdrawn	35,894 ML
Surface water (rivers)	13,918 ML
Rain water	83 ML
Groundwater	7,222 ML
Industrial water (water from another organization)	14,256 ML
Tap water (water from another organization)	416 ML
Volume of seawater withdrawn	145,107 ML
Total volume of water consumed from all areas <sup>4</sup>	7,432 ML

- Does not include materials recycled within plants.
- Calorific values for both Japan and overseas are calculated using coefficients conforming to the Japanese Act on the Rational Use, etc. of Energy for fuel, heat, electricity, etc. that were consumed in business activities both in Japan and overseas. Fuels used as reducing agents are also included. Energy value indicates the energy input in the case of purchased electricity and purchased steam, and calorific value for all others.
- SMM uses the WWF/DEG Water Risk Filter to determine regions with high water stress. As a result of this, there are no areas of high water stress at SMM Group's production sites.
- The total water consumption is estimated by subtracting the total amount of water discharged from the total amount of water withdrawn.

## Consideration of Biodiversity

### Business Activities in Areas of High Biodiversity Value<sup>1</sup> (FY2017)

Area	Size of production site (hectares)	Details
Seto Inland Sea	62 (Minoshima & Ienoshima islands)	Shisaka Smelting Co., Ltd. operates on Minoshima and Ienoshima islands, neighboring Setonaikai National Park (IUCN Category 2)
The Philippines	428	Coral Bay Nickel Corporation operates on Palawan Island (in hunting-prohibited and bird protection areas (IUCN Category 4))

- Protected areas classified as Category 4 and above by the International Union for Conservation of Nature (IUCN) and neighboring areas (SMM research). Areas classified as Category 1 are of highest priority.

• Currently, there are no projects in any region requiring the preparation of a management plan.

## OUTPUTS (Products & Emissions)<sup>1</sup>

Products		Emissions into the Atmosphere		Emissions into Water	
Electrolytic copper	432 kt	CO <sub>2</sub>	2,843 kt	Total wastewater	173,569 ML
Gold	21 t	Direct emissions <sup>3</sup> (Increase of 73 kt compared to the previous fiscal year)	1,858 kt	Discharges into seas <sup>6</sup>	172,377 ML
Dore <sup>2</sup>	8 t	Indirect emissions <sup>4</sup> (Decrease of 55 kt compared to the previous fiscal year)	962 kt	Discharges into rivers	1,067 ML
Silver	216 t	Emissions during transportation (Japan) <sup>5</sup> (No change compared to the previous fiscal year)	23 kt	Underground seepage	69 ML
Electrolytic nickel	60 kt	SOx	1,793 t	Sewerage, etc.	56 ML
Nickel sulfate	13 kt	NOx	1,496 t	COD (chemical oxygen demand)	53 t
Electrolytic cobalt	4 kt	Soot and dust	76 t	BOD (biochemical oxygen demand)	15 t
Crude zinc oxide	36 kt	PRTR substances	22 t	Total phosphorus	1 t
Ferro-nickel	74 kt			Total nitrogen	77 t
Battery materials	31 kt			PRTR substances (discharged into public water areas)	83 t
Sulfuric acid	636 kt			PRTR substances (discharged into the soil or in landfills within business premises)	6 t
Slag	1,391 kt				
Processed metal products	1 kt				
Hydrotreating catalysts	10 kt				
ALC (Siporex)	420 ML				
Percentage of products from recycled input		Waste (including Items of Value)			
4.55%		Total waste		8,511 kt	
		Breakdown of total waste			
		Spoil		597 kt	
		Flotation tailings		755 kt	
		Wastewater sludge from CBNC, THPAL, etc.		7,058 kt	
		Industrial waste (Japan)		98 kt	
		Other		2 kt	
		Landfill on premises		8,413 kt	
		PRTR substances <sup>7</sup>		2,033 t	

1. There were no major leaks resulting in administrative punishment or instruction.  
 2. Ingots of rough gold, before refining.  
 3. Direct emissions for both Japan and overseas are calculated using emission factors conforming to the Japanese Act on Promotion of Global Warming Countermeasures. This includes non-energy-derived CO<sub>2</sub> emissions (419 kt-CO<sub>2</sub>) that are outside the scope of the law. CO<sub>2</sub> from wood pellets is not included.  
 4. The amount of CO<sub>2</sub> emissions from electric power purchased in Japan is calculated with the market-based method using emission factors of electric suppliers. For overseas emission factors, we used the latest emission factors for each country as published by the IEA. The amount of indirect emissions was 859 kt-CO<sub>2</sub> when calculating both Japan and overseas with the location-based method using IEA country-specific emission factors.  
 5. Emissions during transportation in Japan are calculated in line with the Act on the Rational Use, etc. of Energy and the Act on Promotion of Global Warming Countermeasures.  
 6. Discharges into rivers flowing into enclosed seas are included as "discharges into seas."  
 7. Total transfers to sewerage and off-site transfers.

## Amount of Land Developed or Rehabilitated (FY2017)

	(hectares)			
	A: Total area of land not rehabilitated (as of the end of FY2016)	B: Area of land newly developed in FY2017	C: Area of land newly rehabilitated in FY2017	D: Total area of land developed but not rehabilitated (A+B-C)
Hishikari Mine	21	0	0	21
Pogo Gold Mine	171	11	1	181
Coral Bay Nickel Corporation	279	0	7	272
Taganito HPAL Nickel Corporation	374 <sup>1</sup>	89	34	429

1. The value has been revised as a result of carefully inspecting the total area of land as of the end of FY2016.



## Contribution to Society and Local Communities

### ■ Presence in the Local Economy

#### Number of Locally-Hired Senior Managers (General Managers and above) and Employees at Overseas Affiliates (March 31, 2018)

Name of company (Country or region)	Senior managers		Percentage <sup>1</sup>	Locally-hired employees <sup>2</sup>
	Male	Female		
Pogo Gold Mine (U.S.A.)	0	0	—	314
Sumitomo Metal Mining Philippine Holdings Corporation (Philippines)	1	1	3%	62
Taganito HPAL Nickel Corporation (Philippines)	0	0	—	606
Coral Bay Nickel Corporation (Philippines)	0	0	—	550
Sumitomo Metal Mining Management (Shanghai) Co., Ltd. (China)	0	0	—	11
Sumitomo Metal Mining Peru S.A. (Peru)	2	0	12%	17
SMM KOREA Co., Ltd. (South Korea)	1	0	25%	4
Shanghai Sumiko Electronic Paste Co., Ltd. (China)	3	0	7%	41
Taiwan Sumiko Materials Co., Ltd. (Taiwan)	1	0	4%	27
Dongguan Sumiko Electronic Paste Co., Ltd. (China)	1	1	13%	15

1. Percentage: number of senior managers ÷ locally hired employees x 100.

2. Employees hired directly by overseas affiliated companies and excluding workers on loan and transferred workers.

#### Percentage of Payments to Local Suppliers and Local Employment

Name of company or business site <sup>1</sup> (payment area)	Local procurement (FY2017) <input checked="" type="checkbox"/>		Local employment, percentage <sup>2</sup> (March 31, 2018)
	Payment to the area	Percentage <sup>3</sup>	
Niihama District <sup>4</sup> (Ehime Prefecture)	¥14.1 billion	50%	74%
Pogo Gold Mine (Alaska)	\$88.3 million	47%	64%
Coral Bay Nickel Corporation (Philippines)	\$58 million	49%	60%
Taganito HPAL Nickel Corporation (Philippines)	\$94 million	41%	43%
Hishikari Mine (Kagoshima Prefecture)	¥1,156 million	56%	87%
Sumiko Energy Materials Co., Ltd. (Fukushima Prefecture)	¥364 million	24%	78%
Shanghai Sumiko Electronic Paste Co., Ltd. (China)	CNY 85 million	29%	93%

1. Totaled for the three core segments (mineral resources, smelting and refining, and materials), business sites that are not only necessary for the business, but are also relatively large-scale (one domestic, one overseas site for each segment).

2. Percentage of local hiring: number of employees from the payment area ÷ total employees x 100.

3. Percentage of payments: amount of payments to payment area ÷ amount of total procurement payments x 100.

4. Sumitomo Metal Mining Co., Ltd.'s Besshi-Niihama District Division, Toyo Smelter & Refinery, Niihama Nickel Refinery, Isoura Plant and Niihama Research Laboratories.

## ■ Indirect Economic Impact

### Closure Plans for Mines and Smelting Plants

Business site	Details	Amount	Time period
Hishikari Mine	Mine pollution control reserve	¥22.59 million	From 1984
Pogo Gold Mine	Reclamation Bond	US\$57.10 million <sup>1</sup>	From 2006
Coral Bay Nickel Corporation	Closure and cleanup for the refinery and mineral processing plant	Total approx. 110 million pesos <sup>2</sup>	8 years starting from 2012 (accumulating every year)
Taganito HPAL Nickel Corporation	Expenses required for the closure plan	Total approx. 120 million pesos	11 years starting from 2016 (accumulating every year)

1. Total reserves for the entire project. The burden of costs, when they actually incur, will be divided among companies according to their participating interest.

2. Expenses according to the closure plan Coral Bay Nickel Corporation submitted to the Department of Environmental and Natural Resources.

### Investment in Infrastructure and Support Services

Region	Details	Amount (FY2017)
Japan	<ul style="list-style-type: none"> <li>• Donations to scholarship funds for orphans in Iwate, Miyagi, and Fukushima Prefectures, which were hit by the Great East Japan Earthquake (making donations every year since 2012)</li> <li>• Participation in the J Village reconstruction project in Naraha Town, Fukushima Prefecture (November 2017)</li> <li>• Undertaking activities for various types of social contribution, such as support and contributions for healthcare groups and sports organizations, culture and art such as historic and archaeological site preservation activities, and contributions to the Keidanren Nature Conservation Fund</li> </ul>	¥100 million
The Philippines	<ul style="list-style-type: none"> <li>• Supporting measures to prevent dengue fever in communities neighboring the plant (awareness activities, spraying insecticide, cleaning activities, etc.)</li> <li>• Undertaking a coffee cultivation project for communities neighboring the plant (from 2015)</li> <li>• Undertaking Operation Smile, a program to provide treatment for cleft palates for children, covering all of Palawan, which is where the plant is located (from 2016)</li> </ul> <p>In the Philippines we are continuing to provide support through SDMP<sup>3</sup> even after closure of the business site, so the residents can make a living.</p>	¥800 million
U.S.A.	<ul style="list-style-type: none"> <li>• Construction of a gymnasium for the elementary school in the City of Delta Junction (Alaska) which is near the mine site</li> <li>• Scholarship funds for the high school and college near the mine site in Arizona (established funds in 1987 and 2006)</li> </ul>	¥100 million

3. SDMP: Social Development Management Program, conducted by a company for the welfare of residents living in the vicinity of its operating area.

## Respect for People and Human Rights

### Education and Training

#### ■ Total Time Spent on Employee Education (FY2017)

	(hours)										
	Officers		General managers		Section managers		Regular employees		Occasional employees and temporary employees		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
SMM non-consolidated	146	0	557	0	2,658	96	23,344	4,300	301	57	31,458
Consolidated subsidiaries in Japan	484	0	853	0	3,166	1	19,768	2,407	1,955	1,821	30,456
Consolidated subsidiaries overseas	128	0	199	1,164	1,784	590	18,486	6,711	42	60	29,164

	Officers		Managers		Regular employees		Occasional employees and temporary employees	Total
	Male	Female	Male	Female	Male	Female		
Annual hours of education per employee (average) <input checked="" type="checkbox"/>	7.0	0.0	8.4	22.3	12.9	13.1	2.7	10.5
Number of officers and employees at the end of the fiscal year	109	0	1,096	83	4,774	1,026	1,577	8,665

#### ■ Employee Skill Improvement and Transition Support Program

##### SMM Human Resources Development Program<sup>1</sup>

	F-class J-class	S-class	E-class	Section managers	General managers	Officers	
	3-yr. training program for management track employees Second-year training Short-term overseas training Introductory training	Newly promoted S-class management track employee seminar S-class employee seminar (at each branch office) F-class employee seminar (at each branch office)	Introductory duty-based OJT for new employees Overseas training, overseas assignment Language training prior to overseas assignment Language training prior to overseas assignment Global staff registration program E-class employee seminar	Language training prior to overseas assignment Overseas training Fee assistance for language proficiency tests Section manager seminar SMM-MMP SMM-EMP Officers' coaching school Project management training	2-yr. training program for newly promoted general managers SMM-MMP SMM-EMP Officers' coaching school	Seminar for newly promoted employees Development of next generation of management Project leaders	Duty-based program Development of global human resources 3-yr. program for management track employees Seminar for newly promoted employees Development of next generation of management Project leaders Specialized education Step up Women's career support Compliance, governance, RM Safety, skills Self-development Pre-retirement support

1. Separate education and training is provided at group companies as required.  
 2. Life plan training covers such things as help regarding retirement benefits and the transition to life after retirement (explanations about social security, etc.)

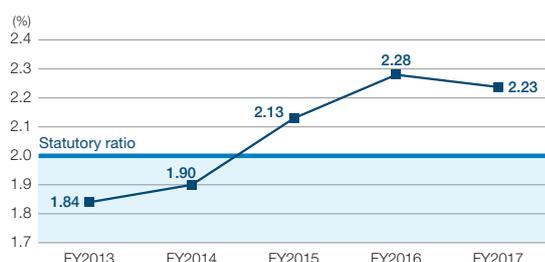
## Diversity and Equal Opportunity

### ■ Priority Issues and Main Initiatives Regarding Diversity (FY2017)

Target	Initiative	Specific content
Systems	Introduced various work systems as parts of working style reform	Tested and introduced optional staggered working hours, flextime, and a system for working remotely
	Revised regulations regarding childcare and nursing care leave	Reviewed regulations regarding childcare and nursing care leave in accordance with revisions to the Child Care and Caregiver Leave Act
Promotion	Renewed the "Shining Employee" diversity-related internal bulletin board	Added a page on "promoting employment of people with disabilities," in addition to the existing page on "support for participation by women"
Awareness	Held diversity workshops (deepening understanding of diversity through experience-based learning)	September 2017: Experience Dementia Through Virtual Reality March 2018: Learn Through Games! Barrier-Free Heart
	Held sign language classes and experience events	Held sign language classes within the company to improve understanding and promote the employment of people with hearing disabilities
Support	Child-raising support lunch meetings	Employees currently raising children met during their lunch break to discuss problems and concerns (held four times)
	Lectures for women by industrial physicians	Held lectures on women's health for female employees

### ■ Employment Ratio of Disabled People Over the Past Five Years

(SMM non-consolidated, average employment ratio over each fiscal year)



Through initiatives such as expanding work areas in which people with disabilities can participate and accepting interns from special-needs schools, we have continuously worked to recruit new employees with disabilities. Since FY2015, we have maintained an employment ratio above the statutory ratio for Japan (2.0%). As this rate was raised in April 1, 2018 to 2.2%, we will continue to expand the employment opportunities we offer to people with disabilities.

## Human Rights Assessment

### ■ Current Status of the Implementation of the Basic Survey into Employee Human Rights

	Number of business sites for which human rights due diligence was performed in FY2016	Number of business sites eligible for the basic survey into employee human rights	Implementation ratio
Japan	39	40	98%
China	4	7	57%
U.S.A.	2	6	33%
Chile	1	4	25%
Philippines	3	3	100%
Peru	1	2	50%
Canada	0	2	0%
The Netherlands	0	2	0%
Australia	1	1	100%
Malaysia	1	1	100%
Taiwan	1	1	100%
Brazil	1	1	100%
Solomon Islands	1	1	100%
South Korea	1	1	100%
Singapore	0	1	0%
Total	56	73	77%

■ Social and Environmental Assessment Initiatives

Target	Specifics	FY2017 results
Employees	<p><b>Human rights management program</b></p> <ul style="list-style-type: none"> <li>We started operating a human rights management program for employees<sup>2</sup> in FY2014. On-site inspections are conducted, as required, at sites where issues have been identified.</li> </ul> <p><b>Human rights seminars</b></p> <ul style="list-style-type: none"> <li>Every year, we conduct education on human rights, including the SMM Group Policy on Human Rights, for all Group employees in December, which has World Human Rights Week. Attendance: 100%</li> <li>We hold lectures, education for employees scheduled to be posted overseas and promoted individuals, and periodic human rights seminars. Total time devoted to training: 3,918 hours</li> </ul> <p><b>Preventing harassment</b></p> <ul style="list-style-type: none"> <li>We have established a contact person for sexual harassment and other incidents concerning human rights, as well as appointing a harassment prevention officer, at each business facility.</li> </ul> <p><b>Fact-finding surveys</b></p> <ul style="list-style-type: none"> <li>We conduct surveys into the work environment at each business site to understand the actual situation regarding harassment, compliance, and communication, and identify any demand.</li> <li>We commission an external specialized organization to conduct an Employee Satisfaction Survey every three years, to understand employees' demands and satisfaction regarding the Company.</li> </ul>	<p>In FY2017, the following incidents occurred and were dealt with appropriately: Incidents involving discrimination related to human rights: 0 Incidents involving harassment: 8<sup>5</sup> Complaints regarding impact on human rights: 0</p> <p>There were no reports of cases involving child labor or forced labor.</p> <p>There were no serious infringements upon freedom of association</p> <p>There were no reports across the entire Group, in Japan and overseas, of plants closing due to actions such as strikes.</p>
Suppliers and business partners	<p><b>Human rights management program</b></p> <p>For our human rights management program, every three years (starting in 2015) we conduct a questionnaire-based survey on human rights,<sup>3</sup> targeting around 60 of the biggest suppliers to the Mineral Resources, Non-Ferrous Metals, and Materials Divisions, and the Purchasing Department, in terms of annual transactions. Since 2015, we have implemented an initiative in which every year, the Purchasing Department and the Mineral Resources, Non-Ferrous Metals, and Materials Divisions, each select one company for an on-site inspection. In FY2017, we inspected four companies (12 total since the initiative began).</p> <p><b>Environmental assessment</b></p> <p>When the smelting and refining business selects a new mine as a supplier, we assess how that mine carries out environmental management, including water management and tailings dams. In FY2017, there were no new suppliers requiring environmental due diligence.</p> <p><b>Starting/ceasing operations</b></p> <p>When making investments or equity contributions, we use a project risk check sheet for committees, primarily the Management Committee, to carry out deliberations regarding human rights issues such as discrimination, forced labor, and child labor, and also the political system, economy, law and order, locally-specific diseases, labor issues, religious restrictions, and the impact on the local community.</p>	<p>In FY2017, there were no suppliers identified as having current or potential human rights-related problems or issues.</p> <p>There were also no reports of cases involving child labor, forced labor, or risk of infringement on the right to bargain collectively.</p> <p>In FY2017, there were two new investment agreements proposed to management, and both of these were screened for human rights issues <input checked="" type="checkbox"/>. Currently, no issues have been identified at either company, but we are continuing to monitor regularly.</p> <p>There were also two cases of the company withdrawing from businesses. Screening for human rights issues was conducted in both cases, but no issues were identified with either one.</p>
Indigenous people and local citizens in areas where the Company does business <sup>1</sup>	<p><b>Relocation of local citizens for development</b></p> <p>There are occasions when we inevitably have to ask local citizens to relocate to make way for development of the mine or the construction of associated facilities. On such occasions, we seek the understanding of local citizens and offer alternative land. For the Hishikari Mine, from 1983 to 1989 three households in total were asked to relocate. No relocations took place for development of the Pogo Gold Mine. For Taganito HPAL Nickel Corporation, we asked 41 households in areas to be affected by the plant's construction to relocate.<sup>4</sup></p> <p><b>Human rights management program</b></p> <p>We conduct due diligence regarding the human rights of local citizens living around the Hishikari Mine.</p> <p><b>Impact assessment</b></p> <p>During the approval and authorization process for operations at the Pogo Gold Mine, the Alaskan government provided explanations about the project to 13 villages inhabited by indigenous people in an area with a radius of more than 200 kilometers around the Pogo Gold Mine, particularly in the Tanana River basin, and G2G consultations were held to collect opinions. We are responding appropriately to the collected opinions.</p> <p><b>Consideration for biodiversity</b></p> <p>To preserve the ecosystems as well as the foundation of life for the indigenous communities in the area around the Pogo Gold Mine, SMM conducts annual monitoring of rivers where salmon return to spawn, and catches and analyzes fish to check for abnormal levels of heavy metals. To avoid adverse effects on moose habitats, we minimize the impact of mine access road construction by circumventing breeding grounds and not allowing traffic other than mine-related vehicles.</p>	<p>As a result of human rights due diligence, there have been no matters for concern, such as complaints from indigenous people, reported regarding Pogo Gold Mine or any of the mines or smelters and refineries in which SMM has more than a 50% interest.</p> <p>In FY2017, there were no cases of artisanal and small-scale mining (ASM) with work environment issues in regions where SMM operates, nor did SMM have any programs for involvement in ASM.</p>

1. Agreements are entered into with communities in line with the law at all of the mines and smelters and refineries in which the SMM Group has more than a 50% interest.  
 2. A group-wide human rights management program that incorporates a human rights due diligence framework based on the UN's Guiding Principles on Business and Human Rights. We aim to build a structured system to prevent and avoid complicity in either direct or indirect violations of human rights, and to make possible more appropriate responses, including relief, to concerns that arise.  
 3. Questionnaire-based survey on human rights: Includes content investigating forced labor, child labor, discrimination, and labor-management relations.  
 4. A relocation plan was formulated in line with the World Bank's Operational Directive on Involuntary Resettlement. With the agreement of all citizens, the relocation was completed by December 2010. Furthermore, we have continued to provide support since the relocation, including for home repair and maintenance, and programs to help restore livelihoods that encourage getting skills and know-how so the citizens can get income for the rest of their lives.  
 5. This does not include information provided through the SMM Group direct hotlines (see p.86: Compliance—Speak Up System)

## Diversity and Employment Opportunities

### Information Regarding Employees and Other Workers

#### Number of Employees & Officers Worldwide (Consolidated) (March 31, 2018)

	Employees																Total	Temporary employees
	Permanent employees														Occasional employees			
	Full-time officers		Managers						Regular employees						Non-regular/limited-term employees			
			Younger than 30		30-49 years old		50 and older		Younger than 30		30-49 years old		50 and older					
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female			
SMM non-consolidated	21	0	0	0	189	2	293	0	327	74	693	166	520	38	190	38	2,551	157
Consolidated subsidiaries in Japan	64	0	0	0	96	3	214	1	357	82	1,262	275	489	70	263	182	3,358	268
Consolidated subsidiaries overseas	24	0	34	14	214	50	56	13	392	151	641	158	93	12	16	5	1,873	458
<b>Total</b>	<b>109</b>	<b>0</b>	<b>34</b>	<b>14</b>	<b>499</b>	<b>55</b>	<b>563</b>	<b>14</b>	<b>1,076</b>	<b>307</b>	<b>2,596</b>	<b>599</b>	<b>1,102</b>	<b>120</b>	<b>469</b>	<b>225</b>	<b>7,782</b>	<b>883</b>

- In Japan, 75% of employees belonged to workers' unions. Overseas, two companies  have workers' unions (excluding Chinese labor unions) resulting in a workers' union membership ratio at overseas consolidated subsidiaries of 44% .
- Workers' unions membership ratio: percentage of all employees excluding officers.
- There is no gender disparity in terms of basic salaries in the SMM Group.

#### Number of Employees & Officers by Country and Region (March 31, 2018)

	Japan	U.S.A.	Canada	South Korea	Peru	Chile	China	Philippines	Taiwan	Malaysia	Australia	Solomon Islands	Brazil	Total
Male	4,978	303	4	2	18	20	65	998	14	0	6	29	11	6,448
Female	931	27	0	2	2	7	39	303	16	0	2	3	2	1,334

Excluding temporary employees

### Current Situation Regarding Childcare Leave (FY2017) (SMM non-consolidated)

	Total	Male	Female
Employees with the right to take childcare leave <sup>1</sup>	114	85	29
Employees who took childcare leave	27	0	27
Employees who took childcare leave during FY2017 and have since returned to work	11	0	11
Employees who were still working at the company 12 months after returning from childcare leave <sup>2</sup>	8	0	8
Ratio of workers who returned after childcare leave and retention rate <sup>3</sup>	<b>Return ratio 60%</b> <b>Retention rate 90%</b>	<b>Return ratio —</b> <b>Retention rate —</b>	<b>Return ratio 60%</b> <b>Retention rate 90%</b>

1. Out of employees who have notified the company of a birth:

Male employees—From the day of birth until the day before the child turns one year old.

Female employees—From 56 days before the expected delivery date until the last day of the April immediately following the fiscal year (ending March 31) the child becomes one year old (the day before their birthday), or the day the child becomes one and a half years old, whichever is longer.

2. The number of employees who returned to work in FY2016 and were still working at the company 12 months later.

3. Return ratio: number of people who returned to work in FY2017 ÷ number of people who intended to return to work in FY2017 x 100.

Retention rate: number of employees who returned to work in FY2016 and were still working at the company 12 months later ÷ number of employees who returned to work in FY2016 x 100.

### ■ New Hires and Departures (FY2017)

Location		Younger than 30		30–49 years old		50 and older		Total
		Male	Female	Male	Female	Male	Female	
Japan	New employees	105	18	36	8	0	1	168
	New employee ratio (%)	15.4	11.5	1.6	1.8	0.0	0.9	3.3
	Departures	24	7	32	6	20	1	90
	Turnover (%)	3.5	4.5	1.4	1.3	1.3	0.9	1.7
	Total employees	684	156	2,240	446	1,516	109	5,151
U.S.A.	New employees	18	1	32	5	12	0	68
	New employee ratio (%)	34.6	100.0	20.3	33.3	13.3	0.0	20.8
	Departures	11	1	23	3	23	1	62
	Turnover (%)	21.2	100.0	14.6	20.0	25.6	9.1	19.0
	Total employees	52	1	158	15	90	11	327
Canada	New employees	0	0	0	0	0	0	0
	New employee ratio (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Departures	0	0	0	0	0	0	0
	Turnover (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total employees	0	0	2	0	0	0	2
South Korea	New employees	0	0	0	2	0	0	2
	New employee ratio (%)	0.0	0.0	0.0	100.0	0.0	0.0	66.7
	Departures	0	0	0	2	0	0	2
	Turnover (%)	0.0	0.0	0.0	100.0	0.0	0.0	66.7
	Total employees	0	0	1	2	0	0	3
Peru	New employees	2	0	7	1	1	0	11
	New employee ratio (%)	200	0.0	53.8	50.0	50.0	0.0	61.1
	Departures	0	1	1	0	1	0	3
	Turnover (%)	0.0	0.0	7.7	0.0	50.0	0.0	16.7
	Total employees	1	0	13	2	2	0	18
Chile	New employees	0	0	0	0	0	0	0
	New employee ratio (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Departures	0	0	0	0	0	0	0
	Turnover (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total employees	3	1	10	3	4	3	24
China	New employees	8	2	6	2	0	0	18
	New employee ratio (%)	44.4	16.7	19.4	8.0	0.0	0.0	18.6
	Departures	6	1	3	3	2	0	15
	Turnover (%)	33.3	8.3	9.7	12.0	22.2	0.0	15.5
	Total employees	18	12	31	25	9	2	97

Location		Younger than 30		30–49 years old		50 and older		Total
		Male	Female	Male	Female	Male	Female	
Philippines	New employees	27	17	73	23	13	1	154
	New employee ratio (%)	7.8	11.4	12.2	16.1	35.1	16.7	12.0
	Departures	62	15	26	12	0	1	116
	Turnover (%)	18.0	10.1	4.3	8.4	0.0	16.7	9.1
	Total employees	345	149	600	143	37	6	1,280
Taiwan	New employees	0	0	0	0	0	0	0
	New employee ratio (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Departures	0	0	0	0	0	0	0
	Turnover (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total employees	4	1	6	12	2	3	28
Australia	New employees	1	0	0	1	0	0	2
	New employee ratio (%)	50.0	0.0	0.0	50.0	0.0	0.0	33.3
	Departures	0	0	0	1	1	0	2
	Turnover (%)	0.0	0.0	0.0	50.0	0.0	0.0	33.3
	Total employees	2	0	2	2	0	0	6
Solomon Islands	New employees	0	0	0	0	0	0	0
	New employee ratio (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Departures	0	0	0	0	0	0	0
	Turnover (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total employees	1	1	26	2	1	0	31
Brazil	New employees	0	0	0	0	0	0	0
	New employee ratio (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Departures	0	0	0	0	0	0	0
	Turnover (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total employees	0	0	6	2	4	0	12
Total <input checked="" type="checkbox"/>	New employees	161	38	154	42	26	2	423
	New employee ratio (%)	14.5	11.8	5.0	6.4	1.6	1.5	6.1
	Departures	103	25	85	27	47	3	290
	Turnover (%)	9.3	7.8	2.7	4.1	2.8	2.2	4.2
	Total employees	1,110	321	3,095	654	1,665	134	6,979

Total employees: number of employees as of March 31, 2018.

Officers, non-regular and limited-term employees, and temporary employees are not included in the figures for new employees, departures, and total employees.

New employee ratio: number of new employees ÷ total employees x 100.

Turnover: number of departures ÷ total employees x 100.

## Occupational Health and Safety

### Ratio of Workers Covered by the Occupational Health and Safety Management System (As of December 31, 2017)

	SMM Group employees in Japan		SMM Group employees overseas	
	Ratio	Number of employees <sup>1</sup>	Ratio	Number of employees <sup>1</sup>
Workers covered by an Occupational Health and Safety Management System	100% <sup>2</sup>	6,619	—% <sup>2</sup>	2,457
Workers covered by an Occupational Health and Safety Management System subject to internal audits <sup>3</sup>	100%	6,619	—%	—
Workers covered by an Occupational Health and Safety Management System subject to third party audits and certification <sup>4</sup>	21%	1,389	—%	—

Our Occupational Health and Safety Management System in Japan is implemented according to internal rules based on Japanese law and therefore only covers SMM Group employees. At some of our business sites, we also carry out similar activities for employees of contractors through collaborative committees and the like. We have also started providing support at overseas business sites and plan to gather detailed information and provide guidance aimed at improvement going forward.

- Includes temporary employees covered by SMM Group occupational health and safety administration.
  - In Japan, we have built an occupational health and safety management framework as stipulated by the Japanese Industrial Safety and Health Act, formulated policies, targets, and plans, and implement a one-year PDCA cycle. Activities are carried out for each level of the organization and cover 100% of employees. Information for overseas has yet to be surveyed.
  - In Japan, internal audits are carried out at all business sites and are implemented at each business site in turn by the business division with jurisdiction and the Safety & Environment Control Department. The audits confirm each business site's policy, targets, activity plan, and implementation status and ensure a PDCA cycle is being carried out.
  - Certification provided by third parties: OSHMS and OHSAS18001 in Japan (N.E. Chemcat Corporation, Shinko Co., Ltd., Hishikari Mine, and Ome District Division). Information for overseas has yet to be surveyed.
- The occupational health and safety services listed below are available for use by employees. Information for overseas has yet to be surveyed. Services are managed based on local laws.

### Worker Access to Occupational Health and Safety Services

Examples of occupational health and safety services (Services to maintain physical and mental health)	Supplementary information (Overview of service, etc.)	Targeted employees
Hazard simulations	An experience simulating a hazardous situation. Repeated training is held based on actual conditions at the business site (currently implementing second or higher rounds of training). Simulations are also held at business sites.	All SMM Group employees in Japan. Can also be used by contractors. Introduction at some overseas business sites is planned.
An Anzen Dojo	Held twice a year, once in spring and once in fall. Employees are taught the mechanisms that lead to disasters, and then contribute to activities at their business sites.	Safety leaders are selected from among all SMM Group employees in Japan.
An organizational structure and regulations, including safety managers, qualified personnel, and training plan	Required by Japanese laws and regulations.	All SMM Group employees in Japan. Managed by each business site.
A working environment management framework	Required by Japanese laws and regulations.	All SMM Group employees in Japan. Managed by each business site.
Medical examinations (general, specific, specialized), radiation exposure management, action on results of health checkups, and an insurance guidance framework	Required by Japanese laws and regulations.	All SMM Group employees in Japan. Managed by each business site.
Mental health-related checkups, consultations	Required by Japanese laws and regulations.	All SMM Group employees in Japan. Managed by each business site.
Industrial doctors, health advisors, nurses, etc. (including health consultations)	Industrial doctors are required by Japanese laws and regulations	All SMM Group employees in Japan. Managed by each business site.
Internal workshops, small group activities	Small group activities are held as an Anzen Dojo activity and have the aim of improving hazard awareness. Enhancing communication is also included.	At each business site.
Lectures from external instructors (life-saving and first aid, traffic accident prevention, etc.)	Red Cross first aid courses, life-saving courses by the fire department, traffic safety training by the police, etc.	At each business site.
Emergency rooms and equipment (life-saving and first aid, including AEDs, measures for pandemics or infectious diseases, etc.), an emergency contact network	There is also an emergency contact network covering the entire company.	At each business site.
Break rooms		At each business site.
Dining halls, nutritionists		All SMM Group employees at business sites where the service is available.
Laundry rooms	Provided at business sites as needed, in line with policies related to measures to create a comfortable work environment.	All SMM Group employees at business sites where the service is available.
Bath/shower facilities		All SMM Group employees at business sites where the service is available.
Company housing and dormitories		All SMM Group employees at business sites where the service is available.
Suggestion boxes	Can be posted through the SMM bulletin board. Internal reporting phone lines are also available.	All SMM Group employees in Japan.
Management of personal information	Required by Japanese laws and regulations.	All SMM Group employees in Japan.
Examples of other services	Supplementary information (Overview of service, etc.)	Targeted employees
Tackling lifestyle-related disease and promotion of health	Thorough medical checkups (health insurance union subsidies available), other.	All SMM Group employees at business sites where the service is available.

## Work-Related Incidents (2017)

"SMM Group employees" includes employees and part-time workers from group companies

	Japan				Overseas			
	SMM Group employees		Contractors		SMM Group employees		Contractors	
Number of work-related incidents resulting in fatality and frequency rate <sup>1</sup> <input checked="" type="checkbox"/>	1	0.07	0	0	0	0	1	—
Number of work-related incidents resulting in disability and frequency rate <sup>1</sup> <input checked="" type="checkbox"/>	0	0	0	0	0	0	0	0
Number of work-related incidents requiring reporting <sup>2</sup> and frequency rate <sup>1</sup> <input checked="" type="checkbox"/>	13	0.97	11	—	10	1.68	11	—
Main types of work-related incidents	Getting caught between objects, impact injuries, unreasonable actions, lacerations, falls, tumbles				Results of movements or unreasonable actions, impact injuries, getting caught between objects, lacerations, tumbles			
Cumulative hours worked	13,408,538 hours		— <sup>6</sup>		5,955,667 hours <sup>5</sup>		— <sup>6</sup>	
Number of potential incidents <sup>4</sup>	25		10		5		3	
Sources of work-related hazards that lead to disability, and method of determination	1) Heavy loads, 2) chemicals, 3) high-temperature objects, 4) rotating objects, 5) electricity, 6) high places, 7) heavy machinery, 8) cylinders, 9) hand tools Classified based on analysis of past incidents				• Bears (based on incident in 2017) • 1) Heavy loads, 2) chemicals, 3) high-temperature objects, 4) rotating objects, 5) electricity, 6) high places, 7) heavy machinery, 8) cylinders, 9) hand tools Applied based on the results of analysis of incidents in Japan			
Incidents leading to disabilities and resulting from sources of work-related hazards, and actions taken or underway to eliminate these hazards using the hierarchy of controls <sup>2</sup>	<p>Individual incidents</p> <ul style="list-style-type: none"> <li>• Cylinder (death): Installed an interlock and guard</li> <li>• Rotating object (resulting in absence from work): Improved the safety cover</li> <li>• Heavy load (not resulting in absence from work): Changed methods for transporting and supporting object to methods that do not require human power</li> <li>• High place (resulting in absence from work; contractor): Address with equipment and compliance with basic rules</li> </ul> <p>Overall</p> <p>Main emphasis on aiming for more effective activities</p> <ul style="list-style-type: none"> <li>• Reacted to incidents resulting in death with comprehensive safety checks at all business sites: currently identifying potentially critical equipment and operational hazards and implementing mainly engineering-based countermeasures</li> <li>• The effectiveness of risk assessments needs reviewing</li> <li>• Formulated and distributed guidelines for supervisors and gave instruction for them to be used (strengthened line management)</li> </ul>				<p>Individual incidents</p> <ul style="list-style-type: none"> <li>• Heavy machinery (not resulting in absence from work): Improved the hoisting sling</li> <li>• Heavy loads (not resulting in absence from work): Shifted to transportation methods that assist human power, operations moved outside of area where bolts fall, protective roofing installed</li> </ul> <p>Overall</p> <ul style="list-style-type: none"> <li>• Started introducing hazard simulation training to sites (business sites in the Philippines)</li> </ul>			
Incidents resulting from other sources of workplace hazards and actions taken or underway to eliminate these hazards using the hierarchy of controls <sup>2</sup>	• Flying objects (resulting in absence from work): Improved visibility of flying objects, signals, prohibit entry into hazardous areas				• Collisions with obstacles: Signs, etc.			

1. Frequency rate: number of incidents ÷ cumulative hours worked × 1,000,000.

2. Measures considered in the following order: 1) Removing or reducing danger in worker activities in the design or planning stage, such as by eliminating or changing operations that are hazardous, 2) engineering-based measures such as installing interlocks or guards, 3) managerial measures such as upgrading manuals and prohibiting entry, and 4) use of personal protective equipment—Excerpted from Policy Regarding Investigation of Danger or Harm, etc. (Ministry of Health, Labour and Welfare)

3. "Workplace incidents requiring reporting" is the total of injuries that required hospital treatment and resulted in absence from work and injuries not resulting in absence from work.

4. The number of minor incidents (visited the hospital but no treatment needed).

5. Calculated based on one person working 2,000 hours per year.

6. Not calculated, as contractor work hours tend to be fluid.

## Work-Related Ill Health (2017)

"SMM Group employees" includes employees and part-time workers from group companies

	Japan		Overseas	
	SMM Group employees	Contractors	SMM Group employees	Contractors
Number of incidents of work-related ill health resulting in fatality	0	— <sup>2</sup>	0	0
Number of incidents of work-related ill health requiring reporting	0	— <sup>2</sup>	0	0
Primary types of work-related ill health and method of determination	As stated in the Industrial Safety and Health Act: • Pneumoconiosis • Ionizing radiation injury • Organic solvent poisoning • Damage caused by specified chemical substances (occupational cancer, skin damage, etc.) • Lead poisoning • Vibration-induced damage • Noise-induced hearing loss • Occupational dental problems (dental erosion, etc.)		— <sup>2</sup>	— <sup>3</sup>
Sources of work-related hazards that lead to ill health	• Dust • Ionizing radiation • Organic solvents • Specified chemical substances • Lead • Vibrating tools • Noise • Substances that erode the teeth (acids)		— <sup>3</sup>	
Incidents resulting from sources of work-related hazards leading to illness and actions taken or underway to eliminate these hazards using the hierarchy of controls <sup>1</sup>	• No work-related ill health occurred that required treatment • Implementing improvements to working environments at business sites, primarily in Control Class 3 workplaces • Using a risk assessment database of chemical substances to prevent illness		• No work-related ill health occurred that required treatment	

1. Measures considered in the following order: 1) Removing or reducing harmfulness in worker activities in the design or planning stage, such as by eliminating or changing operations that are hazardous, and changing to materials that are less harmful, 2) engineering-based measures such as installing localized ventilation equipment, 3) managerial measures such as upgrading manuals and exposure management, and 4) use of personal protective equipment—Excerpted from Policy Regarding Investigation of Danger or Harm, etc. (Ministry of Health, Labour and Welfare)

2. Under Japanese laws and regulations, for employees other than those of the SMM Group, this falls under the responsibility and management of the businesses that hire them, so while we provide leadership, we are unable to disclose information.

3. For overseas business sites, depending on local laws, we investigate whether work-related ill health certification is present, but we do not investigate details.



## Stakeholder Communication

### Stakeholder Engagement

Stakeholders <sup>1</sup>	Stance on initiatives	Specific initiatives
Customers	We engage in communication primarily through sales personnel. Comments received are handled at the management level through the management systems of the individual businesses.	<ul style="list-style-type: none"> <li>Introduce products on our website and post contact information along with them.</li> </ul>
Shareholders and Investors	To carry out appropriate IR activities, we have established an IR Policy that has standards and methods of information disclosure and is on our website. Comments received are regularly reported to management and are put to use in administration of the company.	<p>For institutional investors and analysts:</p> <ul style="list-style-type: none"> <li>Hold Business Strategy Progress Briefing Sessions (2 times/year)</li> <li>Hold telephone conferences on the content of financial reports (4 times/year)</li> </ul> <p>For individual investors:</p> <ul style="list-style-type: none"> <li>Publish <i>The Report for Shareholders</i> (2 times/year)</li> <li>Hold a briefing (1 time/year)</li> </ul>
Employees	<p>We regularly give explanations and have meetings with labor unions in Japan and employee representatives overseas to hear their requests and opinions. We also have a system for discussions with individual employees and conduct an employment awareness survey.</p> <p>If there will be changes to work that significantly impact employees, we set an appropriate notification period in advance. (Example: At a subsidiary slated for withdrawal from business, we briefed employees eight months before the withdrawal and held discussions on personnel-related measures.)</p>	<p>Japan:</p> <ul style="list-style-type: none"> <li>Hold labor-management council meetings, labor-management discussions (1 time/month)</li> <li>Hold a Central Labor Management Conference (1 time/year)</li> <li>Set individual job targets at the start of the fiscal year, and hold talks between individual employees and their supervisors to ascertain the progress being made toward the targets (2 times/year)</li> </ul> <p>Overseas:</p> <ul style="list-style-type: none"> <li>Establish opportunities for regularly explaining management status to employee representative organizations, and for hearing the opinions and requests of employees</li> </ul> <p>In response to requests for safety and work environment improvements put forth in labor-management discussions, we confirm the conditions and enact the necessary improvement measures. (Examples: Measures to combat heat stroke in summer and measures to prevent contact accidents; use of machines for work with high physical burdens)</p>
Regional Communities	We establish opportunities for regular communication with regional communities, prepare environments that facilitate mutual understanding, and actively undertake a variety of activities for becoming a part of the communities.	<ul style="list-style-type: none"> <li>Hishikari Mine: Hold Pollution Prevention Council meetings (2 times/year)</li> <li>Pogo: Establish opportunities to disclose information to regional communities and other stakeholders (4 times/year)</li> <li>CBNC: Hold regular information exchanges with 22 barangays,<sup>3</sup> including 11 "impact barangays" which are directly affected, near Rio Tuba</li> <li>THPAL: Hold regular information exchanges with 14 barangays, including 4 neighboring "impact barangays" which are directly affected</li> </ul> <ul style="list-style-type: none"> <li>CBNC: Construct facilities required by each barangay, support schools by providing educational supplies and materials required for operation, and promote the Coffee Bean Cultivation Project, etc.<sup>2</sup></li> <li>THPAL: Promote regional awareness activities aimed at dengue fever and filariasis, build new local high school buildings, support educational advancement through scholarships, etc.<sup>2</sup></li> </ul>
Business Partners	Based on our excellent relationships with business partners, each of our departments actively engages in everyday communication and exchanges of ideas.	<ul style="list-style-type: none"> <li>Hold safety training for subcontractors so they can work safely</li> <li>Have patrols that evaluate the construction status of buildings, to improve the skills of construction firms handling our products</li> </ul>
Citizens Groups	While gaining the understanding and cooperation of citizens groups toward the construction and operation of plants, we keep impact to the local environment to a minimum and work toward co-existence with the natural environment.	<ul style="list-style-type: none"> <li>Hold regular exchanges of opinion with the international environmental NGO Friends of the Earth Japan (FoE Japan) on topics such as the water quality of rivers around the CBNC plant on Palawan Island and the THPAL plant on Mindanao Island, both in the Philippines (2 times/year)</li> </ul>
Government Agencies	We conduct regular exchanges of information and discussions with local government administrative agencies, industry bodies, and other organizations in regions where we have business sites and affiliated companies.	<ul style="list-style-type: none"> <li>Hold regular information exchange meetings with the public security sections of police stations near our workplaces (1 time/month)</li> </ul>

There were no complaints to the SMM Group regarding impacts on society, and 18 complaints concerning impacts on the environment. These are being handled appropriately.

1. Stakeholders on which SMM has an impact and which have an impact on SMM are defined as customers, shareholders, employees, regional communities, creditors, business partners, citizens groups, and government agencies.

2. Part of our SDMP (Social Development and Management Program) initiative.

3. Barangay: the smallest administrative division that makes up cities and towns in the Philippines, and denotes a village, district, or ward.

## ■ Main Organizations in Which SMM Has Membership

Organization	Responsibilities of SMM officers and employees	Initiatives relating to public policy
Japan Business Federation (Keidanren)	Executive member; participation in the following committees: New Industry and Technology, Canada, Environment and Safety, Oceanic Resources, International Cooperation, China, South Asia, Japan-Myanmar Economic, Japan-Brazil Economic, Gender Diversity, National Resilience, the Tokyo 2020 Olympic and Paralympic Games, Energy and Resources (Planning sub-committee), Labor Legislation (Occupational Health and Safety sub-committee)	As a unified business organization with the goal of making improvements to the autonomous growth of the domestic economy and to public life, we act reliably and swiftly after gathering opinions from the business world with regards to various internal and external economic challenges
Japan Mining Industry Association	Director; participation in the following committees: Mining Reserves (chairman and deputy chairman), Planning and Coordination, Energy, Overseas Development, Environmental Management, Customs Duties, Funds, Supply and Demand, Taxation, Exploration and Development, Sulfide Ore and Sulfuric Acid, the Special Committee for Depletion Allowance Measures and Safety Promotion	Submission of mining industry policy requests to relevant government agencies regarding electricity fee issues, taxation, resource development, smelting and recycling technology, mine safety, and development of employee training. Members to be sent to government-sponsored investigative committees to present industry viewpoint.
The Sulphuric Acid Association of Japan	One director; participation in Business Editorial Committee and Technical Committee	Communicating policy and information from the Manufacturing Industries Bureau of the Ministry of Economy, Trade and Industry to member companies and compiling and presenting requests from member companies
International Council on Mining and Metals (ICMM)	Practice the ICMM 10 Principles. Promote ICMM activities and participate in each of the following programme committees: Environmental Stewardship and Social Progress, the Role of Mining and Metals in Society, and Health, Safety and Product Stewardship	<ul style="list-style-type: none"> <li>• Environment Initiatives for biodiversity, climate change, and water management</li> <li>• Health and safety Initiatives for sharing information on health and safety and the elimination of accidents</li> <li>• Materials stewardship Initiatives for science-based chemical substance management and supply chain management</li> <li>• Society and economy Initiatives to contribute to the economic development of society by the mining industry</li> </ul>
Japan Electronics and Information Technology Industries Association (JEITA)		Collection of various statistics, and participation in reviews of regulations, standards, environmental measures and other issues
Battery Association of Japan	Associate member	

■ Involvement with the International Community

**The 10 Principles of the ICMM<sup>1</sup>**

- Principle 1:** Apply ethical business practices and sound systems of corporate governance and transparency to support sustainable development
- Principle 2:** Integrate sustainable development in corporate strategy and decision-making processes
- Principle 3:** Respect human rights and the interests, cultures, customs and values of employees and communities affected by our activities
- Principle 4:** Implement effective risk-management strategies and systems based on sound science and which account for stakeholder perceptions of risks
- Principle 5:** Pursue continual improvement in health and safety performance with the ultimate goal of zero harm
- Principle 6:** Pursue continual improvement in environmental performance issues, such as water stewardship, energy use and climate change
- Principle 7:** Contribute to the conservation of biodiversity and integrated approaches to land-use planning
- Principle 8:** Facilitate and support the knowledge-base and systems for responsible design, use, re-use, recycling and disposal of products containing metals and minerals
- Principle 9:** Pursue continual improvement in social performance and contribute to the social, economic and institutional development of host countries and communities
- Principle 10:** Proactively engage key stakeholders on sustainable development challenges and opportunities in an open and transparent manner. Effectively report and independently verify progress and performance

1. ICMM: International Council on Mining and Metals <https://www.icmm.com/>

The SMM Group reflects the ICMM 10 Principles in our CSR and other policies, and publishes reports in line with GRI guidelines, as mandated for ICMM member companies. In addition, we comply with the ICMM Position Statements that embody the 10 Principles, and otherwise engage in a variety of actions as a member company.

ICMM has set forth the following position statements to supplement its 10 Principles. SMM is committed to complying with these initiatives.

- Transparency of mineral revenues
- Principles for climate change policy design
- Mercury risk management
- Mining and protected areas
- Indigenous peoples & mining
- Mining partnerships for development
- Water stewardship
- Tailings governance

**The EITI<sup>2</sup> Principles**

- |  |  |  |
|--|--|--|
| <p>1. We share a belief that the prudent use of natural resource wealth should be an important engine for sustainable economic growth that contributes to sustainable development and poverty reduction, but if not managed properly, can create negative economic and social impacts.</p> <p>2. We affirm that management of natural resource wealth for the benefit of a country's citizens is in the domain of sovereign governments to be exercised in the interests of their national development.</p> <p>3. We recognise that the benefits of resource extraction occur as revenue streams over many years and can be highly price dependent.</p> <p>4. We recognise that a public understanding of government revenues and expenditure over time could help public debate and inform choice of appropriate and realistic options for sustainable development.</p> | <p>5. We underline the importance of transparency by governments and companies in the extractive industries and the need to enhance public financial management and accountability.</p> <p>6. We recognise that achievement of greater transparency must be set in the context of respect for contracts and laws.</p> <p>7. We recognise the enhanced environment for domestic and foreign direct investment that financial transparency may bring.</p> <p>8. We believe in the principle and practice of accountability by government to all citizens for the stewardship of revenue streams and public expenditure.</p> <p>9. We are committed to encouraging high standards of transparency and accountability in public life, government operations and in business.</p> | <p>10. We believe that a broadly consistent and workable approach to the disclosure of payments and revenues is required, which is simple to undertake and to use.</p> <p>11. We believe that payments' disclosure in a given country should involve all extractive industry companies operating in that country.</p> <p>12. In seeking solutions, we believe that all stakeholders have important and relevant contributions to make— including governments and their agencies, extractive industry companies, service companies, multilateral organisations, financial organisations, investors, and non-governmental organisations.</p> |
|--|--|--|

2. EITI: Extractive Industries Transparency Initiative <http://eti.org/>

## SMM Group Code of Conduct

All officers (including executive officers) and staff (including fixed-term and temporary employees) shall, in accordance with the corporate philosophy of the SMM Group, comply with the following Code of Conduct. Officers in particular shall, in reflection of their position and responsibilities, exercise strict self-discipline, set an example in carrying out the Code, and educate employees to honor and strictly obey the Code in full.

### 1. Compliance: Abidance by Laws and Rules

- We will comply with foreign and domestic laws and rules, and conform to social norms.
- We will never under any circumstances commit an infraction of the law or act counter to social norms, even if doing so would seem to be in the company's interests.

### 2. Respect for Individuals

- We will accept diversity and respect the individuality and rights of people.
- We will never violate human rights, engage in discriminatory conduct, or contribute to such conduct.

### 3. Assurance of Health and Safety

- We will give highest priority to ensuring the physical health and safety of all persons affected by our operations.

### 4. Development of Human Resources

- We will strive not only for personal self-improvement, but also to nurture successors through systematic training and by providing various opportunities in the course of work.

### 5. Risk Management

- We will strive to identify risks, prevent their occurrence, and if risks occur, minimize the effects.

### 6. Adherence to a Progressive Stance

- We will approach our jobs with a positive and progressive attitude suitable to the creation of technologies and systems in the vanguard of changing times.

### 7. Respect for Teamwork, Promotion of Good Communication

- We will place high value on teamwork, in the form of cooperation both with other organizations and with fellow workers.
- We will strive to create a cheerful and broadminded corporate atmosphere conducive to the smooth transfer of required information and the timely performance of reporting, liaison and consultation.

### 8. In Harmony with Society and Local Communities

- As members of society, we will participate in social contribution activities in accordance with our personal beliefs.
- We will strive toward a harmonious and mutually beneficial relationship with local communities.

### 9. Separation of Corporate Business and Personal Affairs

- We will at all times conduct ourselves based on sound judgment, and make a clear distinction between corporate business and our personal affairs.

### 10. Collection, Management and Usage of Information

- We will collect information swiftly, properly and lawfully, manage it appropriately, and use it effectively.
- We will utilize information acquired in conjunction with corporate business expressly for that purpose only, and will not leak such information to any third party.

### 11. Handling of Intellectual Property

- We will nurture and maintain conscious recognition of the importance of intellectual property as a vital asset of the Group, and strive toward the creation of such property.
- We will strive to properly protect and effectively use all corporate intellectual properties; we will also respect intellectual properties of other parties.

### 12. Assurance of Quality

- We will continuously improve quality management systems and provide products and services that satisfy customers.
- We will enhance technologies and seek to engage in manufacturing that takes into account customers' safety and their environment.

### 13. Stance toward Performance of Sales and Purchasing

- We will comply with competition laws and conduct sales and purchasing activities based on fair competition.

### 14. Stance toward Entertainment and Gifts

- We will entertain and present gifts to others, and accept entertainment and gifts, within the proper limits of both the law and social acceptability.
- We will comply with laws against bribery and will maintain healthy and proper relationships with government and political organizations.

### 15. Severance of Relationships with Socially Disruptive Forces

- We will staunchly eliminate socially disruptive forces and have no relations whatsoever with them.

### 16. Concern for the Global Environment

- Taking into consideration climate change and biodiversity, we will act in a manner enabling us to contribute to the resolution and/or improvement of resource, energy and environmental problems of global scale.

### 17. Attitude in the Performance of Global Business Activities

- We will strive to interact with people in the countries or regions where we undertake business and engage in conduct that respects local culture and practices as well as globally accepted norms and their spirit.

Established April 1, 2004  
Revised April 1, 2015

## Other

## ■ Economic Performance

Distribution of Economic Value to Stakeholders (FY2017) 

Stakeholder	Amount (billions of yen)	Details
Suppliers	802.5	Payments to suppliers
Employees	40.1	Payments to employees
Shareholders/Creditors	23.6	Payments of dividends/interest
Government	15.9	Taxes paid
Society*	1.0	Donations

Other than the above, there is retained value of ¥79.0 billion. Rent for use of land is minimal and therefore included in "Payments to suppliers."

\* In the Philippines (CBNC, THPAL), the ¥0.8 billion expended through the social development management program (SDMP) and other contributions in the same country is included.

Financial Assistance from the Government (FY2017) 

Stakeholder	Amount (billions of yen)	Details
Government	0.2	Subsidies, grants, etc.

• No governments have an equity stake in SMM

## Projected Benefit Obligation

SMM has the following defined-benefit systems in place, principally in Japan: a lump-sum retirement payment plan; a defined-benefit corporate pension plan; and an employees' pension fund. The projected benefit obligation at March 31, 2018 is ¥70.5 billion. The portion of the projected benefit obligation to be funded by pension assets is ¥68.6 billion . Pension assets available for allocation to that portion are ¥63.2 billion .

## ■ External Recognition

## List of Main External Awards (FY2017)

Recognition (awarding party)	Date	Recipients	Award received for
2016 Outstanding Community Project Award (Philippine Economic Zone Authority)	April 4, 2017	Coral Bay Nickel Corporation	The supply of electric power to residents, development of means of livelihood in the surrounding area, medical assistance, scholarship student assistance, volunteer work and a variety of other social contribution activities conducted by Coral Bay Nickel Corporation in its area of location through the Social Development and Management Program were highly acclaimed.
2016 Distinguished Achievements in Research (Japan Society of Powder and Powder Metallurgy)	May 31, 2017	Hitoshi Taimatsu, Outside Director, Sumitomo Metal Mining Co., Ltd.	Achieved outstanding research results in the areas of powder and powder metallurgy science and technology related to metals and ceramics.
10th Award for Excellence in Accuracy Control (The Japan Association for Working Environment Measurement)	June 14, 2017	Sumiko Techno-Research Co., Ltd.	Sumiko Techno-Research Co., Ltd. has been recognized as an elite institution for accuracy control for five consecutive years. Its work environment measurement experts, who have surmounted difficult testing, rise to the challenge every year.
2016 Supplier's Award (Murata Manufacturing Co., Ltd.)	July 4, 2017	Sumitomo Metal Mining Co., Ltd.	Shinko Co., Ltd. was the only company out of approx. 1,000 to be recognized by Murata Manufacturing for quality improvements, cost reductions, and other distinguished achievements in the business of printed circuit boards.
Excellence in Corporate Disclosure as selected by securities analysts (The Securities Analysts Association of Japan)	October 12, 2017	Sumitomo Metal Mining Co., Ltd.	The IR activities of SMM were ranked by securities analysts as number 1 among 14 companies in the Steel/Non Ferrous Metal category.
2017 Internet IR Awards Commendation Award (Daiwa Investor Relations Co., Ltd.)	November 20, 2017	Sumitomo Metal Mining Co., Ltd.	Was acclaimed from among all 3,735 listed companies and given the award.
2017 Presidential Mineral Industry Environmental Award (Department of Environment and Natural Resources of the Philippines)	November 24, 2017	Coral Bay Nickel Corporation	Was awarded the 2017 Presidential Mineral Industry Environmental Award which is the highest in the nation's mining industry, by the Department of Environmental and Natural Resources of the Philippines for the fourth consecutive year. Also received the Safest Mineral Processing Extraction Award and the Best Mining Forest Award (second place).
2017 Titanium Award of the Presidential Mineral Industry Environmental Award (Department of Environment and Natural Resources of the Philippines)	November 24, 2017	Taganito HPAL Nickel Corporation	Was awarded the 2017 Titanium Award of the Presidential Mineral Industry Environmental Award (third place) by the Department of Environmental and Natural Resources of the Philippines. Also received the Safe Mineral Processing Extraction Award.
Encouragement Award for Integrated Reporting (WICI Japan)	December 1, 2017	Sumitomo Metal Mining Co., Ltd.	Received the Encouragement Award from WICI (The World Intellectual Capital / Assets Initiative) Japan for the Integrated Report 2017.
21st Environmental Communication Awards Prize of Excellence (Global Environment Forum)	February 27, 2018	Sumitomo Metal Mining Co., Ltd.	The Integrated Report 2017 was recognized as "a superior report that goes beyond a certain level to serve as an example to other companies in the same industry and business operators with a comparative business scale."
Viola R. MacMillan Award (Prospectors & Developers Association of Canada)	March 4, 2018	Sumitomo Metal Mining Co., Ltd.	Received the award along with IAMGOLD Corporation for the Côté Gold Project in Ontario, Canada. SMM was recognized for demonstrating leadership in management for the purpose of exploration and developing of resources and in resource procurement.

# Independent Assurance Report (First half)



## Independent Assurance Report

To the President and Representative Director of Sumitomo Metal Mining Co., Ltd.

We were engaged by Sumitomo Metal Mining Co., Ltd. (the “Company”) to undertake a limited assurance engagement of the environmental, social and economic performance indicators marked with  (the “Indicators”) for the period from April 1, 2017 to March 31, 2018 included in its Integrated Report 2018 (the “Report”) for the fiscal year ended March 31, 2018; the Company’s self-declaration that the Report is prepared in accordance with the Global Sustainability Standards Board’s GRI Sustainability Reporting Standards (the “GRI Standards”) at a core level; the alignment of the Company’s policies to the International Council on Mining and Metals (“ICMM”)’s 10 Sustainable Development (“SD”) Principles and the applicable mandatory requirements set out in ICMM position statements; the Company’s identification and prioritization of material issues; and the Company’s approach and management of its material issues.

### The Company’s Responsibility

The Company is responsible for the preparation of the Indicators in accordance with its own reporting criteria (the “Company’s reporting criteria”), as described in the Report; self-declaring that the Report is prepared in accordance with the criteria stipulated in the GRI Standards; reporting on the alignment of the Company’s policies to the ICMM’s 10 SD Principles and the applicable mandatory requirements set out in ICMM position statements; reporting on the Company’s identification and prioritization of material issues; and for reporting on the Company’s approach and management of its material issues.

### Our Responsibility

Our responsibility is to express a limited assurance conclusion on the Indicators based on the procedures we have performed. We conducted our engagement in accordance with ‘International Standard on Assurance Engagements (ISAE) 3000, Assurance Engagements other than Audits or Reviews of Historical Financial Information’ and ‘ISAE 3410, Assurance Engagements on Greenhouse Gas Statements’, issued by the International Auditing and Assurance Standards Board. The limited assurance engagement consisted of making inquiries, primarily of persons responsible for the preparation of information presented in the Report, and applying analytical and other procedures, and the procedures performed vary in nature from, and are less in extent than for, a reasonable assurance engagement. The level of assurance provided is thus not as high as that provided by a reasonable assurance engagement. Our assurance procedures included:

- Interviewing the Company’s responsible personnel to obtain an understanding of its policy for preparing the Report and reviewing the Company’s reporting criteria.
- Inquiring about the design of the systems and methods used to collect and process the Indicators.
- Performing analytical procedures on the Indicators.
- Examining, on a test basis, evidence supporting the generation, aggregation and reporting of the Indicators in conformity with the Company’s reporting criteria, and recalculating the Indicators.
- Visiting the Company’s Harima Refinery selected on the basis of a risk analysis.
- Evaluating the overall presentation of the Indicators.
- Evaluating the Company’s self-declaration that the Report is prepared in accordance with the GRI Standards at a core level against the criteria stipulated in the GRI Standards.
- Assessing the alignment of the Company’s policies to the ICMM’s 10 SD Principles and the applicable mandatory requirements set out in ICMM position statements through documentation reviews and interviews.
- Interviewing the Company’s responsible personnel and reviewing documents with respect to the Company’s process of identifying and prioritizing its material issues and its approach to and management of its material issues.

# Independent Assurance Report (Second half)



## Conclusion

Based on the procedures performed, as described above, nothing has come to our attention that causes us to believe that:

- the Indicators in the Report are not prepared, in all material respects, in accordance with the Company's reporting criteria as described in the Report;
- the Company's self-declaration that the Report is prepared in accordance with the GRI Standards at a core level does not conform to the criteria stipulated in the GRI Standards;
- the Company's policies are not aligned to the ICMM's 10 SD Principles and the applicable mandatory requirements set out in ICMM position statements as described on pages 81 and 118;
- the Company has not identified and prioritized its material issues as described on pages 81 to 83; and
- the Company has not approached and managed its material issues as described on pages 92 to 97.

## Our Independence and Quality Control

We have complied with the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which includes independence and other requirements founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior. In accordance with International Standard on Quality Control 1, we maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

*KPMG AZSA Sustainability Co., Ltd.*

KPMG AZSA Sustainability Co., Ltd.

Tokyo, Japan

October 19, 2018

# Financial Data

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# Eleven-Year Financial Summary

SUMITOMO METAL MINING CO., LTD. AND CONSOLIDATED SUBSIDIARIES

Note: The totals of the yen conversions of dollar item amounts may not match the totals due to rounding.

Years ended March 31	2018	2017	2016	2015
<b>Results for the year:</b>				
Net sales	¥ 933,517	¥ 786,146	¥ 855,407	¥ 921,334
Gross profit	157,089	122,296	113,862	174,257
Operating income	110,203	76,390	59,720	125,779
Other income (expenses)	(4,408)	(82,389)	(59,161)	(2,518)
Income (loss) before income taxes	105,795	(5,999)	559	123,261
Net income (loss) attributable to owners of the parent	91,648	(18,540)	(309)	91,113
Equity in earnings (losses) of affiliated companies	11,367	(85,972)	(73,223)	23,943
Capital expenditures	74,589	125,950	51,013	55,232
Depreciation	46,865	44,232	46,141	38,125
Net interest expenses	10,804	10,546	8,927	6,250
Net cash flows from operating activities	79,405	43,796	119,704	120,003
Net cash flows from investing activities	(22,994)	(143,219)	(92,876)	(105,024)
Net cash flows from financing activities	(90,095)	70,392	(4,003)	(39,047)
Free cash flows	56,411	(99,423)	26,828	14,979
<b>Financial position at year-end:</b>				
Total assets	¥ 1,699,037	¥ 1,685,018	¥ 1,630,800	¥ 1,740,246
Net assets	1,120,008	1,024,121	1,075,995	1,158,945
Long-term loans due after one year	257,409	358,564	248,036	245,000
Interest-bearing debt	362,297	495,504	400,559	394,094
Working capital	369,668	382,810	313,812	307,436
<b>Amounts per share*3:</b>				
Net income (loss)				
—Basic	¥ 332.42	¥ (33.61)	¥ (0.56)	¥ 165.11
—Diluted	299.94	—	—	149.44
Shareholders' equity*1	3,771.69	1,743.46	1,781.91	1,905.50
Cash dividends	100.0	11.0	31.0	48.0
<b>Key ratios:</b>				
ROA (%)	5.42	(1.12)	(0.02)	5.50
ROE (%)*1	9.17	(1.93)	(0.03)	9.28
Equity ratio (%)*1	61.0	57.1	60.3	60.4
Interest-bearing debt to total asset ratio (%)	21.3	29.4	24.6	22.6
Debt-to-equity ratio (times)*1	0.35	0.52	0.41	0.37
Current ratio (times)	2.70	2.82	2.39	2.29

\*1 Shareholders' equity is defined by the following equation.

Shareholders' equity = Total shareholders' equity + Accumulated other comprehensive income

\*2 The Company applied the new accounting method retrospectively and restated the consolidated financial statements for the year ended March 31, 2012.

\*3 The Company consolidated its shares at a rate of one share for every two shares of its common stock with October 1, 2017 as the effective date. "Amounts per share" is calculated on the assumption that the consolidation of its shares was conducted at the beginning of the current fiscal year.

Millions of yen (except per share amounts and key ratios)

	2014	2013	2012*2	2011	2010	2009	2008
¥	830,546	¥ 808,540	¥ 847,897	¥ 864,077	¥ 725,827	¥ 793,797	¥ 1,132,372
	124,822	140,650	132,421	138,810	105,956	56,887	198,147
	75,418	95,785	88,577	96,038	66,265	10,534	155,394
	35,588	26,670	(615)	27,356	16,511	12,408	61,110
	111,006	122,455	87,962	123,394	82,776	22,942	216,504
	80,258	86,640	65,286	83,962	53,952	21,974	137,808
	29,770	17,100	23,217	34,832	26,090	31,536	73,956
	66,441	59,291	73,143	53,105	26,414	47,723	65,145
	32,426	27,578	31,132	34,625	34,746	34,268	30,505
	3,530	(144)	663	257	(654)	(271)	(2,209)
	80,014	114,665	144,999	102,458	44,153	128,000	157,383
	(126,937)	(88,745)	(135,932)	(75,735)	(75,443)	(28,386)	(126,413)
	81	21,549	50,314	7,379	(19,322)	(74,086)	55,727
	(46,923)	25,920	9,067	26,723	(31,290)	99,614	30,970
¥	1,572,367	¥ 1,351,153	¥ 1,146,759	¥ 1,052,353	¥ 981,458	¥ 880,001	¥ 1,091,716
	1,019,053	844,547	726,039	684,103	629,684	547,251	640,345
	243,130	212,323	157,119	135,128	132,311	141,716	169,394
	383,580	330,073	265,951	210,969	200,939	218,534	258,054
	314,198	338,866	312,542	267,072	229,259	206,123	266,250
¥	145.35	¥ 155.58	¥ 116.17	¥ 149.38	¥ 96.26	¥ 38.87	¥ 238.13
	129.71	142.40	106.84	136.98	88.75	36.18	231.50
	1,653.83	1,393.02	1,173.97	1,121.19	1,043.50	913.92	1,017.96
	37.0	34.0	28.0	32.0	20.0	13.0	30.0
	5.49	6.94	5.94	8.26	5.80	2.23	13.64
	9.54	12.13	10.12	13.80	9.89	4.02	25.39
	58.1	56.9	57.5	59.9	59.8	57.3	54.0
	24.4	24.4	23.2	20.0	20.5	24.8	23.6
	0.42	0.43	0.40	0.33	0.34	0.43	0.44
	2.40	2.60	2.67	2.30	2.19	2.17	2.04

# Consolidated Balance Sheets

SUMITOMO METAL MINING CO., LTD. AND CONSOLIDATED SUBSIDIARIES

## ASSETS

As of March 31, 2018 and 2017	Millions of yen		Thousands of U.S. dollars (Note 1)
	2018	2017	2018
<b>Current assets:</b>			
Cash and cash equivalents (Notes 3 and 8)	¥ 135,045	¥ 170,293	\$ 1,271,012
Time deposits (Note 3)	1,669	24	15,708
Notes and accounts receivable (Note 3):			
Trade	145,952	102,168	1,373,666
Unconsolidated subsidiaries and affiliated companies	2,809	1,718	26,438
Allowance for doubtful accounts	(657)	(735)	(6,184)
Inventories (Note 6)	233,184	218,535	2,194,673
Deferred tax assets (Note 9)	1,424	1,225	13,402
Other current assets	68,005	100,425	640,047
<b>Total current assets</b>	<b>587,431</b>	<b>593,653</b>	<b>5,528,762</b>
<b>Investments and long-term receivables:</b>			
Investment securities (Notes 3, 4 and 8):			
Unconsolidated subsidiaries and affiliated companies	299,261	292,706	2,816,574
Others	155,639	140,164	1,464,838
Long-term loans receivable (Notes 3 and 8):			
Unconsolidated subsidiaries and affiliated companies	40,010	57,382	376,565
Others	3,221	3,618	30,315
Other long-term receivables (Note 8)	68,707	60,980	646,654
Allowance for doubtful accounts	(193)	(197)	(1,816)
<b>Total investments and long-term receivables</b>	<b>566,645</b>	<b>554,653</b>	<b>5,333,129</b>
<b>Property, plant and equipment (Note 8):</b>			
Land	29,217	29,311	274,983
Buildings and structures	305,313	310,755	2,873,534
Machinery and equipment	597,171	611,802	5,620,433
Construction in progress	45,440	25,552	427,671
	977,141	977,420	9,196,621
Accumulated depreciation	(512,727)	(493,964)	(4,825,666)
<b>Net property, plant and equipment</b>	<b>464,414</b>	<b>483,456</b>	<b>4,370,955</b>
<b>Deferred tax assets (Note 9)</b>	<b>14,597</b>	<b>5,666</b>	<b>137,384</b>
<b>Other assets</b>	<b>65,950</b>	<b>47,590</b>	<b>620,706</b>
<b>Total assets</b>	<b>¥ 1,699,037</b>	<b>¥ 1,685,018</b>	<b>\$ 15,990,936</b>

The accompanying notes are an integral part of these financial statements.

## LIABILITIES AND NET ASSETS

As of March 31, 2018 and 2017	Millions of yen		Thousands of U.S. dollars (Note 1)
	2018	2017	2018
<b>Current liabilities:</b>			
Bank loans (Notes 3 and 8)	¥ 41,362	¥ 79,513	\$ 389,289
Long-term debt due within one year (Notes 3 and 8)	53,526	17,427	503,774
Notes and accounts payable:			
Trade (Note 3)	43,261	40,583	407,162
Unconsolidated subsidiaries and affiliated companies (Note 3)	2,495	6,723	23,482
Others	27,950	15,959	263,059
Accrued income taxes	4,022	17,274	37,854
Accrued expenses	3,971	4,552	37,374
Advances received	325	445	3,059
Accrued restructuring charges	497	600	4,678
Accrued environmental measures	30	232	282
Deferred tax liabilities (Note 9)	1,342	842	12,631
Other current liabilities	38,982	26,693	366,889
<b>Total current liabilities</b>	<b>217,763</b>	<b>210,843</b>	<b>2,049,534</b>
<b>Long-term liabilities:</b>			
Long-term debt (Notes 3 and 8)	297,559	398,564	2,800,555
Deferred tax liabilities (Note 9)	29,039	21,807	273,308
Accrued environmental measures	286	383	2,692
Accrued restructuring charges	1,346	1,004	12,668
Provision for discontinued operations	13,418	7,799	126,287
Other accruals	138	103	1,299
Net defined benefit liability (Note 10)	7,461	9,118	70,221
Asset retirement obligations (Note 16)	9,318	8,985	87,699
Other long-term liabilities	2,701	2,291	25,421
<b>Total long-term liabilities</b>	<b>361,266</b>	<b>450,054</b>	<b>3,400,150</b>
Contingent liabilities (Note 13)			
<b>Net assets (Note 12):</b>			
Shareholders' equity:			
Common stock			
Authorized — 500,000,000 shares			
Issued — 290,814,015 shares	93,242	93,242	877,572
Capital surplus	86,530	86,504	814,400
Retained earnings	797,034	718,072	7,501,496
Treasury stock, at cost	(37,959)	(32,877)	(357,261)
<b>Total shareholders' equity</b>	<b>938,847</b>	<b>864,941</b>	<b>8,836,207</b>
<b>Accumulated other comprehensive income:</b>			
Net unrealized holding gains on securities	47,602	36,700	448,019
Deferred gains or losses on hedges	532	1,601	5,007
Foreign currency translation adjustments	46,956	57,950	441,939
Remeasurements of defined benefit plans	2,500	498	23,529
<b>Total accumulated other comprehensive income</b>	<b>97,590</b>	<b>96,749</b>	<b>918,494</b>
<b>Non-controlling interests</b>	<b>83,571</b>	<b>62,431</b>	<b>786,551</b>
<b>Total net assets</b>	<b>1,120,008</b>	<b>1,024,121</b>	<b>10,541,252</b>
<b>Total liabilities and net assets</b>	<b>¥ 1,699,037</b>	<b>¥ 1,685,018</b>	<b>\$ 15,990,936</b>

# Consolidated Statements of Operations

SUMITOMO METAL MINING CO., LTD. AND CONSOLIDATED SUBSIDIARIES

For the years ended March 31, 2018 and 2017	Millions of yen		Thousands of U.S. dollars (Note 1)
	2018	2017	2018
<b>Net sales (Note 15)</b>	¥ 933,517	¥ 786,146	\$8,786,042
<b>Costs and expenses:</b>			
Cost of sales	776,428	663,850	7,307,558
Selling, general and administrative expenses (Note 11)	46,886	45,906	441,280
Total costs and expenses	823,314	709,756	7,748,838
<b>Operating income</b>	110,203	76,390	1,037,205
<b>Other income (expenses):</b>			
Interest and dividend income	17,036	15,588	160,339
Interest expenses	(6,232)	(5,042)	(58,654)
Loss on sale and disposal of property, plant and equipment	(646)	(245)	(6,080)
Loss on impairment of fixed assets (Note 7)	(10,103)	(3,461)	(95,087)
Gain on sales or liquidation of investment securities	46	6,966	433
Gain (loss) on sales or liquidation of subsidiaries and affiliated companies	(1,513)	1,859	(14,240)
Exchange loss	(3,582)	(284)	(33,713)
Provision for environmental measures	(4)	(73)	(38)
Maintenance cost for ceased projects	(646)	(578)	(6,080)
Casualty loss	(13)	(16)	(122)
Equity in earnings (losses) of affiliated companies	11,367	(85,972)	106,984
Gain (loss) from valuation of derivative instruments	306	(34)	2,880
Gain on step acquisitions	693	—	6,522
Restructuring charges	(190)	—	(1,788)
Provision for restructuring charges	(876)	(741)	(8,245)
Provision for discontinued operations	(6,361)	(8,667)	(59,868)
Other, net	(3,690)	(1,689)	(34,730)
Total other income (expenses)	(4,408)	(82,389)	(41,487)
<b>Income (loss) before income taxes</b>	105,795	(5,999)	995,718
<b>Income taxes (Note 9):</b>			
Current	14,069	26,687	132,414
Deferred	(4,603)	(3,641)	(43,322)
Total income taxes	9,466	23,046	89,092
<b>Net income (loss)</b>	96,329	(29,045)	906,626
<b>Net income (loss) attributable to non-controlling interests</b>	(4,681)	10,505	(44,056)
<b>Net income (loss) attributable to owners of the parent</b>	¥ 91,648	¥ (18,540)	\$ 862,569

Amounts per share of common stock*1:	Yen		U.S. dollars (Note 1)
	2018	2017	2018
Net income (loss) (Note 20)			
—Basic	¥ 332.42	¥ (33.61)	\$ 3.13
—Diluted	299.94	—	2.82
Cash dividends applicable to the year	100.00	11.00	0.94

The accompanying notes are an integral part of these financial statements.

\*1 The Company consolidated its shares at a rate of one share for every two shares of its common stock with October 1, 2017 as the effective date.

"Amounts per share of common stock" is calculated on the assumption that the consolidation of its shares was conducted at the beginning of the current fiscal year.

# Consolidated Statements of Comprehensive Income

SUMITOMO METAL MINING CO., LTD. AND CONSOLIDATED SUBSIDIARIES

For the years ended March 31, 2018 and 2017	Millions of yen		Thousands of U.S. dollars (Note 1)
	2018	2017	2018
<b>Net income (loss)</b>	¥ 96,329	¥ (29,045)	\$ 906,626
<b>Other comprehensive income</b>			
Net unrealized holding gains (losses) on securities	10,810	16,362	101,741
Deferred gains (losses) on hedges	(1,124)	3,138	(10,579)
Foreign currency translation adjustments	(9,568)	16,707	(90,052)
Remeasurements of defined benefit plan	1,954	4,487	18,391
Share of other comprehensive income of affiliated companies accounted for using equity method	(4,590)	(39,646)	(43,200)
<b>Total other comprehensive income</b>	(2,518)	1,048	(23,699)
<b>Comprehensive income (Note 14)</b>	93,811	(27,997)	882,927
Comprehensive income attributable to:			
Owners of the parent	92,490	(13,381)	870,494
Non-controlling interests	1,321	(14,616)	12,433

The accompanying notes are an integral part of these financial statements.

# Consolidated Statements of Changes in Net Assets

SUMITOMO METAL MINING CO., LTD. AND CONSOLIDATED SUBSIDIARIES

	Shareholders' equity					
	Number of shares issued*1	Common stock	Capital surplus	Retained earnings	Treasury stock	Total shareholders' equity
For the years ended March 31, 2018 and 2017	(thousands)	Millions of yen				
<b>Balance at April 1, 2016</b>	581,628	¥ 93,242	¥ 86,067	¥ 744,886	¥ (32,827)	¥ 891,368
Cash dividends paid		—	—	(8,274)	—	(8,274)
Net loss		—	—	(18,540)	—	(18,540)
Acquisition of treasury stock		—	—	—	(53)	(53)
Sale of treasury stock		—	1	—	3	4
Change in ownership interest of the parent due to transactions with non-controlling interests		—	436	—	—	436
Net changes of items other than shareholders' equity		—	—	—	—	—
<b>Balance at March 31, 2017</b>	581,628	¥ 93,242	¥ 86,504	¥ 718,072	¥ (32,877)	¥ 864,941
Cash dividends paid		—	—	(12,686)	—	(12,686)
Net income		—	—	91,648	—	91,648
Acquisition of treasury stock		—	—	—	(5,084)	(5,084)
Sale of treasury stock		—	1	—	2	3
Change in ownership interest of the parent due to transactions with non-controlling interests		—	25	—	—	25
Net changes of items other than shareholders' equity		—	—	—	—	—
<b>Balance at March 31, 2018</b>	<b>290,814</b>	<b>¥ 93,242</b>	<b>¥ 86,530</b>	<b>¥ 797,034</b>	<b>¥ (37,959)</b>	<b>¥ 938,847</b>

	Shareholders' equity				
	Common stock	Capital surplus	Retained earnings	Treasury stock	Total shareholders' equity
For the year ended March 31, 2018	Thousands of U.S. dollars (Note 1)				
<b>Balance at April 1, 2017</b>	\$ 877,572	\$ 814,155	\$ 6,758,325	\$ (309,431)	\$ 8,140,621
Cash dividends paid	—	—	(119,398)	—	(119,398)
Net income	—	—	862,569	—	862,569
Acquisition of treasury stock	—	—	—	(47,849)	(47,849)
Sale of treasury stock	—	10	—	19	29
Change in ownership interest of the parent due to transactions with non-controlling interests	—	235	—	—	235
Net changes of items other than shareholders' equity	—	—	—	—	—
<b>Balance at March 31, 2018</b>	<b>\$ 877,572</b>	<b>\$ 814,400</b>	<b>\$ 7,501,496</b>	<b>\$ (357,261)</b>	<b>\$ 8,836,207</b>

The accompanying notes are an integral part of these financial statements.

\*1 The Company consolidated its shares at a rate of one share for every two shares of its common stock with October 1, 2017 as the effective date.  
"Number of shares issued" is calculated on the assumption that the consolidation of its shares was conducted at the beginning of the current fiscal year.

# Consolidated Statements of Changes in Net Assets (continued)

SUMITOMO METAL MINING CO., LTD. AND CONSOLIDATED SUBSIDIARIES

	Accumulated other comprehensive income						Total net assets
	Net unrealized holding gains on securities	Deferred gains or losses on hedges	Foreign currency translation adjustments	Remeasurements of defined benefit plans	Total accumulated other comprehensive income	Non-controlling interests	
For the years ended March 31, 2018 and 2017							Millions of yen
<b>Balance at April 1, 2016</b>	¥ 20,225	¥ (1,587)	¥ 77,274	¥ (4,322)	¥ 91,590	¥ 93,037	¥1,075,995
Cash dividends paid	—	—	—	—	—	—	(8,274)
Net loss	—	—	—	—	—	—	(18,540)
Acquisition of treasury stock	—	—	—	—	—	—	(53)
Sale of treasury stock	—	—	—	—	—	—	4
Change in ownership interest of the parent due to transactions with non-controlling interests	—	—	—	—	—	—	436
Net changes of items other than shareholders' equity	16,475	3,188	(19,324)	4,820	5,159	(30,606)	(25,447)
<b>Balance at March 31, 2017</b>	¥ 36,700	¥ 1,601	¥ 57,950	¥ 498	¥ 96,749	¥ 62,431	¥1,024,121
Cash dividends paid	—	—	—	—	—	—	(12,686)
Net income	—	—	—	—	—	—	91,648
Acquisition of treasury stock	—	—	—	—	—	—	(5,084)
Sale of treasury stock	—	—	—	—	—	—	3
Change in ownership interest of the parent due to transactions with non-controlling interests	—	—	—	—	—	—	25
Net changes of items other than shareholders' equity	10,902	(1,069)	(10,994)	2,002	841	21,140	21,981
<b>Balance at March 31, 2018</b>	¥ 47,602	¥ 532	¥ 46,956	¥ 2,500	¥ 97,590	¥ 83,571	¥1,120,008

	Accumulated other comprehensive income						Total net assets
	Net unrealized holding gains on securities	Deferred gains or losses on hedges	Foreign currency translation adjustments	Remeasurements of defined benefit plans	Total accumulated other comprehensive income	Non-controlling interests	
For the year ended March 31, 2018							Thousands of U.S. dollars (Note 1)
<b>Balance at April 1, 2017</b>	\$ 345,412	\$ 15,068	\$ 545,412	\$ 4,687	\$ 910,579	\$ 587,586	\$9,638,786
Cash dividends paid	—	—	—	—	—	—	(119,398)
Net income	—	—	—	—	—	—	862,569
Acquisition of treasury stock	—	—	—	—	—	—	(47,849)
Sale of treasury stock	—	—	—	—	—	—	29
Change in ownership interest of the parent due to transactions with non-controlling interests	—	—	—	—	—	—	235
Net changes of items other than shareholders' equity	102,607	(10,061)	(103,473)	18,842	7,915	198,965	206,880
<b>Balance at March 31, 2018</b>	\$ 448,019	\$ 5,007	\$ 441,939	\$ 23,529	\$ 918,494	\$ 786,551	\$10,541,252

The accompanying notes are an integral part of these financial statements.

# Consolidated Statements of Cash Flows

SUMITOMO METAL MINING CO., LTD. AND CONSOLIDATED SUBSIDIARIES

For the years ended March 31, 2018 and 2017	Millions of yen		Thousands of U.S. dollars (Note 1)
	2018	2017	2018
<b>Cash flows from operating activities:</b>			
Income (loss) before income taxes	¥ 105,795	¥ (5,999)	\$ 995,718
Adjustments to reconcile income before income taxes to net cash provided by operating activities:			
Depreciation	46,865	44,232	441,082
Loss on impairment of fixed assets	10,103	3,461	95,087
Loss on sale and disposal of property, plant and equipment	646	245	6,080
Loss (gain) from valuation of derivative instruments	(306)	34	(2,880)
Interest and dividend income	(17,036)	(15,588)	(160,339)
Interest expense	6,232	5,042	58,654
Equity in losses (earnings) of affiliated companies	(11,367)	85,972	(106,984)
Casualty loss	13	16	122
Decrease (Increase) in trade receivables	(39,928)	(23,858)	(375,793)
Decrease (Increase) in inventories	(17,645)	(46,634)	(166,071)
Increase (Decrease) in trade payables	(264)	2,766	(2,485)
Others	18,223	2,250	171,513
Sub-total	101,331	51,939	953,704
Interest and dividend received	17,524	8,660	164,931
Interest paid	(6,197)	(4,762)	(58,325)
Payments for maintenance costs for ceased projects	(646)	(578)	(6,080)
Payments for recovery costs	(13)	(16)	(122)
Payments for income taxes	(32,594)	(11,447)	(306,767)
Net cash provided by operating activities	79,405	43,796	747,341
<b>Cash flows from investing activities:</b>			
Payments for acquisition of property, plant and equipment	(42,403)	(50,619)	(399,087)
Proceeds from sale of property, plant and equipment	520	779	4,894
Payments for acquisition of intangible assets	(595)	(1,735)	(5,600)
Payments for purchases of investment securities	(511)	(5,024)	(4,809)
Proceeds from sales or liquidation of investment securities	15,393	9,081	144,875
Payments for purchase of securities of subsidiaries and affiliated companies	(11,856)	(11,187)	(111,586)
Payments into time deposits	(1,594)	(953)	(15,002)
Proceeds from withdrawal of time deposits	—	4,126	—
Payments for purchases of money held in trust	(10,610)	—	(99,859)
Payments for loans lent	(272)	(675)	(2,560)
Collection of loans repaid	15,756	9,092	148,292
Proceeds from sales of loans	24,398	—	229,628
Proceeds from acquisition of shares of subsidiaries resulting in change in scope of consolidation	631	—	5,939
Proceeds from (Payments for) sales of shares of subsidiaries resulting in change in scope of consolidation	(729)	10,051	(6,861)
Payments for purchase of mining rights	(11,122)	(106,155)	(104,678)
Net cash used in investing activities	(22,994)	(143,219)	(216,414)
<b>Cash flows from financing activities:</b>			
Net decrease (increase) in bank loans	(34,459)	5,980	(324,320)
Proceeds from long-term debt	30,795	120,488	289,835
Repayments of long-term debt	(117,459)	(24,018)	(1,105,497)
Issuance (redemption) of bonds	30,150	(10,000)	283,765
Contribution from non-controlling interests	23,207	3,231	218,419
Increase in treasury stocks	(5,081)	(49)	(47,820)
Payments for acquisition of treasury stocks of subsidiaries	(8)	—	(75)
Cash dividends paid	(12,687)	(8,274)	(119,407)
Cash dividends paid to non-controlling interests	(4,553)	(3,858)	(42,852)
Payments from changes in ownership interests in subsidiaries that do not result in change in scope of consolidation	—	(13,108)	—
Net cash provided by (used in) financing activities	(90,095)	70,392	(847,953)
Effect of changes in exchange rate on cash and cash equivalents	(1,564)	1,499	(14,720)
Net increase (decrease) in cash and cash equivalents	(35,248)	(27,532)	(331,746)
Cash and cash equivalents at beginning of year	170,293	197,825	1,602,758
Cash and cash equivalents at end of year	¥ 135,045	¥ 170,293	\$ 1,271,012

The accompanying notes are an integral part of these financial statements.

# Notes to Consolidated Financial Statements

SUMITOMO METAL MINING CO., LTD. AND CONSOLIDATED SUBSIDIARIES

## 1 Basis of presenting consolidated financial statements

The accompanying consolidated financial statements have been prepared in accordance with the provisions set forth in the Japanese Financial Instruments and Exchange Act, and in conformity with accounting principles generally accepted in Japan ("Japanese GAAP"), which are different in certain respects as to the application and disclosure requirements of International Financial Reporting Standards ("IFRSs").

The accounts of the Company's overseas subsidiaries and affiliated companies are based on their accounting records maintained in conformity with generally accepted accounting principles prevailing in the respective countries of domicile and make necessary amendments for consolidated financial statements required by Practical Issues Task Force No. 18 and No. 24 issued by ASBJ. The accompanying consolidated financial statements have been restructured and translated into English with some expanded descriptions from the consolidated financial statements of Sumitomo Metal Mining Co., Ltd. (the "Company") prepared in accordance with Japanese GAAP and filed with the appropriate Local Finance Bureau of the Ministry of Finance as required by the Japanese Financial Instruments and Exchange Act. Some supplementary information included in the statutory Japanese language consolidated financial statements, but not required for fair presentation, is not presented in the accompanying consolidated financial statements.

The translations of the Japanese yen amounts into U.S. dollars are included solely for the convenience of readers outside Japan, using the prevailing exchange rate at March 31, 2018, which was ¥106.25 to US\$1.00. The convenience translations should not be construed as representations that the Japanese yen amounts have been, could have been, or could in the future be, converted into U.S. dollars at this or any other rate of exchange.

## 2 Summary of significant accounting policies

**Consolidation** — The consolidated financial statements include the accounts of the Company and its significant subsidiaries (57 subsidiaries in 2018, 61 in 2017). All significant inter-company balances and transactions have been eliminated. Investments in affiliated companies of which the Company has the ability to exercise significant influence over financial and operating policies, are accounted for by the equity method (15 affiliated companies in 2018, 15 in 2017).

Investments in the remaining unconsolidated subsidiaries and affiliated companies are carried at cost because of their immaterial

effect on the consolidated financial statements.

In the elimination of investments in subsidiaries, the assets and liabilities of the subsidiaries, including the portion attributable to non-controlling interests, are recorded based on the fair value at the time the Company acquired control of the respective subsidiaries.

Goodwill (consolidation difference between the investment cost and the underlying equity in its net assets at the date of acquisition) is amortized over five years on a straight-line basis. With respect to subsidiaries in the United States, goodwill is amortized over twenty years on a straight-line basis.

**Cash and cash equivalents and cash flow statements** — Cash on hand, readily available bank deposits, negotiable certificates of deposits and short-term highly liquid investments with maturities not exceeding three months at the time of purchase are considered to be cash and cash equivalents.

**Allowance for doubtful accounts** — The allowance for doubtful accounts is provided at an amount determined based on the historical experience of bad debt with respect to ordinary accounts, plus an estimate of uncollectible amount determined by reference to specific doubtful accounts from customers who are experiencing financial difficulties.

**Investment securities** — Securities are classified into two categories based on the intent of holding: available-for-sale securities; and securities issued by unconsolidated subsidiaries and affiliated companies.

Available-for-sale securities with available fair values (marketable securities) are stated at the fair value. Unrealized gains and losses on these securities are reported, net of applicable income taxes, as a separate component of net assets. The cost of securities sold is determined by the moving-average method. Other available-for-sale securities with no available fair values (non-marketable securities) are stated at moving-average method. Securities issued by unconsolidated subsidiaries and affiliated companies other than those accounted for by the equity method are carried at cost.

**Derivatives and hedge accounting** — Derivative instruments are stated at fair value. Changes in the fair values are recognized as gains and losses unless derivative transactions are used for hedging purposes.

If derivative transactions are used as hedges and meet certain

hedging criteria, the Company and its consolidated subsidiaries defer recognition of gains or losses resulting from changes in fair value of derivative transactions until the related losses or gains on the hedged items are recognized.

If interest rate swap contracts are used as hedges and meet certain hedging criteria, the net amount to be paid or received under the interest rate swap contract is added to or deducted from the interest on the assets or liabilities for which the swap contract was executed.

The Company evaluates hedge effectiveness monthly by comparing the cumulative changes in cash flows from or the changes in fair value of hedged items and the corresponding changes in the hedging derivative instruments.

**Foreign currency translation** — Receivables and payables denominated in foreign currencies are translated into Japanese yen at the year-end rates.

Balance sheets of consolidated overseas subsidiaries are translated into Japanese yen at the year-end rates except for account components of net assets, which are translated at historical rates. Income statements of consolidated overseas subsidiaries are translated at average rates except for transactions with the Company, which are translated at the rates used by the Company.

**Inventories** — Inventories are mainly stated at the lower of cost determined by the first-in first-out (FIFO) method or net selling value of inventories regarded as the decreased profitability of assets, whose write-downs are included in cost of sales.

**Property, plant and equipment** — Property, plant and equipment are stated at cost.

Depreciation of property, plant and equipment is computed by the straight-line method, based on the estimated useful lives of respective assets. The depreciation period generally ranges from 1 year to 60 years for buildings and structures and 1 year to 30 years for machinery and equipment.

**Accrued restructuring charges** — Accrued restructuring charges are provided by the Company and its consolidated subsidiaries to cover the costs of business reconstruction.

**Accrued environmental measures** — Provisions for environmental measures are estimated and recorded to provide for future potential

costs, such as costs related to the disposal of polychlorinated biphenyl (PCB) and lead.

**Provision for discontinued operations** — JCO Co., Ltd., a consolidated subsidiary of the Company, is preparing for decommissioning by dismantlement and decontamination of its facilities. JCO Co., Ltd. provided the expenses for future losses that can be reasonably estimated.

**Retirement benefits** — In calculating projected benefits obligations the benefits formula basis is used to attribute the expected benefit attributable to the respective years. Actuarial gains and losses are recognized in expenses using the straight-line method over 10 years within the average remaining service years commencing from the following period.

Prior service costs are recognized in expenses using the straight-line method over 10 years within the average remaining service period.

Some domestic consolidated subsidiaries use the simplified method for the calculation of projected benefit obligations.

**Research and development expense** — Research and development expense is charged to income as incurred.

**Accounting for certain lease transactions** — Finance leases, except for certain immaterial leases, are capitalized and depreciated over the lease term.

**Income taxes** — Deferred tax assets and liabilities are determined based on the differences between the financial statement carrying amounts and the tax bases, and measured using the statutory tax rates which will be in effect when the differences are expected to be realized.

**Sales** — Sales of merchandise and finished products are recognized when the products are shipped to customers.

**Standards and guidance not yet adopted** — The following guidances were issued but not adopted.

- “Implementation Guidance on Tax Effect Accounting” (ASBJ Guidance No. 28, February 16, 2018 (hereinafter, “Guidance No. 28”))
- “Implementation Guidance on Recoverability of Deferred Tax Assets” (ASBJ Guidance No. 26 (revised 2018), February 16, 2018 (hereinafter, “Guidance No. 26”))

#### Overview

The above guidances were revised in regard to the treatment of taxable temporary differences for investments in subsidiaries within the context of non-consolidated financial statements, and clarify the treatment in determining recoverability of deferred tax assets in a company which was categorized as 'Type 1' according to the guidance.

#### Effective date and effects of the application of the ASBJ standards

Because the Company is applying IFRSs from the first quarter of the fiscal year ending March 31, 2019, the Company is not applying these ASBJ accounting standards, and will not evaluate their impact on the consolidated financial statements.

The following standard and guidance were also issued but not adopted.

- "Accounting Standard for Revenue Recognition" (ASBJ Statement No. 29, March 30, 2018)
- "Implementation Guidance on Accounting Standard for Revenue Recognition" (ASBJ Guidance No. 30, March 30, 2018)

#### Overview

The above standard and guidance provide comprehensive principles for revenue recognition. Under the standard and guidance, revenue is recognized by applying the following five steps:

- Step 1: Identify contract(s) with customers.
- Step 2: Identify the performance obligations in the contract.
- Step 3: Determine the transaction price.
- Step 4: Allocate the transaction price to the performance obligation in the contract.
- Step 5: Recognize revenue when (or as) the entity satisfies a performance obligation.

#### Effective date and effects of the application of the standards

Because the Company is applying IFRSs from the first quarter of the fiscal year ending March 31, 2019, the Company is not applying these ASBJ accounting standards and will not evaluate the impact on the consolidated financial statements.

**Amount per share of common stock** — Basic net income per share is computed based on the weighted-average number of shares of common stock issued during each year.

Diluted net income per share assumes that outstanding convertible bonds were converted into common stock at the beginning of the period at the current conversion price.

Cash dividends per share represent the actual amount applicable to the respective year.

### **3 Notes to financial instruments**

#### (1) Status of financial instruments

##### (i) Policies on the handling of financial instruments

The Group procures the funds necessary for its capital expenditure, investment and loan plans mainly through bank loans and the issuance of bonds. Short-term operating funds are funded through bank loans as required. In the event of a need for new funds, the Group, in principle, looks to the issuance of short-term bonds (commercial paper). This is supplemented by bank loans and the use of liquidation schemes applicable to notes and accounts receivable. The Group takes great care to monitor the status of its funding needs and financial position. This is to ensure that the Group does not overly rely on specific procurement methods and financial instruments. Accordingly, steps are taken to ensure a balanced funding portfolio from both the short and long term as well as direct and indirect financing perspectives.

Temporary surplus funds are utilized only for highly safe financial assets for which there is a low probability of a loss of principal.

Derivative transactions are only used to avoid the risks attributable to fluctuations in the prices of non-ferrous metals as well as foreign currency exchange and interest rates. The Group does not engage in derivative translations for speculative purposes.

##### (ii) Details of and risks associated with financial instruments

Notes and accounts receivable, which are trade receivables, are exposed to the credit risk of customers. In addition, foreign currency-denominated trade receivables, which are generated by global business operations, are also exposed to fluctuations in foreign currency exchange rates. Turning to the metals business, trade receivables are also exposed to the risk of movements in the prices of non-ferrous metals. Investment securities, which largely represent shares of companies with whom the Group trades or has formed an equity alliance, are exposed to the risk of changes in their market prices.

Notes and accounts payable, which are trade obligations, generally have maturity dates of one year or less. In similar fashion to trade receivables, trade obligations in the metals business are subject to the risk of movements in the prices of non-ferrous metals. A certain portion of trade obligations are related to the import of raw and other materials and as such are denominated in foreign currencies. On this basis, they too

are open to the risk of fluctuations in the foreign currency exchange rates. Within loans and bonds payable, bank loans payable primarily represent funding applicable to operating transactions while long-term debt (with a maximum maturity up to June 15, 2031) and bonds mainly concern funding relating to capital expenditures. A certain portion of loans and bonds payable is provided on a floating rate of interest basis. Accordingly, this portion is exposed to the risk of fluctuation in interest rates.

Derivative transactions employed in an effort to offset the aforementioned risks include forward foreign currency exchange rate contracts; forward and option transaction agreements; interest rate swap transaction agreements; and interest rate cap transaction agreements, which seek to provide hedges for the risks of fluctuations in the foreign currency exchange rates of trade receivables and trade obligations; the prices of non-ferrous metals applicable to non-ferrous metal trade receivables and trade obligations; and interest rates applicable to loans and bonds payable, respectively. For hedging instruments and hedged items, hedging policy, the method of assessing the effectiveness of hedges and other details in connection with hedge accounting, refer to the "Derivatives and hedge accounting" described in the Note 2 Summary of significant accounting policies.

(iii) Risk management systems relating to financial instruments

(a) Management of credit risk (risk relating to nonperformance of a contract obligation by a counterparty, etc.)

With respect to trade receivables, each operating department and division within the Group is guided by its own set of management rules and regulations. Sales and marketing departments and divisions regularly monitor the status of customers, managing due dates and balances on an individual customer basis. In this manner, every effort is made to ensure early detection and the mitigation of concerns regarding collection due to deterioration in financial standing or other factors. With respect to the use of derivative transactions, steps are taken to engage in transactions with highly rated financial institutions only. These steps are taken with the aim of mitigating counterparty risk.

The maximum amount of the credit risk is shown in the value of financial assets on the balance sheet which are subject to credit risk.

(b) Management of market risks (risks associated with fluctuations in the price of non-ferrous metals, foreign currency exchange as well as interest rates, etc.)

The Group employs commodity forward transaction and commodity option transaction agreements, which seek to provide hedges for the risks of fluctuations in the prices of imported raw materials with respect to non-ferrous metals as well as the sales prices of commodity metals and copper concentrate on international commodities markets.

At the same time, the Group utilizes forward foreign currency exchange rate contracts in an effort to offset the risks of movements in foreign currency exchange rates in connection with trade receivables and obligations denominated in foreign currencies, interest rate swap transaction agreements, and interest rate cap transaction agreements aimed at hedging the risks of fluctuations in interest rate.

With respect to investment securities, the Group regularly monitors fair values as well as the financial status of issuers (counterparties), and reviews its holdings on a continuous basis taking into consideration its relationships with counterparties.

As for derivative transactions, in accordance with derivative transaction management rules and regulations that outline the purpose and objectives of derivative transactions while providing authority and setting limits and scope, individual departments and divisions are responsible for formulating operating rules with respect to the implementation of derivative transactions, executing and booking transactions and reconciling balances with counterparties on a regular basis. Consolidated subsidiaries also adhere to the Company's derivative transaction management rules and regulations while working to build the aforementioned management structure under which derivative transactions are managed.

(c) Management of liquidity risks associated with the procurement of funds (the risk of being unable to make payments on due dates)

The Group manages liquidity risk by preparing and updating a cash management plan six months in advance based on reports from each department and division. Certain consolidated subsidiaries have adopted a cash management system and are efficiently maintaining appropriate levels of liquidity and cash on hand.

(iv) Supplementary explanation for fair values, etc. of financial instruments

Fair values of financial instruments are determined by market prices. If no market price is available, the fair value is based on the value that is calculated in a reasonable manner. The determination of such values contains variable factors and as such the adoption of wide ranging and differing assumptions

may cause values to change. In addition, with respect to contract and other amounts applicable to derivative transactions outlined as follows in "(2) Fair values, etc. of financial instruments" such amounts themselves do not indicate the size of market risks associated with derivative transactions.

(2) Fair values, etc. of financial instruments

Amounts on the consolidated balance sheets, fair values and the differences between the two as of March 31, 2018 and 2017 are shown as follows. Certain financial instruments were excluded from the following table as the fair values were not available (refer to the table shown in (ii) below).

	Millions of Yen			Thousands of U.S. dollars		
	Book values of consolidated balance sheets	Fair values	Difference	Book values of consolidated balance sheets	Fair values	Difference
<b>2018</b>						
Cash and cash equivalents	¥ 135,045	¥ 135,045	¥ —	\$1,271,012	\$1,271,012	\$ —
Time deposits	1,669	1,669	—	15,708	15,708	—
Notes and accounts receivable	148,761	148,761	—	1,400,104	1,400,104	—
Investment securities	300,184	405,265	105,081	2,825,261	3,814,259	988,998
Long-term loans receivable	43,231	46,799	3,568	406,880	440,461	33,581
Total Assets	¥ 628,890	¥ 737,539	¥ 108,649	\$5,918,965	\$6,941,544	\$ 1,022,579
Notes and accounts payable	45,756	45,756	—	430,645	430,645	—
Bank loans and long-term debt due within one year	94,888	94,975	87	893,064	893,882	818
Bank loans	64,888	64,888	—	610,711	610,711	—
Bonds	30,000	30,087	87	282,353	283,171	818
Long-term debt due after one year	297,559	300,108	2,549	2,800,555	2,824,546	23,991
Long-term loans	257,409	258,793	1,384	2,422,673	2,435,699	13,026
Bonds	10,000	10,370	370	94,117	97,600	3,483
Convertible bonds	30,150	30,945	795	283,765	291,247	7,482
Total Liabilities	438,203	440,839	2,636	4,124,264	4,149,073	24,809
Derivative transactions	¥ 1,810*1	¥ 1,810*1	¥ —	\$ 17,035*1	\$ 17,035*1	\$ —

2017	Millions of Yen		
	Book values of consolidated balance Sheets	Fair values	Difference
Cash and cash equivalents	¥ 170,293	¥ 170,293	¥ —
Time deposits	24	24	—
Notes and accounts receivable	103,886	103,886	—
Investment securities	280,420	342,563	62,143
Long-term loans receivable	61,000	63,979	2,979
<b>Total Assets</b>	<b>¥ 615,623</b>	<b>¥ 680,745</b>	<b>¥ 65,122</b>
Notes and accounts payable	47,306	47,306	—
Bank loans and long-term debt due within one year	96,940	96,940	—
Bank loans	96,940	96,940	—
Long-term debt due after one year	398,564	400,616	2,052
Long-term loans	358,564	359,836	1,272
Bonds	40,000	40,780	780
<b>Total Liabilities</b>	<b>542,810</b>	<b>544,862</b>	<b>2,052</b>
Derivative transactions	¥ 2,785*1	¥ 2,785*1	¥ —

\*1 Net receivables and obligations arising from derivative transactions are shown as a net amount and items for which aggregated results lead to net obligations are shown in parentheses.

(i) Fair values of financial instruments, and matters pertaining to securities and derivative transactions

**Assets**

(a) Cash and cash equivalents

The book values approximate to the fair values due to their high liquidity.

(b) Time deposits

The book values approximate to the fair values due to their high liquidity.

(c) Notes and accounts receivable

The book values approximate to the fair values due to short-term maturities of these instruments.

(d) Investment securities

The fair values of investment securities are based on the market prices of securities exchanges on which shares are listed.

For details regarding securities on an individual holding purpose basis refer to the Note 4 Securities.

(e) Long-term loans receivable

The fair values of floating-rate long-term loans receivable are based on their book values because the fair values of floating-rate long-term loans receivable reflect market interest rates within a short period of time and closely approximate their book values. The fair values of fixed-rate long-term loans receivable are based on a method of calculation whereby the total principal and interest are discounted at the contracted rates as adjusted considering the market rate.

**Liabilities**

(a) Notes and accounts payable

The book values approximate to the fair values due to short-term settlement of these instruments.

(b) Bank loans and long-term debt due within one year

(b-1) Bank loans

The book values approximate to the fair values due to short-term settlement of these instruments.

(b-2) Bonds

The fair values are based on market prices.

(c) Long-term debt due after one year

(c-1) Long-term loans

The fair values of floating-rate long-term loans are based on their book values because the fair values of floating-rate long-term loans reflect market interest rates within a short period of time and closely approximate their book values. The fair values of fixed-rate long-term loans are based on a method of calculation whereby the total principal and interest are discounted at the estimated fair values based on marginal borrowing rates.

(c-2) Bonds

The fair values are based on market prices.

(c-3) Convertible bonds

The fair values are measured at the quoted price obtained from counterparty financial institutions.

**Derivative transactions**

Refer to the Note 5 Derivative transactions.

(ii) The financial instruments excluded from the above table as of March 31, 2018 and 2017 are as follows:

	Millions of Yen		Thousands of U.S. dollars
	2018	2017	2018
	Book values of consolidated balance sheets	Book values of consolidated balance sheets	Book values of consolidated balance sheets
Unlisted equity securities	¥ 141,399	¥ 141,806	\$ 1,330,814

These instruments are not included in "Investment securities" (refer to above table) as the fair values are not available.

(iii) The aggregate maturities subsequent to March 31, 2018 and 2017 for financial assets are as follows:

2018	Millions of yen				Thousands of U.S. dollars			
	Due within 1 year	Due after 1 year and within 5 years	Due after 5 years and within 10 years	Due over 10 years	Due within 1 year	Due after 1 year and within 5 years	Due after 5 years and within 10 years	Due over 10 years
Cash and cash equivalents	¥135,045	¥ —	¥ —	¥ —	\$1,271,012	\$ —	\$ —	\$ —
Time deposits	1,669	—	—	—	15,708	—	—	—
Notes and accounts receivable	148,761	—	—	—	1,400,104	—	—	—
Long-term loans receivable	—	1,246	1,258	40,727	—	11,727	11,840	383,313
Total	¥285,475	¥ 1,246	¥ 1,258	¥ 40,727	\$2,686,824	\$ 11,727	\$ 11,840	\$ 383,313

2017	Millions of yen			
	Due within 1 year	Due after 1 year and within 5 years	Due after 5 years and within 10 years	Due over 10 years
Cash and cash equivalents	¥170,293	¥ —	¥ —	¥ —
Time deposits	24	—	—	—
Notes and accounts receivable	103,886	—	—	—
Long-term loans receivable	—	1,291	13,826	45,883
Total	¥274,203	¥ 1,291	¥ 13,826	¥ 45,883

(iv) The amount scheduled to be repaid after March 31, 2018 of long-term debt

Refer to the Note 8 Bank loans and long-term debt.

#### 4 Securities

(1) The following tables summarize acquisition costs and book values (available fair values) as of March 31, 2018 and 2017:

##### Available-for-sale securities

##### Securities with book values (available fair values) exceeding acquisition costs

	Millions of yen					
	2018			2017		
	Acquisition cost	Book value	Difference	Acquisition cost	Book value	Difference
Equity securities	¥ 78,973	¥ 146,847	¥ 67,874	¥ 72,152	¥ 125,922	¥ 53,770

##### Thousands of U.S. dollars

	2018		
	Acquisition cost	Book value	Difference
	Equity securities	\$ 743,275	\$ 1,382,089

##### Securities with book values (available fair values) not exceeding acquisition costs

	Millions of yen					
	2018			2017		
	Acquisition cost	Book value	Difference	Acquisition cost	Book value	Difference
Equity securities	¥ 8,812	¥ 6,922	¥ (1,890)	¥ 15,098	¥ 12,267	¥ (2,831)

##### Thousands of U.S. dollars

	2018		
	Acquisition cost	Book value	Difference
	Equity securities	\$ 82,936	\$ 65,148

(2) The following table summarizes book values of the securities with no available fair values as of March 31, 2018 and 2017:

##### Available-for-sale securities

	Millions of yen		Thousands of U.S. dollars
	2018		2018
	2018	2017	
Unlisted equity securities	¥ 1,737	¥ 1,836	\$ 16,348

(3) Total sales of available-for-sale securities sold during the year ended March 31, 2018 amounted to ¥220 million (US\$2,071 thousand) and related gains amounted to ¥46 million (US\$433 thousand).

No losses on sales of available-for-sale securities were recognized for the period.

Total sales of available-for-sale securities sold during the year ended March 31, 2017 amounted to ¥1,230 million (US\$10,964 thousand) and related gains amounted to ¥1,115 million (US\$9,939 thousand).

No losses on sales of available-for-sale securities were recognized for the period.

(4) There was no liquidation of available-for-sale securities during the year ended March 31, 2018.

Total liquidations of available-for-sale securities liquidated during the year ended March 31, 2017 amounted to ¥7,851 million (US\$69,980 thousand) and related gains amounted to ¥5,851 million (US\$52,153 thousand).

No losses on liquidations of available-for-sale securities were recognized for the period.

(5) There was no impairment loss on available-for-sale securities during the year ended March 31, 2018 and 2017.

If the fair value of available-for-sale securities declines by over 50% compared to the acquisition cost thereof, the Company and its consolidated subsidiaries write down the book value of such securities. If the fair value of available-for-sale securities declines between 30% and 50% compared to the acquisition cost thereof, the Company and its consolidated subsidiaries write down the book value of the securities considering the possibilities for recovery of the fair value.

## 5 Derivative transactions

The following tables summarize the market value information as of March 31, 2018 and 2017 of derivative transactions for which hedge accounting has not been applied:

	Millions of yen							
	2018				2017			
	Contracted amount and others		Fair value	Recognized gains (losses)	Contracted amount and others		Fair value	Recognized gains (losses)
Total	Over 1 year	Total			Over 1 year			
Currency:								
Forward contracts:								
Buy position—Japanese yen	¥ 528	¥ —	¥ 26	¥ 26	¥ —	¥ —	¥ —	¥ —
Buy position—U.S. dollars	2,789	—	5	5	4,980	—	(52)	(52)
Buy position—Philippine peso	355	—	(12)	(12)	—	—	—	—
Buy position—Sterling pound	5,830	4,150	233	233	4,271	3,441	(8)	(8)
Total	¥ 9,502	¥ 4,150	¥ 252	¥ 252	¥ 9,251	¥ 3,441	¥ (60)	¥ (60)
Interest:								
Interest rate cap contracts:								
Buy position	¥ —	¥ —	¥ —	¥ —	¥ 1,350	¥ —	¥ 1	¥ (1,349)
Total	¥ —	¥ —	¥ —	¥ —	¥ 1,350	¥ —	¥ 1	¥ (1,349)
Commodity:								
Forward contracts:								
Sell position—Metal	¥ 7,038	¥ —	¥ 345	¥ 345	¥ 7,719	¥ 653	¥ (162)	¥ (162)
Buy position—Metal	2,072	—	(0)	(0)	—	—	—	—
Total	¥ 9,110	¥ —	¥ 345	¥ 345	¥ 7,719	¥ 653	¥ (162)	¥ (162)

	Thousands of U.S. dollars			
	2018			
	Contracted amount and others		Fair value	Recognized gains (losses)
Total	Over 1 year	Total		
Currency:				
Forward contracts:				
Buy position—Japanese yen	\$ 4,969	\$ —	\$ 245	\$ 245
Buy position—U.S. dollars	26,249	—	47	47
Buy position—Philippine peso	3,341	—	(113)	(113)
Buy position—Sterling pound	54,871	39,059	2,193	2,193
Total	\$ 89,430	\$ 39,059	\$ 2,372	\$ 2,372
Interest:				
Interest rate cap contracts:				
Buy position	\$ —	\$ —	\$ —	\$ —
Total	\$ —	\$ —	\$ —	\$ —
Commodity:				
Forward contracts:				
Sell position—Metal	\$ 66,240	\$ —	\$ 3,247	\$ 3,247
Buy position—Metal	19,501	—	(1)	(1)
Total	\$ 85,741	\$ —	\$ 3,246	\$ 3,246

Derivative transactions for which hedge accounting has been applied for the years ended March 31, 2018 and 2017 consisted of the following:

			Millions of yen		
			Contracted amount and others		
			Total	Over 1 year	Fair value
<b>2018</b>					
Type of transaction	Type of derivative transaction	Major hedged items			
Currency	Forward contracts:				
	Buy position—U.S. dollars	Foreign currency expected transaction	¥ 320	¥ —	¥ (1)
	Total		¥ 320	¥ —	¥ (1)
Interest	Interest rate swap contracts:				
	Paid fixed/received floating	Long-term loans	¥ 19,775	¥ 19,775	¥ 605
	Interest rate cap contracts:				
	Buy position	Long-term loans	19,775	19,775	397
Total			¥ 39,550	¥ 39,550	¥ 1,002
Commodity	Forward contracts:				
	Sell position—Metal	Accounts receivable	¥ 25,268	¥ —	¥ 801
	Buy position—Metal	Accounts receivable, Accounts payable	19,050	721	(355)
	Option contracts:				
	Sell position				
	Call position—Metal*1	Accounts receivable	22,255	7,262	(234)
Total			¥ 66,573	¥ 7,983	¥ 212

\*1 Commodity call option contracts are based on zero cost option contracts. There is no transfer of option fees.

			Millions of yen		
			Contracted amount and others		
			Total	Over 1 year	Fair value
<b>2017</b>					
Type of transaction	Type of derivative transaction	Major hedged items			
Interest	Interest rate swap contracts:				
	Paid fixed/received floating	Short-term loans	¥ 1,290	¥ —	¥ 2
		Long-term loans	20,386	20,386	678
	Interest rate cap contracts:				
	Buy position	Long-term loans	20,386	20,386	772
Total			¥ 42,062	¥ 40,772	¥ 1,452
Commodity	Forward contracts:				
	Sell position—Metal	Accounts receivable	¥ 20,566	¥ —	¥ 91
	Buy position—Metal	Accounts receivable, Accounts payable	19,239	612	1,203
	Option contracts:				
	Sell position				
	Call position—Metal*1	Accounts receivable	15,274	—	261
Total			¥ 55,079	¥ 612	¥ 1,555

\*1 Commodity call option contracts are based on zero cost option contracts. There is no transfer of option fees.

			Thousands of U.S. dollars		
			Contracted amount and others		
			Total	Over 1 year	Fair value
<b>2018</b>					
Type of transaction	Type of derivative transaction	Major hedged items			
Currency	Forward contracts:				
	Buy position—U.S. dollars	Foreign currency expected transaction	\$ 3,012	\$ —	\$ (9)
	Total		\$ 3,012	\$ —	\$ (9)
Interest	Interest rate swap contracts:				
	Paid fixed/received floating	Long-term loans	\$ 186,118	\$ 186,118	\$ 5,694
	Interest rate cap contracts:				
	Buy position	Long-term loans	186,118	186,118	3,736
	Total		\$ 372,236	\$ 372,236	\$ 9,430
Commodity	Forward contracts:				
	Sell position—Metal	Accounts receivable	\$ 237,816	\$ —	\$ 7,539
	Buy position—Metal	Accounts receivable, Accounts payable	179,294	6,786	(3,341)
	Option contracts:				
	Sell position				
	Call position—Metal*1	Accounts receivable	209,459	68,348	(2,202)
	Total		\$ 626,569	\$ 75,134	\$ 1,996

\*1 Commodity call option contracts are based on zero cost option contracts. There is no transfer of option fees.

## 6 Inventories

Inventories as of March 31, 2018 and 2017 consisted of the following:

	Millions of yen		Thousands of U.S. dollars
	2018	2017	2018
Merchandise and finished products	¥ 59,048	¥ 57,704	\$ 555,746
Work in process	102,858	96,524	968,075
Raw materials and supplies	71,278	64,307	670,852
Total	¥ 233,184	¥ 218,535	\$ 2,194,673

## 7 Loss on impairment of fixed assets

(1) Loss on impairment of fixed assets for the year ended March 31, 2018 consisted of the following:

			Millions of yen	Thousands of U.S. dollars
			Loss	Loss
<b>2018</b>				
Location	Major use	Asset category		
Yamato City, Kanagawa Prefecture, Japan	Manufacturing facilities for special alloy cast products	Building, machinery and other assets	¥ 596	\$ 5,609
Ome City, Tokyo Metropolis, Japan	Manufacturing facilities for thin-film material	Machinery and other assets	9	85
Iwanai District, Hokkaido, Japan Isa City, Kagoshima Prefecture, Japan Ome City, Tokyo Metropolis, Japan	Manufacturing facilities for crystal substrates	Building, machinery and other assets	8,722	82,090
Minato City, Tokyo Metropolis, Japan Niihama City, Ehime Prefecture, Japan	Manufacturing facilities for lead frames	Building and other assets	47	442
Naka District, Ibaraki Prefecture, Japan	Engineering service facilities	Building and other assets	248	2,334
Minato City, Tokyo Metropolis, Japan	—	Goodwill	481	4,527
Total			¥ 10,103	\$ 95,087

The Group categorizes its operating assets by business units such as plants and manufacturing processes based on the divisions of managerial accounting.

Loss on impairment was recognized for the following reasons:

- (i) The book values of manufacturing facilities for special alloy cast products were reduced to their recoverable amounts because the Company decided to withdraw the subsidiary that own such facilities from business.

The values in use of assets were used as recoverable amounts for the measurement of impairment losses and the difference between recoverable amounts and carrying amounts was recognized as impairment loss.

Since future cash flow was expected to be negative, it was assumed that there was no recoverable value.

- (ii) The book values of manufacturing facilities for thin-film materials were reduced to their recoverable amounts because the Company decided to withdraw part of the products.

The values in use of assets were used as recoverable amounts for the measurement of impairment losses.

Since future cash flow was expected to be negative, it was assumed that there was no recoverable value.

- (iii) The book values of manufacturing facilities for crystal substrates were reduced to their recoverable amounts due to a drastically deteriorating market environment.

The net sales value (fair value less cost to sell) of the precious metal comprised in the assets was used as the recoverable amount for the measurement of impairment loss. It was based on third-party appraisal.

- (iv) Impairment losses were recognized for the manufacturing facilities for lead frames in fiscal 2016 because the Company decided to withdraw the subsidiaries that own such facilities from business. The book values of manufacturing facilities newly acquired in fiscal 2017 were also reduced to their recoverable amounts.

The values in use of assets were used as recoverable amounts for the measurement of impairment losses.

Since future cash flow was expected to be negative, it was assumed that there was no recoverable value.

- (v) The book values of engineering service facilities were reduced to their recoverable amounts due to a decline in engineering related entrustment business from nuclear power related companies.

The net sales value (fair value less cost to sell) of the assets was used as the recoverable amount for the measurement of impairment loss.

As sale of these assets was expected to be difficult, the net sales price was assessed as zero.

- (vi) On October 30, 2017, the Company acquired 51% of the shares in SICOXS CORPORATION, and therefore the financial statements of SICOXS CORPORATION are included in the consolidated financial statements of the Group in the fiscal year ended March 31, 2018. Although goodwill of ¥481 million, which is the difference between the acquisition cost of SICOXS CORPORATION and the market value of its net assets, occurred, as the excess earning power of SICOXS CORPORATION is not necessarily expected, the Group impaired the entire accounts of goodwill.

(2) Loss on impairment of fixed assets for the year ended March 31, 2017 consisted of the following:

2017			Millions of yen
Location	Major use	Asset category	Loss
Niihama City, Ehime Prefecture, Japan	Laboratory facilities	Machinery and other assets	¥ 130
Isa City, Kagoshima Prefecture, Japan	Manufacturing facilities for crystal substrates	Machinery	56
Minato City, Tokyo Metropolis, Japan Niihama City, Ehime Prefecture, Japan	Manufacturing facilities for lead frames (to be withdrawn)	Building, machinery and other assets	867
Yonezawa City, Yamagata Prefecture, Japan Jiangsu, China Negeri Sembilan, Malaysia	Manufacturing facilities for lead frames (to be sold)	Machinery, building and other assets	2,408
Total			¥ 3,461

The Company categorizes its operating assets by business units such as plants and manufacturing processes based on the divisions of managerial accounting.

Loss on impairment was recognized for the following reasons:

- (i) The book values of laboratory facilities were reduced to their recoverable amounts because it is not anticipated that they will be utilized in the future.

The net sales value (fair value less cost to sell) of the assets was used as the recoverable amount for the measurement of impairment loss. As sale of these assets was expected to be difficult, the net sales price was assessed as zero.

- (ii) The book values of manufacturing facilities for crystal substrates were reduced to their recoverable amounts due to the expectation that they would no longer be in use.

The net sales price (fair value less cost to sell) of the assets was used as the recoverable amount for the measurement of impairment loss. It was based on the expected contract price.

- (iii) The book values of manufacturing facilities for lead frames were reduced to their recoverable amounts because the Company decided to withdraw the subsidiaries that own such facilities from business.

The values in use of assets were used as recoverable amounts for the measurement of impairment losses. Since future cash flow was expected to be negative, it was assumed that there was no recoverable value.

- (iv) The book values of manufacturing facilities for lead frames were reduced to their recoverable amounts because the Company decided to sell the subsidiaries that own such facilities and concluded stock transaction agreements.

The net sales value (fair value less cost to sell) of the assets was used as the recoverable amount for the measurement of impairment loss. It was based on the expected contract prices. (Such subsidiaries are grouped into one independent cash-generating unit.)

## 8 Bank loans and long-term debt

Bank loans are generally represented by short-term notes (most of which are unsecured) and bank overdrafts, and bore interest at annual weighted average rate of 1.17% and 1.16% as of March 31, 2018 and 2017, respectively.

(1) Long-term debt as of March 31, 2018 and 2017 consisted of the following:

	Millions of yen		Thousands of U.S. dollars
	2018	2017	2018
Long-term loans:			
Due within one year*1	¥ 23,526	¥ 17,427	\$ 221,421
Due after one year, maturing through 2031*2	257,409	358,564	2,422,673
0.77% domestic bonds due in 2018	30,000	30,000	282,353
1.26% domestic bonds due in 2021	10,000	10,000	94,118
0.00% foreign bonds due in 2023*3	30,150	—	283,765
Total	351,085	415,991	3,304,330
Amount due within one year	(53,526)	(17,427)	(503,774)
Total	¥ 297,559	¥ 398,564	\$ 2,800,556

\*1 Weighted average interest rate at March 31, 2018 is 2.62%

\*2 Weighted average interest rate at March 31, 2018 is 1.73%

\*3 Based on the resolution of the board of directors held on February 27, 2018, the Company issued Euroyen convertible bond type bonds with stock acquisition rights on March 15, 2018 (London time).

(2) The aggregate annual maturities of long-term debt as of March 31, 2018 are as follows:

Years ending March 31,	Millions of yen	Thousands of U.S. dollars
2019	¥ 53,526	\$ 503,774
2020	27,754	261,214
2021	29,127	274,136
2022	44,776	421,421
2023	67,420	634,541
Thereafter	128,332	1,207,832
<b>Total</b>	<b>¥ 350,935</b>	<b>\$ 3,302,918</b>

(3) Assets pledged as collateral for bank loans and long-term debt as of March 31, 2018 and 2017 are as follows:

	Millions of yen		Thousands of U.S. dollars
	2018	2017	2018
Cash and cash equivalents	¥ —	¥ 1	\$ —
Investment securities	0	0	0
Long-term loans receivable	—	26,094	—
Others	244	343	2,296
<b>Total</b>	<b>¥ 244</b>	<b>¥ 26,438</b>	<b>\$ 2,296</b>

## 9 Income taxes

Income taxes in the accompanying consolidated statements of operations comprise corporation taxes, inhabitants' taxes and enterprise taxes.

Consolidated overseas subsidiaries are subject to income taxes of the countries in which they are domiciled.

The following table summarizes the significant differences between the statutory tax rate and the Company's and its consolidated subsidiaries' effective tax rate for financial statement purposes for the years ended March 31, 2018 and 2017:

	2018	2017
Statutory tax rate	30.9%	—%
Permanently nontaxable dividends received	(16.2)	—
Decrease (Increase) in valuation allowance	(15.9)	—
Effect of eliminating intercompany dividends received	9.9	—
Refund income tax	(6.3)	—
Loss of consolidated subsidiaries	6.3	—
Difference in local tax system	(4.2)	—
Difference of statutory tax rate in subsidiaries	3.8	—
US tax reform	3.0	—
Equity in earnings of unconsolidated subsidiaries and affiliated companies	(2.9)	—
Undistributed earnings of foreign subsidiaries	0.5	—
Permanently non-deductible items, including entertainment expenses	0.1	—
Others	(0.1)	—
<b>Effective tax rate</b>	<b>8.9%</b>	<b>—%</b>

Information for the year ended March 31, 2017 is not provided because income before income taxes is negative.

Significant components of the Company's and its consolidated subsidiaries' deferred tax assets and liabilities as of March 31, 2018 and 2017 are as follows:

	Millions of yen		Thousands of U.S. dollars
	2018	2017	2018
<b>Deferred tax assets:</b>			
Net operating losses carry forwards	¥ 11,323	¥ 1,670	\$ 106,569
Provision for discontinued operations	4,598	2,676	43,275
Net defined benefit liability	4,428	5,050	41,675
Loss on impairment of fixed assets	4,326	2,640	40,715
Overseas exploration costs	3,409	5,251	32,085
Asset retirement obligations	1,916	2,478	18,033
Contribution gains on securities to employee retirement benefits trust	1,492	1,356	14,042
Unrealized profits	1,346	1,626	12,668
Allowance for bonus payable	1,122	1,051	10,560
Others	7,775	7,440	73,178
Gross deferred tax assets	41,735	31,238	392,800
Less valuation allowance	(10,933)	(6,087)	(102,899)
Deferred tax assets after deducting valuation allowance	30,802	25,151	289,901
<b>Deferred tax liabilities:</b>			
Net unrealized holding gains on available-for-sale securities	(18,598)	(14,351)	(175,040)
Accumulated earnings of overseas subsidiaries	(7,956)	(4,787)	(74,880)
Depreciation	(6,288)	(10,027)	(59,181)
Reserve for losses on overseas investment	(4,267)	(4,973)	(40,160)
Reserve for explorations	(1,962)	(1,629)	(18,466)
Deferred gains on properties for tax purpose	(1,767)	(1,840)	(16,631)
Depletion	(1,565)	(1,016)	(14,729)
Gains on securities contributed to employee retirement benefits trust	(447)	(542)	(4,207)
Deferred gains or losses on hedges	(274)	(443)	(2,579)
Others	(2,038)	(1,301)	(19,181)
Deferred tax liabilities	(45,162)	(40,909)	(425,054)
Net deferred tax assets (liabilities)	¥ (14,360)	¥ (15,758)	\$ (135,153)

## 10 Retirement benefits and pension costs

### (1) Outline of retirement benefits and pension costs

The Company and certain consolidated subsidiaries have a defined benefit pension plan and a defined contribution pension plan.

The defined benefit pension plan is based upon years of service, compensation at the time of severance and other factors.

Such retirement benefits are provided through a lump-sum benefit or a funded pension plan. The Company has a retirement benefit trust.

Some domestic consolidated subsidiaries use the simplified method for the calculation of projected benefit obligations. Also, certain consolidated subsidiaries enroll in multiemployer pension plans. Such plans are recognized as defined contribution plans.

In addition, Sumiko Tec Co., Ltd., a consolidated domestic subsidiary of the Company, joined The Pension Fund of Japan Electronics Information Technology Industry, a multiemployer pension plan. Sumiko Tec Co., Ltd. accounts for its contributions in a manner similar to a defined contribution plan because Sumiko Tec Co., Ltd. cannot reasonably calculate the pension assets based on its contributions to the fund. Also, The Pension Fund of Japan Electronics Information Technology Industry was dissolved after approval by the Minister of Health, Labour and Welfare on March 31, 2018.

### (2) Defined benefit plans

The detailed notes relating to retirement benefit plans for the 12-month period ended March 31, 2018 and 2017 are as follows:

#### (i) Movements in retirement benefit obligations, excluding plans to which the simplified method is applied

	Millions of yen		Thousands of U.S. dollars
	2018	2017	2018
Balance at beginning of year	¥ 64,739	¥ 63,576	\$ 609,308
Service costs	2,249	2,253	21,167
Interest costs	426	349	4,009
Actuarial gains and losses	628	74	5,911
Benefits paid	(2,784)	(2,230)	(26,202)
Prior service costs	—	749	—
Others	1,190	(32)	11,200
Balance at end of year	¥ 66,448	¥ 64,739	\$ 625,393

#### (ii) Movements in plan assets, excluding plans to which the simplified method is applied

	Millions of yen		Thousands of U.S. dollars
	2018	2017	2018
Balance at beginning of year	¥ 56,775	¥ 50,731	\$ 534,353
Expected return on plan assets	1,165	1,119	10,965
Actuarial gains and losses	1,964	5,542	18,485
Contributions paid by the employer	777	719	7,313
Benefits paid	(1,430)	(1,336)	(13,459)
Others	389	—	3,661
Balance at end of year	¥ 59,640	¥ 56,775	\$ 561,318

## (iii) Movements in liability (asset) for retirement benefits to which the simplified method is applied

	Millions of yen		Thousands of U.S. dollars
	2018	2017	2018
Balance at beginning of year	¥ 891	¥ 1,094	\$ 8,386
Retirement benefit costs	229	178	2,155
Benefits paid	(158)	(190)	(1,487)
Contributions paid by the employer	(102)	(164)	(960)
Others	(448)	(27)	(4,216)
Balance at end of year	¥ 412	¥ 891	\$ 3,878

## (iv) Reconciliation from retirement benefit obligations and plan assets to liability (asset) for retirement benefits

	Millions of yen		Thousands of U.S. dollars
	2018	2017	2018
Funded retirement benefit obligations	¥ 68,648	¥ 67,911	\$ 646,099
Plan assets	(63,241)	(60,800)	(595,209)
	¥ 5,407	¥ 7,111	\$ 50,890
Unfunded retirement benefit obligations	1,812	1,744	17,054
Total net liability for retirement benefits at end of year	¥ 7,219	¥ 8,855	\$ 67,944
Liability for retirement benefits	¥ 7,461	¥ 9,118	\$ 70,221
Asset for retirement benefits	(242)	(263)	(2,277)
Total net liability for retirement benefits at end of year	¥ 7,219	¥ 8,855	\$ 67,944

## (v) Retirement benefit costs

	Millions of yen		Thousands of U.S. dollars
	2018	2017	2018
Service costs	¥ 2,249	¥ 2,253	\$ 21,167
Interest costs	426	349	4,009
Expected return on plan assets	(1,165)	(1,119)	(10,965)
Net actuarial gains and losses amortization	1,366	1,732	12,857
Prior service costs amortization	79	79	744
Retirement benefit costs based on the simplified method	229	178	2,155
Total retirement benefit costs for the year	¥ 3,184	¥ 3,472	\$ 29,967

In addition, there were additional retirement benefit costs of ¥458 million (US\$4,311 thousand) for the year ended March 31, 2018.

## (vi) Other comprehensive income on defined retirement benefit plans, before tax

	Millions of yen		Thousands of U.S. dollars
	2018	2017	2018
Prior service costs	¥ (79)	¥ 670	\$ (744)
Actuarial gains and losses	(2,685)	(7,203)	(25,270)
Total	¥ (2,764)	¥ (6,533)	\$ (26,014)

(vii) Accumulated other comprehensive income on defined retirement benefit plans, before tax

	Millions of yen		Thousands of U.S. dollars
	2018	2017	2018
Unrecognized prior service costs	¥ 622	¥ 702	\$ 5,854
Unrecognized actuarial gains and losses	(4,651)	(2,048)	(43,774)
Total	¥ (4,029)	¥ (1,346)	\$ (37,920)

(viii) Plan assets

(a) Plan assets consisted of the following:

	2018	2017
Bonds	36.8%	32.5%
Equity securities	57.2	58.2
Cash and cash equivalents	1.3	1.2
Others	4.7	8.1
Total	100.0	100.0

Plan assets include the retirement benefit trusts that were established in regards to lump-sum payment plans of 39.4% at March 31, 2018 and 40.2% at March 31, 2017.

(b) Long-term expected rate of return

Current and target asset allocations, and historical and expected returns on various categories of plan assets have been considered in determining the long-term expected rate of return.

Assumptions used in calculating the above numbers are as follows:

		2018	2017
Discount rate	(Mainly)	0.5%	0.6%
Expected long-term return on plan assets	(Mainly)	3.5%	3.5%

(c) Defined contribution plans

The amount of required contributions to the defined contribution plans of the Company and certain consolidated subsidiaries for the years ended March 31, 2018 and 2017 were ¥491 million (US\$4,621 thousand) and ¥401 million, respectively.

(d) Multiemployer pension plans

The amount of required contributions to the multiemployer plans which are recognized as defined contribution plans for the years ended March 31, 2018 and 2017 were ¥21 million (US\$198 thousand) and ¥42 million, respectively.

The multiemployer pension plan (The Pension Fund of Japan Electronics Information Technology Industry), in which Sumiko Tec Co., Ltd. had been enrolled, was dissolved on March 31, 2018, with the approval of the Minister of Health, Labour and Welfare, therefore we are not listing the matters concerning our premium contribution rate to and supplementary explanation of the total system of the plan in this fiscal year. There is no additional burden expected due to the dissolution of the plan.

The funded status of the multiemployer pension plans at March 31, 2017 and 2016, to which contributions were recorded as net periodic retirement benefit costs, was as follows:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Plan assets	¥ —	¥ 256,616	\$ —
Actuarial liability based on pension plan finance calculation and minimum actuarial reserve	—	287,428	—
Balance*1	¥ —	¥ (30,812)	\$ —

\*1 The principle factor relating to the balance was the prior service obligations in pension financing which was –¥28,990 million at March 31, 2016.

The percentage of the Group's contribution to the multiemployer pension plans at March 31, 2016 was 0.46%.

### 11 Research and development expense

Research and development expense included in selling, general and administrative expenses for the years ended March 31, 2018 and 2017 are ¥5,109 million (US\$48,085 thousand) and ¥5,241 million, respectively.

### 12 Net assets

Net assets comprise three subsections, which are shareholders' equity, accumulated other comprehensive income, and non-controlling interests.

Under the Japanese Companies Act (the "Act"), the entire amount paid for new shares is required to be designated as common stock. However, a company may, by resolution of the Board of Directors, designate an amount not exceeding one-half of the price of the new shares as additional paid-in capital, which is included in capital surplus.

Under the Act, in cases where a dividend distribution of surplus is made, the smaller of an amount equal to 10% of dividend or excess, if any, of 25% of common stock over the total of additional paid-in capital and legal earnings reserve must be set aside as additional paid-in capital or legal earnings reserve. Legal earnings reserve is included in retained earnings in the accompanying consolidated balance sheets.

Under the Act, legal earnings reserve and additional paid-in capital could be used to eliminate or reduce a deficit, or could be capitalized by a resolution of the shareholders' meeting.

Additional paid-in capital and legal earnings reserve should not be distributed as dividends. Under the Act, however, all additional paid-in capital and all of the legal earnings reserve may be transferred to other capital surplus and retained earnings, respectively, which are potentially available for dividends.

The maximum amount that the Company can distribute as dividends is calculated based on the unconsolidated financial statements of the Company in accordance with Japanese laws and regulations.

### 13 Contingent liabilities

Contingent liabilities as of March 31, 2018 are as follows:

	Millions of yen	Thousands of U.S. dollars
As guarantor for loans of:		
Non-consolidated subsidiaries and affiliated companies	¥ 73,988	\$ 696,358
As a stockholder for future payment of:		
The mining royalty tax, interests and penalties of Cerro Verde S.A.A.	7,309	68,791
Total	¥ 81,297	\$ 765,149

JCO Co., Ltd., a consolidated subsidiary of the Company, is preparing for decommissioning by dismantlement and decontamination of its facilities. Whenever the expenses for future loss can be reasonably estimated, JCO Co., Ltd. will provide the expenses.

Sociedad Minera Cerro Verde S.A.A. ("Cerro Verde"), an equity-method affiliate of the Company, had a tax rate stabilization agreement with the Peruvian government valid from 1999 to 2013. In 2004, the Law on Mineral Royalties was enacted, requiring payment of royalties, however, Cerro Verde continued making tax payments assuming exemption from those royalties, due to the stabilization agreement.

In October 2013, the Peruvian tax authorities notified Cerro Verde that the said agreement did not apply to the copper mine development project (commenced in 2006), and demanded payment for the amount corresponding to prior royalties (from 2006 to 2008) and interest on overdue royalties. The Company has reported, as per the above, the amount of payment corresponding to the equity interest of the Company, in case the demand for payment becomes finalized.

Cerro Verde made appeals to Peruvian government agencies and in the courts claiming the validity of the tax rate stabilization agreement, but in October 2017, the Supreme Court of Peru rejected Cerro Verde's claims for exemption regarding the payment of royalties for 2008. Subsequently, Cerro Verde received notification of judgment to the effect that the decision by the Peruvian tax authorities was valid.

In light of this decision, Cerro Verde recognized a total of US\$393 million for royalties, penalties and interest on overdue royalties for the period from December 2006 to 2008, as well as royalties and other payments for the period from 2009 to 2013, which had similarly been disputed. Consequently, the Company recognized ¥9,257 million (approximately US\$83 million), which is equivalent to its interests, as its share of loss of entities in fiscal 2017, accounting for using the equity method in the consolidated statements of operations. As a result, Net income (loss) attributable to owners of parent for fiscal 2017 decreased by ¥7,406 million.

Additionally, Cerro Verde has a total of US\$385 million in potentially unpaid penalties and interest on overdue royalties. The Company has reported that the amounts of payment corresponding to the equity interest of the Company, in case these additional amounts become finalized as the contingent liabilities in the above table.

#### 14 Comprehensive income

Amounts reclassified to net income in the current period that were recognized in other comprehensive income in the current or previous periods and tax effects for each component of other comprehensive income are as follows:

	Millions of yen		Thousands of U.S. dollars
	2018	2017	2018
Net unrealized holding gains on securities			
Increase during the year	¥ 15,092	¥ 22,242	\$ 142,042
Reclassification adjustments	(46)	(1,115)	(433)
Sub-total, before tax	15,046	21,127	141,609
Tax effect	(4,236)	(4,765)	(39,868)
Sub-total, net of tax	¥ 10,810	¥ 16,362	\$ 101,741
Deferred gains or losses on hedges			
Increase during the year	¥ (2,980)	¥ 1,176	\$ (28,047)
Reclassification adjustments	1,215	3,447	11,435
Sub-total, before tax	(1,765)	4,623	(16,612)
Tax effect	641	(1,485)	6,033
Sub-total, net of tax	¥ (1,124)	¥ 3,138	\$ (10,578)
Foreign currency translation adjustments			
Increase during the year	¥ (11,003)	¥ 16,365	\$ (103,558)
Reclassification adjustments	1,326	517	12,480
Sub-total, before tax	(9,677)	16,882	(91,078)
Tax effect	109	(175)	1,026
Sub-total, net of tax	¥ (9,568)	¥ 16,707	\$ (90,052)
Remeasurements of defined benefit plans			
Increase during the year	¥ 1,319	¥ 4,722	\$ 12,414
Reclassification adjustments	1,445	1,811	13,600
Sub-total, before tax	2,764	6,533	26,014
Tax effect	(810)	(2,046)	(7,624)
Sub-total, net of tax	¥ 1,954	¥ 4,487	\$ 18,391
Share of other comprehensive income of affiliated companies accounted for using equity method			
Increase during the year	¥ (4,754)	¥ (39,601)	\$ (44,744)
Reclassification adjustments	164	(45)	1,544
Sub-total	¥ (4,590)	¥ (39,646)	(43,200)
Total other comprehensive income	¥ (2,518)	¥ 1,048	\$ (23,699)

## 15 Segment information

### (1) General information about reported segments

#### (i) Basis of decision about reported segments

The reported segments of the Group refer to business units, for which separate financial information is available and that are subject to periodic reviews by the Board of Directors as the supreme, managerial decision-making body to determine the allocation of management resources and assess their respective operating results.

The Company currently has three business divisions — Mineral Resources Div., Non-Ferrous Metals Div., Materials Div. — in the pursuit of effective business operations by products and services. Each of these business divisions plans its own comprehensive strategies to be carried out in Japan and overseas for its own product and service lines and engages in diverse business activities.

The three aforementioned business divisions are classified as “business segments” of the Group.

The Group integrated these three business segments into three reported segments: “Mineral Resources” “Smelting & Refining,” “Materials.” In determining these reported segments, in accordance with the integration criteria and quantitative standards set forth in the “Accounting Standard for Disclosures about Segments of an Enterprise and Related Information” (ASBJ Statement No. 17 issued on March 27, 2009) and “Guidance on Accounting Standard for Disclosures about Segments of an Enterprise and Related Information” (ASBJ Guidance No. 20 issued on March 21, 2008).

As described above, the Group consists of three segments identified by products and services based on the business divisions.

#### (ii) Types of products and services of each reported segment

In the Mineral Resources segment, the Group mainly engages in the exploration, development and production of non-ferrous metal resources in Japan and overseas, as well as sales of ores and other products.

In the Smelting & Refining segment, the Group mainly engages in smelting and sales of copper, nickel, ferronickel and zinc, as well as smelting and sales of precious metals such as gold, silver and platinum.

In the Materials segment, the Group mainly engages in manufacturing, processing and sales of semiconductor materials such as tape materials, as well as of advanced materials such as pastes, powder materials (e.g., nickel powder), battery materials (e.g., nickel hydroxide, lithium nickel oxide) and crystalline materials (e.g., lithium tantalate, lithium niobate), manufacturing and sales of automotive exhaust processing catalysts, chemical catalysts, petroleum refinery and desulfurization catalysts, as well as autoclaved lightweight concrete (ALC) products.

### (2) Basis of measurement regarding reported segment income (loss), segment assets and other material items

The accounting methods for each reported segment are basically the same as those set forth in Note 2, entitled the “Summary of significant accounting policies,” excepting the allocation of the amount equivalent to the interest on the internal loan payable to each segment.

Inter-segment net sales are calculated based on the prices of arm's length transactions.

(3) Information about reported segment income (loss), segment assets and other material items

Segment information as of and for the years ended March 31, 2018 and 2017 are as follows:

Millions of yen							
2018	Mineral Resources	Smelting & Refining	Materials	Total of reported segments	Others*1	Adjustment*2	Consolidated
Net sales:							
Outside customers	¥ 121,727	¥ 638,159	¥ 168,178	¥ 928,064	¥ 5,453	¥ —	¥ 933,517
Inter segment	37,340	32,669	17,172	87,181	4,865	(92,046)	—
Total	¥ 159,067	¥ 670,828	¥ 185,350	¥ 1,015,245	¥ 10,318	¥ (92,046)	¥ 933,517
Segment income (loss)	¥ 56,044	¥ 51,545	¥ 15,264	¥ 122,853	¥ (636)	¥ 2,636	¥ 124,853
Segment assets	¥ 474,602	¥ 654,676	¥ 236,234	¥ 1,365,512	¥ 28,968	¥ 304,557	¥ 1,699,037
Segment liabilities	¥ 121,131	¥ 221,868	¥ 149,639	¥ 492,638	¥ 19,752	¥ 66,639	¥ 579,029
Other items:							
Depreciation	¥ 20,106	¥ 18,274	¥ 7,270	¥ 45,650	¥ 437	¥ 778	¥ 46,865
Amortization of goodwill	123	—	147	270	—	—	270
Interest income	1,186	575	12	1,773	—	11,668	13,441
Interest expense	2,275	3,662	316	6,253	9	(30)	6,232
Equity in earnings of affiliated companies	2,967	5,557	3,262	11,786	—	(419)	11,367
Investment in equity-method affiliated companies	159,939	101,388	24,585	285,912	—	13,207	299,119
Capital expenditures	32,413	19,168	18,970	70,551	809	3,229	74,589

\*1 The "Others" segment refers to businesses other than those included in the reported segments and other profit-seeking business directly operated by Head Office divisions/departments.  
Other businesses include real estate businesses and technical engineering.

\*2 Notes to the various items of the "Adjustment" segment are below. (i–viii)

Millions of yen							
2017	Mineral Resources	Smelting & Refining	Materials	Total of reported segments	Others*1	Adjustment*2	Consolidated
Net sales:							
Outside customers	¥ 77,857	¥ 543,079	¥ 159,913	¥ 780,849	¥ 5,297	¥ —	¥ 786,146
Inter segment	45,513	21,978	14,148	81,639	5,045	(86,684)	—
Total	¥ 123,370	¥ 565,057	¥ 174,061	¥ 862,488	¥ 10,342	¥ (86,684)	¥ 786,146
Segment income (loss)	¥ (53,594)	¥ 33,258	¥ 12,066	¥ (8,270)	¥ (65)	¥ 6,770	¥ (1,565)
Segment assets	¥ 468,981	¥ 671,938	¥ 205,425	¥ 1,346,344	¥ 20,741	¥ 317,933	¥ 1,685,018
Segment liabilities	¥ 155,441	¥ 300,310	¥ 124,429	¥ 580,180	¥ 15,311	¥ 65,406	¥ 660,897
Other items:							
Depreciation	¥ 16,095	¥ 17,822	¥ 9,089	¥ 43,006	¥ 388	¥ 838	¥ 44,232
Amortization of goodwill	121	—	23	144	—	—	144
Interest income	816	836	80	1,732	1	11,043	12,776
Interest expense	1,207	3,740	364	5,311	10	(279)	5,042
Equity in earnings (losses) of affiliated companies	(93,628)	4,240	3,644	(85,744)	—	(228)	(85,972)
Investment in equity-method affiliated companies	142,787	96,776	27,134	266,697	—	25,914	292,611
Capital expenditures	92,012	10,885	18,807	121,704	727	3,519	125,950

\*1 The "Others" segment refers to businesses other than those included in the reported segments and other profit-seeking business directly operated by Head Office divisions/departments.  
Other businesses include real estate businesses and technical engineering.

\*2 Notes to the various items of the "Adjustment" segment are below. (i–viii)

Thousands of U.S. dollars

2018	Mineral Resources	Smelting & Refining	Materials	Total of reported segments	Others* <sup>1</sup>	Adjustment* <sup>2</sup>	Consolidated
Net sales:							
Outside customers	\$ 1,145,666	\$ 6,006,202	\$ 1,582,852	\$ 8,734,720	\$ 51,322	\$ —	\$ 8,786,042
Inter segment	351,435	307,473	161,619	820,527	45,788	(866,315)	—
Total	\$ 1,497,101	\$ 6,313,675	\$ 1,744,471	\$ 9,555,247	\$ 97,111	\$ (866,315)	\$ 8,786,042
Segment income (loss)	\$ 527,473	\$ 485,129	\$ 143,661	\$ 1,156,263	\$ (5,986)	\$ 24,809	\$ 1,175,087
Segment assets	\$ 4,466,842	\$ 6,161,656	\$ 2,223,379	\$ 12,851,877	\$ 272,640	\$ 2,866,419	\$ 15,990,936
Segment liabilities	\$ 1,140,056	\$ 2,088,169	\$ 1,408,367	\$ 4,636,592	\$ 185,901	\$ 627,191	\$ 5,449,685
Other items:							
Depreciation	\$ 189,233	\$ 171,991	\$ 68,424	\$ 429,648	\$ 4,113	\$ 7,322	\$ 441,082
Amortization of goodwill	1,158	—	1,384	2,542	—	—	2,541
Interest income	11,162	5,412	113	16,687	—	109,816	126,504
Interest expense	21,412	34,466	2,974	58,852	85	(282)	58,654
Equity in earnings of affiliated companies	27,925	52,301	30,701	110,927	—	(3,944)	106,984
Investment in equity-method affiliated companies	1,505,308	954,240	231,388	2,690,936	—	124,301	2,815,238
Capital expenditures	305,064	180,405	178,541	664,010	7,614	30,391	702,014

\*1 The "Others" segment refers to businesses other than those included in the reported segments and other profit-seeking business directly operated by Head Office divisions/departments.  
Other businesses include real estate businesses and technical engineering.

\*2 Notes to the various items of the "Adjustment" segment are below. (i–viii)

(i) Adjustments for segment income

	Millions of yen		Thousands of U.S. dollars
	2018	2017	2018
Head Office expenses not allocated to each reported segment* <sup>1</sup>	¥ (1,695)	¥ (674)	\$ (15,953)
Internal interest expense	378	269	3,558
Eliminations of inter-segmental transactions among the reported segments	8,115	2,802	76,376
Non-operating income/expenses not allocated to each reported segment* <sup>2</sup>	(4,162)	4,373	(39,172)
Total	¥ 2,636	¥ 6,770	\$ 24,809

\*1 Head Office expenses not allocated to each reported segment mainly consist of general administrative expenses and R&D expenses, which are not attributable to the reported segments.

\*2 Non-operating income/expenses not allocated to each reported segment mainly consist of foreign exchange gains/losses and interest expenses, which are not attributable to the reported segments.

(ii) Adjustments for segment assets and liabilities

	Millions of yen		Thousands of U.S. dollars
	2018	2017	2018
Corporate assets not allocated to each reported segment* <sup>1</sup>	¥ 408,745	¥ 506,417	\$ 3,847,012
Offset and eliminations of inter-segmental receivables among the reported segments, including those toward Head Office divisions/departments	(104,188)	(188,484)	(980,593)
Total	¥ 304,557	¥ 317,933	\$ 2,866,419

	Millions of yen		Thousands of U.S. dollars
	2018	2017	2018
Corporate liabilities not allocated to each reported segment*1	¥ 204,300	¥ 264,533	\$ 1,922,824
Offset and eliminations of inter-segmental payables among the reported segments, including those toward Head Office divisions/departments	(137,661)	(199,127)	(1,295,633)
<b>Total</b>	<b>¥ 66,639</b>	<b>¥ 65,406</b>	<b>\$ 627,191</b>

\*1 Corporate assets and liabilities not allocated to each reported segment mainly refer to the assets and liabilities under the control of the Administration Dept. at the Head Office, which are not allocated to the reported segments.

- (iii) Adjustments on depreciation refer to depreciation at the Head Office divisions/departments, which are not allocated to the reported segments.
- (iv) Adjustments on interest income consist of interest income at the Head Office divisions/departments, which is not allocated to the reported segments, and eliminations of transactions among the reported segments.
- (v) Adjustments on interest expense consist of interest expense at the Head Office divisions/departments, which are not allocated to the reported segments, and eliminations of transactions among the reported segments.
- (vi) Adjustments on equity in earnings (losses) of affiliated companies refer to the deduction of unrealized income relating to the inter-segmental transactions among the reported segments.
- (vii) Adjustments on investment in equity-method affiliated companies represent the amount corresponding to "Foreign currency translation adjustments."
- (viii) Adjustments on capital expenditures refer to increases thereof at the Head Office divisions/departments, which are not allocated to the reported segments.

## Related information

### (1) Information about geographic areas

#### (i) Sales

2018							Millions of yen
	Japan	East Asia	Southeast Asia	United States	Others	Total	
	¥ 528,656	¥ 155,872	¥ 78,133	¥ 145,831	¥ 25,025	¥ 933,517	
2017							Millions of yen
	Japan	East Asia	Southeast Asia	United States	Others	Total	
	¥ 472,427	¥ 148,879	¥ 64,752	¥ 82,078	¥ 18,010	¥ 786,146	
2018							Thousands of U.S. dollars
	Japan	East Asia	Southeast Asia	United States	Others	Total	
	\$ 4,975,586	\$ 1,467,031	\$ 735,369	\$ 1,372,527	\$ 235,529	\$ 8,786,042	

- Net sales are segmented by country or region according to customers' location data.
- Regions are segmented based on their geographical proximity, and only those countries for which the net sales amount accounts for more than 10% of the net sales stated in the consolidated statements of operations are separately listed.
- Major countries or regions that belong to the segments are as follows:
  - East Asia: China, Taiwan, Hong Kong, South Korea, etc.
  - Southeast Asia: Indonesia, Malaysia, Thailand, Vietnam, etc.
  - Others: Australia, India, Germany, Italy, Turkey, etc.

#### (ii) Property, plant and equipment

2018							Millions of yen
	Japan	East Asia	Philippines	United States	Others	Total	
	¥ 161,562	¥ 630	¥ 202,712	¥ 94,941	¥ 4,569	¥ 464,414	
2017							Millions of yen
	Japan	East Asia	Philippines	United States	Others	Total	
	¥ 155,693	¥ 404	¥ 216,057	¥ 106,438	¥ 4,864	¥ 483,456	
2018							Thousands of U.S. dollars
	Japan	East Asia	Philippines	United States	Others	Total	
	\$ 1,520,584	\$ 5,929	\$ 1,907,878	\$ 893,562	\$ 43,002	\$ 4,370,955	

- Regions are segmented based on their geographical proximity, and only those countries for which the property, plant and equipment amount accounts for more than 10% of the property, plant and equipment stated in the consolidated balance sheets are separately listed.
- Major countries or regions that belong to the segments are as follows:
  - East Asia: China and Taiwan
  - Others: Australia, Solomon Islands, Canada, Peru, Chile and Brazil

## (2) Information about major customers

Customer's designation or name	Millions of yen		Thousands of U.S. dollars		Related reported segments
	2018	2017	2018		
	Sales	Sales	Sales		
Panasonic Corporation	¥ 126,907	¥ 80,054	\$ 1,194,419		Smelting & Refining, Materials
Sumitomo Corporation	¥ 122,391	¥ 104,256	\$ 1,151,915		Smelting & Refining, Materials

## (3) Information about impairment loss of fixed assets by reported segment

2018	Millions of yen					
	Mineral Resources	Smelting & Refining	Materials	Others	Adjustment	Consolidated
Loss on impairment of fixed assets	¥ —	¥ 596	¥ 9,259	¥ 248	¥ —	¥ 10,103

2017	Millions of yen					
	Mineral Resources	Smelting & Refining	Materials	Others	Adjustment	Consolidated
Loss on impairment of fixed assets	¥ —	¥ —	¥ 3,331	¥ —	¥ 130	¥ 3,461

2018	Thousands of U.S. dollars					
	Mineral Resources	Smelting & Refining	Materials	Others	Adjustment	Consolidated
Loss on impairment of fixed assets	\$ —	\$ 5,609	\$ 87,144	\$ 2,334	\$ —	\$ 95,087

## (4) Information about unamortized balance of goodwill by reported segment

2018	Millions of yen					
	Mineral Resources	Smelting & Refining	Materials	Others	Adjustment	Consolidated
Balance at end of year	¥ —	¥ —	¥ 656	¥ —	¥ —	¥ 656

2017	Millions of yen					
	Mineral Resources	Smelting & Refining	Materials	Others	Adjustment	Consolidated
Balance at end of year	¥ 130	¥ —	¥ 31	¥ —	¥ —	¥ 161

2018	Thousands of U.S. dollars					
	Mineral Resources	Smelting & Refining	Materials	Others	Adjustment	Consolidated
Balance at end of year	\$ —	\$ —	\$ 6,174	\$ —	\$ —	\$ 6,174

## 16 Asset retirement obligations

### (1) Asset retirement obligations that are recorded in the consolidated balance sheets

With regard to mines and quarries in operation in Japan, the Company is required by the Mining Safety Act, the Law on Special Measures for Mine Damages Caused by the Metal Mining Industry, etc., the Quarrying Act and leasing agreements to undertake mine pollution prevention activities for post-use specified facilities and to restore such facilities to their original condition. Based on these requirements, the Company records as asset retirement obligations a rational estimate of the expenses required for mine pollution prevention activities and any removal expenses.

For the domestic facilities of the Group in Japan, the Company is required to demolish them and conduct surveys in accordance with requirements regarding special removal methods and obligations to conduct environmental surveys under asbestos damage prevention regulations of asbestos-related regulations and occupational health and safety regulations of dioxin-related regulations. The Company is also required to restore some facilities to their original condition in accordance with the contract to manufacture. Based on these requirements, the Company makes rational estimates of the cost of demolishing, conducting surveys, restoring, and any removal expenses, and posts these amounts as asset retirement obligations.

Sumitomo Metal Mining Pogo LLC, Sumitomo Metal Mining Arizona Inc., SMM Morenci Inc., Sumitomo Metal Mining Oceania Pty. Ltd., SMM Gold Cote Inc., Coral Bay Nickel Corporation and Taganito HPAL Nickel are subject to the U.S. GAAP or International Financial Reporting Standards, as well as the mining laws and regulations of the United States, Australia, Canada, and the Republic of the Philippines, respectively.

Based on its business plans, the Company determines asset retirement obligations by making rational estimates of its obligations under such regulations of restoring operating mines and smelters to their original condition and the expenses of fulfilling these obligations. Asset retirement obligations are calculated based on determining the estimated period until expenditure, the remaining useful life of facilities and the mine life (4 to 32) and discounted by the rates of 0.13 % to 11.0%.

The asset retirement obligations as of March 31, 2018 and 2017 are as follows:

	Millions of yen		Thousands of U.S. dollars
	2018	2017	2018
Balance at beginning of year	¥ 8,985	¥ 7,831	\$ 84,565
Newly recorded obligations	11	—	104
Adjustment due to passage of time	470	399	4,424
Decrease due to fulfillment of obligations	(83)	—	(781)
Increase (decrease) due to change in estimates	130	(32)	1,224
Others	12	942	111
Foreign exchange adjustment	(207)	(155)	(1,948)
Balance at end of year	¥ 9,318	¥ 8,985	\$ 87,699

### (2) Asset retirement obligations other than those recorded in the balance sheets

The Group is required under leasing agreements to restore certain facilities on borrowed buildings and sites to their original condition at the time of removal. In cases where the period of use for lease assets is unclear or for which no relocation plans are in existence, asset retirement obligations cannot be rationally estimated.

Furthermore, certain sites at our facilities employ hazardous substances specified under the Water Pollution Control Act, and at the time of removing its facilities the Company is required to conduct soil remediation surveys in accordance with the Soil Contamination Countermeasures Law. However, as the responsibility for fulfilling this obligation is estimated to be deferred, the timing for performing such surveys is unclear.

Therefore, asset retirement obligations cannot be rationally estimated. Consequently, no corresponding asset retirement obligations are included in these obligations.

## 17 Information for certain leases

### (1) Finance leases

**Lease assets** — Primarily, the production management server at the headquarters (machinery and equipment). For lease assets related to finance leases that do not transfer ownership, depreciation of leased assets is computed over the lease period using the straight-line method with no residual value.

### (2) Operating leases

Future minimum lease payments as of March 31, 2018 and 2017 are as follows:

	Millions of yen		Thousands of U.S. dollars	
	2018	2017	2018	
Due within one year	¥ 185	¥ 241	\$ 1,741	
Due after one year	1,369	1,257	12,885	
Total	¥ 1,554	¥ 1,498	\$ 14,626	

## 18 Business combination

### Business combination through acquisition

(1) The Company acquired additional shares of GRANOPT Co., Ltd., which had been accounted for using the equity method. Accordingly, GRANOPT Co., Ltd. has been included in the scope of consolidation from the year ended March 31, 2018.

#### (i) Outline of the business combination

##### (a) Name and description of business of the acquired company

Name of the acquired company: GRANOPT Co., Ltd.

Description of business: Manufacture and sales of Rare-earth Iron Garnet single crystals (RIG)

##### (b) Primary reasons for the business combination

In our communication device business, GRANOPT Co., Ltd. manufactures and sells RIG, and SMM Precision Co., Ltd., a consolidated subsidiary of the Company, manufactures and sells Optical Isolators for communication (OI), utilizing RIG as its main raw material.

The Company acquired additional shares of GRANOPT Co., Ltd. with a view to improving the efficiency of the communication device business and strengthening competitiveness by building a unified structure between RIG and OI.

##### (c) Date of the business combination

June 23, 2017

##### (d) Legal form of the business combination

Acquisition of shares by cash consideration

##### (e) Name of the company after the business combination

GRANOPT Co., Ltd.

##### (f) Percentage of voting rights owned before acquisition: 50.00%

Percentage of voting rights acquired: 1.00%

Percentage of voting rights owned after acquisition: 51%

##### (g) Main grounds for determining which company to acquire

Due to the Company acquiring GRANOPT Co., Ltd. through a share acquisition by cash consideration

#### (ii) Period of business results of the acquired company included in the consolidated financial statements

From April 1, 2017 to March 31, 2018

In addition, business results from April 1, 2017 to June 30, 2017 were included in equity in earnings of affiliated companies.

(iii) Acquisition cost of the acquired company and the breakdown thereof

- Market value of shares of GRANOPT Co., Ltd. held immediately prior to the business combination on the date of business combination: ¥2,367 million (US\$22,278 thousand)
- Cash and deposits spent on additional acquisition: ¥110 million (US\$1,035 thousand)
- Acquisition cost: ¥2,477 million (US\$23,313 thousand)

(iv) The difference between the acquisition cost and the total of the acquisition costs for each acquisition transaction

Gain on step acquisitions: ¥693 million (US\$6,522 thousand)

(v) Amount of goodwill, reason for recognition, amortization method and period

(a) Amount of goodwill

¥772 million (US\$7,266 thousand)

(b) Reason for recognition

It is the expected excess earning power from GRANOPT Co., Ltd.'s future business development.

(c) Amortization method and period

Straight-line amortization over 5 years

(vi) Amount of assets and liabilities undertaken on the date of business combination and the breakdown thereof

	Millions of yen	Thousands of U.S. dollars
	2018	2018
Current assets	¥ 1,967	\$ 18,513
Non-current assets	1,796	16,904
Total amount of assets	3,763	35,417
Current liabilities	397	3,736
Long-term liabilities	22	207
Total amount of liabilities	¥ 419	\$ 3,943

(vii) Estimated effects on the consolidated statements of operations for the current fiscal year assuming that business combination had been completed at the beginning of the fiscal year and assuming the calculation method.

Net sales: ¥769 million (US\$7,238 thousand)

Operating income: ¥463 million (US\$4,358 thousand)

The above shows the difference between the sales and operating income calculated on the assumption that the business combination had been completed at the beginning of the current fiscal year and the sales and operating income included in the consolidated statements of operations. The above figures have not been audited.

(2) The Company acquired 51% of the shares of SICOXS CORPORATION, on October 30, 2017. Accordingly, SICOXS CORPORATION has been included in the scope of consolidation from the year ended March 31, 2018.

(i) Outline of the business combination

(a) Name and description of business of the acquired company

Name of the acquired company: SICOXS CORPORATION

Description of business: Development, manufacture and sales of SiC substrates for power semiconductors

(b) Primary reasons for the business combination

The Company acquired shares of SICOXS CORPORATION, with a view to promoting investigation into the mass production of SiC substrates through a fusion of the SiC substrate manufacturing technology of SICOXS CORPORATION and the Company's substrate production technology, and to swiftly responding to market needs by leveraging the information gathering abilities and sales network in the electronics field of Kaga Electronics Co., Ltd., a joint investor in SICOXS CORPORATION.

(c) Date of the business combination

October 30, 2017

(d) Legal form of the business combination

Acquisition of shares by cash consideration

(e) Name of the company after the business combination

SICOXS CORPORATION

(f) Percentage of voting rights acquired

51%

(g) Main grounds for determining which company to acquire

Due to the Company acquiring SICOXS CORPORATION through a share acquisition by cash consideration

(ii) Period of business results of the acquired company included in the consolidated financial statements

From November 1, 2017 to March 31, 2018

(iii) Acquisition cost of the acquired company and the breakdown thereof

Consideration paid for the acquisition: ¥559 million (US\$5,261 thousand)

(iv) Content and amount of main acquisition related cost

Legal due diligence cost, etc.: ¥7 million (US\$66 thousand)

(v) Amount of goodwill, reason for recognition, amortization method and period

The difference between the acquisition cost of SICOXS CORPORATION, the acquired company, and its net assets at fair value was recognized as goodwill of ¥481 million. As excess earning power was not necessarily expected, the entire accounts were recognized as loss on impairment of fixed assets for the year ended March 31, 2018.

(vi) Amount of assets and liabilities undertaken on the date of business combination and breakdown thereof

	Millions of yen		Thousands of U.S. dollars	
		2018		2018
Current assets	¥	68	\$	640
Non-current assets		370		3,482
Total amount of assets		439		4,122
Current liabilities		261		2,456
Long-term liabilities		25		235
Total amount of liabilities	¥	286	\$	2,691

(vii) Estimated effect on the consolidated statements of operations for the current fiscal year assuming that business combination had been completed at the beginning of the current fiscal year and assuming the calculation method.

Net sales: ¥0 million (US\$0 thousand)

Operating loss: ¥143 million (US\$1,346 thousand)

The above shows the difference between the sales and operating loss calculated on the assumption that the business combination had been completed at the beginning of the fiscal year and the sales and operating loss included in the consolidated statements of operations.

The above figures have not been audited.

### Business divestiture

(1) The Company's subsidiary SH Materials Co., Ltd. ("SH Materials") sold all the shares of Suzhou SH Precision Co., Ltd. ("Suzhou SH"), Malaysian SH Precision Sdn. Bhd. ("Malaysian SH") and SH Precision Co., Ltd. ("SH Precision"), on June 1, 2017. Accordingly, from the year ended March 31, 2018, those three companies have been excluded from the scope of consolidation.

(i) Outline of the business divestiture

(a) Name of the purchasing company

JIHLIN TECHNOLOGY CO., LTD.

(b) Description of the divested business

Lead frame business

(c) Primary reason for the business divestiture

The Company has decided to withdraw from the lead frame business, based on the changing business environment where the lead frame market itself has gone from a growth market to the mature phase, resulting in over-commoditization of lead frame products, and the emergence of Chinese local manufacturers has intensified competition for these products.

(d) Date of the business divestiture

June 1, 2017

(e) Other information on the business divestiture including the legal form thereof

Share transfer for which only assets such as cash were received as consideration

(ii) Outline of the accounting treatment applied

(a) Amount of transfer gain/loss

Gain (loss) on sales or liquidation of subsidiaries and affiliated companies: ¥95 million (US\$894 thousand)

(b) Appropriate book values of assets and liabilities relating to the transferred business and the breakdown thereof

	Millions of yen		Thousands of U.S. dollars	
		2018		2018
Current assets	¥	4,074	\$	38,344
Non-current assets		81		762
Total amount of assets		4,155		39,106
Current liabilities		3,830		36,047
Long-term liabilities		13		122
Total amount of liabilities	¥	3,843	\$	36,169

(c) Accounting treatment

The difference between sales amounts of shares and book values of shares in consolidated financial statements is recognized as “Gain (loss) on sales or liquidation of subsidiaries and affiliated companies.”

(iii) Reported segments including the divested business

Materials segment

(iv) Estimated effect of profit/loss of the divested business on the consolidated statements of operations

Net sales: ¥651 million (US\$6,127 thousand)

Operating income: ¥19 million (US\$179 thousand)

(2) The Company's subsidiary SH Materials Co., Ltd. transferred 49% of the shares of Ohkuchi Materials Co., Ltd. on October 2, 2017. Accordingly, Ohkuchi Materials Co., Ltd. has been excluded from the scope of consolidation from the year ended March 31, 2018.

(i) Outline of the business divestiture

(a) Name of the purchasing company

Chang Wah Technology Co., Ltd.

(b) Description of the divested business

Lead frame business

(c) Primary reason for the business divestiture

The Company has decided to withdraw from the lead frame business, based on the changing business environment where the lead frame market itself has gone from a growth market to the mature phase, resulting in over-commoditization of lead frame products, and the emergence of Chinese local manufacturers has intensified competition for these products. As part of this withdrawal, SH Materials Co., Ltd. has transferred shares of Ohkuchi Materials Co., Ltd.

(d) Date of the business divestiture

October 2, 2017

(e) Other information on the business divestiture including the legal form thereof

Share transfer for which only assets such as cash were received as consideration

(ii) Outline of the accounting treatment applied

(a) Amount of transfer gain/loss

Gain (loss) on sales or liquidation of subsidiaries and affiliated companies: ¥46 million (US\$433 thousand)

(b) Appropriate book values of assets and liabilities relating to the transferred business and the breakdown thereof

	Millions of yen		Thousands of U.S. dollars	
		2018		2018
Current assets	¥	1,334	\$	12,555
Non-current assets		1,190		11,200
Total amount of assets		2,524		23,755
Current liabilities		1,431		13,468
Total amount of liabilities	¥	1,431	\$	13,468

(c) Accounting treatment

The difference between the book value of these transferred shares in the consolidated financial statements and the sales amount is recognized as "Gain (loss) on sales or liquidation of shares of subsidiaries and affiliated companies."

(iii) Reported segment including the divested business

Materials segment

(iv) Estimated effect of profit/loss of the divested business on the consolidated statements of operations

Net sales: ¥— million (US\$— thousand)

Operating income: ¥590 million (US\$5,553 thousand)

### Transactions under common control

(1) The Company's subsidiary SH Materials Co., Ltd. transferred 51% of the shares of Ohkuchi Materials Co., Ltd. to the Company on October 2, 2017.

(i) Outline of the transaction

(a) Name and description of business of the combined company

Name of the company: Ohkuchi Materials Co., Ltd.

Description of business: Manufacture and sales of lead frames

(b) Date of the business combination

October 2, 2017

(c) Legal form of the business combination

Stock transfer for which only assets such as cash were received as consideration

(d) Name of the company after the business combination

Ohkuchi Materials Co., Ltd.

(e) Other information on the transaction

The Company has decided to withdraw from the lead frame business, based on the changing business environment where the lead frame market itself has gone from a growth market to the mature phase, resulting in over-commoditization of lead frame products, and the emergence of Chinese local manufacturers has intensified competition for these products. In order to facilitate the withdrawal from this business, SH Materials Co., Ltd. has transferred shares of Ohkuchi Materials Co., Ltd. to the Company.

(f) Outline of accounting treatment applied

"Accounting Standard for Business Combinations" (ASBJ Standard No. 21, September 13, 2013) and "Application Guidelines on Accounting Standards for Business Combinations and Business Divestitures" (ASBJ Guidelines No. 10, September 13, 2013) were applied so it was treated as a transaction under common control.

## 19 Related party transaction

### (1) Related party transaction

Related party transaction for the years ended March 31, 2018 and 2017 are as follows:

#### 2018

Name of related party	Location	Capital investment	Segment	Voting interest	Description of the business relationship	Transaction detail	Amounts		Accounts	Balance	
							Millions of yen	Thousands of U.S. dollars		Millions of yen	Thousands of U.S. dollars
Sierra Gorda S.C.M.	Santiago, Chile	\$2,189,400	Mineral Resources	Indirectly 45.0%	Debt guarantee and pledge as security for the loan etc. from the financial institution and others	Debt guarantee*1	¥ 72,138	\$ 678,946	—	¥ —	\$ —
						Pledge as security*2	52,806	496,998	—	—	—
						Loans	—	—	Long-term loans receivable*4	40,009	376,555
						Loans	Interest receivables*3	11,054	104,038	Other long-term receivables	46,504

#### 2017

Name of related party	Location	Capital investment	Segment	Voting interest	Description of the business relationship	Transaction detail	Amounts		Balance		
							Millions of yen	Thousands of U.S. dollars	Millions of yen	Thousands of U.S. dollars	
Sierra Gorda S.C.M.	Santiago, Chile	\$1,959,400	Mineral Resources	Indirectly 45.0%	Debt guarantee and pledge as security for the loan etc. from the financial institution and others	Debt guarantee*1	¥ 83,373	—	¥ —	—	
						Pledge as security*2	63,612	—	—	—	
						Loans	—	—	Long-term loans receivable*4	41,639	—
						Loans	Interest receivables*3	9,946	—	Other long-term receivables	36,461

\*1 The Company guarantees the loan etc. from the financial institution.

\*2 The Company pledges its owned shares in Sierra Gorda S.C.M. as security for the loan from the financial institution to finance developments of the Sierra Gorda copper project. The amounts of security are the debt balance as of March 31, 2018 and 2017.

\*3 The Company determined terms and conditions of loan based on market interest rates, etc. The amounts include exchange gains and losses.

\*4 In consolidated balance sheets, long-term loans receivable is reduced by ¥59,447 million (US\$559,501 thousand) as equity in losses (earnings) of affiliated companies. The amounts include exchange gains and losses.

(2) Condensed financial information of major affiliated companies

Pursuant to the relevant accounting standards, condensed financial information of major affiliated companies which are disclosed for the years ended December 31, 2017 and 2016 are as follows:

Sociedad Minera Cerro Verde S.A.A.

	Millions of yen		Thousands of U.S. dollars
	2017/12	2016/12	2017/12
Total current assets	¥ 176,717	¥ 141,945	\$ 1,663,219
Total long-term assets	692,368	747,530	6,516,405
Total current liabilities	57,720	34,205	543,247
Total long-term liabilities	224,989	291,541	2,117,544
Total net assets	586,376	563,729	5,518,833
Net sales	359,273	259,372	3,381,393
Net income before tax	93,765	65,708	882,494
Net income	39,246	37,087	369,374

Candelaria S.A.A.

	Millions of yen		Thousands of U.S. dollars
	2017/12	2016/12	2017/12
Total current assets	¥ 83,101	¥ —	\$ 782,127
Total long-term assets	192,312	—	1,809,995
Total current liabilities	32,777	—	308,489
Total long-term liabilities	30,131	—	283,586
Total net assets	212,505	—	2,000,047
Net sales	133,069	—	1,252,414
Net income before tax	53,799	—	506,344
Net income	38,521	—	362,551

Sierra Gorda S.C.M.

	Millions of yen		Thousands of U.S. dollars
	2017/12	2016/12	2017/12
Total current assets	¥ 39,855	¥ 37,685	\$ 375,106
Total long-term assets	439,027	427,810	4,132,019
Total current liabilities	81,428	68,403	766,381
Total long-term liabilities	581,929	584,349	5,476,979
Total net assets	(184,475)	(187,257)	(1,736,235)
Net sales	108,547	69,473	1,021,619
Net loss before tax	(36,545)	(395,495)	(343,953)
Net loss	(28,603)	(287,554)	(269,205)

## 20 Earnings per share

Reconciliation of the difference between basic and diluted net income per share for the years ended March 31, 2018 and 2017 are as follows:

	Millions of yen		Thousands of U.S. dollars
	2018	2017	2018
Basic net income (loss) per share calculation			
Numerator:			
Net income (loss) attributable to owners of the parent	¥ 91,648	¥ (18,540)	\$ 862,569
Denominator (thousands of shares):			
Weighted average number of shares*1	275,703	551,619	—
Basic net income (loss) per share*1 (yen and U.S. dollars)	¥ 332.42	¥ (33.61)	\$ 3.13
Diluted net income per share calculation			
Numerator:			
Net income (loss) attributable to owners of the parent	¥ 91,648	¥ (18,540)	\$ 862,569
Adjusted net income (loss)	¥ 91,920	¥ —	\$ 865,129
Denominator (thousands of shares):			
Weighted average number of shares*1	275,703	551,619	—
Assumed conversion of convertible bonds	30,755	—	—
Adjusted weighted average number of shares*1	306,458	551,619	—
Diluted net income per share*2 (yen and U.S. dollars)	¥ 299.94	¥ —	\$ 2.82

\*1 The Company consolidated its shares at a rate of one share for every two shares of its common stock with October 1, 2017 as the effective date. "Weighted average number of shares" and "Basic net income (loss) per share" are calculated on the assumption that the consolidation of its shares was conducted at the beginning of the current fiscal year.

\*2 Diluted net income per share for the year ended March 31, 2017 is not calculated because of the net loss for the year although dilutive bonds exist.

Note: Zero coupon convertible bonds due 2023 (bonds with stock acquisition rights) are not included in the calculation of diluted net income per share for the year ended March 31, 2018 due to the absence of a dilution effect.

# Independent Auditor's Report



## Independent Auditor's Report

To the Board of Directors of Sumitomo Metal Mining Co., Ltd.:

We have audited the accompanying consolidated financial statements of Sumitomo Metal Mining Co., Ltd. and its consolidated subsidiaries, which comprise the consolidated balance sheets as at March 31, 2018 and 2017, and the consolidated statements of income and comprehensive income, statements of changes in net assets and statements of cash flows for the years then ended, and a summary of significant accounting policies and other explanatory information.

### **Management's Responsibility for the Consolidated Financial Statements**

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with accounting principles generally accepted in Japan, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

### **Auditor's Responsibility**

Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in Japan. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on our judgement, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the entity's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, while the objective of the financial statement audit is not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

### **Opinion**

In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of Sumitomo Metal Mining Co., Ltd. and its consolidated subsidiaries as at March 31, 2018 and 2017, and their financial performance and cash flows for the years then ended in accordance with accounting principles generally accepted in Japan.

### **Convenience Translation**

The U.S. dollar amounts in the accompanying consolidated financial statements with respect to the year ended March 31, 2018 are presented solely for convenience. Our audit also included the translation of yen amounts into U.S. dollar amounts and, in our opinion, such translation has been made on the basis described in Note 1 to the consolidated financial statements.

*KPMG AZSA LLC*

July 12, 2018  
Tokyo, Japan

KPMG AZSA LLC, a limited liability audit corporation incorporated under the Japanese Certified Public Accountants Law and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity.

# Glossary

## Mineral Resources Business and Smelting & Refining Business

### Metal Trading

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#### London Metal Exchange (LME)

The LME specializes in trading of non-ferrous metals such as copper, nickel, aluminum, lead and zinc. The LME trading prices for metals are used as the international pricing benchmarks for sales of refined metal and purchases of refining ores.

#### Treatment Charge (TC) and Refining Charge (RC)

These are commonly used in the terms of purchase for copper concentrate or nickel ore for refining. They are amounts designed to cover refining costs. For example, copper concentrate contracts may define a purchase price based on the LME price at a certain date, minus the TC or RC being used at the time.

#### London fixing

Gold is not traded on the LME. Its price is determined for each transaction between market participants. The financial institutions in the London Bullion Market Association (LBMA) agree on a standard price for gold based on these transactions and publish it on the morning and afternoon of each trading day. This “London fixing” price is the benchmark for trading in gold.

#### Pound (lb)

Part of the imperial system of measures, the pound is the standard unit of weight used in measuring and pricing base metals such as copper and nickel, and in TC/RC calculations. One pound equals approximately 453.59 g; a metric ton equals approximately 2,204.62 lb.

#### Troy ounce (toz)

The troy ounce is the standard unit of weight for precious metals such as gold and silver. It equals approximately 31.1 g. It is named after Troyes, a city in the Champagne region of central France that was the site of a major market in Europe in medieval times. Originally used as a unit of exchange for valuing goods in terms of gold or silver weights, the troy ounce is still used today in gold trading.

### Metal Refining

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#### Smelting and refining

Refining processes extract valuable metals from ores or other raw materials. They fall into two basic types: pyrometallurgical (dry) and hydrometallurgical (wet). At SMM's Toyo site (Saijo, Ehime Prefecture) copper concentrate preprocessing (treatment processes) is pyrometallurgical, while the nickel plant (Niigata, Ehime Prefecture) makes use of hydrometallurgical processes throughout. The term “smelting” is used for the extraction of metal from ores using melting and heating (pyrometallurgy). The term “refining” refers to any process that increases the grade or purity of a metal.

#### Pyrometallurgical refining

The precursor ore is melted at high temperature in a furnace, and refining techniques are applied to separate the metal in a molten state. While this technique allows large-volume ore processing, it also requires periodic furnace maintenance.

#### Hydrometallurgical refining

The ore and impurities are dissolved in a solution, and chemical reactions are used to separate out the metal. This refining method is stable and allows for continuous refining, but the solutions required are costly.

### Metal Ores

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#### Sulfide ores

These ores contain copper, nickel or other metals chemically bonded to sulfur. Since the application of heat breaks these bonds, releasing the sulfur, such ores are generally refined using pyrometallurgical techniques.

#### Oxide ores

These ores contain metals in oxidized forms. Unlike sulfide ores, oxides need much more energy to achieve melting. For this reason, the hydrometallurgical approach is generally used to refine these ores.

#### Copper concentrates

Used as raw materials in copper smelting, copper concentrates have a copper content of about 30% by weight. The remainder consists mostly of sulfur and iron. Copper concentrates are made mostly from sulfide ores. Ores extracted from overseas mines have a typical grade of about 1%. The ores are then “dressed” at the mine to increase the purity and produce concentrate. Most of the copper ores imported by SMM for smelting in Japan are concentrates.

#### Nickel oxide ores

Whilst the higher-grade sulfide ores are used predominantly in nickel refining, nickel oxide ores are more prevalent than nickel sulfides. The sulfide-oxide ratio in current nickel reserves is believed to be about 3:7. High refining costs and technical issues have limited use of oxide ores in nickel refining to date, but SMM has succeeded in refining nickel from low-grade oxide ores based on HPAL technology.

### **Mixed sulfide (MS) ores**

CBNC and Taganito produce a mixed nickel-cobalt sulfide intermediate containing about 55–60% nickel by weight. This is used as a raw material in electrolytic nickel production.

### **Matte**

A matte is another term for metal sulfides. For raw material, electrolytic nickel production at SMM also uses a nickel matte (of about 75–80% purity) sourced from P.T. Vale Indonesia.

## Resource Reserves

### **Gold**

#### **Canadian standard**

- **Reserve**

Amount of ore evaluated to have purity at or above the level indicated in the prefeasibility study that is judged to be economically recoverable.

- **Resource**

Ore of purity or quality that is estimated to be economically extractable.

#### **Japanese standard (JIS)**

- **Recoverable ore**

Amount of ore expected to be recovered, consisting of actually recoverable ore plus slag.

- **Identified resources**

Total ore identified at the site.

### **Copper and Nickel**

Reserve according to standards of the respective country.

## Nickel Production Process

### **Coral Bay Nickel Corporation (CBNC)**

Based in the Philippines, this SMM subsidiary produces mixed nickel-cobalt sulfides using HPAL technology and exports the raw materials to the SMM Group's nickel refining facilities in Niihama, Ehime Prefecture.

### **High Pressure Acid Leach (HPAL)**

HPAL technology enables the recovery of nickel from low-grade nickel oxide ores that traditionally were difficult to process. SMM was the first company in the world to apply it successfully on a commercial scale. The oxide ores are subjected to high temperature and pressure and reacted under stable conditions with sulfuric acid to produce a nickel-rich refining intermediate.

### **Matte Chlorine Leach**

#### **Electrowinning (MCLE)**

Matte Chlorine Leach Electrowinning (MCLE) is the technology used in the manufacturing process at SMM's nickel refinery. The matte and mixed sulfide ores are dissolved in chlorine at high temperature to produce high-grade nickel using electrolysis. MCLE is competitive in cost terms, but poses significant operational challenges, and only two other producers besides SMM have commercialized it, using similar technology.

## Main Applications for Metals

### **Copper**

Copper is fabricated into wires, pipes and other forms. Besides power cables, copper is used widely in consumer applications such as wiring in vehicles or houses, and in air conditioning systems.

### **Electrolytic nickel**

This form of nickel, which has a purity of at least 99.99%, is used in specialty steels, electronics materials and electroplating, among other applications. SMM is the only producer of electrolytic nickel in Japan.

### **Ferronickel**

Ferronickel is an alloy containing nickel (about 20%) and iron. Its main use is in the manufacture of stainless steel, which is about 10% nickel by weight. Based in Hyuga, Miyazaki Prefecture, SMM Group firm Hyuga Smelting Co., Ltd. produces ferronickel.

### **Gold**

Gold is in demand worldwide for investment and decorative purposes. Gold is widely used in Japanese industry within the electronics sector because of its high malleability and ductility.

## **Materials Business**

### **Copper-clad polyimide film (CCPF)**

CCPF is a polyimide film that is coated using a copper base. It is used as a material for making COF substrates.

### **Lead frames**

Lead frames are electronic packaging materials used to form connections in semiconductor chips and printed circuit boards. They contain thin strips of a metal alloy containing mostly nickel or copper.

### **Secondary batteries**

Secondary batteries are ones that can be recharged and used again. SMM supplies battery materials that are used in the cathodes of nickel metal hydride batteries and lithium-ion rechargeable batteries, which supply power for electric vehicles, hybrid vehicles or notebook computers, among other consumer applications.

# Consolidated Companies and Equity-Method Affiliated Companies

Consolidated companies (57), equity-method affiliated companies (15)

as of March 31, 2018

Mineral Resources	Voting Shares (%)	Location	Operations
<b>Consolidated companies</b>			
Sumiko Resources Exploration & Development Co., Ltd.	100	Japan	Geological surveys of resources, test boring
Sumitomo Metal Mining America Inc.	100	USA	Exploration, management of mining subsidiaries in USA
Sumitomo Metal Mining Arizona Inc.	80	USA	Mining and related operations
SMM Morenci Inc.	100	USA	Mining and related operations
SMMA Candelaria Inc.	100	USA	Investment in local company in Chile operating Candelaria Mine
Sumitomo Metal Mining Canada Ltd.	100	Canada	Exploration, consulting
Sumitomo Metal Mining Oceania Pty. Ltd.	100	Australia	Resource surveys, mine development and related operations in Oceania
Sumitomo Metal Mining Pogo LLC	100	USA	Investment in Pogo Mine
SMM Resources Inc.	100	Canada	Mineral resources business
SMM Cerro Verde Netherlands B.V.	80	Netherlands	Investments in local Peruvian companies engaged in the Cerro Verde Mine operation
SMM Exploration Corporation	100	USA	Mineral resources business
SMM Solomon Ltd.	100	Solomon Islands	Exploration in Solomon Islands
Sumitomo Metal Mining Peru S.A.	100	Peru	Exploration in South America
Sumitomo Metal Mining Chile Ltda.	100	Chile	Exploration in South America
Sumiko Solomon Exploration Co., Ltd.	70	Japan	Exploration in Solomon Islands
Stone Boy Inc.	80	USA	Exploration
SMM Sierra Gorda Inversiones Ltda.	70	Chile	Investment in Sierra Gorda Project
SMM-SG Holding Inversiones LTDA.	100	Chile	Investment in Sierra Gorda Project
Sumitomo Metal Mining do Brasil Ltda.	100	Brazil	Exploration in Brazil
SMM Gold Cote Inc.	100	Canada	Investment in Côté Gold Project
<b>Equity-method affiliated companies</b>			
Sociedad Minera Cerro Verde S.A.A.	21	Peru	Cerro Verde Mine
Compania Contractual Minera Candelaria	20	Chile	Candelaria Mine
Compania Contractual Minera Ojos Del Salado	20	Chile	Ojos del Salado Mine
Sierra Gorda S.C.M.	45	Chile	Sierra Gorda Mine
Cordillera Exploration Co., Inc.	25	Philippines	Exploration in the Philippines

Smelting & Refining	Voting Shares (%)	Location	Operations
<b>Consolidated companies</b>			
Hyuga Smelting Co., Ltd.	60	Japan	Ferro-nickel smelting
Shisaka Smelting Co., Ltd.	100	Japan	Manufacture of crude zinc oxide
Sumiko Logistics Co., Ltd.	100	Japan	Maritime trading, harbor transportation and services, land transportation
Coral Bay Nickel Corporation	54	Philippines	Manufacture of nickel and cobalt
Taganito HPAL Nickel Corporation	75	Philippines	Manufacture of nickel and cobalt
Sumitomo Metal Mining Philippine Holdings Corporation	100	Philippines	Regional headquarters for the nickel business
Sumitomo Metal Mining Management (Shanghai) Co., Ltd.	100	China	Sales of SMM and SMM group company products in China, provision of management business service for Chinese group companies, business consulting
Sumitomo Metal Mining (Hong Kong) Co., Ltd.	100	China	Sales of SMM and SMM group company products in China
Taihei Metal Industry Co., Ltd.	97	Japan	Manufacture of heat-, corrosion-, and friction-resistant steel castings and precision castings
<b>Equity-method affiliated companies</b>			
Jinlong Copper Co., Ltd.	27	China	Manufacture and sale of electrolytic copper and sulfuric acid
Acids Co., Ltd.	50	Japan	Manufacture and sale of sulfuric acid and related products
PT Vale Indonesia Tbk.	20	Indonesia	Nickel ore mining, nickel smelting
Nickel Asia Corporation	26	Philippines	Nickel ore mining
Figesbal SA	26	New Caledonia	Nickel ore mining, harbor transportation
MS Zinc Co., Ltd.	50	Japan	Manufacture and sale of zinc and related operations
Mitsui Sumitomo Metal Mining Brass & Copper Co., Ltd.	50	Japan	Manufacture and sale of copper and brass products and processed copper and brass products

Materials	Voting Shares (%)	Location	Operations
<b>Consolidated companies</b>			
SH Materials Co., Ltd.	100	Japan	Manufacture and sale of lead frames
Ohkuchi Electronics Co., Ltd.	100	Japan	Recovery and recycling of non-ferrous metals, manufacture of functional inks
Niihama Electronics Co., Ltd.	100	Japan	Manufacture of flexible circuit materials
Niihama Materials Co., Ltd.	100	Japan	Manufacture of lead frames
Shinko Co., Ltd.	97	Japan	Design, manufacture, and sale of printed circuit boards
Taiwan Sumiko Materials Co., Ltd.	100	Taiwan	Manufacture of thin film materials
Sumiko Tec Co., Ltd.	100	Japan	Terminals and connectors for electronic and electric equipment; components, electric wire, power cords, and pressure bonding machines relating to the above and their maintenance; manufacture and sale of formed products for optical equipment, etc.
Sumiko Tec (Dongguan) Co., Ltd.	100	China	Sales, quality service and export management service of terminals, connectors, and electronic circuit boards, also related jigs for these products
Nittosha Co., Ltd.	100	Japan	Plating of metal products, surface treatment processing and distribution; electromagnetic shielding processing to electronics resin products through a dry plating method
Sumiko Kunitomi Denshi Co., Ltd.	100	Japan	Manufacture of crystal products and magnetic materials
Sumiko Energy Materials Co., Ltd.	100	Japan	Manufacture of battery materials
Shanghai Sumiko Electronic Paste Co., Ltd.	69	China	Manufacture and sale of thick-film paste
Dongguan Sumiko Electronic Paste Co., Ltd.	85	China	Manufacture and sale of thick-film paste
SMM KOREA Co., Ltd.	100	Korea	Sales support for advanced materials and business operations
SMM Precision Co., Ltd.	100	Japan	Manufacture and sale of optical communications components
GRANOPT Co., Ltd.	51	Japan	Manufacture and sale of rare earth iron garnet (RIG)
SICOXS CORPORATION	51	Japan	Development, manufacture, and sale of SiC substrates for power semiconductors
Sumico Lubricant Co., Ltd.	100	Japan	Manufacture and sale of various lubricants
Sumico Lubricant Trading (Shanghai) Co., Ltd.	100	China	Sale of various lubricants
Sumitomo Metal Mining Siporex Co., Ltd.	100	Japan	Manufacture and sale of ALC (autoclaved lightweight aerated concrete) and other construction materials
<b>Equity-method affiliated companies</b>			
N.E. Chemcat Corporation	50	Japan	Manufacture of precious metal catalysts, recovery and refining of precious metals
Nippon Ketjen Co., Ltd.	50	Japan	Manufacture and sale of desulphurization catalysts for petroleum processing
Ohkuchi Materials Co., Ltd.	51	Japan	Manufacture of lead frames
<b>Others</b>			
<b>Consolidated companies</b>			
Sumiko Techno-Research Co., Ltd.	100	Japan	Environmental measurement verification operations such as water quality, air, soil, noise, and vibration; data collection, adjustment, and product evolution as well as technological development
Sumiko Technical Service Co., Ltd.	100	Japan	Commission-based work in area of non-ferrous smelting, personnel agency business
Sumitomo Metal Mining Engineering Co., Ltd.	100	Japan	Survey, design, manufacture, repair and maintain machinery, equipment and plants in the environment sector
Sumiko Plantech Co., Ltd.	100	Japan	Manufacture of machinery and equipment and repair work for non-ferrous metal smelting and chemical plants, etc.; installation of machinery and equipment and piping work; steel structure work
JCO Co., Ltd.	100	Japan	Management of facilities using uranium and related wastes
Igeta Heim Co., Ltd.	100	Japan	Construction of steel frame and reinforced concrete apartments and condominiums
Japan Irradiation Service Co., Ltd.	100	Japan	Irradiation sterilization service for pharmaceutical products, medical instruments, pharmaceutical containers, etc.; modification of various industrial materials
SMM Holland B.V.	100	Netherlands	Investment in nickel and cobalt development businesses

# Corporate Data and Investor Information

As of March 31, 2018

## Corporate Data

<b>Founded</b>	1590
<b>Incorporated</b>	1950
<b>Paid-In Capital</b>	¥93.2 billion
<b>Number of Employees</b>	7,074 (Consolidated)
<b>Head Office</b>	11-3, Shimbashi 5-chome, Minato-ku, Tokyo 105-8716, Japan

## Investor Information

<b>Closing Date</b>	March 31	
<b>Ordinary General Meeting of Shareholders</b>	June	
<b>Common Stock</b>	Number of authorized shares	500,000,000
	Number of issued and outstanding shares	290,814,015
	Number of shareholders	37,756
	Listing of shares	Tokyo
	Stock transaction unit	100 shares

SMM consolidated its common stock at a rate of one share for every two shares with October 1, 2017 as the effective date.

## Contact Information

### Public Relations & Investor Relations

#### Department

11-3, Shimbashi 5-chome, Minato-ku, Tokyo  
105-8716, Japan

Phone: +81-3-3436-7705

Facsimile: +81-3-3434-2215

Website: <http://www.smm.co.jp/E/>

## Registrar of Shareholders

### Sumitomo Mitsui Trust Bank, Limited

4-1, Marunouchi 1-chome, Chiyoda-ku, Tokyo 100-8233, Japan

### Stock Transfer Agency Department: Sumitomo Mitsui Trust Bank, Limited

4-1, Marunouchi 1-chome, Chiyoda-ku, Tokyo 100-8233, Japan

## Method of Public Notice

Electronic notification (However, if electronic notification is not available due to unavoidable circumstances, notice will be published in the Nihon Keizai Shimbun newspaper.)

## Independent Public Accountant

KPMG AZSA LLC 1-2, Tsukudo-cho, Shinjuku-ku, Tokyo

## Major Shareholders

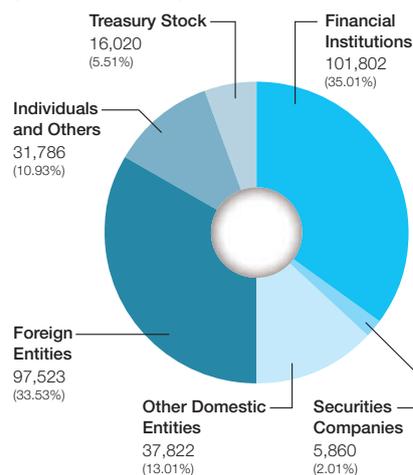
	Number of shares held (thousands)	Shareholding ratio (%)
The Master Trust Bank of Japan, Ltd. (Trust Account)	21,864	8.0
Japan Trustee Services Bank, Ltd. (Trust Account)	19,987	7.3
Toyota Motor Corporation	11,058	4.0
STATE STREET BANK AND TRUST COMPANY	5,192	1.9
Japan Trustee Services Bank, Ltd. (Trust Account 5)	4,830	1.8
STATE STREET BANK WEST CLIENT-TREATY 505234	4,637	1.7
STATE STREET BANK CLIENT OMNIBUS OMO4	3,877	1.4
Sumitomo Mitsui Banking Corporation	3,825	1.4
Sumitomo Realty & Development Co., Ltd.	3,745	1.4
Sumitomo Life Insurance Company	3,737	1.4

#### Notes:

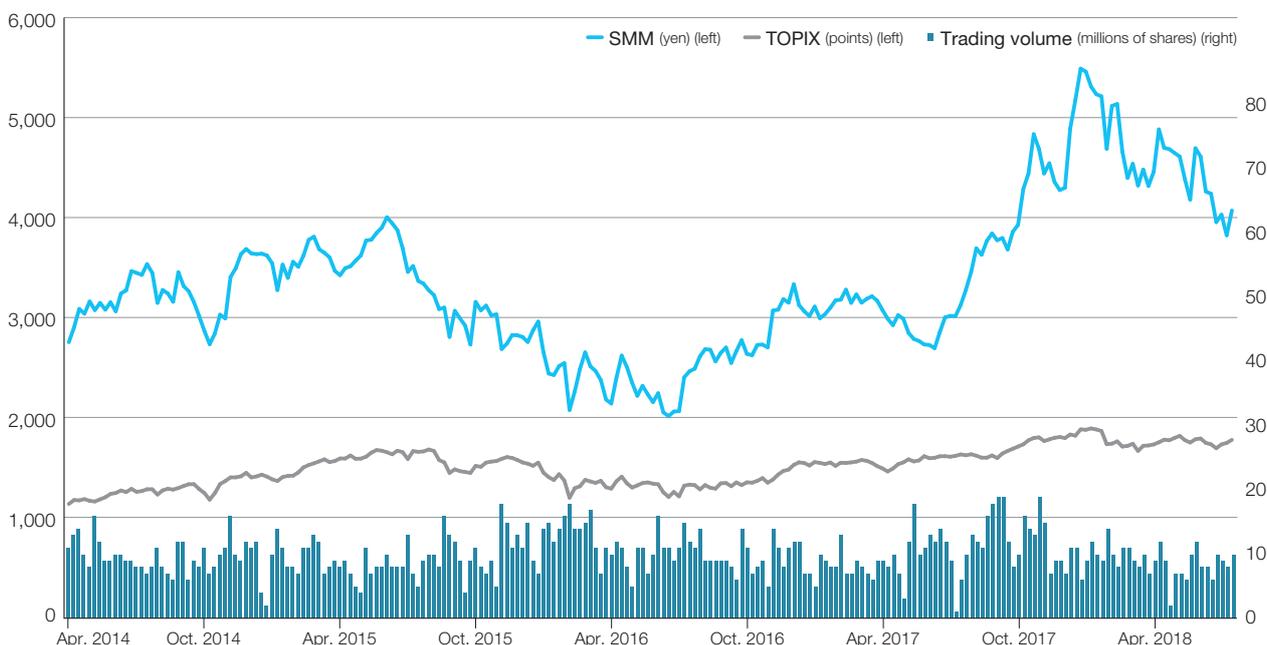
1. We own 16,020 million shares of treasury stock.

2. The shareholding ratios were calculated based on the total number of issued shares less treasury stock.

## Breakdown of Shareholders (thousands of shares)



## Stock Price and Trading Volume



SMM reduced the number of shares in a trading unit of stock and consolidated its common stock at a rate of one share for every two shares with October 1, 2017 as the effective date. Because of this, in the graph, the pre-September 2017 stock price is shown as double, and the trading volume is shown as half.

 **SUMITOMO METAL MINING CO., LTD.**

Head Office: 11-3, Shimbashi 5-chome, Minato-ku, Tokyo 105-8716, Japan

Website: <http://www.smm.co.jp/E/>



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