



Integrated Report

2017



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.

"Business Principles" forming the "Rules Governing the House of Sumitomo," formulated in 1928

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 Sumitomo 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 our 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.



1590–1910

Contributing to Japan's society for over 400 years, from the start of copper smelting and refining with *Nanban-buki*

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.



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.



Mineral Resources Business

1691

Copper mines

Open the Besshi Copper Mine

Smelting & Refining Business

1590

Start of copper smelting and refining

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.

Technology



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.

Local communities



1905

Relocation of copper smelting and refining to the Shisakajima Islands



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.

1600

1700

1800

1900

1910

SMM History

1910-2017

Overseas operations and the nickel business were added, completing our unique portfolio

Local communities



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 (top) and today (bottom)



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. At present, we are increasing our production of battery materials using nickel.

Materials Business

1960

Entry into the materials business

1973

Closure of the Kounomai Mine

1973

Closure of the Besshi Copper Mine

1979

Closure of the Sazare Mine

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.

1917

Gold mines

Start the gold mine business

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.

Overseas copper mines

1960

Participation in overseas copper mine development

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



1971

Start of production at the Toyo Smelter & Refinery

Copper smelting and refining

1910

1920

1930

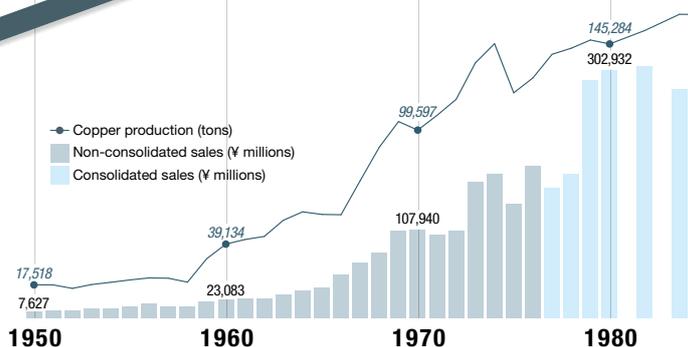
1940

1950

1960

1970

1980



Customers



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

2006

Start of operations at the Pogo Gold Mine

2014

Increase production of battery materials
Increase production of LT/LN

1985

Start of operations at the Hishikari 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.

2005

Start of production at the Cerro Verde Copper Mine

2015

Start of operations at the Sierra Gorda Copper Mine

2013

Start of production at Taganito HPAL

1986

Investment in the Morenci Copper Mine

1992

Conversion of nickel refining process to MCLE technology

2005

Start of production at CBNC



Technology

Local communities



The practical application of the HPAL method on a commercial base

In 2005, we are 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.

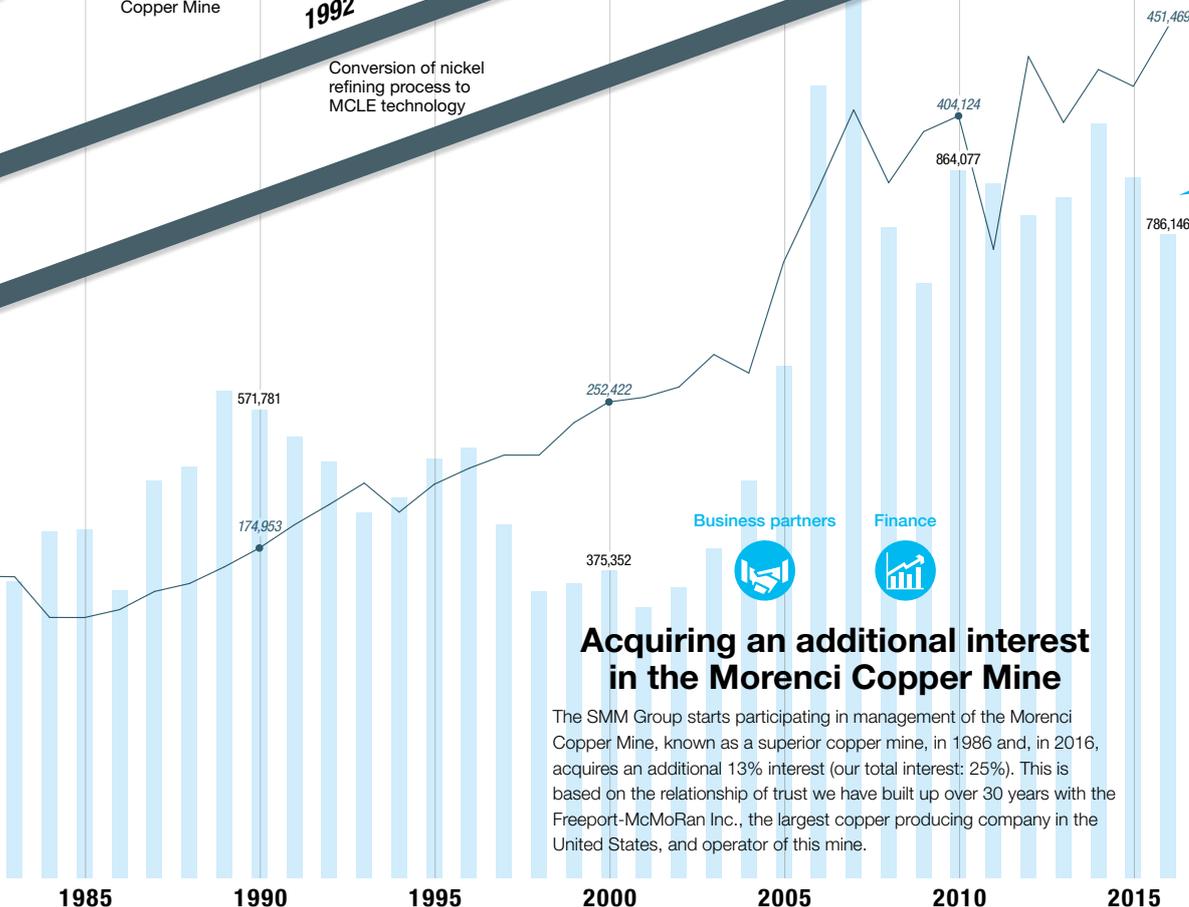
Business partners

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 the Freeport-McMoRan Inc., the largest copper producing company in the United States, and operator of this mine.



1985

1990

1995

2000

2005

2010

2015

2020

SMM Group Overview

(As of July 15, 2017)

Corporate Data

Company name	Sumitomo Metal Mining Co., Ltd.
President	Yoshiaki Nakazato
Founded	1590
Incorporated	1950
Capital	¥93.2 billion
Listing	Tokyo Stock Exchange
No. of subsidiaries (consolidated)	60
No. of equity-method affiliates	14
Net sales (consolidated)	¥786.1 billion (for the year ended March 31, 2017)
Recurring profit (consolidated)	¥-1.6 billion (for the year ended March 31, 2017)

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.
- 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.
- Taiwan Sumiko Materials Co., Ltd. (Taiwan)
- SMM KOREA Co., Ltd. (South Korea)
- Sumiko Tape Materials Singapore Pte. Ltd. (Singapore)

■ Consolidated subsidiaries ● Equity-method affiliates

* Included in the boundary of the performance data of Environmental Aspects

North America

Mineral Resources

- SMMA Candelaria Inc. (U.S.)
- SMM Exploration Corporation (U.S.)
- Sumitomo Metal Mining America Inc. (U.S.)
- Sumitomo Metal Mining Arizona Inc. (U.S.)
- Sumitomo Metal Mining Pogo LLC (U.S.)*
- Stone Boy Inc. (U.S.)
- SMM Morenci Inc. (U.S.)
- SMM Gold Cote Inc. (Canada)
- Sumitomo Metal Mining Canada Ltd. (Canada)
- SMM Resources Inc. (Canada)
- Sumac Mines Ltd. (Canada)

▲ Pogo (85.0%)

▲ Cote (27.75%)
(development planned)

▲ Morenci (25.0%)

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

▲ Cerro Verde (16.8%)

▲ Sierra Gorda (31.5%)

▲ Ojos del Salado (16.0%)

▲ Candelaria (16.0%)

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

◆ 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.

● 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.

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 Solomon Ltd. (Solomon Islands)

Smelting & Refining

- Figesbal SA (New Caledonia)
- Sumic Nickel Netherlands B.V. (Netherlands)

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.

Contents

Learn about SMM

- 01 SMM History
- 04 SMM Group Overview
- 08 Financial and Non-Financial Summary
- 10 Interview with the President
- 16 Relationship between the Long-Term Vision and the Vision for 2020
- 18 SDGs and SMM's CSR

Value Creation

- 20 The SMM Group's Value Creation Process
- 22 The SMM Group's Business Process
- 24 The SMM Group's Risks and Opportunities
- 26 **Special Feature 1** Compliance with the Double Code and Sustainability in Company Management
- 30 **Special Feature 2** Working Style Reform Initiative Focused on the Long Term
- 32 Progress of the 2015 3-Year Business Plan
- 34 FY2016 Results and FY2017 Plan
- 36 Approach to Finance
- 37 Approach to Investment
- 37 Approach to Dividends

Management

- 38 Directors and Audit & Supervisory Board Members
- 40 Corporate Governance

Review of Operations

- 46 Mineral Resources Business
- 50 Smelting & Refining Business
- 54 Materials Business
- 58 Research & Development
- 60 **Topic** Achieving Japan's First "Battery to Battery" Recycling of Lithium-Ion Secondary Batteries



Editorial Policy

Continuing from last fiscal year, we are 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.

The editing of this Sumitomo Metal Mining Co., Ltd. Integrated Report 2017 has been conducted around the perspectives of the kind of value the SMM Group creates and how, what the Group's goals for the future are and how it is working toward them as well as the foundations that underpin our creation of sustainable value.

Also, by adding a section on risks and opportunities and the responses to these, and concrete activities by business and CSR areas of high priority to the report, we worked to provide contents that would allow an even better understanding of the SMM Group.

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* G4 Sustainability Reporting Guidelines, and the Company's self-declaration and performance data have received independent assurance.

* 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/>



Sustainability

CSR Management Framework

- 62 The SMM Group's CSR
- 64 CSR Achievements and Plans

The Six CSR Areas of High Priority

- 72 Activity Highlights in FY2016
- 78 Effective Use of Resources
- 80 Environmental Preservation
- 88 Contribution to Society and Local Communities
- 90 Respect for People and Human Rights
- 94 Occupational Health and Safety
- 96 Stakeholder Communication
- 100 Compliance
- 102 Risk Management
- 104 Quality Control
- 106 CSR Data
- 113 Independent Assurance Report

Financial Data

- 116 Eleven-Year Financial Summary
- 118 Consolidated Balance Sheets
- 120 Consolidated Statements of Operations
- 120 Consolidated Statements of Comprehensive Income
- 121 Consolidated Statements of Changes in Net Assets
- 123 Consolidated Statements of Cash Flows
- 124 Notes to Consolidated Financial Statements
- 156 Independent Auditor's Report
- 157 Glossary
- 159 Consolidated Companies and Equity-Method Affiliated Companies
- 161 Corporate Data and Investor Information

Boundary of the Report

Sumitomo Metal Mining Co., Ltd. (SMM)

The Sumitomo Metal Mining Group (SMM and consolidated subsidiaries)

Economic Aspects SMM, consolidated subsidiaries and equity-method affiliates

Environmental Aspects SMM and consolidated subsidiaries (32 companies)

The boundary of the report is stated on p. 04-05. Companies marked with an asterisk (*) and the following companies are included in the boundary of the report: SH Precision Co., Ltd.; SH Electronics Suzhou Co., Ltd.; Suzhou SH Precision Co., Ltd.; SH Electronics Chengdu Co., Ltd.; SH Electronics Taiwan Co., Ltd.; Malaysian SH Electronics Sdn. Bhd.; Malaysian SH Precision Sdn. Bhd.

Social Aspects 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 2017 Next scheduled publication: November 2018

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

Japan: April 1, 2016–March 31, 2017

Overseas: January 1, 2016–December 31, 2016

Referenced Guidelines

GRI's G4 Sustainability Reporting Guidelines

IIRC's International Integrated Reporting Framework

Unless otherwise stated, the term "ton" refers to a metric ton.

Enquiries

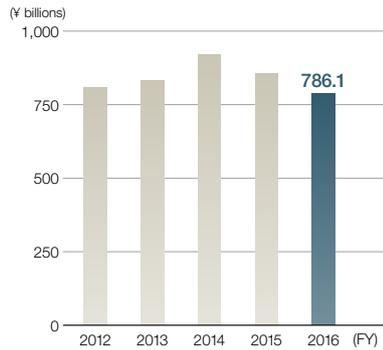
Public Relations & Investor Relations Dept.,
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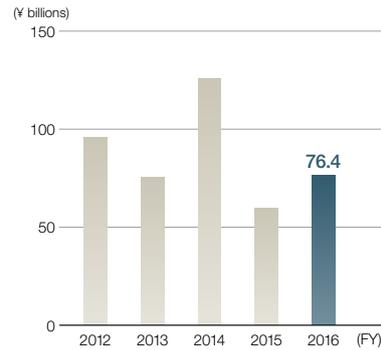
Financial and Non-Financial Summary

Net Sales



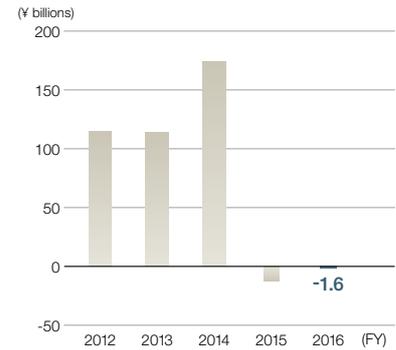
Decreased by ¥69.3 billion compared to the previous fiscal year, due to the drops in the nickel and copper prices and yen appreciation, despite a higher volume of electrolytic copper sold.

Operating Income



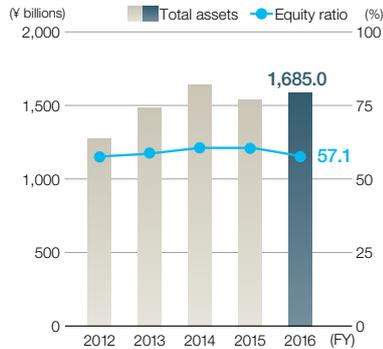
Increased by ¥16.7 billion compared to the previous fiscal year, due to depreciation of the yen toward the end of the fiscal year, an upturn in the impact of inventory valuation due to the increase in gold prices, as well as the effect of the acquisition of additional interests in the Morenci Copper Mine.

Recurring Profit (Loss)

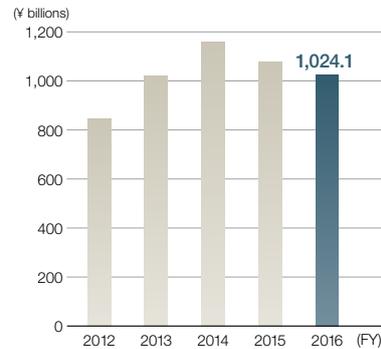


Consolidated loss decreased by ¥11.2 billion compared to the previous fiscal year, due mainly to an upturn in consolidated operating income, and despite Sierra Gorda Copper Mine posting a loss again.

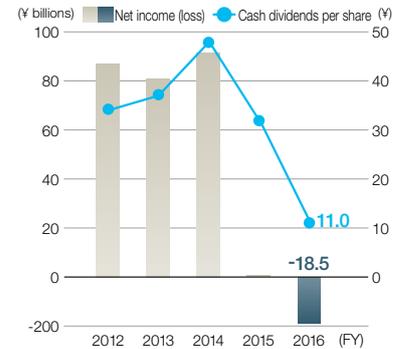
Total Assets / Equity Ratio



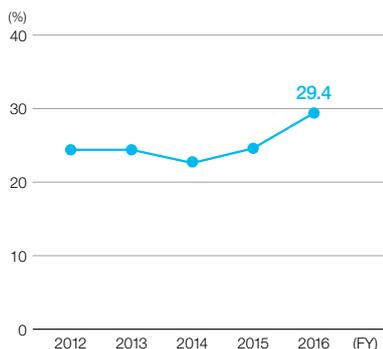
Net Assets



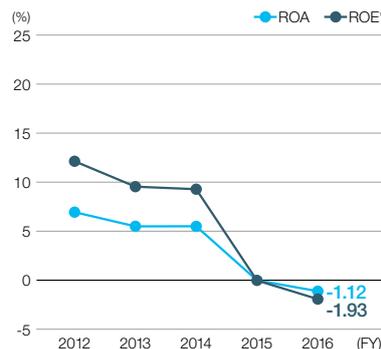
Net Income (Loss) / Cash Dividends per Share



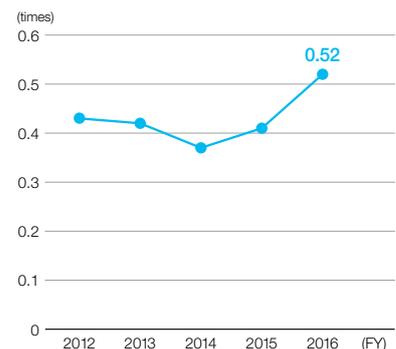
Interest-Bearing Debt to Total Assets Ratio



ROA/ROE*

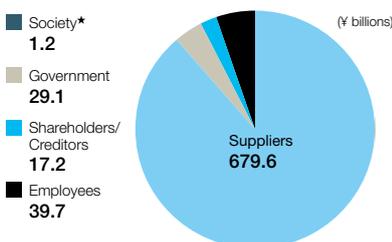


Debt-to-Equity Ratio*



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

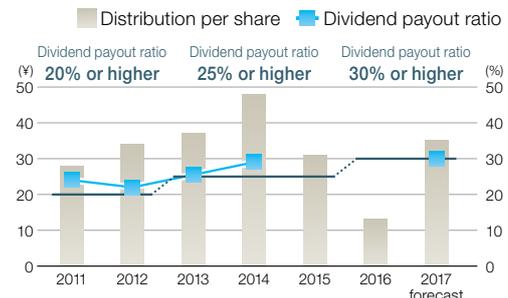
Distribution of Economic Value to Stakeholders (FY2016)



There is no retained value other than that to the left. Rent for use of land is minimal and therefore included in "Payments to suppliers."

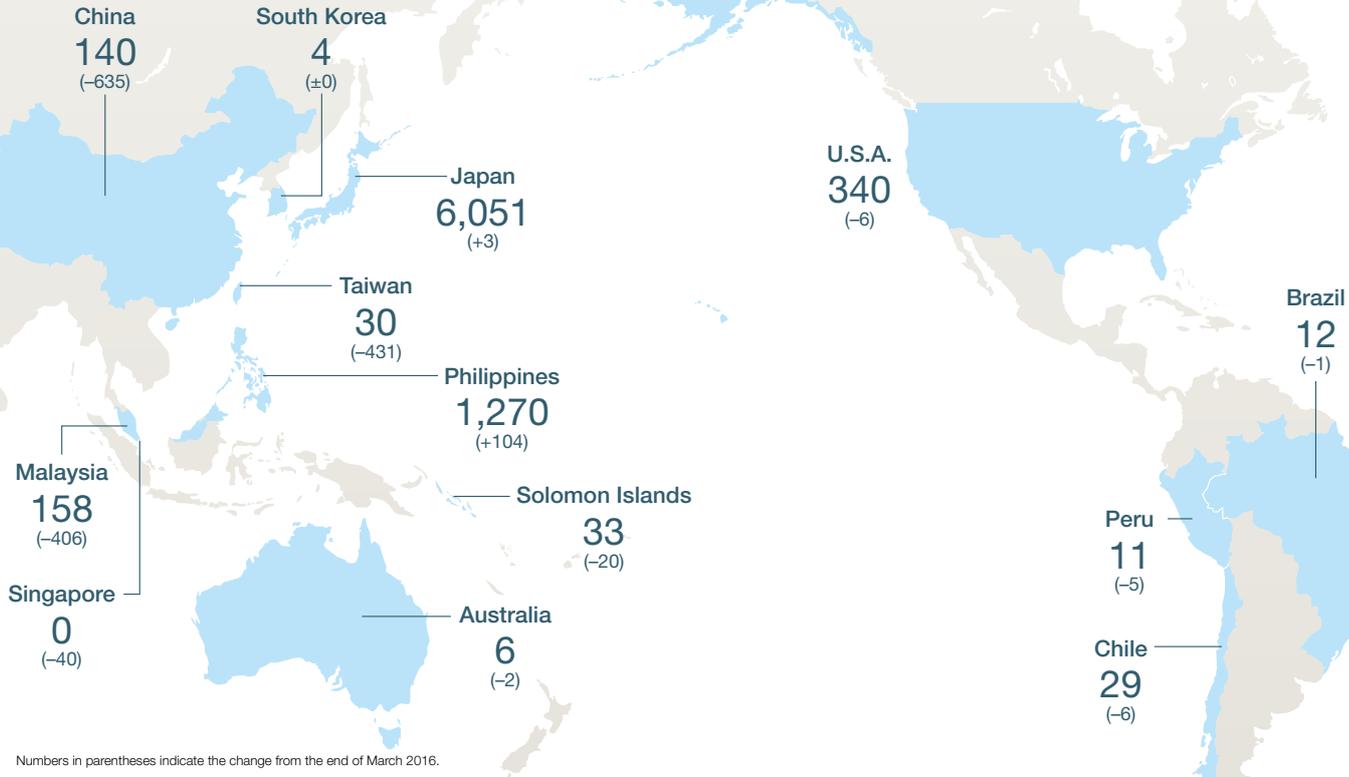
* In the Philippines (CBNC, THPAL), the ¥1.0 billion expended through the social development management program (SDMP) and other contributions in the same country is included.

Dividends

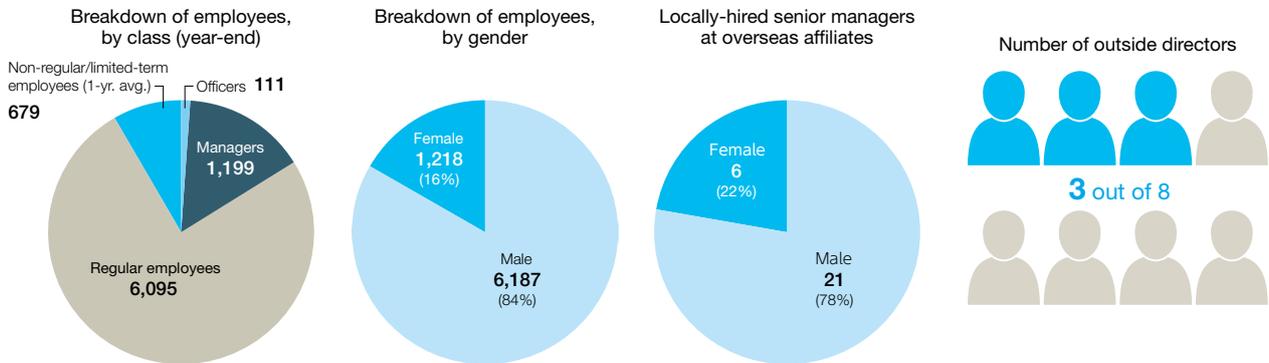


Number of Employees & Officers by Region, Consolidated

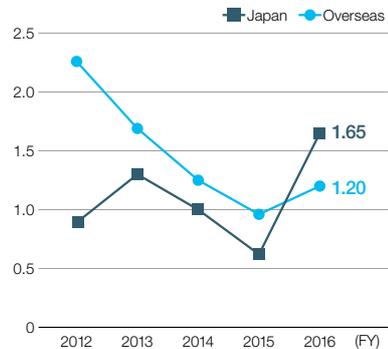
As of March 31, 2017



Number of Employees & Officers Worldwide (Consolidated) (March 31, 2017)



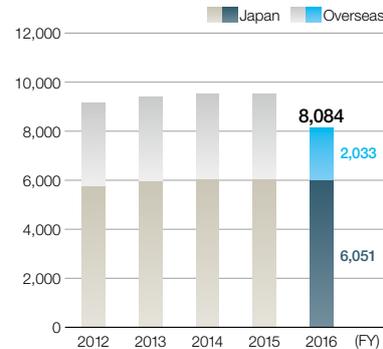
Occupational Accident Frequency Rate



There was a total of 22 (frequency rate of 1.65) occupational injury accidents at business sites in Japan, an increase, and there were five lost-time accidents, also an increase, from the previous year.

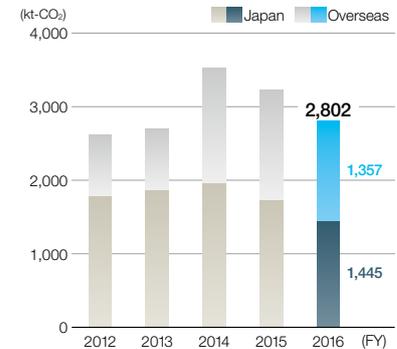
Frequency rate = number of fatalities and injuries due to industrial accidents ÷ cumulative hours worked x 1,000,000

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



The number of employees mainly in China, Taiwan and Malaysia decreased compared to the end of March 2016 due to the sale of the lead frame business.

CO₂ Emissions



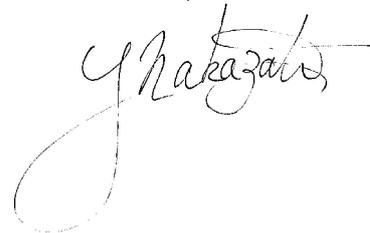
Emissions of CO₂ in Japan decreased due to reduced production of high unit CO₂-emission products with the transitioning of operations at the Harima Refinery.



The copper sculpture in the background was made by Glenn Hinz, a native of Arizona. It was presented to SMM by Freeport McMoRan to commemorate our acquisition of an additional 13% interest in their Morenci Mine.

Going forward, we will further burnish our unique business model integrating operations in Mineral Resources, Smelting & Refining, and Materials, and pursue sustained growth and enhanced corporate value.

Yoshiaki Nakazato
President and Representative Director



Please tell us how SMM performed in fiscal 2016.

For the second consecutive year, we finished with a loss at the recurring income level. The primary cause was delayed development of the Sierra Gorda Copper Mine. We view this matter as a management issue demanding deep reflection, and we pledge to do everything within our capability to improve this situation as expeditiously as possible.

Earnings in fiscal 2016 remained severe, finishing with a recurring loss for the second consecutive year. The primary cause was the impairment loss booked as a result of delayed progress in the Sierra Gorda Copper Mine development project in Chile. We view this matter as a management issue that demands deep reflection, and we consider it our foremost management issue for fiscal 2017 as well.

Fiscal 2016 was the first year in our 2015 3-Year Business Plan. In our Mineral Resources segment, in May 2016 we acquired an additional 13% ownership share in the Morenci Copper Mine in Arizona, raising our total stake to 25%. The new acquisition made a positive contribution to our operating income in fiscal 2016. In our Smelting & Refining segment, fiscal 2016 saw increased production at Taganito HPAL in the Philippines, expanded production of nickel sulfate at the Harima Refinery, and development of an optimized ferronickel production system at Hyuga Smelting Co., Ltd. Meanwhile, at the Toyo Smelter & Refinery production of electrolytic copper reached an unprecedented 450 kilotonnes. In the Materials segment, plans to increase production of battery materials, products that are currently undergoing sharp market

expansion, went forward, and a production system with a monthly capacity of 1,850 tonnes was put in place. Simultaneously, investments were carried out toward expanding production of crystal materials, another product area that is now attracting increased demand.

A further development in fiscal 2016 was our conclusion of a long-term agreement with a specialized overseas company to handle the disposal of highly concentrated uranium residue stored at JCO Co., Ltd., one of our group companies. The costs incurred in this connection were booked during the year as an extraordinary loss. We see the conclusion of this agreement as a step forward toward resolving an issue that has been of grave concern to us for many years.

What strategy will be important in order for SMM to exercise its competitive superiority amid this operating environment?

Our unique strength lies in our business model that enables synergies from the interworking of our three core segments: Mineral Resources, Smelting & Refining, and Materials. This strategy is already beginning to generate positive results.

Our business model linking together businesses in Mineral Resources, Smelting & Refining, and Materials is unique in all the world, and it is already proving to be one of SMM's greatest strengths.

Recently, securing a stable supply of the basic resources that go into high-grade materials has become a vital concern for businesses that require them. For us, nickel materials used in the rechargeable batteries featured in eco-friendly cars are one such concern. As the prevalence of eco-cars



Please tell us how the structural reforms underway in the Materials business are progressing.

With the selloff of our lead frame business, our structural reform agenda in the Materials segment has been nearly completed. Now we will shift to a phase in which earlier investments will bear fruit and contribute to profits.

expands, demand for nickel materials is increasing sharply. But in 2016, for example, while the total worldwide supply of nickel was approximately 2,000 kilotonnes, only about 60 kilotonnes are said to have been available for use in battery materials. Supplies of cobalt, another component of battery materials, are likewise insufficient. Against this backdrop, today SMM's totally comprehensive business model, which encompasses not only Materials but also Mineral Resources and Smelting & Refining, is garnering attention. I personally have frequent opportunities to meet directly with our customers, and I get a strong sense of their high expectations toward us. Recently, when our members in charge of Materials go to visit a customer, they are accompanied by staff in charge of Mineral Resources and Smelting & Refining, creating increased opportunities to exchange information and so forth. Out of these interdependent relationships a new business model is beginning to take shape.

Insofar as fiscal 2016 is concerned, although we finished the year with a loss at the recurring level, at the operating level we posted a 27.9% year-on-year increase, to 76.4 billion yen, despite slumping metals prices and the strengthening of the yen. These figures too indicate clearly that our unique business model is beginning to demonstrate its competitive superiority.

In fiscal 2016 we took the decision to withdraw from business in lead frames, and with the sale of those operations to Taiwan's Jih Lin Technology Co., Ltd. in June 2017, the transfer of operations was largely completed. In our Materials segment, we have undertaken structural reform by changing our chosen core competency: moving away from our previous focus on semiconductor package materials and the like, to advanced materials, an area where we can apply our strengths to greater advantage. With our withdrawal from the lead frame business, I think we have now reached a major milestone in our reform agenda.

Within our Materials segment, to date we have focused our management resources into what we see as two growth areas: namely, battery materials used in eco-friendly vehicles, and crystal materials used in smartphones and other communication devices. In the 2015 3-Year Business Plan now underway, our plans call for investments into those two areas to bear fruit and achieve a structure whereby they will contribute to our profits. In addition, in our quest to realize an annual 5 billion yen contribution to profits from new materials—a target hoisted in our Long-Term Vision—the Materials division will now join forces with our Research division and aim for autonomous growth. Restructuring our Materials business has been a major management issue ever since I became president, and I believe I was able to come up with the right answer to our earlier problems.

In SMM's quest for sustained growth, do you see any new challenges in the offing?

SMM's foremost social responsibility is to provide a stable supply of the products that society needs, and in this context our strong manufacturing capabilities are the root source of our competitive strength.

Looking back at fiscal 2016, a challenge that I came to sense once again is “monozukuri-ryoku”—manufacturing capabilities. SMM's foremost social responsibility is to provide a stable supply of the high-quality products and materials that society requires, and to achieve that stability, our manufacturing capabilities are the root source enabling us to compete strongly.

Stated another way, our power is found in our strengths exercised at the workplace. I believe that the workplace is at all times the base from which activities occur that elevate our corporate value. Recently, however, I harbor a sense of crisis over what I see as an inadequate level of manufacturing capabilities: inadequate abilities, and a lack of intense commitment, to devise ways of achieving self-determined goals. This lack leads to losses of business opportunities and is also manifested in business results. The delay seen in the timetable for the Sierra Gorda Copper Mine is a classic example, but irrespective of scale, problems of this nature are partly seen in our Smelting & Refining and Materials businesses as well. In order to mark sustained growth into the future, we will rebuild our manufacturing capabilities going forward.

What measures will SMM be implementing in fiscal 2017?

The most pressing issue is to get operations on track at the Sierra Gorda Copper Mine. We will work to raise our corporate value by acquiring additional mine interests

Metal Targets in the Long-Term Vision

	Nickel	Gold	Copper interest
FY2021	150	30	300
2015 3-Year Business Plan	120	15	280
FY2017 target	100	15	270
	kt	t	kt

and achieving targets to make our capital investments more strategic.

The environment surrounding resource development projects has become severe as a result of increasing mine development costs, expanding resource nationalism, and so on. Metal prices too are likely to remain severe for some time, although they are projected to recover in the medium- to long-range view as the balance of supply and demand improves. In our 2015 3-Year Business Plan, to enable steady growth even amid this environment we are striving to enhance the structure of our three core businesses, and also focusing on sowing the seeds for future growth. In fiscal 2017, we will implement aggressive measures in line with these policies.

In the Mineral Resources business, the primary issue is to get operations at the Sierra Gorda Copper Mine on track. Copper production is already underway at near full capacity, and the most recent production volumes indicate that production has almost stabilized. If this trend continues, then the losses now being incurred will become “manageable,” which will enable us to implement more strategic measures toward increasing profits.

The copper and nickel targets we hoisted in our Long-Term Vision are now steadily coming into view, but our gold target still remains a distant goal, so expanding our interests in gold mines is a task of great

importance. In August 2016 we launched a team specifically for this purpose, and they are boosting related initiatives. One result already achieved is the conclusion in June 2017 of an agreement on acquiring a 27.75% stake in the Côté Gold Project in eastern Canada, one of the world's leading gold-producing regions. Going forward, rather than focusing exclusively on exploring for our own mines, we will proactively give consideration to all promising projects, to make the most of every possible business opportunity.

In our Smelting & Refining business, to reinforce our production system for battery materials amid growing demand, we have been converting operations at the Harima Refinery. Under this restructuring initiative, we will continue to invest toward achieving capacity to produce 49 kilotonnes of nickel sulfate per year, and also newly add upstream processing capabilities in battery materials.

At Taganito HPAL, this year we will achieve an annual production capacity of 36 kilotonnes, equivalent to a 20% increase, one year ahead of our original timetable. Furthermore, we will proceed in forming a production system for scandium, aiming for the launch of commercial production in 2018. Scandium is a by-product of the HPAL production process, an SMM strength, and getting commercial production underway will further enhance HPAL's competitive strength. Going forward, application to fuel cell materials and such is anticipated. Scandium is also a product of a kind almost absent in our Smelting & Refining operations to date—a product that can develop a market—and it will create a new business style different from our conventional operations involving base metals.

In our Materials business, in fiscal 2017 we will establish a production system for NCA—lithium nickel cobalt aluminum oxide, battery materials for electric vehicles—capable of producing 1,850 tonnes per month. We will also take steps to further increase monthly production capacity to 4,550 tonnes. We also will put in place a system enabling stable supplies of nickel hydroxide, a material used in hybrid vehicles. Last but not least, we will undertake investments toward increasing production of crystal materials, as that market undergoes expansion.

What are your views toward sustainability and human resources development?

CSR at SMM is always an integral part of all business activities. Human resources development too is an issue of major importance to company management, for it is people who form the foundation for SMM's sustained growth.

At SMM, CSR equates to management itself; in carrying out our core businesses, fulfilling our corporate social responsibilities is always an integral part. With all our operations—and especially in the case of mine development, which invariably has an extremely large impact on surrounding regions—earning the trust of the local community is a prime prerequisite. SMM undertakes activities rooted in local communities all around the world, and that we are succeeding in making positive social contributions is vividly demonstrated by our receipt of the 2016 Presidential Mineral Industry Environmental Award (PMIEA) from the Philippines Department of Environment and Natural Resources (DENR).

Internationally, since 2015 interest has heightened toward social issues such as the SDGs—Sustainable Development Goals—and the Paris climate accord. At SMM, in response to such changes we have established six committees and three subcommittees. Under them, we are carrying out our CSR activities, with a focus on the 26 material issues we identified on a Groupwide basis.

Human resources development is another management issue of vital importance. Especially in these times when our operating environment is undergoing dramatic changes, it is important to create a free and open corporate culture in which employees can pool their knowledge and wisdom and make the most of their individual capabilities. For SMM to achieve sustained growth going forward, I firmly believe that developing human resources always focused on the next generation is equally as important as developing mineral resources.



At a time when the global community is questioning how corporate governance is being carried out, what initiatives are important for a company to fulfill its social responsibilities?

We intend to further strengthen our initiatives in corporate governance, and we are striving to disclose information at a level appropriate for a global enterprise.

For all companies, strengthening corporate governance is an indispensable issue in order to fulfill their responsibilities to the global community and simultaneously maximize their corporate value. At SMM, in a quest to achieve more transparent management, in 2016 we added one more outside director, bringing the total to three. As a result, three of our eight directors—i.e. more than one-third—are now outside directors. We have also resumed discussions on how the Board of Directors should best operate, put renewed emphasis on the Board's decision-making capability, and confirmed that monitoring will be reinforced. Through active exchanges of opinions with our outside directors at meetings of the Board of Directors, debate over matters of decision-making have become very activated.

In conjunction with measures for making SMM more globalized, starting in fiscal 2016, in lieu of our earlier "Annual Report" and "CSR Report" as separate publications, we have shifted to the format of an "Integrated Report" in our quest to further improve how we disclose information. For disclosure of

information relating to business results, we are now mulling the introduction of International Financial Reporting Standards (IFRS).

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.

In our Mineral Resources and Smelting & Refining businesses, the development and operation of projects require a very long time. In order to achieve sustained growth into the future, we must have a perspective focused not only on the present but also on the future. I believe this stance is all the more important at a time like today, when our operating environment is severe. In addition, the risks we bear for our projects are by no means insignificant. Meanwhile, it is difficult to forecast when an opportunity for business expansion will arise: for example, the opportunity to acquire a stake in something. For that reason also, it is vital to have a sound financial structure. Our policy is to keep our equity ratio about 50%.

To win the understanding of all our stakeholders toward our corporate position, I hope to carry out more active dialogue through various opportunities. We will take the opinions voiced on such occasions and reflect them in our management practices, aiming to be a company that grows together with its stakeholders. The knowledge and wisdom of all employees will be pooled and integrated, to respond to the hopes and expectations of all our stakeholders.

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 target of annual production output of 300,000 tons from our interests is in sight, with the expansion of overseas copper mines already in operation, the start of commercial production in the Sierra Gorda Project, and the acquisition of additional interests in the Morenci Copper Mine. In copper smelting, we will strive to bolster profitability through stable operation, by processing of secondary materials, and by reducing fixed costs.

Nickel

Annual production capacity

150 kt

With regards to nickel, both the Taganito Project and the expansion of electrolytic nickel production capacity to 65,000 tons/year were completed in 2013, completing our 100,000-ton/year nickel production structure. As an even longer vision, we are looking to raise that to 150,000 tons/year by securing alternative sources of mineral resources and expanding production capacity.

Gold

Annual production interest

30 t

Through entry into the Côté Gold Project in Canada, we have increased our gold resources by approximately 2.7 tons/year. We will continue exploration around our operating mines, consider participation in new joint ventures, and acquire new interests through M&As.

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 raise profitability.

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 —

The Vision for 2020 is our goal for the SMM Group's coexistence with the global environment and society aimed at sustainable growth. As the SMM Group's business activities involve large-scale developments, such as mining developments, there is a significant impact on the surrounding areas, the scope of which extends to the economy, the environment, human rights, and the local communities.

Therefore, the SMM Group believes that in running our business it is essential to obtain a Social License to Operate that cannot be achieved in the absence of trust-based relationships with the local communities, in addition to a legal operating permit.

In 2015, the SMM Group revised its Vision for 2020 as it applies to its Six CSR Areas of High Priority in

view of business globalization and other changes in social conditions. In tandem with this revision, we identified material issues that the Group needs to address from among a large number of sustainability issues with the primary focus on evaluating impacts on the Social License to Operate, opportunities for future earnings, and the sources of our competitiveness (see p. 63–65 for process to identify material issues).

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

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.

SDGs and SMM's CSR

Working toward a sustainable society

SMM has started considerations as to how companies should work toward achieving the 17 UN Sustainable Development Goals (SDGs) and the 169 individual targets within these.

Start of discussions and consideration within the company as to how to tackle SDGs

The SDGs adopted by the UN in 2015 aim to realize societies that “leave no one behind” by the target year of 2030. The SDGs cover a broad range of issues, including the economy, society, and the environment, so in Japan, SDGs Implementation Guiding Principles were established through discussions at an SDGs Promotion Round Table Meeting held in December 2016, and efforts based on these have started across all levels of Japanese society.

In 2008, SMM identified material issues for both our stakeholders and SMM Group businesses in which we needed to strengthen our engagement.



These were organized into 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) and set out in our Vision for 2020. Since then we have continued to review these efforts by establishing KPIs and the like, and CSR activities are being implemented in business and corporate divisions, primarily through subcommittees focused on each of the six areas, as part of an implementation structure led by the CSR Committee, which is chaired by the president himself.

SMM is already actively implementing measures that tackle some SDGs. For example, SDG 13 (climate action) is covered by global warming countermeasures being implemented primarily by the Environmental Preservation Subcommittee, such as increasing production of products (battery materials) with low CO₂ emissions and reducing CO₂ emissions from operations. However, we still need to fully discuss and consider how to achieve goals for a broad range of issues targeted by the SDGs.

Holding a lecture to deepen understanding of SDGs within the company and incorporating SDGs into the next company vision

On May 10, 2017, we held an internal lecture entitled “SDGs and Sumitomo Metal Mining Co., Ltd.,” given by CSO Network Japan’s Executive Director Kaori Kuroda. She contributed to the creation of Japan’s SDGs Implementation Guiding Principles as a participant in the SDGs Promotion Round Table Meeting, and also has an expert understanding of SMM’s business and CSR engagement, having contributed her opinion to our 2012 and 2014 CSR Reports.

The lecture was attended by the leaders and members of the subcommittees for each of our Six CSR Areas of High Priority, and they were able to deepen their understanding of the essence and aims of the SDGs. They were also able to gain a new awareness of SDGs, such as the favorable reception of the strong progress being made by the mining and metal sector through aligning the 17 SDGs with the

10 Principles (refer to diagram on the right) of the International Council on Mining and Metals (ICMM), of which SMM is a member.

SMM is now approaching the period in which we will formulate a new company vision to follow our Vision for 2020. Following the advice of Executive Director Kuroda, the CSR Committee and the subcommittees for each of the Six CSR Areas of High Priority will carry out deliberations on how SMM, a company for which CSR is management itself and that promotes CSR through its business, should approach SDGs, and proceed with activities.

While formulating our next vision, we will also evaluate factors such as the degree of influence SMM can exert toward achieving each SDG, and establish priority issues accordingly.



The connections between the ICMM 10 Principles and SDGs

The ICMM* works to showcase the contributions to society made by the mining and metals industry and clarify the role and responsibilities of companies within society, and has created 10 Principles that address important issues for sustainable development. All ICMM members are required to commit to these 10 Principles.

Furthermore, the ICMM strongly supports the SDGs and has analyzed the alignment of the 10 Principles and SDGs to encourage active contributions by the mining and metals industry. The results of this analysis are shown in the diagram to the left.

The diagram shows how each principle and SDG aligns, for example Principle 1 (ethical business & sound governance) aligns with SDGs 1 (no poverty), 5 (gender equality), 10 (reduced inequalities), 16 (peace, justice, and strong institutions), and 17 (partnership for the goals).

* International Council on Mining and Metals (ICMM): Established in 2001. Centered around major global resources companies, it carries out activities and works with NGOs, international organizations such as the UN, and others to achieve the sustainable development of the mining and metals industry. Japan has three members, including SMM.

The 10 Principles of the ICMM

- | | |
|--|--|
| ① Ethical business & sound governance | ⑥ Environmental performance |
| ② Sustainable development in decision-making | ⑦ Conservation of biodiversity & land-use planning |
| ③ Respect for human rights | ⑧ Responsible use & supply of materials |
| ④ Effective risk management | ⑨ Social contribution |
| ⑤ Health & safety performance | ⑩ Engagement & transparent reporting |

The Sustainable Development Goals

- | | |
|---|---|
| 1 No poverty | 10 Reduced inequalities |
| 2 Zero hunger | 11 Sustainable cities and communities |
| 3 Good health and well-being | 12 Responsible consumption and production |
| 4 Quality education | 13 Climate action |
| 5 Gender equality | 14 Life below water |
| 6 Clean water and sanitation | 15 Life on land |
| 7 Affordable and clean energy | 16 Peace, justice and strong institutions |
| 8 Decent work and economic growth | 17 Partnerships for the goals |
| 9 Industry, innovation and infrastructure | |

I hope to see SDGs recognized in the formulation of the next company vision

Kaori Kuroda

Executive Director, CSO Network Japan



Interest in the SDGs is growing in Japan, as demonstrated by the Japan Business Federation's (Keidanren's) plan to review its Charter of Corporate Behavior in light of the goals. However, it is crucial that each company promotes activities that work toward achieving SDGs while also continuing their existing CSR initiatives.

Regarding SDG initiatives that can be advanced by the SMM Group, I think the following points need special consideration:

- Mapping SDGs into the value chain
- An outside-in approach that deepens awareness of global and societal needs
- Focus on the connections between issues
- Awareness of cross-sectoral issues (human rights, empowerment of women, gender issues, etc.)
- Further strengthening of dialogue and cooperation with stakeholders

The activities within the Six CSR Areas of High Priority aimed at achieving the Vision for 2020 have already put the SMM Group on the right track, and I want these measures to continue to develop steadily. I would also like to see the next company vision recognize SDGs and work toward a sustainable society.

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 four or five, 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

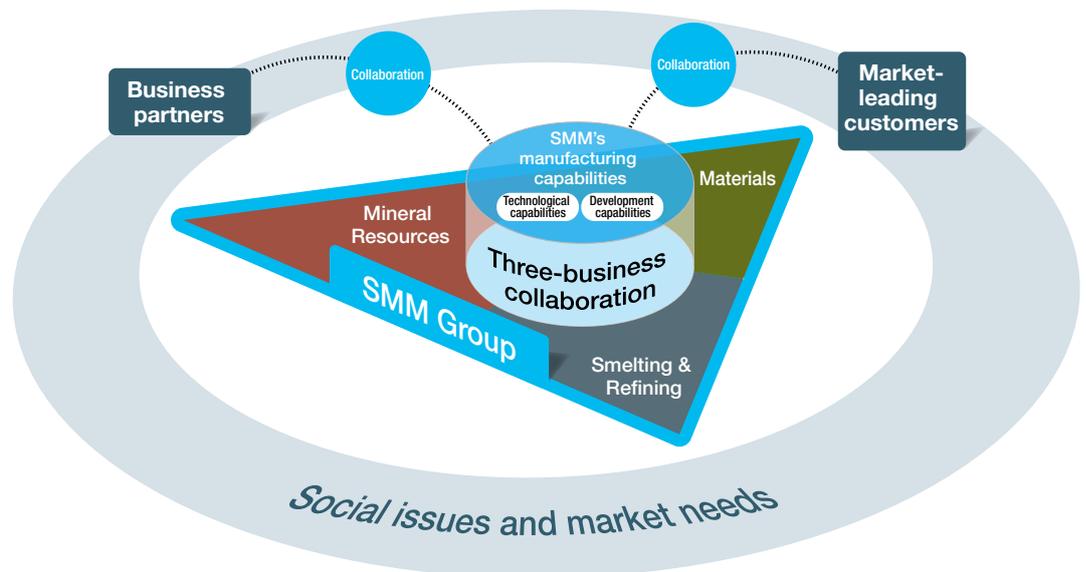
Sustainable growth and maximization of corporate value

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.

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

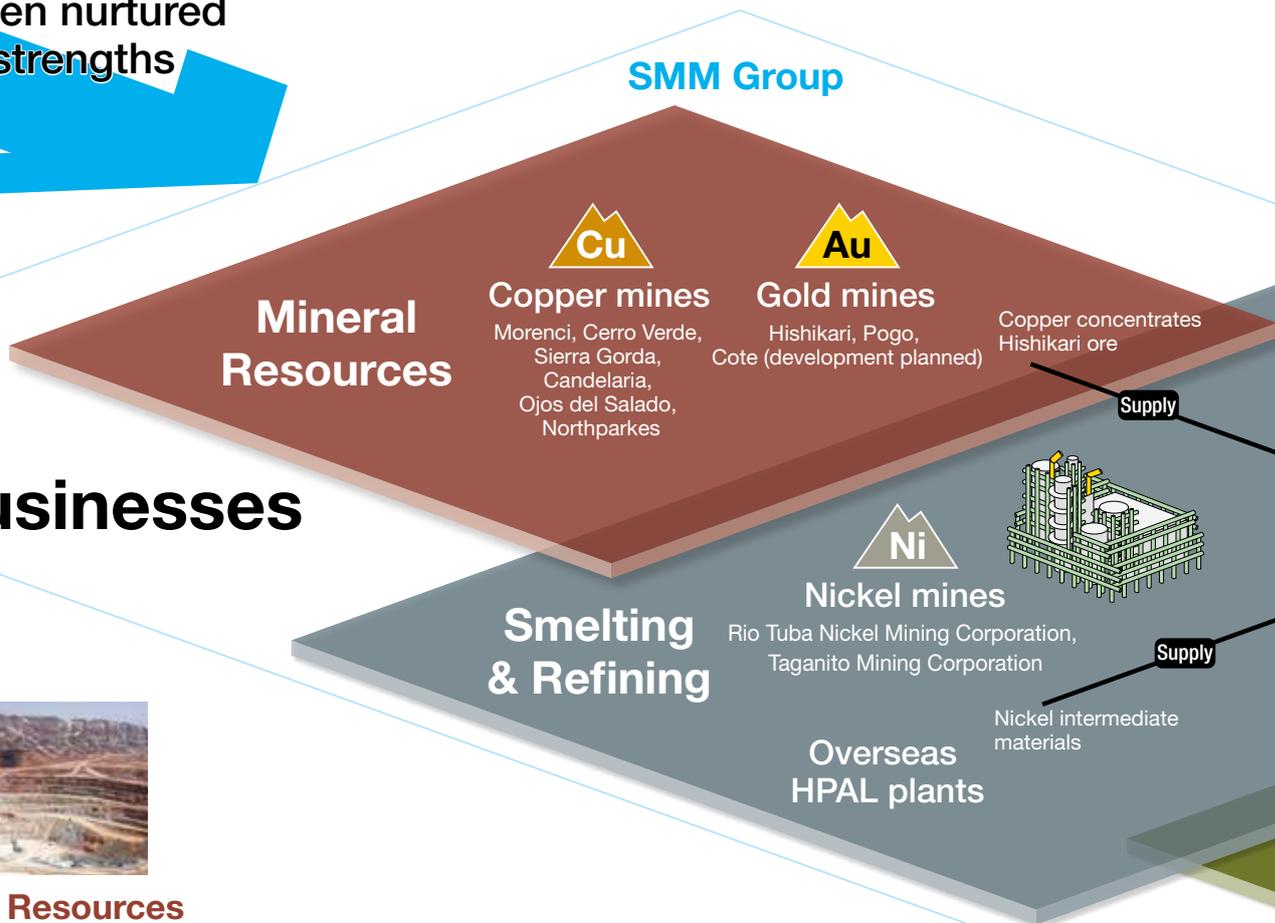
“Excavating ore, a natural resource, making it into metal materials by smelting and refining, and adding new value to those materials.” The materials we handle and the value we add vary through the ages, but the essence of this business process remains unchanged over the years.

Inputs

Earth resources
Seven nurtured strengths



Businesses



Mineral Resources Business

Stably supplying mineral resources by expanding interests globally as a professional mine developer and operator

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. The skills accumulated through 283 years of operating the Besshi Copper Mine, from 1691 to 1973, and other businesses, are incorporated in the operations of the Hishikari Mine and the Pogo Gold Mine, which started production in 1985 and 2006, respectively. Additionally, 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

Contributing to the realization of a prosperous society by applying world-class smelting and refining technology to effectively utilize limited resources

The smelting and refining business produces metals, particularly copper, nickel, and gold, from ores procured by our mineral resources business and overseas mining companies. 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. The result is that

now the company possesses world-class smelting and refining technology, as demonstrated by successes such as becoming the world's first company to commercialize the HPAL* technology for the recovery of nickel from low-grade nickel oxide ores, which had been difficult with conventional technologies. We are also the only company in Japan to produce electrolytic nickel and electrolytic cobalt.

* HPAL (High Pressure Acid Leach): A technology to extract nickel and cobalt from low-grade nickel oxide ores. CBNC was the first in the world to succeed at large-scale commercial production in 2005; Taganito HPAL began operations in 2013 as the second production facility.

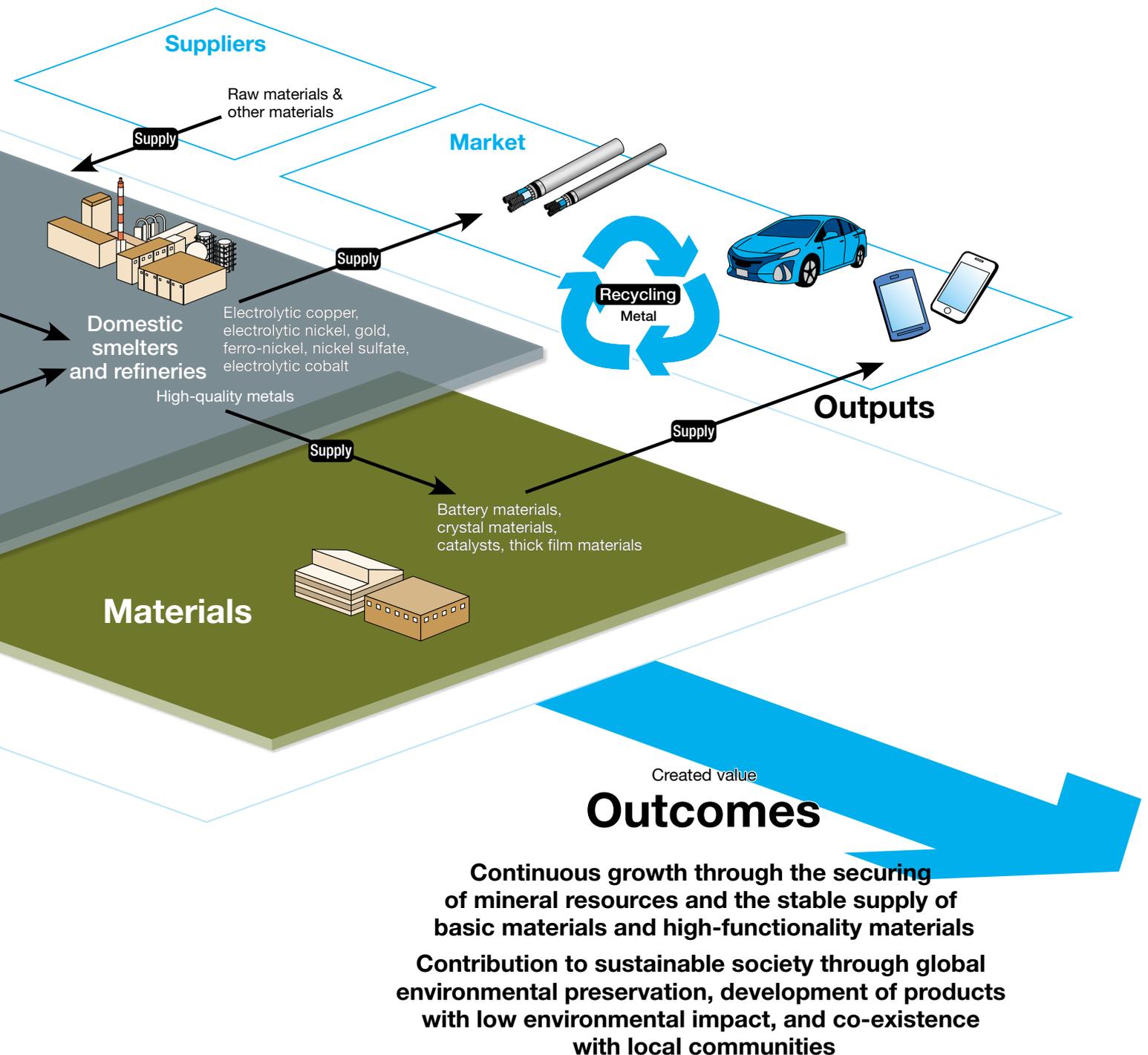


Materials Business

Contributing to the realization of a sustainable society by supplying products in growth areas, such as materials for secondary batteries used in vehicles

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,

and information communications related areas. In recent years, we have collaborated with customers to aggressively respond to the vigorous demand for cathode materials used in secondary batteries for hybrid and electric vehicles, and LT/LN materials for SAW filters used in smart phones and other devices.



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



Risks

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

- ① Explosions and fires
- ② Leak of a harmful substance (into air, water, or soil)
- ③ Earthquake
- ④ Discharge of slag and the like due to dam or culvert failure
- ⑤ Damage from terror, hostage-taking, 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/financial damage to major mineral resource companies and asset reclassification and rearrangement
- 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.

Specific strategies regarding risks or opportunities

1-7 Implement and maintain risk management (preventive measures, proactive mitigation measures, etc.) through RMS

[Risk management \(p. 102\)](#)

1 2 3 Minimize costs by increasing operational efficiency and productivity at highly cost-competitive mines and refineries

[Refineries with robust cost competitiveness \(p. 52\)](#)

2 Accelerate development of technology for strengthening ability to handle hard-to-process ores

[Effective use of resources \(p. 64\)](#)

4 7 Cultivate relationships of trust with local communities, employees who share in SMM's philosophy and goals

[Activity highlights \(p. 72, 75\)](#)

6 Maintain cost advantage by recovering and commercializing scandium and chromite, by-products of HPAL technology

[Start of mass production of scandium for use in fuel cells \(p. 50\)](#)

8 Maintain a positive development cycle and strengthen technological capabilities through continued good relationships with customers

[Materials business \(p. 56\)](#)

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

[Use of low-grade nickel oxide ore with HPAL technology \(p. 52\)](#)
[Effective use of resources \(p. 78\)](#)

Maintain a good management base for interest acquisition based on sound financial standing and robust relationships with partners

[3 5](#) [Financial strategies \(p. 36\)](#)
[Aiming to acquire gold interests with a new dedicated Business Development Team \(p. 46\)](#)

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

[1 4 5](#) [Moving Taganito HPAL Nickel Corporation to a 36,000-ton annual nickel production structure to keep up with the rapid increase in demand for automobile-use secondary battery cathode materials \(p. 52\)](#)
[LBMA \(p. 93\), EITI \(p. 99\)](#)
[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 \(p. 54\)](#)

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

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

Compliance with the Double Code* and Sustainability in Company Management

SMM strives to achieve the sustained increase of our corporate value with a medium- to long-term management strategy. In order for stakeholders to understand this stance, we release a variety of information and actively incorporate feedback on the information into our management.

As a part of this activity, we held a roundtable discussion regarding investor relations. Under the main themes of corporate governance and the sustainability of SMM, we were able to engage in meaningful discussion as we listened to stakeholders' opinions and expectations toward our Group.

* Double code: The Japanese versions of the Stewardship Code and the Corporate Governance Code



Managing Executive Officer
General Manager of Public Relations &
Investor Relations Dept.
Sumitomo Metal Mining Co., Ltd.

Hiroyuki Asai (Host)

Joined Sumitomo Metal Mining Co., Ltd. in 1980. Following work at locations including the Besshi-Niihama District Division and Hishikari Mine, was appointed General Manager of Ome District Division, Advanced Materials Division, in 2008; General Manager of the Personnel Dept. in 2011; and General Manager of the Human Resources Development Dept. in 2015. Attained current position in 2016.

Dialog between companies and investors

Change and reinvigoration

Asai: As the double code becomes more widespread, it appears that changes are taking place in the relationship between companies and investors, as seen in the revision of the Stewardship Code in 2017.

Sato: Without a doubt, when I talk to company executives I often feel that change has occurred. If anything, Japanese companies have been passive toward IR in the past. However, recently I see a change toward actively trying to incorporate the voices of investors into management. In a survey that JIRA conducts, about 40% of listed companies that engage in IR respond that change is taking place.

Many companies have set forth clear targets in their long-term visions or their medium- to long-term management plans, and appear to be taking a stance of sharing those targets with stakeholders and checking on progress toward them.

Miyao: The Japanese version of the Stewardship Code

was revised for the first time in three years. I'd like to note the major effects on institutional investors and several of the changes. First, with regard to the content of stewardship initiatives such as dialogs with companies and the execution of voting rights, institutional investors are to perform self-evaluations using the PDCA cycle. Second, the strengthening of initiatives and disclosure for the management of conflicts of interest with securities companies, banks, and so on within groups is required. As for changes closely related to companies, an example is the start of individual disclosure of the outcomes of the exercise of voting rights by institutional investors. That's the third thing.

Takemoto: I think that the appearance of companies taking an investor-facing stance is a major change, as Ms. Sato noted. However, I also feel that a lot of companies are uncertain over what to do. In that sense, I think that engagement and other communication between companies and investors will become increasingly necessary.

The disclosure of the execution of voting rights by institutional investors is surely a major change. In order to make that more substantial, it will be important to move



Analyst
Equity Investment Group, Investment Division
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Hirokazu Takemoto

Joined Chiyoda Mutual Life Insurance Company in 1991. After working at Chiyoda Life Capital Management Co., Ltd., joined Mizuho Trust & Banking Co., Ltd. in 2001. Covered the steel, non-ferrous metals, and other sectors as a Japanese stock analyst. Has belonged to the Equity Investment Group of Asset Management One Co., Ltd. since 2016.

Yoshiko Sato

Joined Nikkei Inc. in 1985. Has been seconded from Nikkei Inc. to JIRA since 1993. Has been in current position since 2015. Manages JIRA and gives lectures and writes, with an emphasis on dialog and engagement. Major works include *Strategies for Success in IR* (2015, Nikkei Inc.).

Takashi Miyao

Joined Nomura Securities Investment Trust Co., Ltd. (current Nomura Asset Management Co., Ltd.) in 1988. After working in the research department, was seconded to Nomura Research Institute, Ltd. and was placed in charge of investment trust management in 1993. Since 2016, has engaged in stewardship initiatives and ESG research in the Responsible Investment Dept.

ahead with initiatives that make the exercise of voting rights and engagement work as one.

Asai: Recently, it seems to me that there is stronger intent by universal owners, as seen in the announcement of ultra-long-term investments by the Government Pension Investment Fund (GPIF).

Miyao: Apart from the ultra-long-term portion, I think that both asset owners and other institutional investors have the same fundamental stance as universal owners. There has likely been no change in the stance of placing expectations on sustainable growth in order to aim for long-term returns.

Two sides of the same coin: Risk and opportunity Toward greater information disclosure

Asai: While our company belongs to the resource-related sector, we conduct our business under a unique business model that is rare in the world, with collaboration among our three core businesses of

mineral resources, smelting and refining, and materials. I'd like to hear about expectations or related issues toward such a Group as ours.

Takemoto: In the resource-related sector, the relationship between opportunity and risk is like two sides of the same coin. Of these two, risk is extremely wide-ranging, covering environmental and human rights issues, conflict minerals, and more. How should risks be perceived and connected to business opportunities? I believe that thoroughly explaining that is an issue that should be continually worked on going forward.

The model of collaboration among three core businesses is difficult to understand, as it's a rare and challenging thing anywhere in the world. I feel that it is still not sufficiently explained and that it should be more fully explained to investors, such as how the model contributes to increasing SMM's sustainable corporate value.

Asai: The business of nickel for battery materials is a good example concerning collaboration among the three core businesses, but there is information that we can't convey for business or technological reasons involving

our company or our customers. However, what you said is certainly true, and I want to take that as a point for future improvement.

Mr. Miyao, what are your thoughts on this point as an ESG specialist?

Miyao: Actually, I've followed SMM for over 20 years, including back when I was a fund manager. During that time, I felt that the company is rich in both human resource capital and financial capital, and is a company with a very good foundation. That's my image of SMM.

What I take note of from the perspective of ESG is battery materials, which are a part of eco-cars and



contribute to reducing greenhouse gases. The other day, SMM announced an initiative to recover nickel and copper from used lithium-ion secondary batteries and recycle these (see p. 60). I've taken notice of this as an initiative that will contribute to sustainable growth.

Asai: Thank you. Ms. Sato, as a specialist in IR initiatives, how do you see our Company's business?

Sato: I'm of the same thought as Mr. Takemoto regarding the characteristics of resource-related companies, in that they face environmental and many other risks and conduct business sustainably with risk and opportunity as two sides of the same coin.

Looking at this from one more IR perspective, I'd like for SMM to perform even more thorough disclosure of information about risk and opportunity in this area. Regarding risk, the company has an established reputation for timely information disclosure. But with regard to opportunity, perhaps there is room for improvement, such as by disclosing sources of competitiveness more concretely.

SMM could also find ways to make briefing materials and other materials easier to understand, perhaps by adding a bit more visual playfulness. You preserve what should be preserved, like the Sumitomo Business Spirit, and change what you should change as a global company. I feel it's important to explain that balance.

Cash allocation

Allocation of management resources from a medium- to long-term perspective

Asai: Our Company has set a long-term vision with the year 2021 in mind, and is pursuing management from a medium- to long-term perspective. I would like to hear your opinions on our information disclosure, including our business policy and strategy.

Takemoto: As you've said, a characteristic of SMM is that it has a lot of projects that span a long period, such as its mineral resources business. I fully understand that your business is one that requires an extremely long span of time, but I'd like to see deeper information disclosure covering how SMM perceives the timing and length of time for recovery of investments, the assumed risks, and how SMM deals with these, among other information.

I think that the business is characterized at the same time by a need to maintain a sound financial standing in preparation for medium- to long-term investments and risks. However, financial leverage that is too low is also a problem from the perspective of capital efficiency. There is a need for discussion, from a medium- to long-term perspective, on what level to aim for. I think that SMM should disclose these in its medium-term business plans, along with what sort of directions the company intends to set for cash flow and for accounting value and profit.

Miyao: I'd like to speak a bit from the perspectives of CSR and ESG. SMM is pursuing CSR initiatives with materiality identified in six priority fields. Discussion on this materiality has been carried out in the past, with a focus on risk. However, recently there have been more companies that view ongoing initiatives aimed at ESG-like issues as contributing to future long-term profits. I think that sort of disclosure stance will be expected of SMM, too, from here on out.

Sato: To advance strategy in the medium to long term, it's also important to accurately grasp the strengths that will act as driving forces for overcoming various risks and environmental changes. It'll also be important to indicate what sort of core technologies and essential technologies are SMM's strengths, together with the company's past record of performance. Regarding the financial aspects that Mr. Takemoto spoke about, I think that performing more disclosure of not only cash flows but also management resource allocation policies and other information will offer investors guidelines for analyzing the future. I believe that optimization of cash allocation (i.e., management resource allocation) and business strategy, too, are important points of discussion in future engagement with investors.

Takemoto: I'm in agreement concerning allocation policies. Recently, more and more companies are hammering out financial strategies, including allocation policies. This is vitally important information for investors in considering medium- to long-term investments.

Corporate governance

Aiming for sustained increase in corporate value

Asai: Finally, I'd like to ask for your thoughts on the ideal for corporate governance. To improve corporate value in the medium to long term, how do you think sustainability should be incorporated into strategy, and do you see a need to improve corporate governance?

Miyao: With regard to corporate governance, I think that the kind of initiative that ends with simply creating structures is meaningless. What we investors expect is sustained increase in corporate value, and corporate governance in which the results of increased corporate value are reflected as a reward for investing.

Sato: Regarding corporate governance that incorporates a sustainability perspective, many companies engage in such governance as a component of IR initiatives, such as initiatives that take the opinions of investors as insights or opportunities for improvement and reflect them in management to enhance corporate value. This gives rise to a sustainable spiral that leads to medium- to long-

term growth through investors being conscious of the demands of society, such as the ESG and SDGs that were mentioned. I anticipate SMM taking such a stance as well from here on out.

Takemoto: There are no clear correct answers on corporate governance. I think the most important thing is a stance of always striving to effect improvements.

SMM has a history of over 420 years in sustainability, a record that itself appears to me as proof of sustainability. While it's important to look ahead to the future, I think that hints to the sustained improvement of value can also be found hidden in this history.

There's one more thing I'd like to say in closing. On the subject of IR, SMM holds Business Strategy Progress Briefing Sessions twice a year, at which the President explains business strategy in his own words and responds to questions. Moreover, as seen in SMM's receipt of the Securities Analysts Association of Japan's Award for Excellence in Corporate Disclosure as the top company in



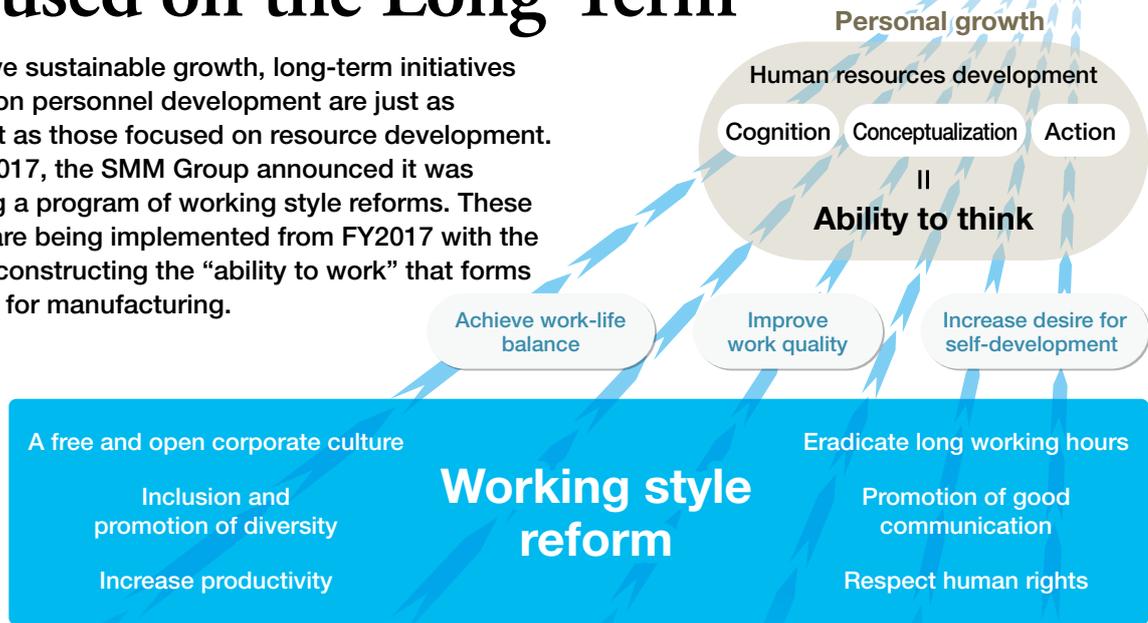
the Steel / Non Ferrous Metal category for six consecutive years (see p. 98, p. 112), the company's reputation is high among analysts, and I feel that it already engages in dialog with investors at a high level. I hope that the company will continue to place importance on this stance.

Asai: Thank you for this opportunity today to hear your valuable thoughts. We will continue to value the voices of our investors and other stakeholders, and will aim to achieve increased corporate value.

Working Style Reform Initiative Focused on the Long Term

Sustainable growth and maximization of corporate value

To achieve sustainable growth, long-term initiatives focused on personnel development are just as important as those focused on resource development. In April 2017, the SMM Group announced it was launching a program of working style reforms. These reforms are being implemented from FY2017 with the aim of reconstructing the “ability to work” that forms the basis for manufacturing.



Creating an environment in which each individual employee can be active in a free and open-minded manner

The goal of the SMM Group's working style reforms 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. However, these figures are just a guide, and not the true purpose of the working style reform. The real aim of the SMM Group is to create an environment in which each individual employee can work efficiently and with strong motivation within their limited working hours.

We introduced stress checks for all employees in 2007, and we have been implementing an employment awareness survey covering a range of topics every three years since 2010. In recent years, these surveys have revealed several issues regarding working style. These include long working hours becoming the

norm in a limited number of divisions, as well as a lack of smooth communication in the workplace.

Additionally, factors such as market changes and the diversification of operations are changing the values we are looking for from our everyday work. At the same time, we also have problems regarding work efficiency, such as inefficient workplace rules accumulated through past working practices.

In order to fully understand these issues, in FY2016 the Human Resources Development Department, Personnel Department, and the Corporate Planning Department worked together on an investigation, which included interviews with employees. The working style reform initiative was launched in April 2017 based on this background.

Developing human resources as a driver for sustainable growth

Just as the work done in the SMM Group often differs according to department or workplace, the promotion of working style reform will also be implemented on a workplace basis. The formulation of action plans aiming to fully understand and improve the working style at each workplace is currently underway.

For example, the administration departments at the Head Office are tackling a range of issues, including improving meeting flow, simplifying internal documents, implementing rules for the sending and receiving of emails, and actively implementing staggered working hours and flextime. Among these activities being pursued at each individual workplace, the highly effective practices will be spread to other divisions. We are building a framework to promote this company-wide, and supporting the

activities of each workplace. This support includes a dedicated team in the Personnel Department launched in July 2017, and progress will be checked regularly at Executive Officer's Meetings.

The goal of working style reform is not just to reduce working hours, but to use this to produce new value. Realizing work-life balance is a given, and by giving individuals more emotional ease, their desire for self-development increases, and communication in the workplace will become smoother, leading to an improvement in work quality.

The SMM Group believes that the source of our competitiveness is our business model that brings together our three businesses: mineral resources, smelting and refining, and materials. Global deployment is also an important management



issue. Working style reform which also tackles issues such as diversity and women's contribution in the workplace will be a crucial part of the platform supporting this strategy. Our business policy for 2017 starts with "creating a free and open corporate culture," as we consider it our most important management issue.

Recently, working style reform, together with Japanese government policy, has been receiving urgent attention. The SMM

Group is positioning the rebuilding of our organizational culture, starting with working style reform, as a medium- to long-term management issue and will work to continue this initiative as a driver for sustainable growth.

Supporting the personal growth of each individual employee will lead to sustainable growth for the SMM Group

Shuichi Yasukawa

Executive Officer,
General Manager of Human Resources Development Dept.,
General Manager of Personnel Dept.



The three key qualities the SMM Group looks for in our employees are "cognition," "conceptualization," and "action." The most valuable of these is "conceptualization," or, in other words, the "ability to think." Fostering an environment that allows employees to face their work with desire and emotional ease is crucial for developing this. Achieving a work-life balance creates emotional ease and time for thought, which then leads to personal growth. Creating a free and open corporate

culture that enables communication which transcends division and rank is also important for developing the "ability to think." Therefore we consider working style reform as a management issue very closely tied to human resources development.

The SMM Group is combining the advancement of growth strategies with the strengthening of our management base in order to further develop going forward. Needless to say, human resources development is a core part of this forward-

looking strengthening of our management base. Starting with working style reform, we will continue to advance initiatives aimed at cultivating individuals who can demonstrate the leadership to take on the next generation of company management. Encouraging the personal growth of each individual employee will keep us heading on the same vector and lead to sustainable growth for the SMM Group.

Progress of the 2015 3-Year Business Plan

Status of Progress of the 2015 3-Year Business Plan

There are priorities of the 2015 3-Year Business plan in each core business.

In our mineral resources business, full-scale production at the Sierra Gorda Copper Mine and acquiring new gold mine interests are top priorities. Although the Sierra Gorda Copper Mine recorded a large impairment loss for the second consecutive year in FY2016, operation at the mine has come close to full production, and molybdenum recovery has reached the level initially planned. With regard to gold, SMM has made the decision to participate in the Côté Gold Project in Canada.

In our smelting and refining business, we focus on expanding Taganito HPAL, advancing growth strategies using peripheral HPAL technologies, and enhancing competitiveness of the business. The scandium recovery business has been showing steady progress toward its aim

of launching commercial production (intermediate product at THPAL and final product at the Harima Refinery) in FY2018.

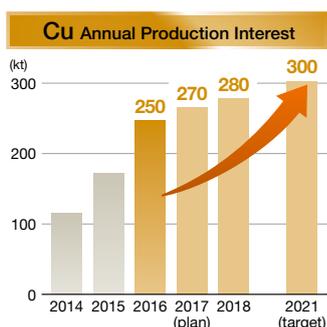
In our materials business, profit contribution from expanded production volumes of battery material and LT/LN, and sustainable innovation and adaptation of next-generation products are the main focus. In the areas of battery materials and LT/LN, profit contributions have been seen as the result of a series of decisions made on investments in a short period of time. Product innovation is underway, together with research and development departments.

In the area of management platform reinforcement, we have swiftly responded to Japan's Corporate Governance Code by increasing the number of outside directors, and so forth.

2015 3-Yr Business Plan Priorities and Status

Mineral Resources	Full-scale production at the Sierra Gorda Copper Mine	Approaching full-scale production through various initiatives
	Acquisition of new gold mine interests	Participation in the Côté Gold Project in Canada (June 20, 2017)
Smelting & Refining	Expanding Taganito HPAL	Expansion is underway, aiming at a 20% increase in production from the second half of FY2017
	Advancing growth strategies using peripheral HPAL technologies	Commercial production of scandium (planned for the beginning of FY2018)
	Enhancing competitiveness of the copper smelting business	Achievement of 450,000-ton production at the Toyo Smelter & Refinery in FY2016. Stable production to be continued in FY2017
Materials	Profit contribution from expanded battery material and LT/LN production	Battery materials: expansion of NCA production from 1,850 tons to 4,550 tons/month LT/LN: expansion from 300,000 pieces to 400,000 pieces/month
	Sustainable innovation and adaptation of next-generation products	In progress, at three laboratories and one research center
R&D	Developing new products and processes	Undertaken in areas of smelting and refining processes, materials development, new product development, and basic research on powder material

Targets of and Initiatives toward Our Long-Term Vision



With regards to copper, our target of annual production output of 300,000 tons from our interests is in sight, with the expansion of overseas copper mines already in operation, the start of commercial production in the Sierra Gorda Project, and the acquisition of additional interests in the Morenci Copper Mine. In copper smelting, we will strive to bolster profitability through stable operation, by processing of secondary materials, and by reducing fixed costs.



With regards to nickel, both the Taganito Project and the expansion of electrolytic nickel production capacity to 65,000 tons/year were completed in 2013, completing our 100,000-ton/year nickel production structure. As an even longer vision, we are looking to raise that to 150,000 tons/year by securing alternative sources of mineral resources and expanding production capacity.

Changes in the Business Environment Surrounding SMM

The global economy during 2016 generally continued on a gradual path to recovery without any significant slowdowns, despite the outlook becoming more unclear with uncertainty over the new U.S. administration's policies and their effectiveness and the U.K.'s exit from the EU. The slowing-down of the Chinese economy under its structural reform was a concern, but eventually signs were seen of it having bottomed out. In Europe, gradual economic recovery continued, driven primarily by personal consumption despite stagnant exports. In the United States, personal consumption remained firm against a backdrop of fundamentally strong employment. In Japan, compensation of employees continued recovering, backed by improvement in the employment situation, and personal consumption also showed signs of recovery. As for exchange rates, the yen appreciated year-on-year on average against the U.S. dollar, although it depreciated following the United States presidential election.

In 2017, the global economy is expected to continue recovering gradually with signs of a strong U.S. economy, mild uplifting of the Japanese and European economies and recovery in China and other emerging countries. However, there are growing concerns, with negative factors adding uncertainty to the outlook, such as an increase of geopolitical risks, stronger protectionism and antiforeignism sentiment by the new U.S. administration, and the U.K.'s exit from the EU.

In the non-ferrous metals industry, supply and demand of copper are expected to remain balanced, while a supply shortage is expected for nickel. Metal prices are expected to rise over the medium- to long-term since supply is forecasted to be insufficient as demand increases. For the time being, however, a significant rise cannot be expected. As for industries related to the materials business, the automotive applications and communications areas will generally continue to be favorable, despite possibilities of temporary adjustments.

Changes in the Business Environment

Mineral Resources Business and Smelting & Refining Business

Increase in mine development costs

- 1) Higher, deeper, and more remote locations of mines
- 2) Declining ore grade and increase of difficult-to-process ores (impurities)
- 3) Tightening of environmental regulations
- 4) Acquisition of operational permits becoming more challenging socially
- 5) Human resource shortages in mineral resource-producing countries due to an increase in projects in the development phase
- 6) Increase in demand for negotiating labor conditions

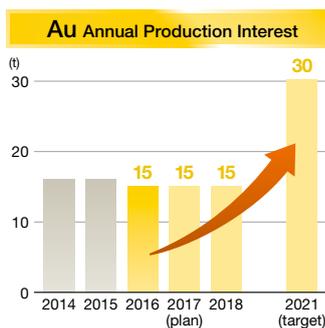
Growth of resource nationalism

- 1) Export restrictions on unprocessed ores, etc.
- 2) Introduction of various royalties
- 3) Stricter taxation policies

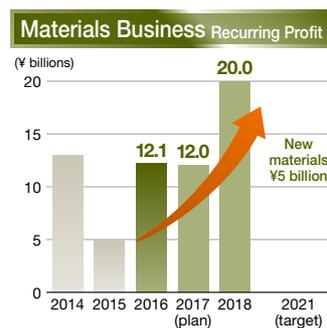
Materials Business (automobile batteries, communications)

Automotive market: In addition to the market's overall growth, a shift to EVs/HVs is accelerating against a background of implementation of environmental regulations.

Smartphone market: Although growth appears to be in a lull, robust growth is generally expected



Through entry into the Côte Gold Project in Canada, we have increased our gold resources by approximately 2.7 tons/year. We will continue exploration around our operating mines, consider participation in new joint ventures, and acquire new interests through M&As.



SMM has been gaining positive results from R&D related to the materials business.

Battery materials increased capacity and improved output characteristics by improving the grade of nickel content in electric vehicle battery cathode material. Also, crystal materials improved its growth yield for SAW filter devices, and reduced manufacturing costs of wafer.

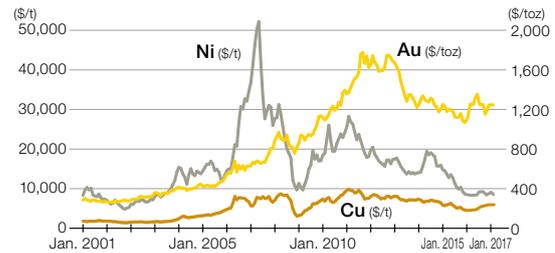
We will aim for even greater profit growth as we head toward achieving ¥5 billion/year profit with new materials by FY2021.

FY2016 Results and FY2017 Plan

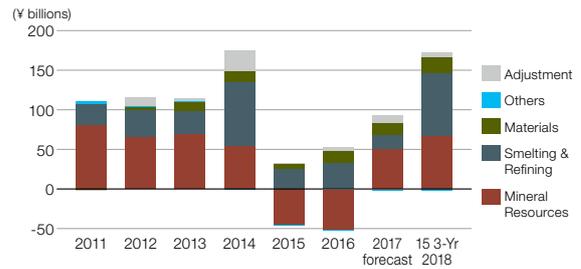
Review of FY2016 Results

Consolidated net sales in FY2016 decreased by ¥69.3 billion on a year-on-year basis to ¥786.1 billion, due to the drops in the nickel and copper prices and yen appreciation against the US dollar, despite the higher sales volume of electrolytic copper. Consolidated operating income amounted to ¥76.4 billion, a year-on-year increase of ¥16.7 billion, due to depreciation of the yen against the US dollar toward the end of FY2016 and an upturn in the inventory valuation from an increased gold price, as well as the contribution from the additional interest acquisition of the Morenci Copper Mine. Consolidated recurring loss decreased by ¥11.2 billion year-on-year to ¥1.6 billion, owing mainly to an upturn in consolidated operating income, despite the increase in investment loss by equity method primarily from the impairment loss of the Sierra Gorda S.C.M. Loss attributable to owners of parent increased by ¥18.2 billion year-on-year to ¥18.5 billion. This was due to recording a provision of allowance for decommissioning preparations as an extraordinary loss at our domestic consolidated subsidiary, JCO Co., Ltd., as well as a lack of its reversal of allowance for investment loss, which was recorded in the previous fiscal year. These

Metal Prices

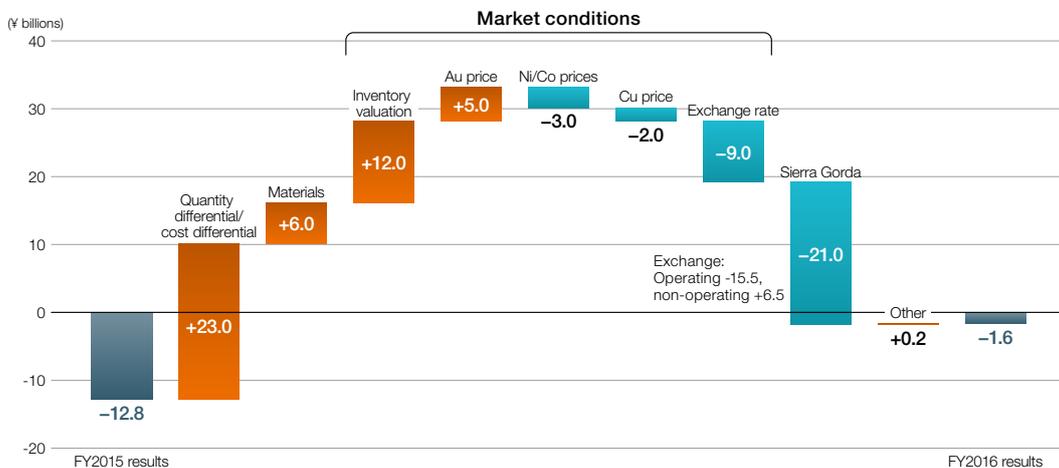


Segment Profits (Loss)



factors amounted to more than the offset from the gain on liquidation of investment securities, recorded under extraordinary income, resulting from the dissolution of Nusa Tenggara Mining Corporation, which held interests in the Batu Hijau Mine.

Recurring Profit Analysis (FY2015 vs. FY2016)



Mineral Resources Segment

Hishikari Mine continued operating according to plans. The output of gold and silver ores in FY2016 amounted to 149,959 t (the gold content was 6,269 kg). Production levels and sales volume at the Pogo Gold Mine (U.S.) declined compared to the previous fiscal year due to a decline in the ore grade. Production levels and sales volume at the Morenci Copper Mine (U.S.) were nearly unchanged from the previous fiscal year. However, the production levels and sales volume included in consolidated performance grew because of the increase of our interest from 15% to 28%. A segment loss was recorded due to the impairment loss in Sierra Gorda S.C.M. and lower copper prices.

Smelting & Refining Segment

On a year-on-year basis, the production levels and sales volume of copper increased while nickel and gold declined. Segment profit grew mainly due to cost reductions at Coral Bay Nickel Corporation and Taganito HPAL Nickel Corporation, despite the impact of the drop in nickel prices, lower nickel sales volume and other factors.

Since the proportion of SMM's recurring profit (segment gain/loss) includes the proportion attributable to non-controlling interests, it does not match the proportion that SMM itself holds.

Materials Segment

Production levels and sales volume increased year-on-year as we invested in expansion of battery and crystal material production to meet increasing demand for materials for automobile batteries, smartphones and others. Sales volume of package materials fell due to sluggish demand for components used in PCs and LCD televisions. Overall the segment profit increased year-on-year as a result of investments on expansions.

FY2017 Plan

In FY2017, although net sales are expected to increase, primarily due to an upturn in the prices of copper and nickel, operating income is expected to decrease, mainly due to deterioration of the terms and conditions for purchasing copper concentrates and the impact of inventory valuation of electrolytic copper. Net sales are expected to reach ¥855.0 billion, with operating income of ¥75.0 billion, recurring profit of ¥90.0 billion, and profit attributable to owners of parent of ¥63.0 billion on a consolidated basis.

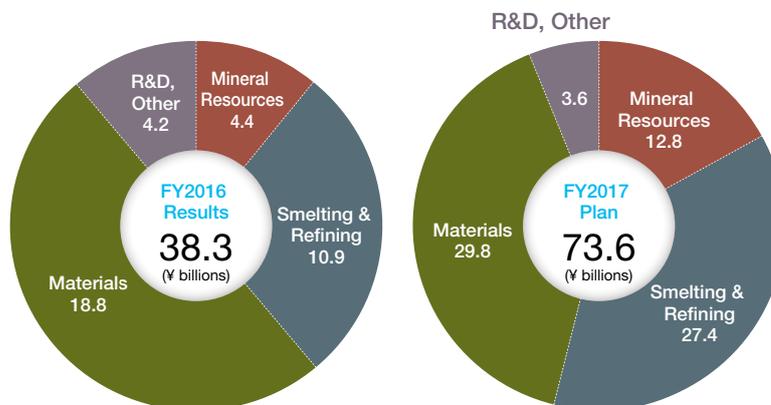
Capital Expenditure Related to Environmental Preservation

(¥ millions)

FY	Pollution prevention/ environmental preservation	Energy conservation	Total
2016	3,730	240	3,970
2017	6,508	731	7,238

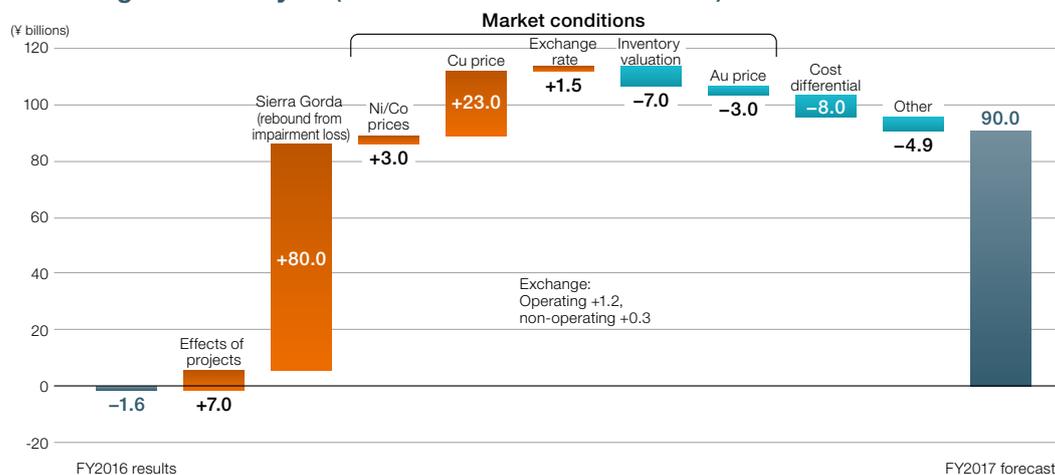
Expenditures on suspended or abandoned mines are recorded as "maintenance expense of suspended or abandoned mines" so they are excluded from capital expenditures. Please refer to p. 49 for expenses related to suspended or abandoned mines.

Capital Expenditures (FY2016 Results and FY2017 Plan)



For FY2017, we plan capital expenditures of ¥73.6 billion, an increase from ¥38.3 billion in FY2016, excluding ¥112.0 billion of investments on overseas mineral resources and non-ferrous metals projects. Major investments are ¥17.5 billion for expanding monthly production of lithium nickel oxide production by 3,550 t, ¥3.5 billion on the scandium recovery business, and ¥2.0 billion for expanding LT/LN substrate production capacity.

Recurring Profit Analysis (FY2016 Results vs. FY2017 Forecast)



Mineral Resources Segment

In the mineral resources segment, earnings are expected to increase compared to the previous year, FY2016, mainly due to an increase in copper prices and decreased loss by Sierra Gorda S.C.M. Net sales for the segment are expected to increase by ¥23.6 billion year-on-year to ¥147.0 billion, and segment profit is expected to increase by ¥102.6 billion year-on-year to ¥49.0 billion.

Smelting & Refining Segment

In the smelting and refining segment, earnings are expected to fall compared to the previous year, FY2016, mainly due to deterioration of the terms and conditions for purchasing copper concentrates and the impact of inventory valuation of electrolytic copper. Net sales for the segment are expected to increase by ¥22.9 billion year-on-year to ¥588 billion and segment profit is expected to decrease by ¥7.3 billion year-on-year to ¥26.0 billion.

Materials Segment

In the materials segment, earnings are expected to be roughly on par with FY2016 because the lower earnings from withdrawal from the lead frame business will be offset by increased revenues from the battery materials and crystal materials businesses. Net sales for the segment are expected to increase by ¥10.9 billion year-on-year to ¥185.0 billion and segment profit is expected to decrease by ¥0.1 billion year-on-year to ¥12.0 billion.

Approach to Finance

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

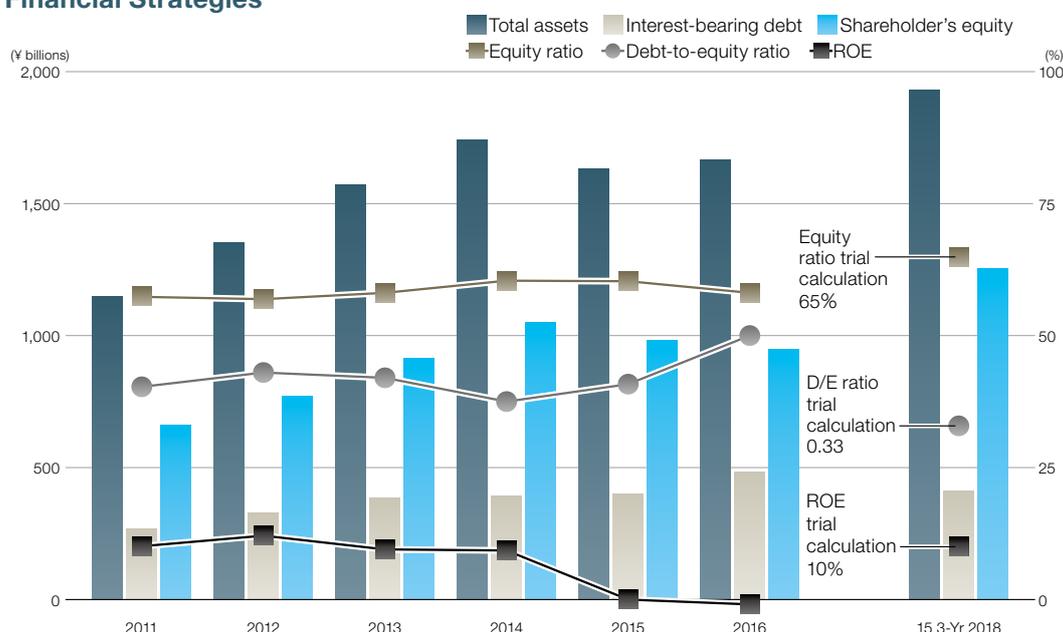
The short-term performance of SMM's core businesses, mineral resources and smelting and refining, is greatly affected by factors including the volatility of non-ferrous metal prices and foreign exchange rates.

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 will leverage this strong financial base and concentrate management resources into priority areas, while undertaking active investment aimed at acquiring

interests and operating overseas mines, the enhancement of smelting and refining facilities, and expanding battery and crystal material production capacity.

Improving ROA is also 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 such 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

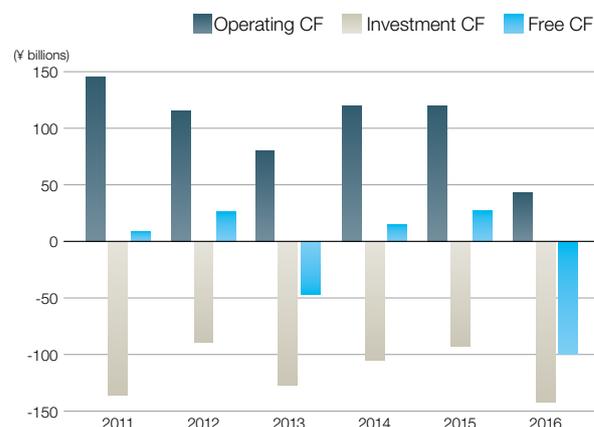


Approach to Funding

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. It is also 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 metal prices, foreign 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 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, the SMM Group does 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 using 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 Morenci Copper Mine boasts world-class copper production and a long history of operation in the U.S. We believe that this mine, which continues to operate stably, will play a vital role in SMM's mineral resources business.

The needs and demands from 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.

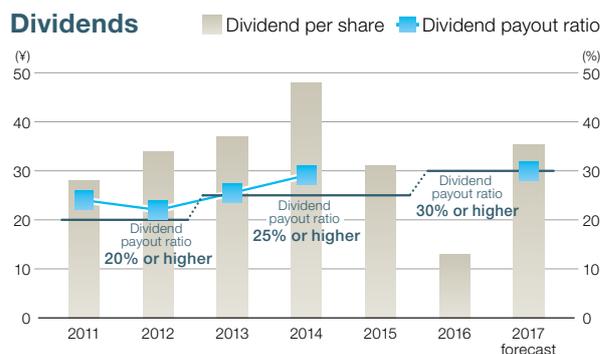
Major Projects

	Project name	FY2015	FY2016	FY2017	FY2018 and later
Mineral Resources	Cu Sierra Gorda Copper Mine		● Start commercial production ● 110-kt production structure		● Start debottlenecking
	Cu Morenci Copper Mine	● Start expanded full-scale production	● Additional interest acquired		
	Cu Cerro Verde Copper Mine		● Start full-scale operations of expansion project		
Smelting & Refining	Ni Solomon			● Decision to withdraw (August 2017)	
	Ni Taganito HPAL			● 36-kt production structure	
	Ni Pomalaa Project			● Conduct DFS	● Decision on investment
Materials	Ni Harima Refinery nickel sulfate		● Second line launch		● 49-kt production structure
	Battery materials		● NCA 1,850-t structure	● NCA 3,550-t structure	● NCA 4,550-t structure
	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.



Directors and Audit & Supervisory Board Members

(As of July 1, 2017)

Directors



Yoshiaki Nakazato

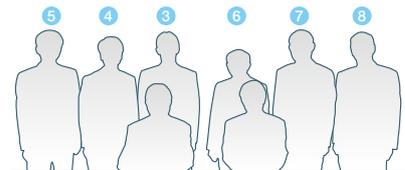
President and Representative Director

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

Takeshi Kubota

Representative Director, Executive Vice President

April 1977 Joined the Company
 June 2004 General Manager of Nickel Business Unit, Non-Ferrous Metals Div.
 October 2005 General Manager of Nickel Sales & Raw Materials Dept., Non-Ferrous Metals Div.
 June 2006 Executive Officer
 Senior Deputy General Manager of Non-Ferrous Metals Div.
 June 2007 General Manager of Non-Ferrous Metals Div.
 June 2009 Managing Executive Officer
 June 2010 Director
 June 2012 Senior Managing Executive Officer
 June 2015 Resigned Director
 President of Sumitomo Metal Mining Philippine Holdings Corporation
 July 2016 Chairman of Sumitomo Metal Mining Philippine Holdings Corporation (Present Position)
 June 2017 Representative Director (Present Position)
 Executive Vice President (Present Position)



- 1 Yoshiaki Nakazato
- 2 Takeshi Kubota
- 3 Harumasa Kurokawa
- 4 Akira Nozaki
- 5 Hiroshi Asahi
- 6 Tsutomu Ushijima
- 7 Hitoshi Taimatsu
- 8 Kazuhisa Nakano

Harumasa Kurokawa

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

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

Akira Nozaki

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

April 1984 Joined the Company
 July 2010 Corporate Planning Dept.
 May 2012 Administration Dept., Sierra Gorda Project Dept.
 June 2013 Executive Officer
 Senior Deputy General Manager of Non-Ferrous Metals Div.
 June 2014 Director (Present Position)
 General Manager of Corporate Planning Dept.
 June 2015 General Manager of Non-Ferrous Metals Div. (Present Position)
 June 2016 Managing Executive Officer (Present Position)

Hiroshi Asahi

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

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

Tsutomu Ushijima

Outside Director

April 1976 Registered as a lawyer
 April 1982 Established Ushijima Law and Tax Accountant Firm
 June 1982 Registered as a certified public tax accountant
 January 1994 Established Ushijima Teramae Law Firm (current Ushijima, Teramae & Wada Law Firm)
 June 2003 Audit & Supervisory Board Member of the Company
 June 2007 Director of the Company (Present Position)

Hitoshi Taimatsu

Outside Director

April 1979 Research Associate of the Mining College of Akita University
 October 1988 Lecturer of the Mining College of Akita University
 April 1990 Associate Professor of the Mining College of Akita University
 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, 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, 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)

Kazuhisa Nakano

Outside Director

April 1971 Joined Idemitsu Kosan Co., Ltd.
 April 2003 Executive Officer and General Manager of Personnel Department of Idemitsu Kosan Co., Ltd.
 June 2004 Director of Idemitsu Kosan Co., Ltd.
 June 2005 Managing Director of Idemitsu Kosan Co., Ltd.
 June 2007 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.

Audit & Supervisory Board Members



Kazushi Ino

Senior Audit & Supervisory Board Member
(Standing)

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)

Junichi Kondo

Outside Audit & Supervisory Board Member

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 (Present Position)
June 2016	Audit & Supervisory Board Member of the Company (Present Position)

Yasuyuki Nakayama

Audit & Supervisory Board Member
(Standing)

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)

Yuichi Yamada

Outside Audit & Supervisory Board Member

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

* Yoshiaki Nakazato

In charge of Corporate Planning Dept.

Executive Vice President

* Takeshi Kubota

In charge of Legal & General Affairs Dept., Secretarial Dept., Internal Audit Dept., Information System Dept.

Senior Managing Executive Officer

* Harumasa Kurokawa

General Manager of Materials Div., in charge of Ome District Div.

Managing Executive Officers

* Akira Nozaki

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

Hiroki Kadoya

Senior Deputy General Manager of Materials Div.

Hiroyuki Asai

General Manager of Public Relations & Investor Relations Dept., in charge of Purchasing Dept.

Executive Officers

Hirohisa Oda

Senior Deputy General Manager of Mineral Resources Div. (Posted in Chile)

Masahiro Morimoto

General Manager of Finance & Accounting Dept.

Masaki Imamura

General Manager of Technology Div.

* Hiroshi Asahi

General Manager of Mineral Resources Div.

Atsushi Idegami

Senior Deputy General Manager of Materials Div.

Shuichi Yasukawa

General Manager of Human Resources Development Dept., General Manager of Personnel 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

Senior Deputy 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.

Isao Abe

Senior Deputy General Manager of Materials Div.

Takahiro Kanayama

General Manager of Besshi-Niihama District Div.

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 instituted the SMM Group Corporate Philosophy based on the Sumitomo Business Spirit and will seek to (1) make positive contributions to society and fulfill our responsibilities to our stakeholders through the performance of sound corporate activities and the promotion of sustainable co-existence with society and the global environment in order to win ever greater trust from our stakeholders and (2) be a forward-minded and vibrant company based on respect for all individuals and recognizing each person's dignity and value.

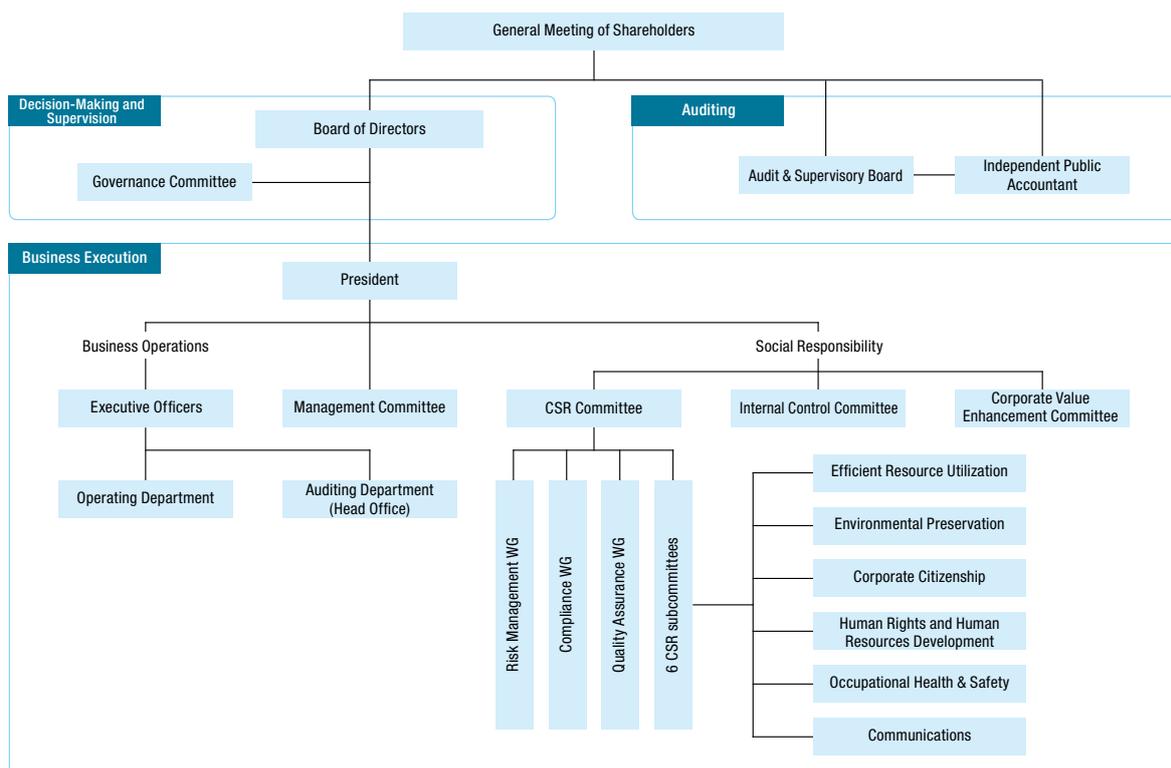
Through striving to enhance our corporate governance, SMM will conduct efficient and sound business activities, make

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 Systems

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. Furthermore, our policies stipulate that one-third or more of directors be independent outside directors. Based on these policies, SMM has three outside directors among our current 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. In FY2016, ahead of this evaluation of effectiveness, the Board of Directors deliberated the proper objective of the Board of Directors, reaffirming points including the desire for a Board that emphasizes decision-making functions. Following this, we undertook the analysis and evaluation of the effectiveness of the Board of Directors. Doing so, we confirmed that the Board of Directors overall demonstrates supervisory functions through decision-making conducted in light of the objective of the Board, and that no serious issues are recognized in the effectiveness of the Board of Directors.

At the same time, from the standpoint of increasing the efficiency of discussion in the Board of Directors and enhancing deliberations concerning important management matters, there were opinions calling for further review of matters brought before the Board of Directors and the enhancement of opportunities for outside directors to observe business sites. In response to these comments, SMM amended the criteria for matters brought before the Board of Directors, effective April 1, 2017, and created and started a program for observation of business sites by outside directors.

SMM will continue making efforts to improve the effectiveness of our Board of Directors.

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, vice president, senior managing executive officers, and other executive officers. The outside directors, and Audit & Supervisory Board members are also allowed to 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 director 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.

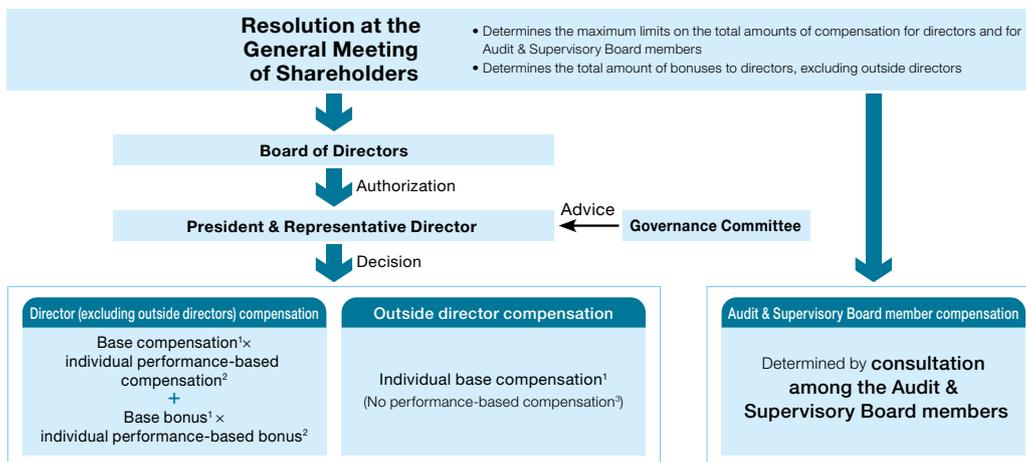
The amount of basic compensation for each individual Audit & Supervisory Board member will be determined by consultation among the Audit & Supervisory Board members at the Audit & Supervisory Board within the total compensation amount approved by the General Meeting of Shareholders.

FY2016 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)	6	¥214 million	¥214 million	—
Audit & Supervisory Board members (excluding outside Audit & Supervisory Board members)	3	¥60 million	¥60 million	—
Outside directors Outside Audit & Supervisory Board members	6	¥57 million	¥57 million	—

- Note 1: In addition to the aforementioned, an employee salary portion totaling ¥15 million was paid to two persons who serve concurrently as directors and employees.
- Note 2: In order to demonstrate managerial responsibility for the impairment loss incurred at Sierra Gorda S.C.M. during the term and the previous term, the Chairman of the Board, the president & representative director, one director, and one person who serves concurrently as director and employee each voluntarily returned compensation and employee salary, as noted below. The amounts of voluntarily returned compensation for the relevant months are not included in the above amounts of total director compensation, basic compensation, and employee salary for the person who serves concurrently as director and employee.
- (1) Salary portion for April 2016
 - For the Chairman of the Board and the president & representative director: 30% of the basic monthly compensation
 - For the one person who serves concurrently as director and employee: 10% of the basic monthly compensation and employee salary
 - (2) Salary portion for February and March 2017
 - For the president & representative director and one director: 30% of the basic monthly compensation

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 formulated Corporate Governance Guidelines on February 15, 2016.

The Guidelines, which cover the main provisions of the Corporate Governance Code formulated by the Tokyo Stock

Exchange, are intended to convey 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 Tsutomu Ushijima	Outside Director Hitoshi Taimatsu	Outside Director Kazuhisa Nakano	Outside Audit & Supervisory Board Member Junichi Kondo	Outside Audit & Supervisory Board Member Yuichi Yamada
Reason for Appointment	Based on his specialist knowledge and wealth of experience as a lawyer and a licensed tax accountant, he was appointed as an outside director to provide advice to SMM on business matters, particularly from a compliance perspective.	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.	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.	Based on his wealth of financial institution experience, he was appointed as an outside Audit & Supervisory Board member.	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	During the term, the Board of Directors convened 16 times (12 regular meetings and 4 extraordinary sessions). He attended all meetings.	During the term, the Board of Directors convened 16 times (12 regular meetings and 4 extraordinary sessions). He attended all meetings.	After his appointment as outside director, the Board of Directors convened 12 times (9 regular meetings and 3 extraordinary sessions). He attended all meetings.	After his appointment as Audit & Supervisory Board member, 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.	He is a new Audit & Supervisory Board member appointed at the Ordinary General Meeting of Shareholders in June 2017.

Initiatives to Strengthen Governance at SMM

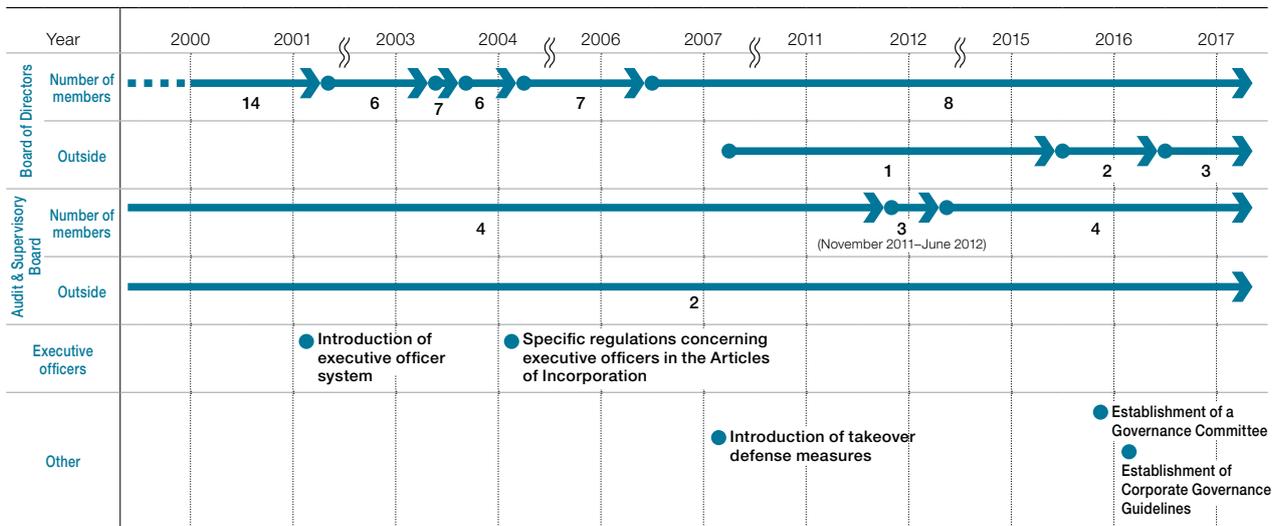
SMM positions corporate governance as one of the most important issues in our management, and is taking steps to strengthen governance.

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 an executive officer system

SMM introduced an executive officer system with the aim of separating decision-making and supervisory functions from executive functions in management and further enhancing and strengthening the functions of each of these. Accordingly, we reviewed our management framework and made changes that include a shift from a structure of 14 directors to one of 6 directors and 14 executive officers. In June 2004, we made specific regulations in the Articles of Incorporation regarding executive officers.

February 2007

■ Introduction of takeover defense measures

Takeover defense measures prescribe procedures if a large-volume of the company's stock is acquired. These measures were established to enable shareholders to appropriately judge whether to allow such large-volume purchases, and to provide the Board of Directors with necessary and sufficient information and time to prepare counterproposals. The measures have been renewed every three years since their inception.

June 2007

■ Appointment of outside director

In order to strengthen corporate governance through objective management decisions by an independent, external director, SMM appointed an outside director.

■ Shortening of terms of directors

In order to clarify management responsibilities, SMM shortened the term of directors from two years to one year.

June 2015

■ Two-person outside director system

In order to further strengthen corporate governance, two outside directors were elected at the Ordinary General Meeting of Shareholders in June 2015, creating a system of multiple outside directors.

November 2015

■ Establishment of a Governance Committee

To address the nomination of directors, determination of compensation, and other key matters in corporate governance, SMM established a voluntary Governance Committee for the purpose of obtaining objective advice from the Chairman of the Board and outside directors, who are not executive officers.

■ Evaluation of the effectiveness of the Board of Directors

Every fiscal year since FY2015, SMM analyzes and evaluates the effectiveness of the Board of Directors in order to verify that the Board of Directors overall functions appropriately from the standpoint of proper decision-making in the execution of duties and supervisory functions, and to effect continual improvements.

February 2016

■ Establishment of Corporate Governance Guidelines

SMM established the Corporate Governance Guidelines for the purpose of indicating the company's basic thinking and framework concerning its corporate governance. Among these guidelines is the stipulation that at least one third of directors be independent outside directors.

June 2016

■ Three-person outside director system

In accordance with the Corporate Governance Guidelines, SMM enhanced its outside director system by one person to create a three-person system.

August 2016

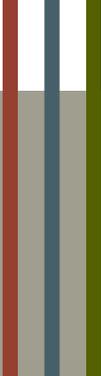
■ First Outside Directors Council meeting held

SMM convened an Outside Directors Council meeting 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 share information and share understanding. Discussions at this first meeting focused on the Board of Directors as a whole and on compliance violations.

December 2016

■ Discussion of what the Board of Directors should ideally be

Ahead of the FY2016 evaluation of the effectiveness of the Board of Directors, the Board of Directors deliberated what the Board of Directors should ideally be, reaffirming points that included the desire for a Board that emphasizes decision-making functions.



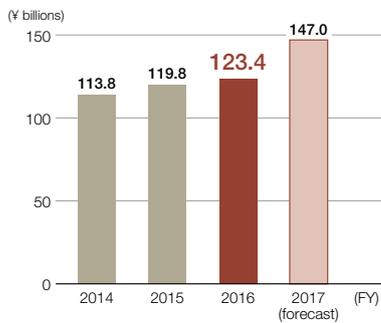
Review of Operations

46	Mineral Resources Business
50	Smelting & Refining Business
54	Materials Business
58	Research & Development
60	Topic

Mineral Resources Business

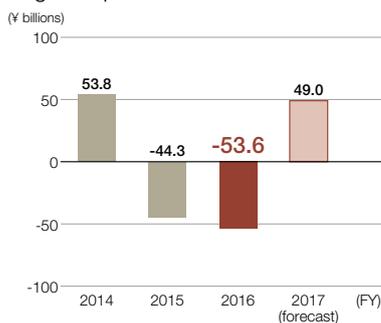
SMM uses the technology accumulated from operating Besshi Copper Mine (opened in 1691) and incorporates it in operations of Hishikari Mine (opened in 1985) and Pogo Gold Mine (opened in 2006). Additionally, SMM acts as a professional mine developer and operator seeking out superior resources in regions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

Net sales



Hishikari Mine's operations continued according to plan so sales of gold were 6 tons, as planned. Pogo Gold Mine production volume and gold sales volume were below targets, a result partially attributable to a decline in the grade of gold ore. The Morenci Copper Mine enjoyed increases in production volume and copper sales volume due to such factors as additional acquired interests.

Segment profit



Losses amounted to ¥53.6 billion owing to, among other factors, an impairment loss at the Sierra Gorda Copper Mine and a drop in copper prices continuing on from the previous year.

Business environment and priority measures for the 2015 3-Year Business Plan

Prices of non-ferrous metals in FY2016 saw gold go up as concerns over economic slowdown in China pushed copper prices down. Although the market for non-ferrous metals is unlikely to rise significantly in the near term, we predict a recovery over the medium- to long-term as supply and demand improves. Meanwhile, conditions grow more strained for the environment surrounding resource development due to rising mine development costs and growing resource nationalism, among other factors. SMM is focusing on efforts that include strengthening exploration, mineral processing and other technologies while also strengthening partnerships with nations and local communities.

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.

FY2016 initiatives

Hishikari Mine operations proceeded according to plan. At the Pogo Gold Mine, a decline in the grade of gold ore contributed to production volume and sales underperforming initial targets. Concerning Morenci Copper Mine operations, figures were roughly on a par with the previous period. However, since boosting our stake in the mine has given us a 25% interest, the production and sales volumes reflected in our results has increased.

At the Sierra Gorda Copper Mine, where both operations and performance are low, efforts were made to achieve stable operation and improve efficiency. The result was processing volume at a level close to full-scale operations in the second half of FY2016, and full year copper production volume at 94,000 tons.

Hiroshi Asahi

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



Topic Aiming to acquire gold interests with a new dedicated Business Development Team

One of the targets laid out in SMM's Long-Term Vision is achieving a 30-ton annual gold production interest in 2021, for which end we are now exploring and acquiring interests around the world. In the interest of speeding up these efforts, we established the Business Development Team under the Exploration & Development Department of the Mineral Resources Division in August 2016 (the team became the Business Development Department in July 2017).

Dedicated solely to the acquisition of gold interests, the team comprises four experts from fields such as mining, exploration, and accounting. The team targets primarily mines currently being developed or those around the feasibility study* stage, and is

With a view to acquiring new interests in gold, which is deviating from the targets set forth in the Long-Term Vision, we established a team dedicated to discovering and evaluating gold development opportunities in August 2016. The team is now actively engaged primarily in Canada, Australia, and South America.

The mineral resources segment's net sales were ¥123.4 billion (up 3% compared to FY2015) due to the acquisition of additional interests. Losses totaled ¥53.6 billion, the result of an ¥80.1 billion impairment loss recorded for the Sierra Gorda Copper Mine and a decline in copper prices, among other factors.

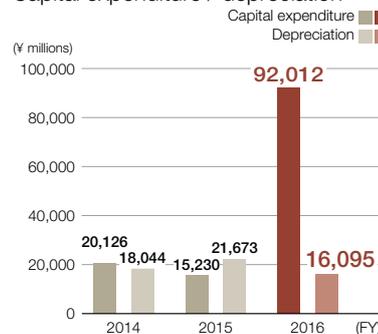
FY2017 priority measures and the outlook going forward

Regarding the Sierra Gorda Copper Mine, providing technical support together with our partners, like dispatching SMM engineers, will be among the ongoing efforts aimed at improving efficiency and achieving stable operations. We are also focused on making improvements with respect to molybdenum, for which operations have been in a slump, and expect to nearly meet the planned production in the second half of FY2017. Regarding copper, plans call for an annual production volume of 100,000 tons.

With regard to acquiring further gold interests, we have signed a contract to acquire a 27.75% stake in the Côté Gold Project in Canada. The project is currently at the pre-feasibility study stage, with operations expected to begin in FY2021. As for gold mines, we will focus on our own exploration while we continue to actively pursue the acquisition of new interests.

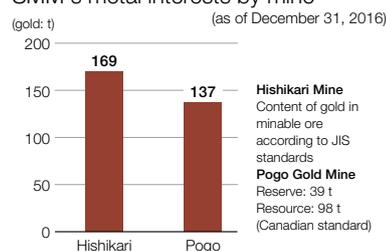
With respect to FY2017 segment performance, we are expecting net sales of ¥147.0 billion (up 19% compared to FY2016) and profits of ¥49.0 billion due to rising copper prices and decreasing losses at the Sierra Gorda Copper Mine, among other factors.

Capital expenditure / depreciation



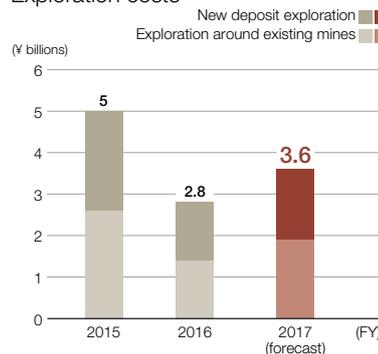
Included in FY2016 capital expenditures is an increase in tangible fixed assets and other assets resulting from acquisition of an additional 13% interest in the Morenci Copper Mine.

SMM's metal interests by mine



Metal reserves by mine, calculated as of December 31, 2016, are 169 tons (almost no change from last fiscal year) at Hishikari Mine and 137 tons (down 8 tons from last fiscal year) at Pogo Gold Mine.

Exploration costs



In 2017, we will proceed with exploration focused on gold and will dedicate further effort to exploration around mines already in operation.

conducting surveys and issuing proposals with a view to M&A as well as joint development. Focusing on a number of aspects that include gold reserves, mining conditions, and country risk, the team analyzes information collected from investment firms and various other sources. The team has examined 20 projects over the eight months since its formation, and is now identifying those with the most promise.

As a result of these efforts, on June 6, 2017 SMM publicly announced its participation in the Côté Gold Project (in which Canada-based IAMGOLD Corporation holds a 92.5% interest) and acquisition of a 30% interest (27.75% in the overall project). We will continue to actively pursue acquisition of gold interests in order to achieve our goals.

* Feasibility study: Preliminary survey to evaluate project feasibility from a number of perspectives.



Receiving an explanation of the project from IAMGOLD at the top of the Cote Gold Mine pit

Strengths of the mineral resources business and activities that support growth potential

Strength 1 Accumulated mining and exploration technology

Along with utilizing the Hishikari Mine as a site for nurturing mining engineers, SMM also dispatches engineers to other mines in which we hold an interest, fostering human resources with expertise in and knowledge of mine exploration, development, and operation.

Strength 2 Robust relationships of trust with our partners

In preserving our mine interests, SMM goes beyond mere investment; we dispatch employees and form cooperative technology relationships, which allows us to earn a high degree of trust from our partners.

Strength 3 Co-existing with local communities

While 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.

Strength 4 High-precision techniques for evaluating profitability

When acquiring mine interests, leveraging the vast amounts of mine-related information concerning reserves, investment amounts, risk, and other aspects that we have accumulated over many years allows us to conduct highly-accurate profitability evaluations.

Implementing tailings dam stabilization measures for closed and suspended mines in Japan with a view to sustainable mine management and operation

ESG

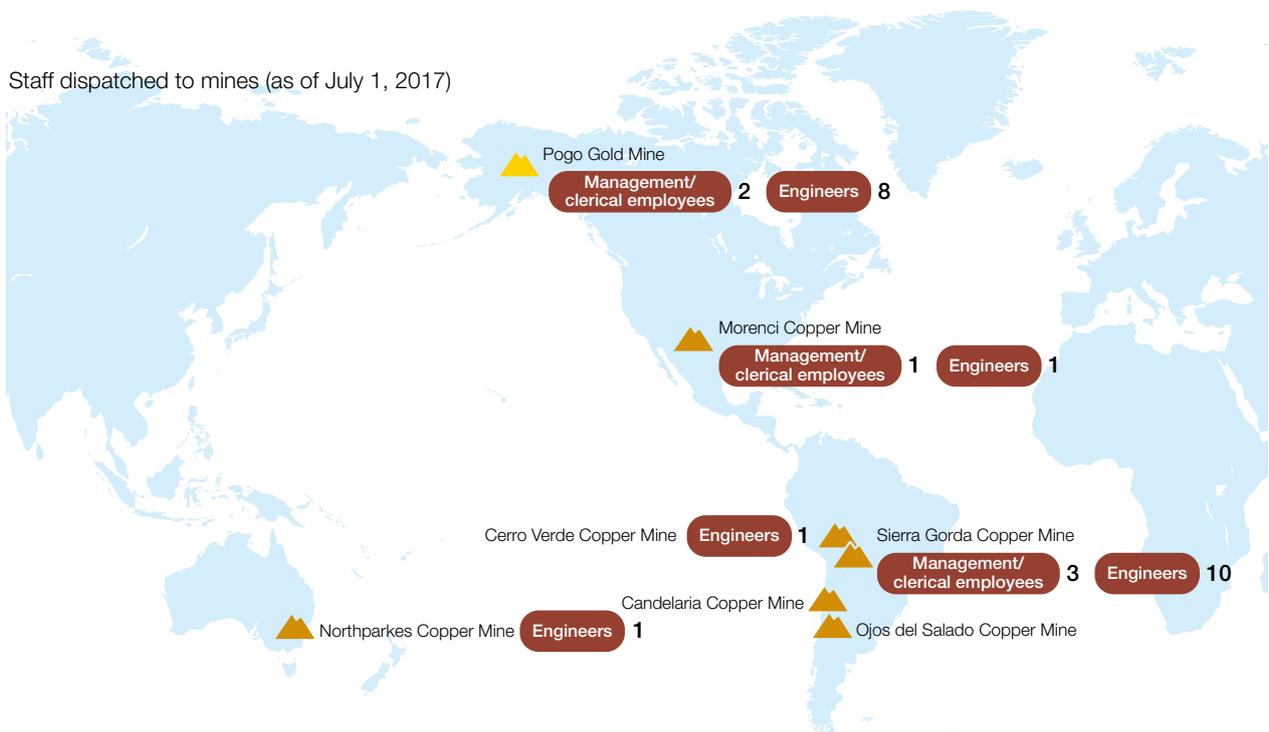
Preventing damage to the environment in the event of earthquakes or other disasters

Operating mines sustainably requires a variety of efforts to minimize the impact on the environment. One of these is managing the accumulation sites for the spoil, slag and deposits produced by mines.

Recent years have seen a series of slag accumulation site (“tailings dams”) collapses at mines in Canada and Brazil. In response, the ICMM¹, whose membership comprises the world’s largest mining companies, formulated a new basic policy on tailings dam management in December 2016. In Japan, too, the Great East Japan Earthquake caused tailings dam accretion leakages at mines no longer in operation, affecting rivers, railways, and farmland. In preparation for large-scale earthquakes that could occur in the future, the Ministry of Economy, Trade and Industry revised its Technology Policy in 2012. Under the new technical guidelines, facilities for which “special conditions”² apply, stability evaluations for large-scale seismic vibration³ must be conducted.

1. International Council on Mining and Metals
 2. (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 m³ or more (including even those below 50,000 m³ if there are important structures immediately below and or damage could result from an outflow)
 3. The highest level of seismic vibrations conceivable at the time of installation

Staff dispatched to mines (as of July 1, 2017)



Staff are also dispatched to joint-venture exploration projects and to research institutions

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



Undertaking stabilization work at five facilities nationwide

As a member of the ICMM, SMM is responding to this development by undertaking stabilization work 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 have been 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 spent on stabilization work at these mines from FY2014 to FY2015.

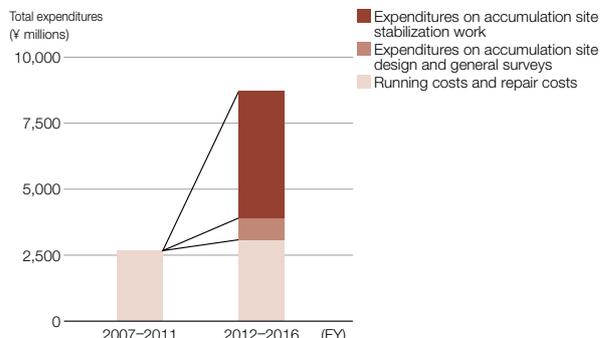
At slag accumulation site no. 2 at the Okuchi Mine, ground improvement was used to prevent the liquefaction of accretions. During site stabilization, we established provisional water treatment facilities that treated the turbid water produced in the course of the work and endeavored to achieve a mutual understanding with members of the community through efforts that included holding briefings about and tours of the work being done. In addition, Konomai Mine facilities were reinforced by ground improvement and remedial filling for dams vulnerable to liquefaction, with stabilization work being carried out based on considerations of the characteristics of the various facilities.

Even 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



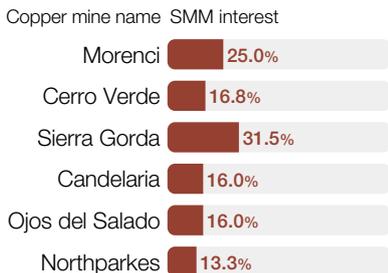
six locations that were determined to be insufficient. The SMM Group continues initiatives to minimize the environmental impact of discontinued mines, as well, promoting safety management.

Expenditures for closed/suspended mines, 5 years before/after the Great East Japan Earthquake

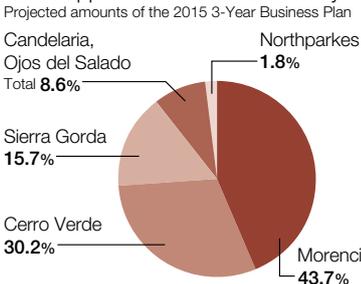


In FY2012, the fiscal year after the Great East Japan Earthquake that occurred on March 11, 2011, SMM began conducting surveys to evaluate the seismic resistance of tailings dams. For tailings dams that required improvement, stabilization work was concentrated in FY2014 and FY2015.

Copper mines in which SMM has ownership



Total copper interests: breakdown by mine

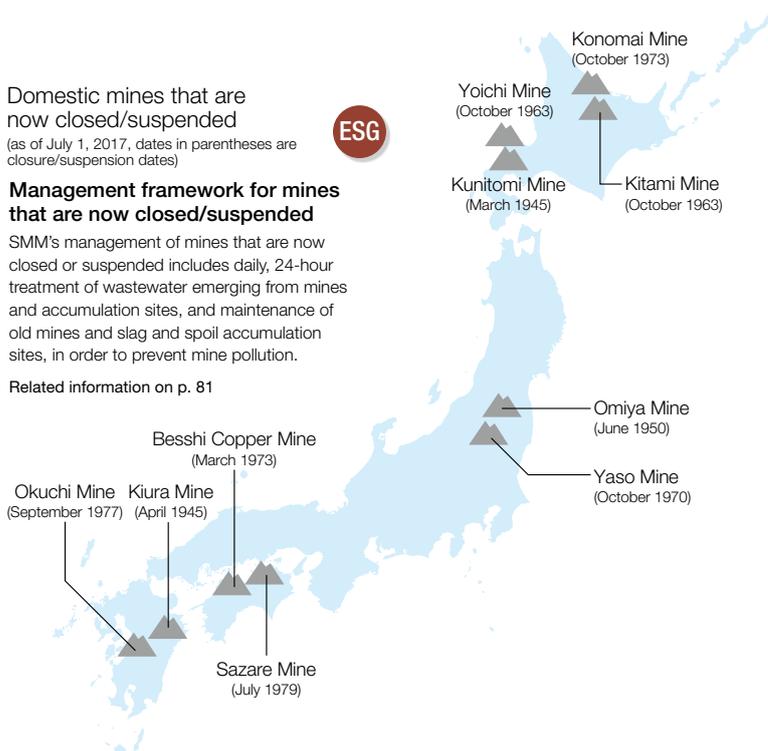


Domestic mines that are now closed/suspended
(as of July 1, 2017, dates in parentheses are closure/suspension dates)

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.

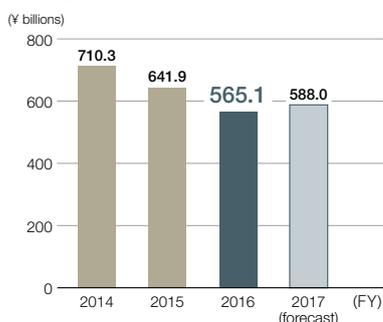
Related information on p. 81



Smelting & Refining Business

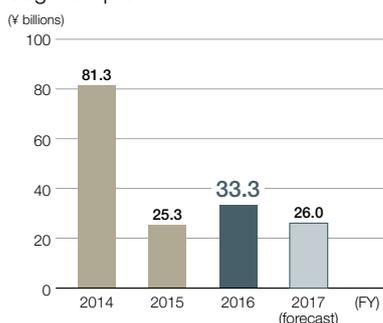
SMM smelts and refines raw materials procured from a variety of sources, mainly from mines where we have an interest, into such metals as copper, nickel, and gold. SMM possesses world-class smelting and refining technology; we were the first in the world to commercialize recovery of nickel from low-grade 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.

Net sales



Production levels and sales volume of copper increased year-on-year. However, production levels and sales volume of nickel and gold declined year-on-year. CBNC and THPAL changed from a December-end closing to a March-end closing in the previous fiscal year, making it a 15-month period, so production levels and sales volume decreased compared to that year.

Segment profit



Segment profit grew year-on-year, due mainly to cost reductions by CBNC and THPAL, despite the impact of a drop in nickel prices, lower nickel sales volume and other factors.

Business environment and priority measures for the 2015 3-Year Business Plan

In the FY2016 business environment, although there were changes to be concerned about, for example increased protectionism and antiforeignism, primarily in the United States, the prices for non-ferrous metals were firm, overall. One notable change was the relaxation of export restrictions on unprocessed ores, such as nickel, in Indonesia in January 2017. Going forward, the prices of non-ferrous metals are expected to increase along with improvement in demand over the medium- to long-term. 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, 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.

FY2016 initiatives

Production levels and sales volume of copper increased year-on-year. However, with regard to nickel, there was a decrease in production and sales due to reduced production of intermediate at both Coral Bay Nickel Corporation and Taganito HPAL Nickel Corporation. Also, the accounting period for Coral Bay Nickel Corporation and Taganito HPAL Nickel Corporation for FY2015 covered a 15-month period to match the consolidated closing date of SMM, March 31. As a result, production levels and sales volume declined year-on-year.

As for major initiatives, copper smelting and refining at the Toyo Smelter & Refinery reached an all-time high of 450,000 tons for the year. Also, as part of strengthening competitiveness, we are also recovering copper and nickel from secondary materials such as metal scrap. At the Harima Refinery, we proceeded with the transitioning of operations and built a 45,000-ton nickel sulfate production structure. Aiming to enhance the

Akira Nozaki

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



Topic Start of mass production of scandium for use in fuel cells

SMM is proceeding with plans for the first Western commercial production of scandium. This scandium is produced as a by-product of HPAL technology, which SMM was the first in the world to successfully commercialize. The scandium will be recovered and a plant will be established at Taganito HPAL Nickel Corporation to manufacture an intermediate product from it. Further, a process to turn the intermediate into the final product, scandium oxide, will be established at the Harima Refinery.

Scandium is one of the rare earth elements and it is expected to be used in applications such as fuel cells. Currently, annual

competitiveness of HPAL, we also started building a new scandium production structure. As a result of these initiatives, the smelting and refining segment's net sales were ¥565.1 billion (down 12% compared to FY2015) and profits were ¥33.3 billion (up 32% compared to FY2015).

FY2017 priority measures and the outlook going forward

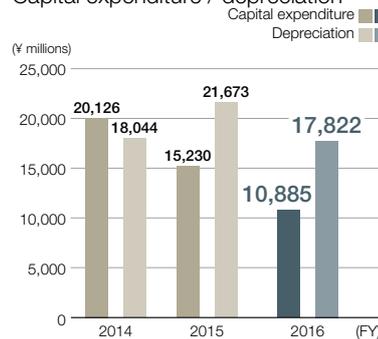
We will continue to promote measures implemented in FY2016. At the Toyo Smelter & Refinery, in addition to maintaining full production of 450,000 tons, we will proceed with further production efficiencies and cost reductions, strengthening competitiveness. At the Harima Refinery, we will make investments aiming for a 49,000-ton production structure, strengthening our ability to supply battery materials. At Hyuga Smelting Co., Ltd., we will maintain a production structure optimized for ferro-nickel.

As for Coral Bay Nickel Corporation and Taganito HPAL Nickel Corporation, we are aiming for a 60,000-ton combined production structure from the second half of 2017. We will also proceed with considering commercialization of the HPAL plant at Pomalaa in Indonesia.

With regard to scandium, we are planning to start commercial production in FY2018 and, aiming to make HPAL high value added, we are also proceeding with considering the commercialization of chromite. At SMM, we promote a business of synergies from the three businesses of mineral resources, smelting and refining, and materials. Going forward we will work to strengthen supply and sales of non-ferrous metals through cooperation with the materials business.

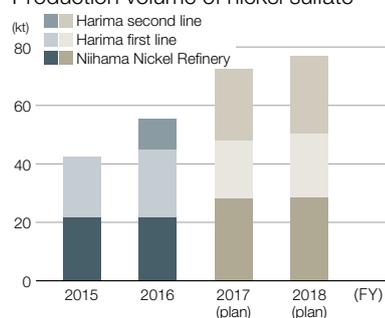
With respect to FY2017 segment performance, we are expecting net sales of ¥588.0 billion (up 4% compared to FY2016) and profits of ¥26.0 billion (down 22% compared to FY2016) due to the worsening of raw material conditions for copper concentrates and the effects of inventory valuation of electrolytic copper and others.

Capital expenditure / depreciation

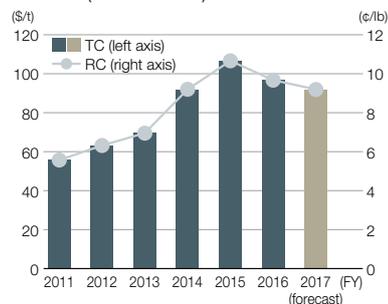


Nickel sulfate production facilities were increased at the Harima Refinery. Overseas, investments were made in THPAL and elsewhere.

Production volume of nickel sulfate



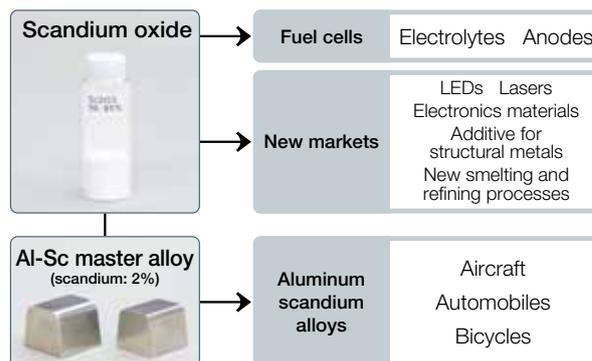
TC/RC (benchmark)



world-wide production is low, at 10–15 tons (scandium oxide equivalent) so demand is limited. However, with SMM's commercial production, long-term and stable supply will be possible. SMM has already concluded a long-term sales agreement with a major US-based fuel cell manufacturer and going forward will expand into new applications, with fuel cells at the core, and develop the market along with potential customers.

By proceeding to efficiently recover resources, such as scandium, SMM will increase the added value of HPAL technology and further improve the competitiveness of its nickel business.

Potential of scandium



Strengths of the smelting and refining business and activities that support growth potential

Strength ① Refineries with robust cost competitiveness

We have achieved world class cost competitiveness in copper smelting and refining at our Toyo Smelter & Refinery, our flagship smelter and refinery, through policies to improve production efficiency implemented over more than 40 years of operations, and also in nickel smelting and refining by combining HPAL technology and the MCLE process of the Niihama Nickel Refinery.

Strength ② Use of low-grade nickel oxide ore with HPAL technology

SMM has moved ahead of its global peers by succeeding in the commercial production of nickel intermediates from low-grade nickel oxide ore using HPAL technology. Converting low-grade nickel oxide ore into a resource 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

Related information on p. 97

While carrying out dialogue with stakeholders, we listen to the needs and concerns of local communities, leading to operation of our smelters and refineries that is in harmony with these groups and has responsible environmental management, as we strive to stably supply our products.

Moving Taganito HPAL Nickel Corporation to a 36,000-ton annual nickel production structure to keep up with the rapid increase in demand for automobile-use secondary battery cathode materials

Securing resources from low-grade nickel oxide ore with HPAL technology

Taganito HPAL Nickel Corporation (THPAL) is a new project started because of the success of the Coral Bay Nickel Corporation's HPAL (High Pressure Acid Leach) commercial production. Construction started in 2010 and it has been producing commercially since 2014. Ore is supplied by our partner investor, NAC, which owns the neighboring Taganito Mine, and a mixed nickel-cobalt sulfide called mixed sulfide (MS) is produced. After this, the Niihama Nickel Refinery and Harima Refinery in Japan refine this MS, producing electrolytic nickel, electrolytic cobalt, nickel sulfate, etc. This HPAL process is a process that makes possible the recovery of nickel and cobalt from low-grade nickel oxide ore, which couldn't be smelted and refined with traditional technology. It is contributing greatly to the securing and effective use of precious resources.

SMM Group refineries and their main products

Refinery name	Products
Toyo Smelter & Refinery	Electrolytic copper
	Copper sulfate
	Slag sand
	Gold ingot, gold shot
	Silver shot
Niihama Nickel Refinery	Electrolytic nickel
	Electrolytic cobalt
	Nickel sulfate
	Nickel chloride
Harima Refinery	Nickel sulfate
Hyuga Smelting Co., Ltd.	Ferronickel shot
	Green sand
Shisaka Smelting Co., Ltd.	Zinc oxide pellet
	Iron containing pellet
CBNC	MS (mixed nickel-cobalt sulfides)
THPAL	MS (mixed nickel-cobalt sulfides)
Jinlong Copper Co., Ltd.	Electrolytic copper

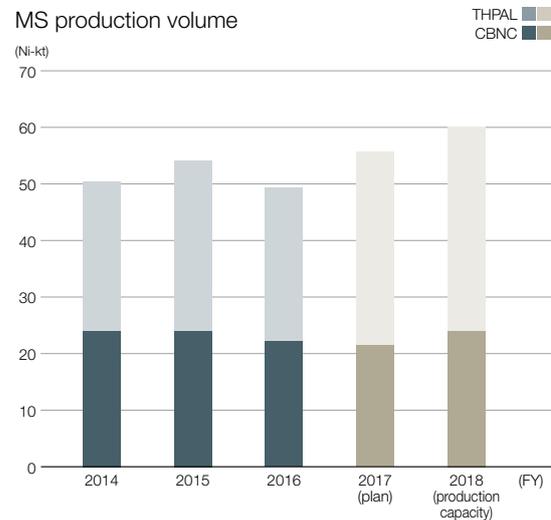


Procure nickel and cobalt ourselves and stably supply battery materials

THPAL's commercial production started with an annual nickel production of 30,000 tons, but from the beginning of the project's planning, it was intended to have a final annual nickel production capacity of 36,000 tons. THPAL's major facilities were designed and built to meet that production target and the plan called for increasing capacity while making small investments. However, with the rapid expansion of automobile manufacturers' plans to manufacture electric vehicles, expected demand for the secondary battery cathode materials our Materials Division produces also rapidly increased, making it necessary to hastily procure the nickel and cobalt which are the raw materials. With this, plans to increase production were pulled in and efforts made to secure the materials. Investments for increased production have proceeded according to plan and we expect to have the 36,000-ton annual nickel production structure in place from the second half of 2017. Also, the enhancement of the nickel sulfate plant at the Harima Refinery, for processing the increased amount of MS produced into raw material for battery material, was completed in the second half of 2016.

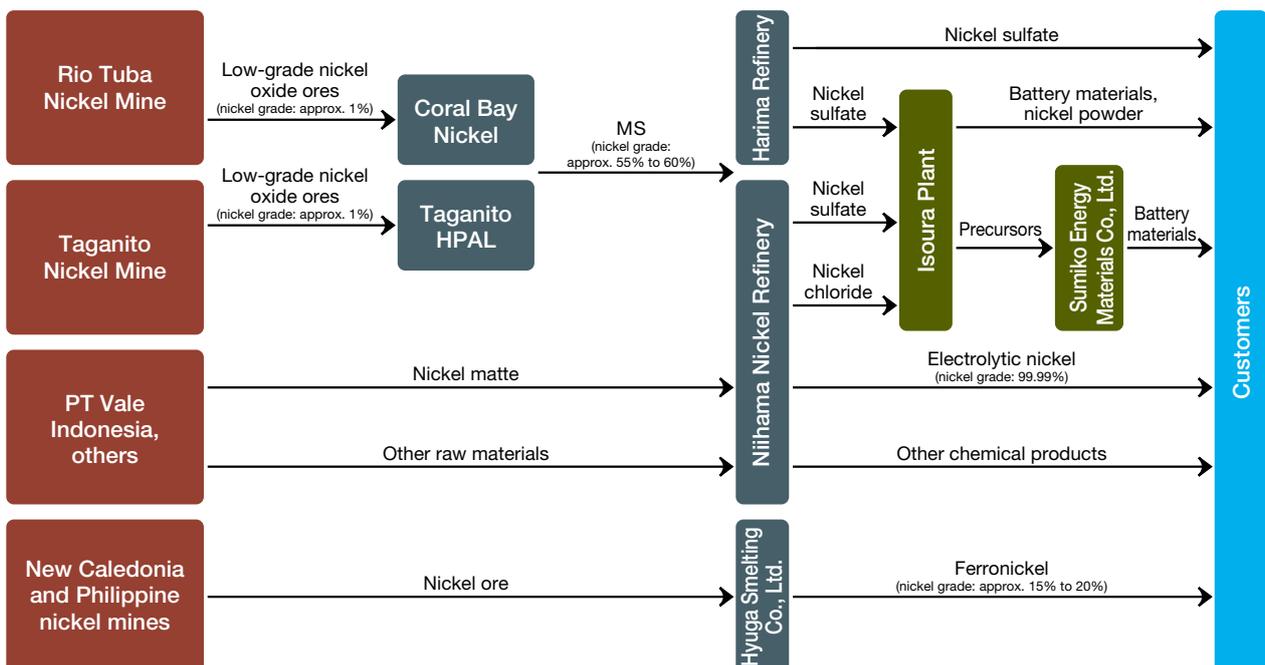
Currently, nickel and cobalt are essential materials for the secondary batteries used in automobiles. SMM is able to procure these by itself and it has proven that a manufacturing process centered on HPAL technology can stably produce high quality products at low cost. We are aware that being able to manufacture

MS production volume



and stably provide nickel and cobalt, for which supply and demand and prices vary widely, is an SMM strength as a battery material manufacturer that other companies do not have.

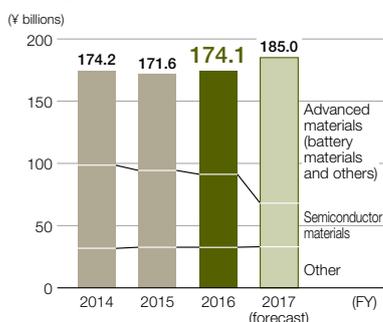
The nickel supply chain



Materials Business

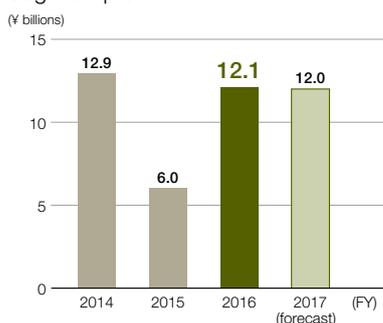
Since the 1960s, SMM has been leveraging the strengths of its mineral resources and smelting and refining businesses to develop its materials business. In recent years, we have been carrying out structural reform centered on advanced materials, and making battery and crystal materials the new pillars of the business. Going forward, we will focus on realizing a stable revenue base.

Net sales



In FY2016, production volume and sales volume increased year-on-year due to completion of investment in increasing battery and crystal materials production. In FY2017, we expect net sales to increase due to factors such as increased battery materials sales and powder materials market recovery, despite the decrease following our withdrawal from the lead frame business.

Segment profit



Segment profit increased year-on-year due to the effects of completion of investment in increasing battery and crystal materials production, and other factors.

Business environment and priority measures for the 2015 3-Year Business Plan

FY2016 saw a generally strong environment surrounding the electronics materials industry. Demand grew for electric vehicle (EV) battery components, an area SMM is focusing on, alongside the expansion of the EV market. Furthermore, although demand for SAW filters used in smartphones expanded due to the growth of multiband, high-speed communications, a decrease in smartphone production in China and other countries had an impact on the market. Demand for components for devices such as PCs and LCD televisions also fell.

Regarding our outlook for the business environment, we forecast continued growth in demand for battery materials. We also expect the demand for crystal materials for SAW filters to continue to grow, but factors that could contribute to a change are emerging, so we will keep a close watch on market movements and establish 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 and adaptation of next-generation products have been positioned as priority measures of our 15 3-Yr Business Plan.

FY2016 initiatives

We invested in increasing the production of battery materials at the Isoura Plant and Harima Refinery in response to growing demand, building a 1,850-ton monthly production structure. We also invested in increasing the production of crystal materials in a similar way, realizing a 300,000-piece monthly production structure. However, the sales volume of packaging materials decreased following a fall in demand. Furthermore, as part of further structural reform focused on market growth potential,

Harumasa Kurokawa

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

Topic

Establishing a production structure for increasing battery material production in line with growing demand for electric vehicles

In our battery materials business, we increased production in response to a rise in demand. In 2014, we decided to increase our production structure for lithium nickel oxide (NCA), primarily used as cathode material in batteries for electric vehicles (EV), from 850 tons/month to 1,850 tons/month. We also launched a new business site with the start of operations at the Sumiko Energy Materials Co., Ltd. Naraha Plant in Naraha, Futaba County, Fukushima Prefecture, and achieved the 1,850-ton monthly production structure in 2016.

Following this, in October 2016, we decided to further increase our production to a 3,550-ton monthly production structure and the precursor processing equipment that makes up the upstream process is currently being installed at Harima Refinery. At Harima



we also decided to withdraw from the lead frame business. As a result of these initiatives, the materials segment's net sales were ¥174.1 billion (up 1.5% compared to FY2015) and profits were ¥12.1 billion (up 102% compared to FY2015).

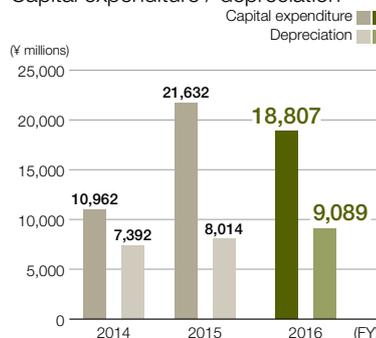
FY2017 priority measures and the outlook going forward

We will establish a battery materials production structure that will contribute to revenue by maintaining a full monthly production capacity of 1,850 tons. We also plan to continue investing to increase production, building a 4,550-ton monthly production structure in FY2018. We will enhance our 300,000 piece-per-month crystal material production structure, and will watch market movements while considering the next step, that of building a 400,000-piece monthly production structure. Furthermore, we will promote the optimization of our complete production structures for both battery and crystal materials by increasing efficiency, reducing costs, and other measures. Regarding the continuous creation and adaptation of next-generation products, priority measures in our 15 3-Yr Business Plan, we are strengthening marketing activities at the same time as collaborating with the Technology Division to advance research and development.

Regarding our withdrawal from the lead frame business, we have completed the transfer of our overseas business through sales to Chang Wah Electromaterials Inc. (Taiwan) in March 2017, and Jih Lin Technology Co., Ltd. (Taiwan) in June 2017.

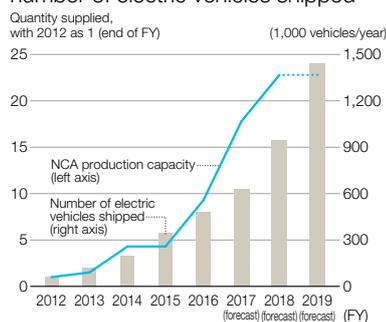
With respect to FY2017 segment performance, we are expecting net sales of ¥185.0 billion (up 6% compared to FY2016) and profits of ¥12.0 billion (down 1% compared to FY2016) where the decrease in earnings due to our withdrawal from the lead frame business will be offset by the enhancement of our battery materials business.

Capital expenditure / depreciation



SMM and Sumiko Energy Materials Co., Ltd., have increased their production capacity for battery materials. Furthermore, Sumiko Kunitomi Denshi Co., Ltd., has also increased production capacity for lithium tantalate substrate and other materials for SAW filters.

NCA production capacity and number of electric vehicles shipped



Source of EV shipped units: B3 Report

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

Refinery, we are also increasing production of nickel sulfate as a raw material, and there will be various advantages from installing the process at the same site such as technological collaboration and reduced logistics costs. Installation is progressing with the aim of completion in early 2018.

Then, in July 2017, we decided to further increase our production to a 4,550-ton monthly production structure. This will enhance the capabilities of the Isoura Plant and it is scheduled for completion in mid-2018.

The demand for EVs is growing rapidly, and the key to their becoming mainstream will be increasing the distance they can cover on one charge, and cathode materials play a major role in this. Going forward, we will continue to further develop this technology, and contribute to environmentally-friendly vehicles by providing high-performance products.



The Harima Refinery. A new battery materials precursor production plant is under construction.

Strengths of the materials business and activities that support growth potential

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.

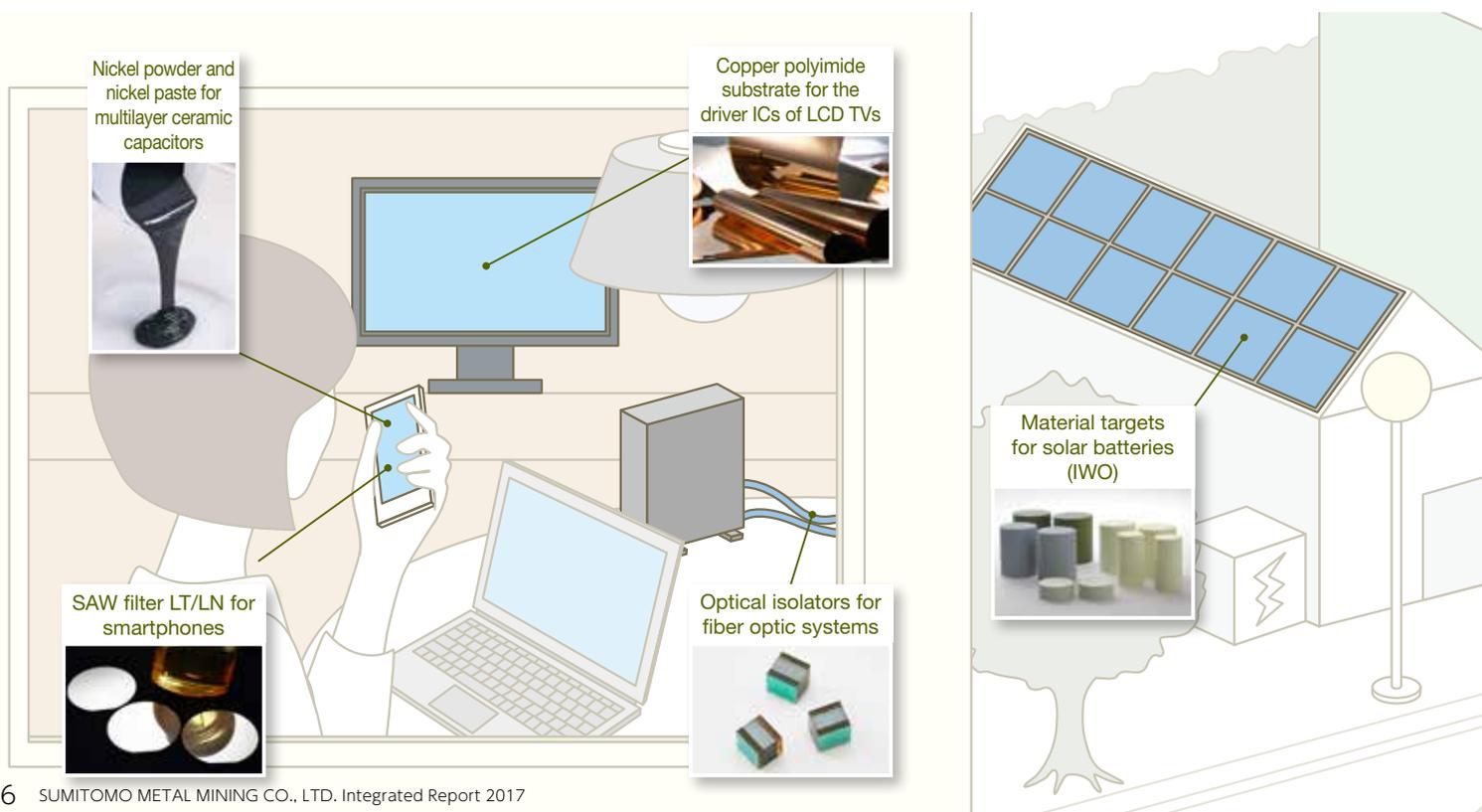
Strong face-to-face relationships with customers enables a stable supply of products and leads to next-generation product development

Fully understanding what the customer wants in materials

Materials business products are supplied primarily to customers in the electronic components industry, where they are processed into components which are incorporated into electronic devices such as smartphones, electric vehicles, and other products and delivered to the businesses and consumers that are the end users. The daily evolution of the final products is seen in the increasing sophistication of smart phones and improving performance of EVs, but the connection to these finished products lies not with SMM, but with our customers. Therefore, to conduct our business we need to communicate closely with these customers, gain a full understanding of how upcoming products will differ from current ones and what functions and materials are needed to achieve this, and develop the next generation of materials.

An example of this is in our battery materials business where SMM sends not only the sales representative, but also production-related engineers and battery R&D personnel for frequent discussions with our customer's production engineers and R&D personnel. Also, in addition to visiting customers, we

SMM products in daily life





also invite customers to view SMM's processes and consider matters together.

Regular face-to-face meetings and conversations enable us to collect a broad range of information, such as the specifications and time frames required to develop next-generation products. It also helps us to see things from the customer's perspective, and we also get suggestions on making our work processes more efficient.

The materials business is building close relationships with customers to ensure stable product sales and keep us responsive to the next generation of products.



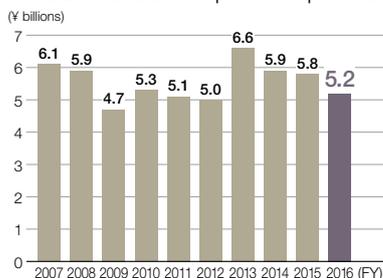
(Top) Sumiko Energy Materials Co., Ltd., an NCA production site, and (bottom) research and development on fundamental technology related to battery materials at Battery Research Laboratories



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 applying open innovation to create new products and businesses for the future. In addition to our four research and development sites, in December 2016 we established the ICT Promotion Office and started working on innovating production facilities using technologies such as IoT.

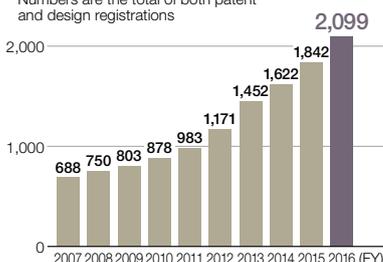
Research and development expenses



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

Number of patents* registered by the SMM Group

* 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 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. These sites collaborate with business divisions over the development of products and production technology, and carry out basic research focused on acquiring new technologies for the future. For example, the Ichikawa Research Center is advancing basic research in the area of powder materials. Furthermore, the ICT Promotion Office was established in December 2016 and has started work on using IoT to increase facility operation rates and product recovery rates.

Key research themes

Current main themes being advanced are mineral resource development and process/technology development in the field of non-ferrous metals smelting and refining, and in the materials field, we are focusing on materials and new technology development in the environment/energy fields and the information and communications fields, where great societal need exists. We perform research and development after clearly defining the scale of our sales targets for new products, an approach that is generating results.

As for battery materials, we are focused on development such as increasing capacity of cathode materials for high capacity/high output lithium ion batteries used in hybrid and electric vehicles. And for crystal materials, we are developing crystal growth and wafer processing technologies in response to increased production of lithium tantalite and lithium niobate substrates for SAW filters contained in communication devices such as smartphones.

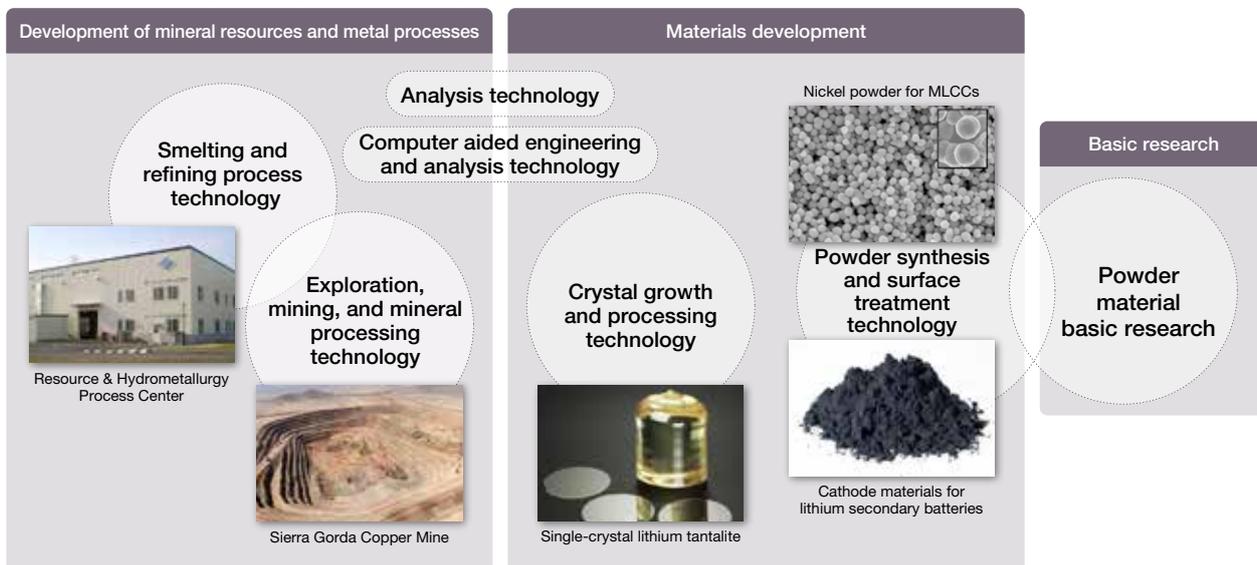
The key theme for smelting and refining process development is the recycling of discarded lithium ion batteries. This is technology for separating and refining useful metals, such as nickel and cobalt, from used batteries. Furthermore, although SMM uses world-class technology called HPAL for extracting nickel, we aim to further strengthen our resource handling capabilities and have started developing pyrometallurgical smelting and refining processes that differ from HPAL.



Masaki Imamura

Executive Officer,
General Manager of
Technology Div.

Research and development by the SMM Group

**Fundamental technology****Analysis technology**

Technology to elucidate the mechanisms behind the manifestation of performance, occurrence of faults, etc.

Fundamental technology**Computer aided engineering and analysis technology**

Facility design based on fluid analysis, thermodynamic analysis, and other simulations, and material design technology based on first-principles calculations

Fundamental technology**Information and communications technology (ICT)**

Technologies such as IoT and big data analysis to increase facility operation rates and product recovery rates, transfer knowledge, and standardize operations

Core technology**Smelting and refining process technology**

Technology to separate and refine copper, precious metals, nickel and other valuable metals from ore and recycled raw materials

Core technology**Exploration, mining, and mineral processing technology**

Exploration technology and mineral processing technology for separating and concentrating valuable metals in ores at mine sites

Core technology**Crystal growth and processing technology**

Crystal growth technology that contributes to larger-diameter, longer, higher-yield lithium tantalate, lithium niobate, and other single-crystals used in the communications field, and technology for processing grown crystals into wafers

Core technology**Powder synthesis and surface treatment technology**

Technology to synthesize powder materials yielding required functions, with control over composition, particle size, surface condition, internal structure, etc.

Basic research**Powder material basic research**

Basic research into powder materials manifesting new functions and innovative powder synthesis technology

Reforming the research and development structure and cultivating personnel

We are working with each business division to actively engage in development aimed at creating products and businesses that will support the next generation. We have established working groups, composed primarily of young engineers, that transcend divisional boundaries, and built a system in which the findings of these groups are considered company-wide. Furthermore, the Ichikawa Research Center collaborates with external institutions, such as university research departments, to advance basic research based on open innovation. We are also putting energy into personnel development focused on the future, such as dispatching SMM personnel to university research laboratories and supporting the acquisition of doctoral degrees and the like.



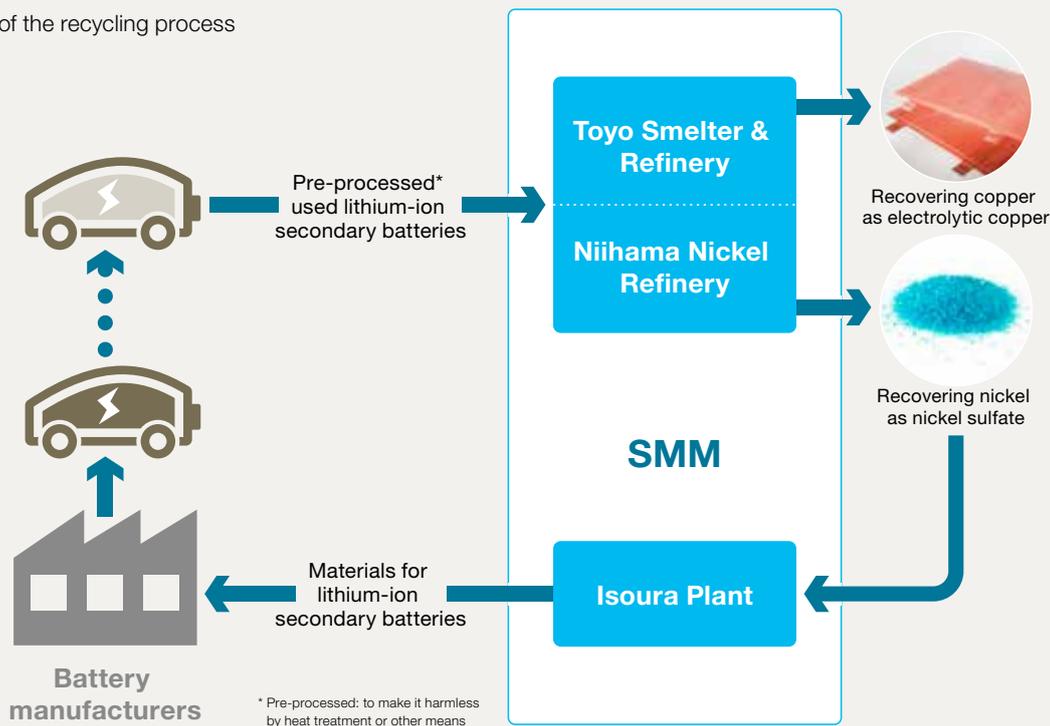
An SMM dispatched employee conducting research at the Kyoto University Institute for Chemical Research

Achieving Japan's first “battery to battery” recycling of lithium-ion secondary batteries

SMM has achieved the first practical 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.

Flow of the recycling process



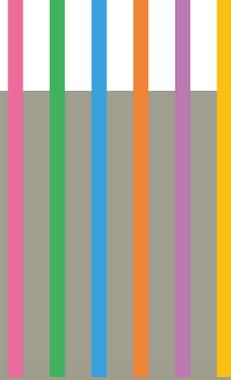
Through collaboration among our three core businesses of mineral resources, smelting and refining, and materials, we are producing cathode materials for lithium-ion secondary batteries. This lithium-ion battery recycling was achieved as a component of this business. We will recover and recycle the copper and nickel from used lithium-ion secondary batteries and from the intermediates generated by their manufacturing process.

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 is resolving 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 successfully 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.



Sustainability

CSR Management Framework

- 62 **The SMM Group's CSR**
- 64 **CSR Achievements and Plans**

The Six CSR Areas of High Priority

- 72 **Activity Highlights in FY2016**
- 78 **Effective Use of Resources**
- 80 **Environmental Preservation**
- 88 **Contribution to Society and Local Communities**
- 90 **Respect for People and Human Rights**
- 94 **Occupational Health and Safety**
- 96 **Stakeholder Communication**

- 100 **Compliance**
- 102 **Risk Management**
- 104 **Quality Control**
- 106 **CSR Data**
- 113 **Independent Assurance Report**

CSR Management Framework

The SMM Group's CSR

The circumstances of the society around us and its demands on our Group are constantly changing. In the promotion of CSR activities, appropriately grasping these changes and reflecting them in our objectives are of paramount importance in efforts to continuously increase the Group's corporate value while earning the trust of society. Based on this concept, we released a comprehensively revised version of our Vision for 2020 in 2015 and also formulated our 2015 3-Year Business Plan. We have established key performance indicators (KPI) to enable a clear understanding of achievement evaluations of the activities performed for meeting the revised goals.

CSR Promotion Framework

SMM's CSR activities are promoted by the CSR Committee, which convenes at least once a year and comprises the President, as chairman, and the heads of the businesses and Head Office. Attached to the CSR Committee are three working groups—the Compliance, Risk Management, and Quality Assurance Working Groups—and six subcommittees overseeing the following areas: efficient resource utilization, environmental preservation, corporate citizenship, human rights and human resources development, occupational health and safety, and communications.

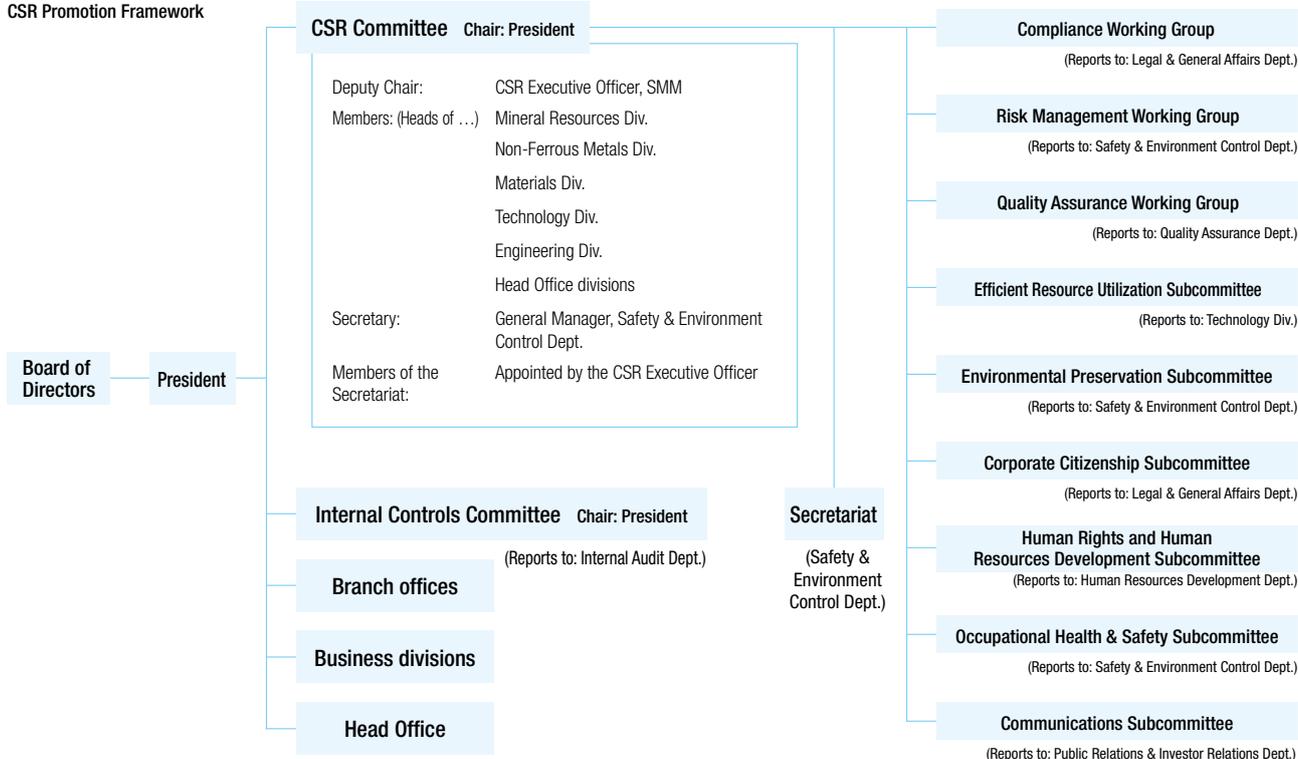
Each of these six subcommittees, which correspond to the SMM Group's Six CSR Areas of High Priority, works toward annual plans and targets in the quest to realize our Vision for

2020 across the entire Group.

CSR activities consistent with these annual plans and targets are advanced principally through initiatives at business sites and group companies. Actual implementation is carried out by all officers and employees according to their individual roles. 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.

CSR Promotion Framework



* Directors who are also members of the CSR Committee are the President, the General Manager of the Mineral Resources Division, the General Manager of the Non-Ferrous Metals Division, and the General Manager of the Materials Division.

Our Stakeholders

At the SMM Group, the following entities with an interest in the Group's activities were identified as stakeholders: 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

To Customers	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.
To Shareholders	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.
To Employees	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.
To Regional Communities	Be a company that coexists well with its regional communities and that makes positive contributions to those regions' development.
To Creditors	Be a company that has earning capacity, outstanding financial strength, and trustworthiness.
To Business Partners	Be a company that possesses outstanding technological strength, places importance on integrity and trust, and is capable of co-prosperity.
To Citizens Groups	Be a company that is keenly alert to its social responsibilities and undertakes appropriate communication.
To Government Agencies	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 for the SMM Group

We comprehensively revised our Vision for 2020 in 2015 with regards to the key issues for the SMM Group through the process described below. We were guided by the International

Integrated Reporting Framework (IIRC Guidelines) and GRI Sustainability Reporting Guidelines Version 4 (G4) on the specific procedures for revision.

► 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

CSR Management Framework

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 CSR Achievements and Plans (p. 64–71) 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.



CSR Achievements and Plans

Effective Use of Resources

Goals and KPIs		FY2016 Achievements
1. Develop and implement technologies to efficiently recover resources (low-grade/hard-to-process ores) 🔍 1, 3	1) Promote rational use of low-grade nickel ore (make nickel produced from low-grade ores 2/3 of nickel production overall)	● Strengthened CBNC's mineral ore management framework and implemented blending techniques aimed at averaging leftover ore and stabilizing quality, enabling full-scale operation from April 2017
	2) Achieve profitability in our copper business by developing processing technologies for low-grade/hard-to-process ores	● Found that magnetic separation of copper, arsenic and molybdenum was viable through pyrometallurgical processing (roasting)
	3) Develop efficient gold mining technologies	● Completed development of the technology for a new ore sorter that will achieve reduced dilution of ore by waste rock and greater cost-effectiveness compared to existing ore sorters at Hishikari Mine
	4) Participate in sea-floor resource development projects (contribute to the development of mining technologies and processing solutions)	● Continued participation in the sea-floor massive sulfide deposit development and cobalt-rich ferromanganese crust (CRC) development projects by JOGMEC. In the CRC project, carried out an investigation into the effects of differences in sample lots through small-scale basic studies, managing to reproduce the superiority of the proposed process and successfully produce electrodeposited nickel metal
2. Develop new and effective uses for by-products 🔍 2	1) Recover and market scandium from nickel oxide ore	● Started construction of a scandium recovery plant, and made smooth progress towards holding test operations in October 2017 and starting commercial production from January 2018
	2) Recover raw material for iron and steel manufacturing from nickel oxide ore (commercialize chromite and hematite)	● Established technology for recovering chromite and hematite from nickel oxide ore and, from economic evaluation, narrowed that to chromite recovery, completed preliminary designs for a commercial plant
3. Promote recycling 🔍 1	Improve our effective use of recycled resources	● Achieved a record annual processing volume for copper scrap, recycled nickel from secondary batteries using our existing smelting furnaces, and made progress with the basic development of more efficient new processes

Numbers next to 🔍 indicate the corresponding Material Issues from p. 65

Material Issues Identified by the SMM Group

Effective Use of Resources

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

Environmental Preservation

- 4 Energy conservation at SMM business sites
- 5 Development of products and technologies that contribute to reducing environmental impact
- 6 Respect for nature preservation areas
- 7 Preservation and restoration of ecosystems in areas where we do business
- 8 Minimizing chemical substance emissions into the air, water, and soil (including in our portfolio companies and supply chain)
- 9 Reduction of release and transfer volume of chemical substances
- 10 Waste management

Contribution to Society and Local Communities

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

Respect for People and Human Rights

- 17 Human resources development
- 18 Diversity and equal opportunity
- 19 Protection of employees' human rights
- 20 Avoidance of contributing to human rights infringements with our supply chain
- 21 Respect for the rights of indigenous populations

Occupational Health and Safety

- 22 Ensure safety
- 23 Secure occupational health

Stakeholder Communication

- 24 Engagement with local communities
- 25 Engagement with employees
- 26 Communication with shareholders and investors

Regarding Boundaries

In the process to identify material issues, the boundaries were established as follows. Any other boundaries apply to the SMM Group (see p. 7 for the Group's scope).

SMM Group & Suppliers

Aspect: **(Environmental)**
Emissions (Material issue 8)

Aspect: **(Environmental)**
Effluents and Waste (Material issue 8)

Suppliers

Aspect: **(Human Rights)**
Supplier Human Rights Assessment (Material issue 20)

Issues and Targets

- Confirm leftover ore volumes at CBNC and obtain permissions for new mining zones
- Improve the selectivity of magnetic separation of non-liberated minerals
- Determine whether or not low-cost mining methods can be applied to undeveloped orebodies at the Pogo Gold Mine
- Secure CRC mined tonnage and plan and implement pilot tests
- Cultivate new markets
- Construct a chromite recovery plant
- Increase collection of secondary battery scrap and make recovery of valuable metals more efficient

FY2017 Plans

- Work to extend life of existing mines, and seek understanding from authorities in the Philippines regarding permissions for new mining zones
- Conduct basic test to evaluate the viability of pyrometallurgical processing
- Create orebody models through definition drilling and design mining methods
- Plan and implement mining and ore-lifting pilot tests in the sea-floor massive sulfide deposit development project
- Complete plant as scheduled and move to commercial production as early as possible
- Move forward with chromite recovery plant construction preparations
- Develop an efficient process for recycling secondary batteries

CSR Management Framework

Environmental Preservation

Goals and KPIs		FY2016 Achievements	
1. Advance biodiversity preservation initiatives 4, 5, 6, 7, 8, 9	1) Implement global warming countermeasures	(1) Expand materials business for products (creating, storing, and saving energy) with low CO ₂ emissions	Achieve a 5-fold expansion of revenue (measured against FY2011) from materials for products with low CO ₂ emissions
		(2) Reduce CO ₂ emissions from operations	Continue to reduce CO ₂ emissions by approximately 1% annually
			Contribute to CO ₂ emission reductions by constructing a plant using HPAL, etc., which has significant energy saving advantages over other technologies such as NPI
		(3) Develop and use renewable energy to contribute to CO ₂ emission reductions	
	2) Steadily develop and adopt technologies for reducing environmental impacts	(1) Implement a planned approach for minimizing the emission of chemical substances	<ul style="list-style-type: none"> ● Made 18 capital investments (one investment delayed to April 2017) based on an internal scheme for promoting effective energy-saving and CO₂ reduction (management of capital expenditure program to reduce CO₂ by 20 kilotons by 2020), with total investment amounting to 260 million yen ● Reduced CO₂ by 239 kilotons compared to FY2015 by transitioning Harima Refinery operations (zinc to nickel sulfate)
		(2) Contribute to environmental preservation through forestation, etc.	<ul style="list-style-type: none"> ● Thoroughly evaluated process engineering data regarding the HPAL plant being considered for construction in Pomalaa, Indonesia
		(3) Verify the environmental impacts of our portfolio companies and supply chain, and implement measures to reduce risks	<ul style="list-style-type: none"> ● Started operation of a solar power plant in Kashima, Ibaraki Prefecture, from July 9, producing 2.22 million kWh and reducing CO₂ emissions by 1,100 t (12% more than planned)
2. Maintain our record of zero significant environmental accidents 8, 10	1) Improve strength against earthquake and severe weather at closed mine sites	(1) Implement a planned approach for minimizing the emission of chemical substances	<ul style="list-style-type: none"> ● Achieved 2020 targets for emissions into the atmosphere and heavy metal density at site perimeter for the Harima Refinery ● Introduced new processing equipment at Shisaka Smelting Co., Ltd., and shifted cadmium from provisional standards to uniform standards
	2) Prevent significant environmental accidents by strengthening environmental risk management	(2) Contribute to environmental preservation through forestation, etc.	<ul style="list-style-type: none"> ● Carried out rehabilitation of 57 hectares at CBNC and THPAL combined ● Vegetation rehabilitation tests in the Solomon Project were completed one year ahead of schedule due to support from Sumitomo Forestry Co., Ltd., and results have been collected
		(3) Verify the environmental impacts of our portfolio companies and supply chain, and implement measures to reduce risks	<ul style="list-style-type: none"> ● Met periodically with mine owners, our suppliers, at CBNC and THPAL to share issues. Performed dredging of Taganito River in dry season
			<ul style="list-style-type: none"> ● Completed countermeasures for two accumulation sites that had not yet fulfilled new earthquake-resistance standards ● Carried out work such as renewing equipment including pipes and tanks, and performing maintenance on sedimentation pond sheets at Hishikari Mine and closed mine sites ● In the materials business, inspected equipment for signs of aging and carried out inspections following repairs and upgrades

Contribution to Society and Local Communities

Goals and KPIs		FY2016 Achievements	
1. Communicate with local communities to recognize social issues in regions where we do business, and implement programs to support solutions to those issues 11, 12, 13, 14, 15			<ul style="list-style-type: none"> ● Continued activities that contribute to society such as supporting infrastructure at CBNC, THPAL and the Solomon Islands ● Started full-scale operations at 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 ● Bestowed the President's CSR Award on 3 individuals
			<ul style="list-style-type: none"> ● Continued to provide scholarships in the areas near overseas mine development sites ● Continued to provide support for NPO Kaibigan, which helps the poor to attend school in the Philippines ● Promoting relocation of Higurashi Villa, which was built on Shisaka-island 110 years ago, in the Besshi district
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 11, 14, 15			<ul style="list-style-type: none"> ● Made donations for areas affected by the Kumamoto earthquakes, storm damage from Typhoon No. 10, and earthquakes near THPAL ● Streamlined the management system for the Council for Promotion of Measures for Stranded Commuters around Shimbashi Station and introduced a rotating chairmanship
			<ul style="list-style-type: none"> ● 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 ● Held a CSR Forum on the theme of scholarship funds in Miyagi Prefecture, worked to understand the current situation of orphans
3. Provide support for recovery and reconstruction after large-scale disasters 16	1) Provide support taking into consideration the relationship between the affected area and SMM group's business		
	2) Provide continuous support for the people and areas affected by the Great East Japan Earthquake		

Issues and Targets	FY2017 Plans
<ul style="list-style-type: none"> ● Stabilization of full operations at Sumiko Energy Materials Co., Ltd.'s Naraha Plant 	<ul style="list-style-type: none"> ● Work on stabilizing battery production, leading to future increases in production ● Expand ink market through new applications
<ul style="list-style-type: none"> ● Ensure implementation from FY2017 onwards of projects which have been postponed due to a downturn in the business environment 	<ul style="list-style-type: none"> ● Implement 18 FY2017 investment projects (¥224 million) according to plan
<ul style="list-style-type: none"> ● Confirm potential for commercialization 	<ul style="list-style-type: none"> ● Carry out preparations for a definitive feasibility study (DFS)
<ul style="list-style-type: none"> ● Further expand utilization of renewable energy 	<ul style="list-style-type: none"> ● Continue examining the introduction of renewable energy in Japan and overseas
<ul style="list-style-type: none"> ● Seek the best solution for the problem of boron-containing mine drainage at Hishikari Mine, including reducing the boron component with our proprietary technology, putting boron-containing hot water back deep underground, and so on. 	<ul style="list-style-type: none"> ● Continue reduction of chemical substance emissions
<ul style="list-style-type: none"> ● Conserve ecosystems by steadily implementing tree planting and soil fertility initiatives 	<ul style="list-style-type: none"> ● Continue rehabilitation at CBNC and THPAL ● The Solomon Project distributed vegetation rehabilitation guidelines and manuals (both in English) to the Solomon government and local communities
<ul style="list-style-type: none"> ● Continue to implement measures to reduce environmental risk ● Respond to June 2016 revisions of effluent regulations 	<ul style="list-style-type: none"> ● Periodically meet with mine owners, our suppliers, at CBNC and THPAL to share issues and consider response to new regulations
<ul style="list-style-type: none"> ● Further reduce risk of others 	<ul style="list-style-type: none"> ● Successively implement measures at other accumulation sites as needed
<ul style="list-style-type: none"> ● Implement plans and continue inspections 	<ul style="list-style-type: none"> ● Renew plumbing, control equipment, and the like ● Set this as an environmental target and carry out inspection tours to check implementation progress
Issues and Targets	FY2017 Plans
<ul style="list-style-type: none"> ● At CBNC, delays in project progress are an issue so improve the organization and promote strengthening of progress management ● At THPAL, priority of interaction with regional communities is increasing as we are shifting from building facilities to activities such as education 	<ul style="list-style-type: none"> ● Continue to make social contributions at CBNC and THPAL and refer to evaluations by external institutions when carrying out activities
<ul style="list-style-type: none"> ● Be continually aware of the status of scholarships being awarded in the areas near overseas mine development sites 	<ul style="list-style-type: none"> ● Continue support for scholarships and overseas NPOs ● Continue the relocation of Higurashi Villa and maintain other Sumitomo remains in Besshi district
<ul style="list-style-type: none"> ● Improving the precision of operational rules through drills and the like by the Council for Promotion of Measures for Stranded Commuters around Shimbashi Station is a pressing issue 	<ul style="list-style-type: none"> ● 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
<ul style="list-style-type: none"> ● Close communication with the three disaster-affected prefectures in order to understand future support needs 	<ul style="list-style-type: none"> ● Continue to provide support to earthquake orphans

Respect for People and Human Rights

Goals and KPIs		FY2016 Achievements	
1. A company where employees can take a vibrant and active part 19	1) Work satisfaction	Make continual improvements based on the results of employee satisfaction surveys	<ul style="list-style-type: none"> Created an OJT Manual for supervisors incorporating a section on work satisfaction, and provided training for general managers, group company presidents, and the like related to OJT implementation and coaching
	2) Mental health	(1) Optimize the work environment through training and the reduction of overly long working hours (2) Reduce mental health afflictions in employees	<ul style="list-style-type: none"> Established a framework for monthly on-site checks by labor and management as part of thorough working hour controls Established and implemented a project to review working hour systems and working styles Created a personalized medical record database
2. Respect diversity 18	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"> Three female managers as of March 31, 2017
		(2) Target proportion of female employees in the recruitment of management track employees: 1/3	<ul style="list-style-type: none"> Results for new employees in FY2016: about 15% FY2017: about 15%
	2) Promote non-Japanese employees as key personnel		<ul style="list-style-type: none"> Held a Globalization Meeting and discussed the issue
	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"> Achieved above the statutory employment rate on a non-consolidated basis (2.0%)
3. Develop human resources 17	4) Establish a strategy and supportive framework as a means to facilitate initiatives 1 to 3 above		<ul style="list-style-type: none"> Established a framework for promoting diversity and held training for promotion staff and supervisors
	1) Continue the program for select employees after confirming the effectiveness of selective training initiatives		<ul style="list-style-type: none"> Considered the content of selective training
	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"> Achieved a Careership (the new e-learning system) usage rate of about 46% at Japanese group companies in FY2016
	3) Enhance training for locally hired executive managers overseas		<ul style="list-style-type: none"> Held overseas executive manager training in November 2016 (5 participants)
4. Human rights 19, 20, 21	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"> Held training in March 2017 for female management track employees who have joined the company since 2014 (16 eligible participants) Held human rights education at all workplaces in December 2016
		(2) Establish human rights hotlines (offering multiple means for reporting): applicable to all workplaces	<ul style="list-style-type: none"> Assigned promotion staff following the establishment of a framework for promoting diversity Held training for hotline staff from January through February 2017 (153 eligible participants)
		(3) Make employees aware of the SMM direct hotline: applicable to all workplaces	<ul style="list-style-type: none"> Confirmed that response at each workplace is being implemented according to the procedure
		(4) Implement regular human rights due diligence (in three categories): once every 3 years	<ul style="list-style-type: none"> Implemented human rights due diligence regarding employees in October 2016 Regarding supply chain, each of the Mineral Resources, Non-Ferrous Metals, and Materials Divisions, and the Purchasing Department held on-site interviews at 4 manufacturers

Issues and Targets	FY2017 Plans
<ul style="list-style-type: none"> ● Permeate methods for approaching and implementing OJT throughout the whole company 	<ul style="list-style-type: none"> ● Gradually implement training sessions related to OJT approach, implementation, and coaching throughout the company
<ul style="list-style-type: none"> ● A shift in awareness about working styles is required rather than simply reducing hours 	<ul style="list-style-type: none"> ● Make a declaration to reform working styles and announce specific initiatives, and establish targets for each division
<ul style="list-style-type: none"> ● Database creation has a tendency to fall behind schedule 	<ul style="list-style-type: none"> ● Make entries into and maintain the personalized medical record database and establish a targeted response system
<ul style="list-style-type: none"> ● Number of candidates for promotion is still low 	<ul style="list-style-type: none"> ● Hire mid-career employees ● Create and implement individual development plans that include female-specific life events
<ul style="list-style-type: none"> ● Actively promoted positions but still fell short of targets 	<ul style="list-style-type: none"> ● Actively showcase female employees working at SMM to appeal to female students in recruitment publicity activities
<ul style="list-style-type: none"> ● The degree of globalization is uneven between business divisions and Head Office divisions 	<ul style="list-style-type: none"> ● Consider response for each division and role in line with urgency and importance of globalization ● Continue to build a culture that embraces a diverse range of personnel
<ul style="list-style-type: none"> ● Proceed with setting voluntary targets and recruitment at all group companies in Japan 	<ul style="list-style-type: none"> ● Hold seminars for promotion officers for the employment of people with disabilities at each SMM business site and group company, and form an action plan
<ul style="list-style-type: none"> ● Put together an environment that facilitates the smooth promotion of diversity management 	<ul style="list-style-type: none"> ● Conduct interview surveys, training sessions, and other measures related to establishing a framework for promoting diversity at workplaces
<ul style="list-style-type: none"> ● Implement the new program and establish methods for confirming its effectiveness 	<ul style="list-style-type: none"> ● Steadily implement the FY2017 program ● Establish methods for confirming its effectiveness
<ul style="list-style-type: none"> ● Careership usage and course uptake is not growing 	<ul style="list-style-type: none"> ● Conduct an interview survey regarding the popularization of Careership and consider and implement promotion methods, enhance content
<ul style="list-style-type: none"> ● Number of participants has fallen due to factors such as a reduction in the number of overseas group companies in the materials business segment 	<ul style="list-style-type: none"> ● Hold overseas executive manager training as needed
<ul style="list-style-type: none"> ● Create development plans that reflect life events, identify problem areas and implement countermeasures 	<ul style="list-style-type: none"> ● Create and implement individual development plans that include female-specific life events
<ul style="list-style-type: none"> ● Conduct monitoring to see if education is being implemented effectively 	<ul style="list-style-type: none"> ● Review education content based on monitoring results and continue to hold education at all workplaces
<ul style="list-style-type: none"> ● Support hotline staff 	<ul style="list-style-type: none"> ● Hold on-site interview surveys and conduct training
<ul style="list-style-type: none"> ● Continue to notify employees of hotline 	<ul style="list-style-type: none"> ● Continue to notify employees of the hotline at venues such as human rights education sessions ● Implement various measures in line with the seriousness of the matter under consultation
<ul style="list-style-type: none"> ● Conduct on-site studies based on the results of human rights due diligence regarding employees ● Implement human rights due diligence regarding local communities 	<ul style="list-style-type: none"> ● Conduct on-site studies as required ● Implement a test run for human rights due diligence regarding local communities

CSR Management Framework

Occupational Health and Safety

Goals and KPIs		CY2016 Results and Achievements
1. Ensure safety Q 22	1) Make our final target zero occupational accidents overall 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) 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)	Number of injury accidents in CY2016 Japan Employees: 5 lost time; 22 in total (a significant increase from 8 in CY2015) Contractors: 2 lost time; 2 in total <ul style="list-style-type: none"> ● Past accidents recurred ● Workers with less than one year's experience accounted for 31% of all accident victims (new employee training and instruction was not thorough enough) ● Veteran employees with over 5 years' experience accounted for 40% of all accident victims (superficial safety-related activities) Overseas Employees: 11 in total Frequency rate for occupational accidents in CY2016 in Japan and overseas: 1.46 (Japan: 1.65, overseas: 1.20)
2. Provide comfortable working environments Q 23	1) Provide healthy working environments (1) Achieve zero new cases of employees with occupational disease (requiring treatment) (Applicable to all domestic and overseas Group employees) (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) 2) Implement other working environment improvements	<ul style="list-style-type: none"> ● No new cases of occupational disease ● Control Class 3 workplaces (figures in parentheses are FY2015 results) in FY2016 Dust 3 (2), lead 0 (0), nickel compound 2 (0), arsenic, etc. 2 (1), cobalt, etc. 1 (2), chlorine 1 (3), noise 1 (1) ● Control Class 2 workplaces in FY2016 Dust 3, lead 2, nickel compound 4, arsenic, etc. 2, cobalt, etc. 5, chlorine 2 ● Personnel Department established rules for implementing a stress test system in the Head Office area and led business sites in strengthening frameworks ● Purchased and distributed at least one book for each business site on countering back pain and used this as an opportunity to strengthen measures against back pain

Stakeholder Communication

Goals and KPIs		FY2016 Achievements
1. Encourage deeper mutual understanding with employees Q 25	1) Continue conducting employee awareness surveys 2) Hold regular dialogues with workers' unions or representatives from employees	<ul style="list-style-type: none"> ● Conducted in September 2016 ● Investigated communication with employees at business sites and group companies from April through May 2016
2. Encourage mutual understanding with local communities and citizen groups Q 24	1) Continue regular meetings with local communities and participate in community activities 2) Carry out cooperative activities with NGOs/NPOs	<ul style="list-style-type: none"> ● Investigated communication with local communities at business sites and group companies from April through May 2016 ● Held regularly scheduled meetings with environmental NPOs in June and November ● Planned and had business site observations by environmental NPOs and other activities
3. Encourage mutual understanding with shareholders and investors Q 26	1) Publish integrated reports and improve their content 2) Promote dialogue with investors	<ul style="list-style-type: none"> ● Published the Japanese version of our integrated report on October 1, and the English version on November 11 ● Increased dialogue with shareholders and those responsible for voting rights at institutional investors as part of shareholder relations (SR) activities ● Received our first IR Grand Prix at the 2016 IR Awards held by the Japan Investor Relations Association ● Received First Place Award for Excellence in Corporate Disclosure, Steel/Non-Ferrous Metal category from the Securities Analysts Association of Japan for the sixth consecutive year ● Joined the platform Environmental Information Disclosure System (a system for disclosing environmental information to institutional investors and the like) being implemented by the Ministry of the Environment, and completed disclosure in January 2017
4. Encourage mutual understanding with other stakeholders		<ul style="list-style-type: none"> ● Published a full-page ad in the Nikkei newspaper on August 26, the third this year after ones in January and March ● Won an award for excellence in the Manufacturing and Industry category at the Nikkei Advertising Awards ● Consciously worked to increase the number of articles featuring SMM, particularly in the Nikkei newspaper, in order to increase awareness of the company ● Completely renewed website on November 1 (new design, smart phone compatibility, improved browsing experience) and enhanced content (product introduction, CSR, and R&D pages, etc.)

Issues and Targets	CY2017 Plans
<ul style="list-style-type: none"> Strengthen line management so all employees are aware of their role and can participate in safety-related activities with a safety-conscious mindset (training and supervision, improve work procedures, KYT) Prevent similar accidents from recurring Implement highly effective safety-related activities Establish most suitable safety management system for overseas sites 	<p>The following will be implemented with priority</p> <ul style="list-style-type: none"> Strengthen safety-related activities for all employees according to the characteristics of each business site Systematize hazard simulation to increase and maintain the effect Promote safety-related activities and confirm their effect Systematize safety management at overseas sites
<p>Control Class 3</p> <ul style="list-style-type: none"> Do not worsen work environment when raising capacity utilization and starting up new processes Acquire technical capabilities for improvements Speed up creation of concrete program Conduct adequate technical review of improvement measures 	<p>In addition to implementing initiatives as scheduled in the investment plan, implement the following:</p> <ul style="list-style-type: none"> Create rules for checking and maintaining environmental facility capacity Utilize in-house and external experts to advance workplace improvement planning
<p>Control Class 2</p> <ul style="list-style-type: none"> Improvement planning following Class 3 	
<ul style="list-style-type: none"> Stimulate communication to make the work environment more comfortable 	<ul style="list-style-type: none"> Begin measures for countering back pain Enliven communication within business sites
Issues and Targets	FY2017 Plans
<ul style="list-style-type: none"> Make all employees aware of use of the survey results 	<ul style="list-style-type: none"> Report on follow-up steps based on the survey results through the in-house bulletin
<ul style="list-style-type: none"> Need to find out status of initiatives related to holding dialogue with employees outside of social gatherings at some business sites 	<ul style="list-style-type: none"> At business sites that have yet to implement regular dialogue, check if there is any other form of communication with employees Formulate a response based on this and discuss with the Personnel Department on how to encourage said business sites
<ul style="list-style-type: none"> Fact-finding investigations required regarding whether 1) swift responses can be implemented when crises occur that affect the local community, such as environmental accidents, and 2) there are initiatives for finding out if the local community has any requests or complaints 	<ul style="list-style-type: none"> Based on SMM Group internal surveys, introduce initiatives by business sites proactively taking action, and case studies from other companies, etc. through Communications Subcommittee members
<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Continue holding regular meetings with NGOs Internally, introduce work by NGOs/NPOs with other companies contributing to better understanding of development in the Rio Tuba area and other good case studies, and promote externally evaluated achievements
<ul style="list-style-type: none"> Continue to listen to investors' and shareholders' opinions and reflect these in future reports, and also consider effective planning and information disclosure methods for encouraging understanding of our integrated thinking 	<p>In order to produce content that better meets the demands of investors and company management, improve the FY2017 integrated report through the following additions and enhancements:</p> <ul style="list-style-type: none"> Risks and opportunities, and our response to these Three business collaboration model Each business' strengths and current topics, and in-depth individual case studies related to CSR subcommittee activities Explanations of changes in governance
<ul style="list-style-type: none"> Appropriate response needed for fair disclosure rules being considered for implementation during FY2017 Consider plans for investor briefings on specific themes 	<ul style="list-style-type: none"> Increase opportunities for dialogue between shareholders and top management Encourage and deepen relationships with shareholders looking to hold long-term Respond appropriately to fair disclosure and promote understanding within the company Track movements in response to the Stewardship Code Encourage dialogue with individuals responsible for ESG and voting rights
<ul style="list-style-type: none"> The Brand Japan Survey reaffirmed SMM's low public profile and highlighted the need for steady awareness-raising activities 	<p>Conduct the following publicity activities in order to raise awareness of SMM and encourage understanding of our business</p> <ul style="list-style-type: none"> Increase the frequency of articles featuring SMM in the media Completely renew the company brochure Advertising and promotion centered on newspapers Create videos introducing the company and our business Renew the Head Office entrance area



Rehabilitation of Tailings Dams

The business in which SMM engages exerts an extremely large impact on surrounding regions. Earning the trust of local communities is a key prerequisite for the continuation of our business. At the former Besshi Copper Mine in Ehime Prefecture, we started reforestation in the Meiji Era. This spirit of co-existing with the global environment and society through our business, carried down ceaselessly from our predecessors in Sumitomo, is a spirit that even today we revere and put into practice in countries around the world.

Coral Bay Nickel Corporation (CBNC) produces mixed sulfide (MS) as an intermediate raw material for nickel and cobalt products at Palawan Island in the Philippines. The company is engaged in the rehabilitation of tailings dams, which are facilities for accumulating the neutralized and stabilized unneeded mineral solids resulting from mineral processing (the process of separating ores) and from metal smelting and refining, and separating the water from them. Currently at CBNC, the first tailings dam has reached capacity and a second is in use. Rehabilitation is the activity to return greenery to a tailings dam that has played out its role.

The objective of rehabilitation is to establish a self-supporting, sustainable ecosystem. We undertake a number of measures, such as improving the soil, and have restored an expanse of greenery to land that was barren, reddish-brown soil in 2010. However, we

go beyond simple greening to cultivating vegetables, fruit trees, and other plants to make the land usable for agriculture and other activities that support livelihoods. Rehabilitation also plays an important role in the creation of employment in the area of operation, with many members of local communities becoming involved in the work.

Recipient of the Presidential Mineral Industry Environmental Award for three consecutive years

CBNC is working with Rio Tuba Nickel Mining Corporation (RTN), a supplier of raw material ore, in 22 villages (barangays), under the Social Development and Management Program (SDMP), a social contribution program established under the Philippine Mining Act.

Rehabilitation of Tailings Dams



After rehabilitation



Before rehabilitation

Through the SDMP, we are undertaking 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 have received recognition, with the company receiving the Presidential Mineral Industry Environmental Award from the Department of Environment and Natural Resources of the Philippines for three consecutive years. The company has attracted attention worldwide through its activities, and has welcomed observation missions from many countries. CBNC further received an Outstanding Community Project Award for 2016 from the Philippine Economic Zone Authority. SMM's attitude of striving for sustainable growth in co-existence with local communities through its business has earned high regard in the Philippines.



Award ceremony for the 2016 Presidential Mineral Industry Environmental Award



Award ceremony for the Outstanding Community Project Award for 2016



Raising saplings, by the local community



Accompanying an economic mission in the Philippines in January 2017. In order, from second from left, are President Nakazato of SMM, Prime Minister Abe of Japan, and President Duterte of the Philippines.

Effective Use of Resources



Marine resource research vessel Hakurei



Test mining machinery



Sea-floor massive sulfide deposits

Photograph: Japan Oil, Gas and Metals National Corporation

Developing the Hidden Potential of Sea-Floor Massive Sulfide Deposits

In oceans around the world, marine resource development projects are moving forward and movements to secure interests are heating up. With few natural resources, Japan sees great potential in the mineral resources that lie sleeping in its surrounding seas. Among such projects, SMM is taking an active part in sea-floor massive sulfide deposit development projects that are being advanced under public and private sector cooperation.

The world's attention has focused on sea-floor mineral resources in recent years. The resources in the vast seas surrounding Japan hold great promise for the country, which lacks mineral resources. On the basis of factors including area of distribution, formation and form, and component metallic elements, these sea-floor mineral resources can be divided into three types: sea-floor massive sulfide deposits, manganese nodules, and cobalt-rich ferromanganese crusts. None of these have been commercially produced, making them resources yet untouched by man.

One of these resources, sea-floor massive sulfide deposits, is formed from polymetallic sulfides created through the precipitation of metal components in hydrothermal seawater that vents from the sea-floor due to the action of the earth's crust. The deposits contain copper, lead, zinc, gold, and silver in differing ratios; some contain rare metals as well. At present, about 350 such locations have been discovered worldwide.

Multiple massive sulfide deposits have also been found at depths of 700 to 1,600 m within Japan's exclusive economic zone. In 2008, the Basic Plan on Ocean Policy was created by Cabinet decision, and national projects to explore and develop sea-floor massive sulfide deposits are now underway.

Participation in projects leveraging knowledge of exploration and mining

SMM formed a consortium with a number of private companies and, since 2008, has participated in a project to investigate fundamental technologies put forth by the Japan Oil, Gas and Metals National Corporation (JOGMEC), leveraging its long-nurtured technological capabilities and knowledge of exploration and mining. At present we are taking part in a pilot test project aimed at commercialization, and are responsible for evaluating the amount of resources and formulating a mining plan.

Respect for People and Human Rights

Developing Executive Employees with a Global Perspective

The SMM Group has 74 group companies (32 in Japan and 42 overseas as of July 15, 2017) in 16 countries and regions. Overseas employees now account for approximately 25% of Group employees. In human resources development, we undertake initiatives that target all of these employees from a global perspective. The yearly overseas executive manager training that we launched in 2008 is one such initiative.

The SMM Group has set “Provide training opportunities to all employees” as a key performance indicator (KPI) under Vision for 2020. The overseas executive manager training is a human resource development program conducted globally under such KPIs.

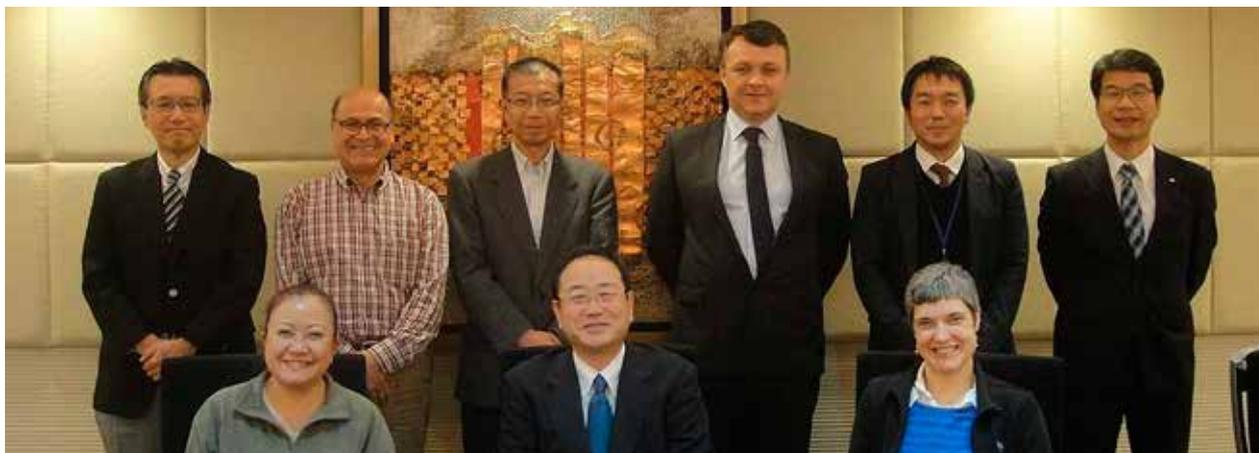
This overseas executive manager training is aimed at local employees who manage our Group’s overseas sites. Every year, we invite these employees to Japan for CSR-related training and to share the Sumitomo Business Spirit and history, while increasing loyalty and motivation through discussions and tours of domestic business sites.

Discussion by all participants gathering in Japan

In FY2016, the training was held over five days from November 14. Five employees from diverse countries—China, the Philippines, the U.S., Peru, and Australia—took part.

At Tokyo headquarters, the trainees learned about topics including the history and business spirit of SMM and our basic stance on CSR. Following this, they visited the Besshi-Niihama District Division to tour the former Besshi Copper Mine where SMM began, and the Isoura Plant where the development and production of new materials takes place. To cap the training on the final day, SMM held a discussion among the trainees to exchange ideas and gain insights, and set a theme of “How to motivate employees.” Comments from the participants included “I was able to better understand the history and business of SMM, and found the environmental restoration initiatives at the former Besshi Copper Mine particularly interesting,” and “I think the knowledge I gained in discussions will be of use in educating subordinates.”

The training in 2016 marked the sixth time we have held overseas executive manager training, and have now had a total of 33 participants from 9 countries. We will continue this training, with the aim of participation by all executive manager employees at or above the level of managers of operational divisions at overseas business sites.



Training and tour at the former Besshi Copper Mine (top), and training participants (bottom)

Safety Initiatives by the SMM Group to Nurture a Safety Culture

SMM's CSR Policy states, "According safety the highest priority, SMM shall provide safe, comfortable working environments and seek to eliminate occupational accidents." We engage in a variety of initiatives aimed at realizing this goal.

Reflecting seriously upon the criticality accident that occurred at JCO Co., Ltd. in 1999, we established the SMM Corporate Restructuring Plan to Improve Safety Management, to "nurture a safety culture" within our corporate atmosphere across the Group.

Under this plan, we began strengthening safety management through the line of command at and below the level of general managers of divisions, with the goal of halving occupational accidents. Subsequently, we implemented a variety of measures, and as a part of our Vision for 2020 continue to perform daily under concrete numerical targets (see p. 70).

Strengthening our management framework

In accordance with the SMM Corporate Restructuring Plan to Improve Safety Management that we established in 2000, and under the recognition that business management and safety management are inseparable, we re-implemented education to improve safety awareness for executives (including the President), division general managers, heads of business sites, and employees, through content matched to the level of the recipients. In addition, we conducted a general inspection of legal compliance status and rectified problem areas while deepening understanding of laws and ordinances.

At the same time, we made the decision to reflect the safety management-related performance of business division general managers and heads of business sites in scores and compensation under our performance-based compensation system, and revised the system to further emphasize safety performance in personnel evaluations.

We also increased opportunities for directly contributing to safety initiatives, such as by having division general managers inspect the business sites under their control at least once a year. At the same time we stipulated the duties and activities of each job position with regard to safety in the various regulations, and strengthened safety management through the line of command.

Since 2006, we have appointed an executive officer as the General Manager of the Safety and

Environment Control Department, the company-wide division that manages occupational health and safety.

Making facilities safer

Since 2002, we have worked to strengthen facility safety. Taking serious occupational accidents within our Group as case studies for learning, we have clarified facility safety issues that can lead to serious occupational accidents and have worked toward general inspections and greater safety in facilities. Subsequently, we systemized methods for evaluating and mitigating facility- and task-specific risk levels through risk assessments, and enhanced safety with a priority on facilities and tasks that involve greater risks.

Strengthening employee's awareness of risk

From 2007, we have worked to strengthen employee's awareness of risk. As occupational accidents have decreased, employees who know the danger and tragedy of such accidents have also decreased. Accordingly, occupational accident simulations and education aimed at strengthening sensitivity are even more important. To reinforce education at Oji-kan, our hazard simulation facility and participation by all employees in safety initiatives, we launched the *Anzen Dojo* (see p. 95) as we further work to raise the level of our safety initiatives.

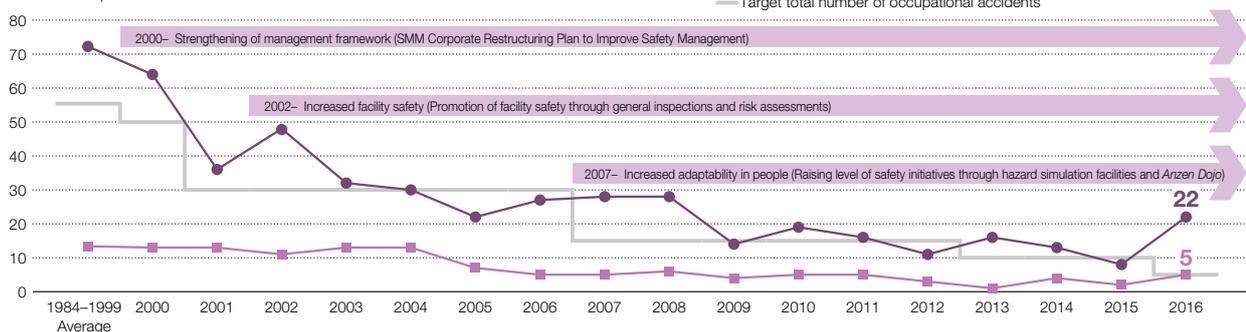
Status from 2016 onward

Thought and action concerning safety failed to take root in all employees in 2016, and a number of occupational accidents occurred.

We pursued Group initiatives to instill awareness of safety in each and every employee from the last month of 2016 to the first month of 2017, and the trend toward a large number of accidents has subsided since the beginning of 2017. However, inadequate facility safety measures led to a fatal accident at Hyuga Smelting Co., Ltd. in May. We will solemnly assimilate the lessons of this incident and will further endeavor to strengthen awareness in our people and enhance facility safety.

SMM Group occupational accidents in Japan

Number of occupational accidents

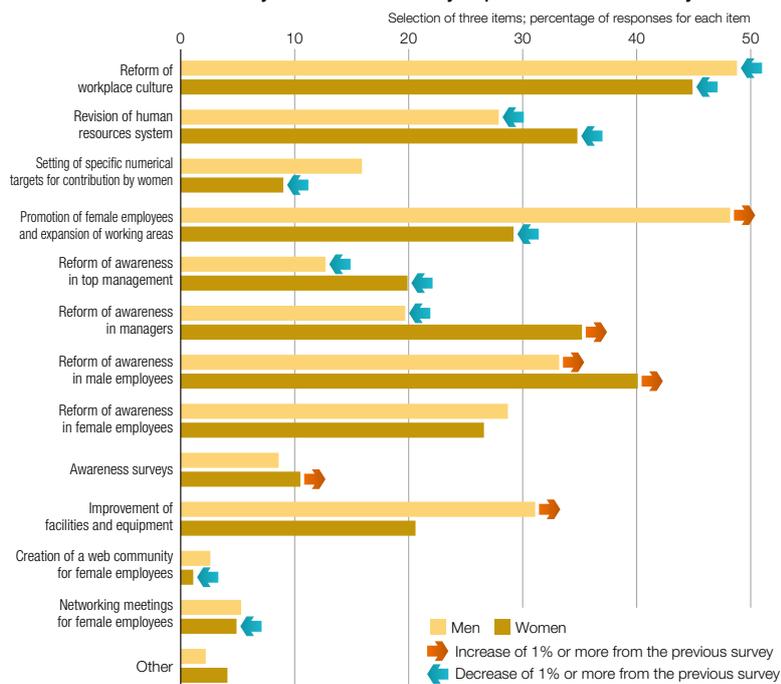


Stakeholder Communication

Continuous Management Improvements that Take in the Voices of Employees

In order for a company to grow sustainably, it must raise the morale and loyalty of employees and must promptly reflect the real voices of employees in its management. SMM surveys ongoing changes in employees' awareness toward the company and the workplace, engages in PDCA based on analysis of the surveys, and works to make continuous improvements in management.

Q. What sort of measures do you feel are necessary to promote contribution by women?

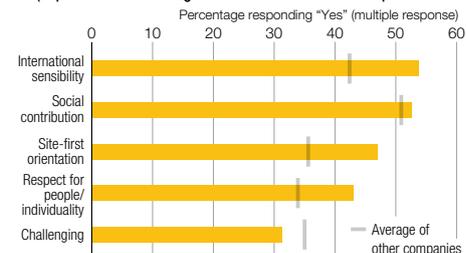


Example of results of FY2016 survey on support for contribution by women: Assessment of progress in measures, the male-female gap in awareness, etc.



Workshop for management positions (Besshi district)

Q. What sort of corporate culture applies to the company? (Top 5 items from among items defined as desirable corporate culture)



Example of results of FY2016 survey on current corporate culture: Assessment of culture that should be kept and culture that should be changed

SMM has conducted an employee awareness survey every three years since 2010, doing so for the third time in September 2016.

The survey presents about 140 diverse questions covering both the company and the workplace. This lets the company learn about both the current state of employees' awareness and, through comparison with data from the previous two surveys, quantitatively assess ongoing changes. We also compare the results with averaged data from similar surveys by other companies, conducting analysis from a relative perspective.

This time, we further adapted the content of the survey to address changes in society, such as by adding questions concerning diversity. Moreover, to make the survey useful in improving Group management, we enlarged the scope of the survey to cover a portion of Group companies, not only SMM. The survey has grown to a considerably large scale, being given to about 4,000 employees.

Promptly feeding survey results back into management measures

We analyze the results of the survey from two broad approaches: corporate culture, encompassing the values, norms, customs, ambience, and other aspects

of the company; and morale, encompassing mood, attitude, vitality, and other aspects of employees. We also perform analyses of compliance, diversity, contribution by women, and other specific issues, as well as detailed analyses that include comparisons by business and by division.

These survey results are reported to management, and serve as an aid when necessary in reviews of management measures. With regard to certain issues, we put survey results to use at all sites and reflect them in necessary measures in the Legal & General Affairs Department and Human Resources Development Department. Extending the results across the company, we work to effect improvements.

We also hold briefings on survey results at each site and hold workshops aimed at improvement for management positions, putting the results to good use at every workplace. In this way, the employee awareness survey plays an important role as a check on management measures. Using the results as data to corroborate measures and conduct reviews, we are working toward continuous improvement.

Effective Use of Resources

Basic Approach

The SMM Group's business centers on the utilization of the earth's limited and valuable resources. The effective use of resources is therefore considered an important managerial issue as we seek sustainable business development. Based on this understanding, the SMM Group has included "effective use of resources" as one of its Six CSR Areas of High Priority. We are working on a range of activities with the aim of being "a company that generates resources using innovative technology" as stated in our Vision for 2020. We are developing

technologies to effectively utilize natural resources, such as low-grade and hard-to-process ores, which have not previously been converted into resources, as well as technologies for recovering by-products from ores. We are also endeavoring to develop resource recycling technologies that effectively recover copper and precious metals contained in items such as used electronic devices, and valuable metals such as nickel from used batteries.

Making Effective Use of Low-Grade Ores

The plant of CBNC¹ commenced full-scale operations in April 2005. Nickel oxide ore has been excavated from the adjacent Rio Tuba Nickel Mining Corporation's mine since before that time. However, while high-grade oxide ore with high nickel content buried deep in the earth was being mined, low-grade oxide ore with low nickel content existing close to the surface was not extracted. Because this low-grade oxide ore is said to make up around 70% of all nickel oxide ore resources worldwide, there was global demand for the development of technology that would allow it to be processed.

Recovering nickel from this low-grade oxide ore requires a hydrometallurgical technique called High-Pressure Acid Leach (HPAL). Large-scale production using this process requires a high degree of equipment engineering and operational skill. Industry players the world over have been struggling with the application of HPAL technology, but SMM overcame many technical hurdles to become the first company in the world to successfully apply HPAL technology to commercial production. Turning previously unusable low-grade ore into resources also has tremendous significance in terms of effective resource utilization.

In order to make full use of this HPAL technology, SMM embarked on its Taganito Project in 2009. The project entailed the construction of a large HPAL process plant with an annual

production of 30 kilotons of nickel in the Taganito District on Mindanao Island in the Philippines. The project progressed well, and operations at THPAL² got underway in autumn 2013, and in August 2014, achieved a monthly production of over 3 kilotons.

1. Coral Bay Nickel Corporation (CBNC)
Shareholders: Sumitomo Metal Mining Co., Ltd. (54%), Mitsui & Co., Ltd. (18%), Sojitz Corp. (18%), Rio Tuba Nickel Mining Corp. (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



Low-grade nickel ore for THPAL

Using Resources Effectively through Recycling

Recovery and recycling of copper and copper alloys were readily pursued because of their high scrap value even before the 3Rs (reduction, reuse and recycling) were advocated as a catchphrase by society. Almost all the copper shavings generated by manufacturers of electric cables and wrought copper and copper alloy products are reused as raw material.

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 FY2016, the proportion of recycled materials such as copper alloy secondary materials and electric arc furnace dust was about the same level as in FY2015. Meanwhile, the ratio of

recycled materials in products increased slightly to 23.2% (18.1% in FY2015) as production of electrolytic copper from recycled copper materials was approximately 105 kilotons in FY2016.

Percentage of Recycled Input Materials Used

FY	2014	2015	2016
Total volume of materials used (kt)	12,055	11,795	11,041
Recycled materials (kt)	264	233	222
Percentage of recycled input materials used (%)	2.2	2.0	2.0

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 around 40%, copper slag is widely used as a source of iron for cement. Copper slag output in FY2016 was approximately 935 kilotons, with a sales volume of approximately 844 kilotons.

Hyuga Smelting Co., Ltd. manufactures ferro-nickel, a material used in stainless steel. It generated around 467 kilotons of ferronickel slag. Approximately 603 kilotons of ferro-nickel slag was sold as a recycled material, mainly to blast furnaces for steelmaking. With a magnesia content of around 30%, ferro-nickel slag is used as a source of magnesia for blast furnace flux. By taking advantage of their respective features, both copper slag and ferro-nickel slag are also used as substitutes for natural sand in fine concrete aggregate and harbor and civil engineering construction. In April 2016, Japan Industrial Standards (JIS) for fine concrete aggregate were revised and an environmentally safe quality was added. Environmental standards for slag have been strengthened, and ours comfortably meets these requirements.

Recycling Precious Metal

SMM smelts and refines non-ferrous metals using ores from mines both inside and outside Japan as raw materials. However, in order to ensure limited resources are used effectively, we also apply smelting and refining technologies to the recycling of precious metals.

The Precious Metals Recycling Dept. of Ohkuchi Electronics Co., Ltd., uses discarded home appliances and electronic parts collected from across Japan, as well as the scrap produced



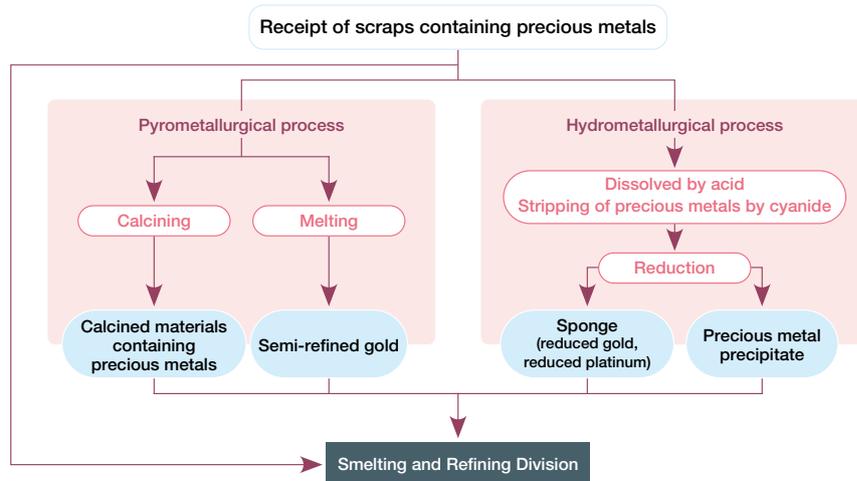
Some materials for recycling

during the manufacturing of these, as materials from which to recover precious metals.

Collected scrap is separated into parts made of plastic and the like, and parts that contain precious metals. The parts containing precious metals are concentrated by being finely crushed by a crusher and then heated to a high temperature in a furnace. Alternatively, they may be effectively concentrated through dissolution using chemicals, and the resulting material is then transported to our Toyo Smelter & Refinery. At the Toyo Smelter & Refinery, the concentrated material is refined together with raw material extracted from mines, and the precious metals such as gold and silver are recycled.

In recent years, devices that contain an abundance of rare precious metals, particularly cell phones, are being thrown away. It is the SMM Group's duty as a non-ferrous metal company to carry out the recycling of these.

Precious Metal Retrieval: Flow Diagram



Semi-refined gold ready for transportation

Global Environmental Considerations

Environmental Management

Basic Approach

Many chemical substances are handled by SMM Group businesses during mineral resource processing and manufacturing. If an accident should occur, there is the risk of seriously affecting the local environment. The SMM Group emphasizes the need to prevent environmental contamination by supplying equipment and strengthening management, and

by providing training for relevant staff members. Every year, drills are held in order to help minimize the effects and prevent external impacts in the unlikely event an incident does occur. We have also worked to improve facilities, and we installed a system that automatically shuts off the discharge if any abnormalities are detected just before the wastewater port.

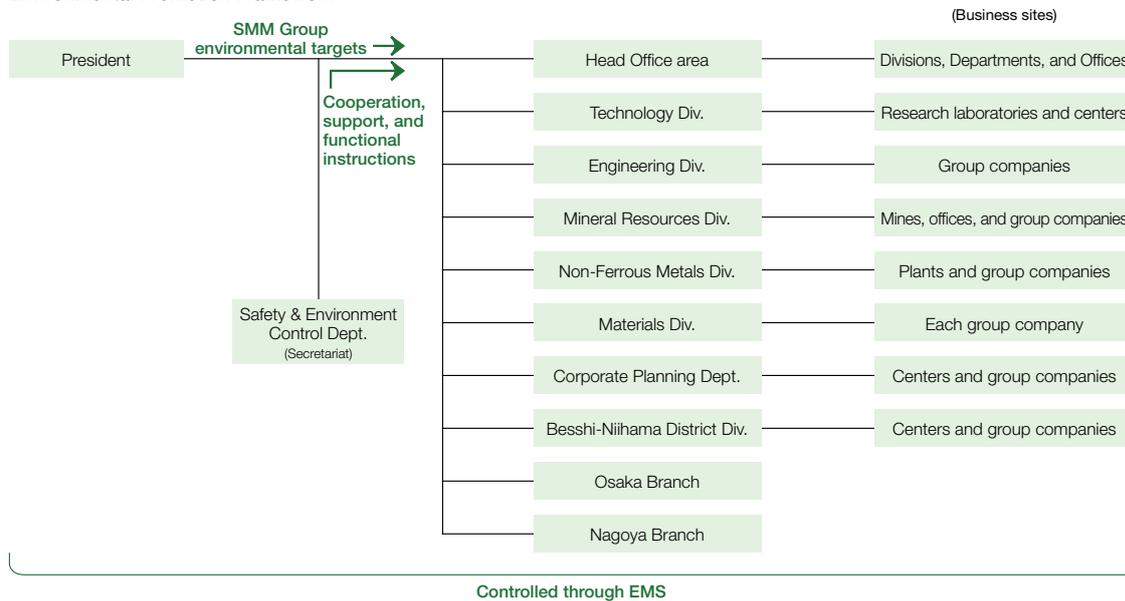
Environmental Management System and Education

Environmental Management Initiatives

Every year, the President sets targets (SMM Group environmental targets) in consideration of the environmental risks faced by the SMM Group. In response, business sites and group companies of each business division integrate these targets into their environmental management systems, established according to the ISO 14001 standard. 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.

Environmental Promotion Framework



Internal Environmental Audit Seminars

The SMM Group has adopted an in-house qualification system for internal environmental auditors, the key people in workplace environmental management, and completion of a training course is a requirement for obtaining the qualification. The Safety & Environment Control Department implements training for all internal environmental auditor instructors at business sites in Japan, and for new environmental auditors as well. Because of

the 2015 revisions to the ISO 14001 standard, in FY2016 we carried out educational seminars for moving to the new standard. There were two seminars in the area around our Head Office, and a total of 40 seminars held in the areas around 27 business sites, which provided training to 738 participants. Additionally, training seminars for new environmental auditors were held in the Head Office area, the Besshi area, and at Shinko Co., Ltd., and 56 participants completed these seminars.

Response to Environmental Risks

The SMM Group handles large amounts of chemical substances during the manufacturing of products, particularly in smelting and refining operations, and for that reason some business sites bear considerable environmental risk. Each site continuously performs environmental management and runs accident response drills corresponding to the magnitude of risk. In addition, every year, the heads of every division that exercises control over business sites, inspect those business sites (including group companies) to check whether environmental management is being implemented appropriately. Moreover, in the Niihama District, where the SMM Group's largest smelter and refining facilities are located, the Safety & Environment Control Center (Besshi-Niihama District Division) provides guidance to business sites located within the district on their initiatives for environmental management. The center also provides support for group business sites located within the local region, such as by regularly holding meetings for the exchange of information.

In the Materials Division, a Safety & Environment Control Department was established to provide the business sites under its control with support and guidance on environmental management. Since FY2008, the Safety & Environmental Control Department has continued its environmental care activities, visiting these business sites to check on the status of activities to reduce the risk of environmental accidents. During these visits, any issues found are shared with the head of the business site and the heads of operational divisions. Countermeasures are considered at the business site, leading to improvements in the level of environmental management. In FY2016, environmental care activities were held for 37 business sites, including overseas sites.

In addition, close-call events are reported to the Safety & Environment Control Department when they exceed voluntary standards and/or have an effect on operations. In the event of an incident, the Safety & Environment Control Department will provide advice after checking the causes and the response taken. In addition, the department also makes efforts to prevent similar close-call events from occurring elsewhere, such as by alerting each business site in the SMM Group, where necessary, and requiring them to check and report back on their control status, and by encouraging preventive action to be taken if factors are present similar to those that caused the incident.

There were no major leaks in FY2016. Furthermore, although 16 complaints related to environmental matters were lodged against the SMM Group, these were all handled in an appropriate manner. Going forward, we will work to continually raise the level of our operations.

Risk Management for Mining Waste

The SMM Group carries out appropriate management of mining waste, such as spoil, tailings, and neutralized sludge, generated by the mineral resources business.

Spoil and tailings containing sulfide minerals can oxidize and generate sulfuric acid, which can easily become a source of acidic water that contains heavy metal ions; therefore

wastewater from mines is properly processed in water treatment facilities before release.

The Pogo Gold Mine further alleviates risk by surrounding all mineralized spoil with dehydrated flotation tailings so as to isolate it from the outside environment. Tailings containing cyanogen are stabilized by mixing them with cement for use as backfill in the mine, while all other tailings are stored outside the mine after undergoing dehydration to reduce volume. Lowering the volume of the tailings reduces the area required for accumulation sites and alleviates risk related to the structural stability of sites.

Seismic Retrofit Work at Mining Waste Accumulation Sites in Japan

In the 2011 Great East Japan Earthquake, there were accidents that involved the outflow of sediments at three accumulation sites belonging to other companies in the Tohoku region. Japan's Ministry of Economy, Trade and Industry reviewed the technical guidelines related to accumulation sites and required assessments of resistance to large seismic vibrations for sites that are subject to "special conditions." SMM has been implementing assessments of earthquake resistance at accumulation sites since 2012. As it was determined that countermeasures are required for five out of ten accumulation sites subject to "special conditions," seismic retrofit work was conducted from FY2014 through FY2015. We are also gradually assessing earthquake resistance at accumulation sites not subject to "special conditions," and plan to take countermeasures where necessary.

Environmental e-learning

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, a new e-learning course entitled Basic Environmental Laws 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.

Global Environmental Considerations

Approach to Biodiversity

Basic Approach

SMM has declared that “advancing biodiversity preservation initiatives” is one of the concrete measures for bringing about our Vision for 2020. In addition, our approach to biodiversity adopts the three perspectives of pursuing global warming countermeasures, reducing environmental impacts, and preserving ecosystems.

SMM views climate change due to global warming as a threat to biodiversity as well as a serious risk to SMM Group business activities. We are expanding our low carbon impact products business (creating, storing, and saving energy) and proceeding to reduce CO₂ emissions by installing energy-saving technology and taking advantage of renewable energy.

For all of our core businesses—mineral resources, smelting and refining, and materials—direct and indirect

impacts on biodiversity are unavoidable, but we are striving to decrease and avoid environmental impacts in our development, operations, and product use.

When developing mines and building smelting and refining plants, we survey the surrounding ecosystems and give consideration to the effect on these systems when choosing the location of roads and facilities. Furthermore, we also carry out activities to monitor ecosystems and plant trees.

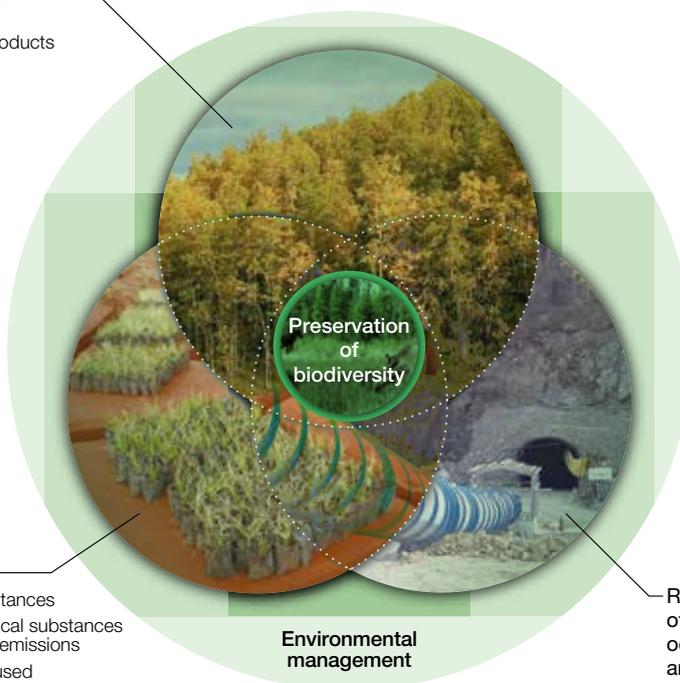
In FY2013, the SMM Group prepared a pamphlet entitled Biodiversity and SMM’s Business Activities to raise awareness among domestic Group employees. In FY2015, we made pamphlets in English, Spanish, Chinese and Malaysian, and are promoting awareness of biodiversity at the SMM Group’s overseas facilities.

Prevention of global warming

- Energy conservation
- Development of low-carbon products
- Use of renewable energy

Reduction of environmental impact

- Management of chemical substances
- Reductions in volume of chemical substances used and chemical substance emissions
- Reduction in volume of water used
- Reduction in volume of waste generated
- Environmental conservation through tree planting (rehabilitation), etc.



Reduction and avoidance of environmental impact that occurs during mine development and plant construction

Prevention of Global Warming

Development of Products and Technologies that Contribute to Reducing Environmental Impact

The SMM Group sees its supplying of specialty materials for 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 aims to expand its business in domains related to the creating, storing, and saving of energy.

In the auto industry, regulations regarding gas emissions continue to tighten globally, as demonstrated in Europe and California, and demand for environmentally friendly vehicles, such as hybrid and electric vehicles, is growing greatly as a result. Our Materials Division is engaged in supplying nickel-containing materials for cathodes used in the batteries required by these vehicles.

SMM creates an intermediate material by smelting and

refining ore from nickel mines, which is then used as material for producing the nickel hydroxide and lithium nickel oxide used in high quality cathodes. We are currently greatly increasing output to respond to strong demand, and while we are looking forward to the contribution to our earnings, it will also contribute to reducing the environmental impact of vehicles.

Our Materials Division is also manufacturing various infrared shielding inks, such as cesium tungsten oxide (CWO), to block infrared rays. These inks are attached to glass as a film or directly included within glass and polycarbonates to block the near-infrared rays contained in sunlight, therefore greatly reducing temperature increases.

These are primarily used in vehicle windows, building windows, and semi-transparent roofs when design or allowing daylight in is an important consideration, and are contributing to energy efficiency.

Activities to Reduce CO₂ Emissions at SMM Business Sites

● Domestic Group CO₂ Emissions

The Group's FY2016 volume of energy-derived CO₂ emissions inside Japan decreased approximately 29 kilotons due to CO₂ emission reduction efforts, such as energy saving activities. There was a further reduction of approximately 37 kilotons due to the effects of electric power supplier emission factors. As a result of this, total emissions were about 1,421 kilotons, which was a decrease of around 285 kilotons compared to FY2015.

We are continuing efforts to reduce CO₂ emissions in FY2017 and forecast a reduction of about 15 kilotons.

● Smelting and Refining Business in Japan

Unit energy consumption in the domestic smelting and refining business improved by approximately 14.0% in FY2016 compared

with FY2015. The main reason for the improvement was our achievement of planned production volumes of copper and nickel, thanks to stable operations. Meanwhile, unit CO₂ emissions improved by about 17.7% due to lower production of high-energy products (prime western grade zinc and ferro-nickel) and lower emissions factors of electric power suppliers.

● Overseas Business

In our overseas business, energy-derived CO₂ emissions decreased approximately 20 kilotons, to approximately 1,037 kilotons.

● Domestic Transportation

Indirect CO₂ emissions produced in domestic transportation in FY2016 were 23 kilotons, a decrease of around 1.4 kilotons (5.9%) compared to FY2015. The main reason behind this improvement was an increase in the use of ship transportation and improved load efficiency.

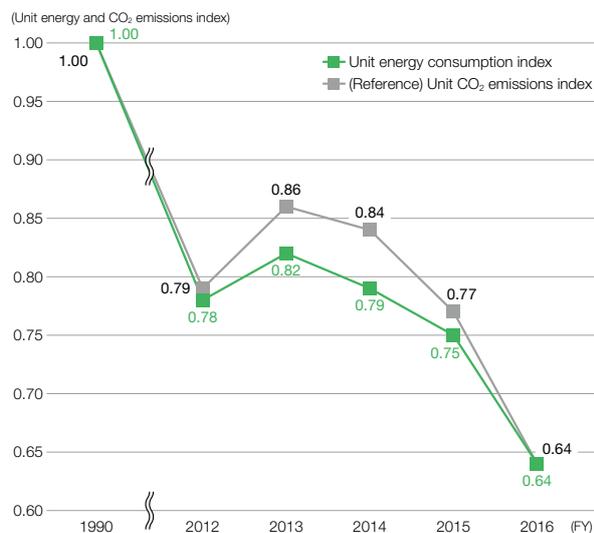
● Introduction of Renewable Energy

In FY2016, we began operating solar power plants and purchasing steam produced by woodchip boilers. This reduced CO₂ emissions by 5.5 kilotons for the year.

● Initiatives as a Member of The Japan Mining Industry Association

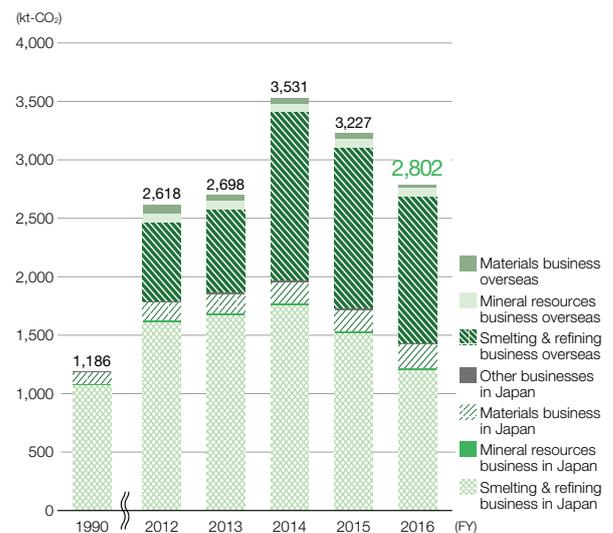
The Japan Mining Industry Association, a non-ferrous metals industrial organization, took part in the planning of a "Commitment to a Low Carbon Society" led by Keidanren (the Japan Business Federation) as the basis for announcing the industry target of an "18% reduction in unit CO₂ emissions by FY2030 in comparison to FY1990." SMM has already achieved this target in the Japanese smelting and refining business, and we are working towards the goal of further reducing CO₂ emissions by continuing to lower overall CO₂ emissions by 1% each year and by adopting renewable energy.

Unit Energy and CO₂ Emissions Index¹
Scope: Smelting and refining business in Japan



1. Unit energy and CO₂ emissions index: The amount of energy consumed and CO₂ emitted during the production of 1 ton of product, assuming the FY1990 value to be 1 (including fuels used as reducing agents).

CO₂ Emissions
FY1990 Scope: Business sites in Japan
FY2012–2016 Scope: All business sites in Japan and Overseas



• Emissions in Japan and overseas which do not relate to electric power are calculated using emission factors conforming to the Japanese Act on Promotion of Global Warming Countermeasures. These include non-energy-derived CO₂ emissions (334 kt-CO₂) that are outside the scope of the above act.
CO₂ emissions derived from purchased electricity in Japan are calculated using the emission factors of the electric power suppliers.
Emission factors for overseas are based on International Energy Agency (IEA) data.

Reduction of Environmental Impact

Management of Chemical Substances

Given that many of the SMM Group's products are chemicals and that many diverse chemical substances are also used in the manufacturing processes for these products, all business sites have their own system for managing chemical substances within their environmental management system, which is operated under the direction of the relevant division. For example, when a business site intends to use a new chemical, it conducts a preliminary study including hazard statements, laws and regulations and other applicable information, and deliberates on safety for people and the environment in a meeting at the business site before deciding whether to adopt the chemical.

Furthermore, regardless of whether there are legal obligations, an SDS¹ is issued for all chemicals that are transferred or provided to customers or to other business sites within the SMM Group.

Products created by the SMM Group's materials business are incorporated by our customers into electrical and electronic products and circulated widely to domestic and foreign markets. Therefore, with an eye on the value chain, information on the chemical substance content of SMM's chemicals is assessed across the supply chain to provide customers with information on SMM's products. Screening of development themes for new products also puts an emphasis on products with low environmental impact that can be used more safely by customers.

Overseas regulations such as the RoHS Directive² and REACH Regulation³ are also taken into account. The development of products that eliminate substances prohibited under RoHS and registration of chemical substances exported to the EU with REACH are being progressively promoted.

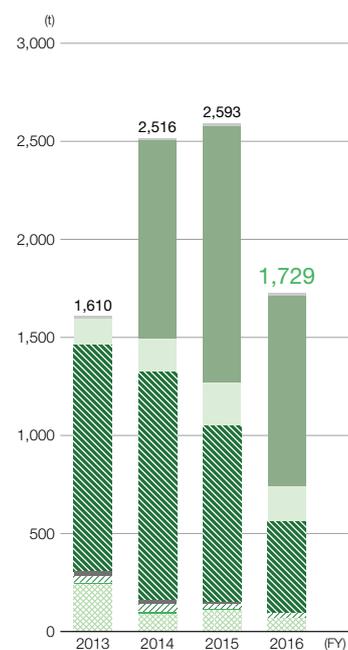
1. SDS (Safety Data Sheet): A document listing information on a chemical, including the chemical substance, the product name, the supplier, hazards, safety precautions and emergency procedures.
 2. RoHS Directive: The Restriction of Hazardous Substances Directive.
 3. REACH Regulation: The Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals.

Reduction in Volume of Chemical Substance Emissions, etc.

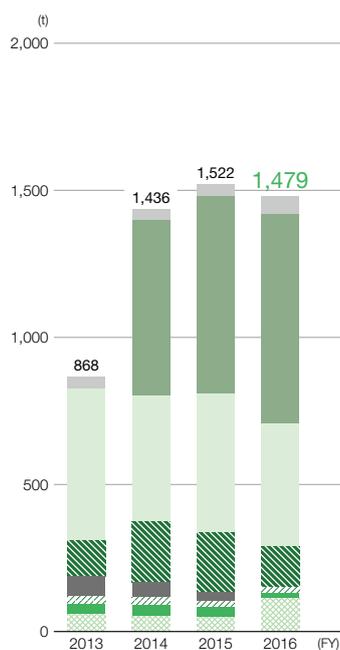
● Soot and Smoke Emissions

The volume of FY2016 SOx emissions decreased 33% year-on-year. Hyuga Smelting Co., Ltd. saw a 48% decrease due to an improvement in heavy oil combustion efficiency and a reduction in coal use accompanying a decrease in production, while THPAL saw a 26% decrease by using low-sulfur coal. Emissions of NOx decreased about 3% year-on-year, primarily due to a 33% reduction at the Hyuga Smelting Co., Ltd. from reduced use of coal, as with SOx. The volume of soot and dust emissions increased 13% year-on-year. The end of zinc production at the Harima Refinery meant emissions were near zero, while Hyuga Smelting Co., Ltd. saw a 57% decrease due to improved dust collection in its exhaust system. However, abnormalities in dust collection by CBNC's exhaust system resulted in an increase of 370%.

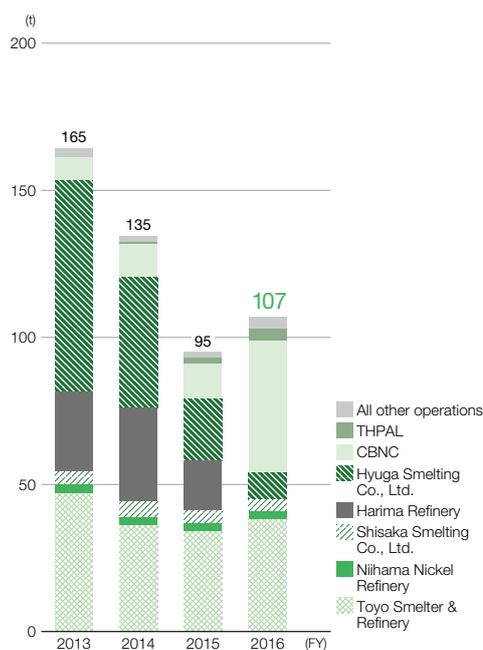
Volume of SOx Emissions



Volume of NOx Emissions



Volume of Soot and Dust Emissions



Legend for Soot and Dust Emissions:

- All other operations
- THPAL
- CBNC
- Hyuga Smelting Co., Ltd.
- Harima Refinery
- Shisaka Smelting Co., Ltd.
- Niihama Nickel Refinery
- Toyo Smelter & Refinery

● Chemical Substance Releases and Transfers

The following is an overview of FY2016 releases and transfers of chemical substances in Japan managed in line with the Pollutant Release and Transfer Register (PRTR) system. The SMM Group had 27 data-submitting sites (27 in FY2015) and 42 substances requiring registration (41 in FY2015).

The total release and transfer volume (releases + transfers) decreased by about 18% from FY2015 to 1,935 tons due to a decrease in transfers. The decrease in transfers was due to the end of our handling of materials such as chromium and chromium (III) compounds, lead, and manganese and its compounds following the end of zinc production at the Harima Refinery.

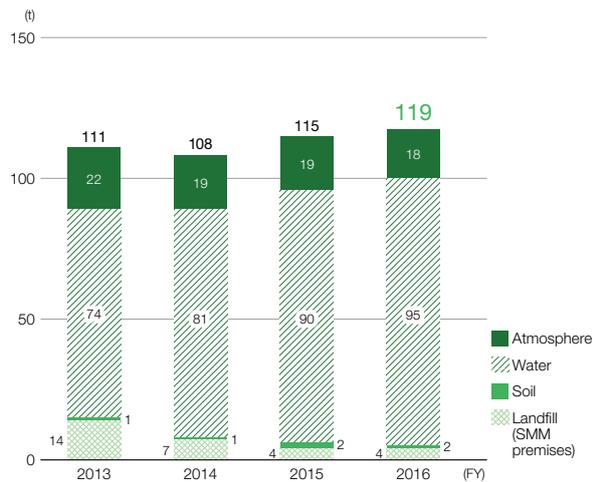
In terms of release volumes, discharges into the atmosphere decreased. This was primarily due to a reduction in dichloromethane emissions by the Ome District Division. Discharges into water increased by about 6%, primarily due to a rise in boron emissions accompanying an increase in water discharged by the Hishikari Mine.

The SMM Group's production processes released no ozone depleting substances.

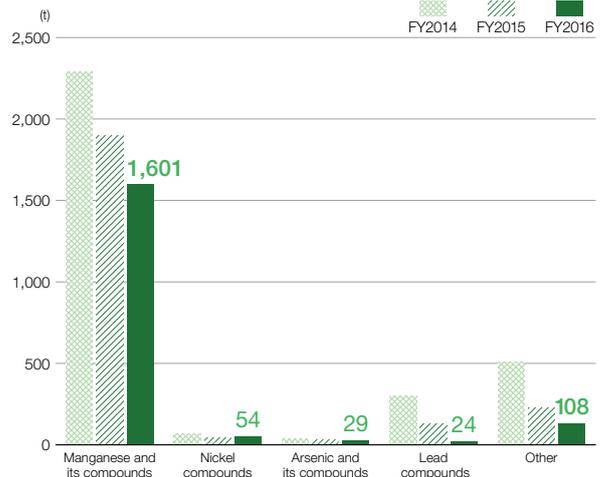
Release and Transfer Volume of PRTR Substances



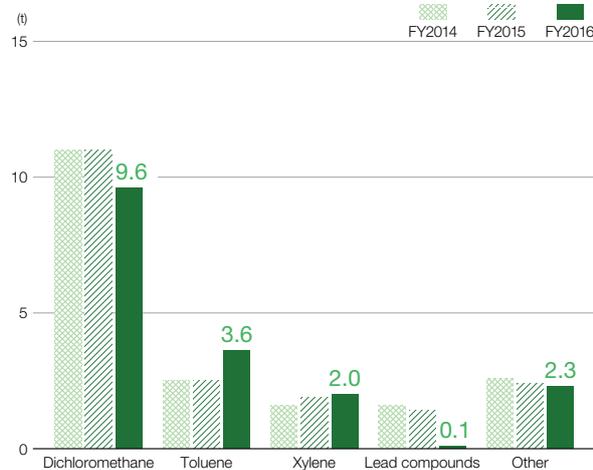
Breakdown of Releases



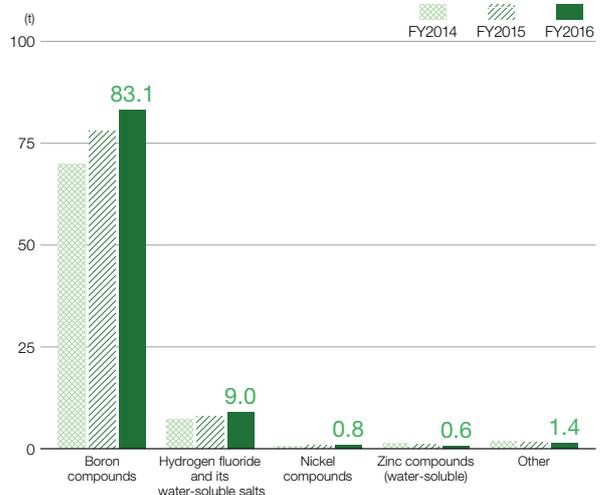
Breakdown of Transfers



Breakdown of Releases into the Atmosphere



Breakdown of Releases into Water



Global Environmental Considerations

● COD and BOD Pollutant Loads

The COD¹ pollutant load in FY2016 decreased by about 9% from FY2015, while the BOD² pollutant load decreased by about 5%. 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.

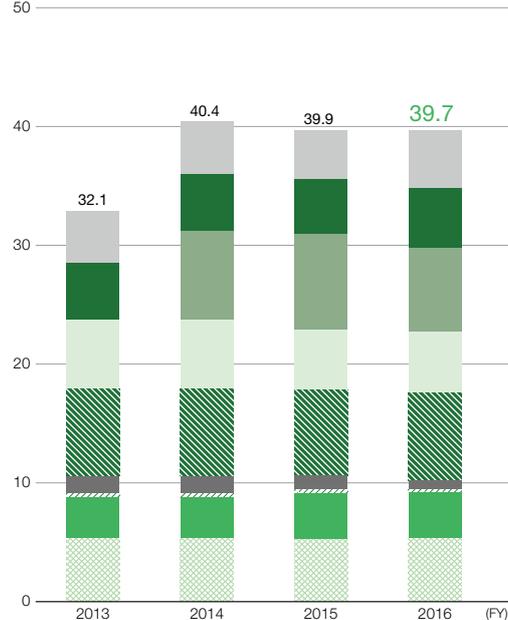
1. COD (Chemical Oxygen Demand): Measured for emissions into seas, including emissions into rivers flowing into enclosed seas.
2. BOD (Biochemical Oxygen Demand): Measured for emissions into rivers, excluding emissions flowing into enclosed seas.

● Water Usage

At 40 million m³, freshwater used by the Group was nearly unchanged year-on-year. Seawater usage increased 5% year-on-year. This was due to increased production at the Toyo Smelter & Refinery.

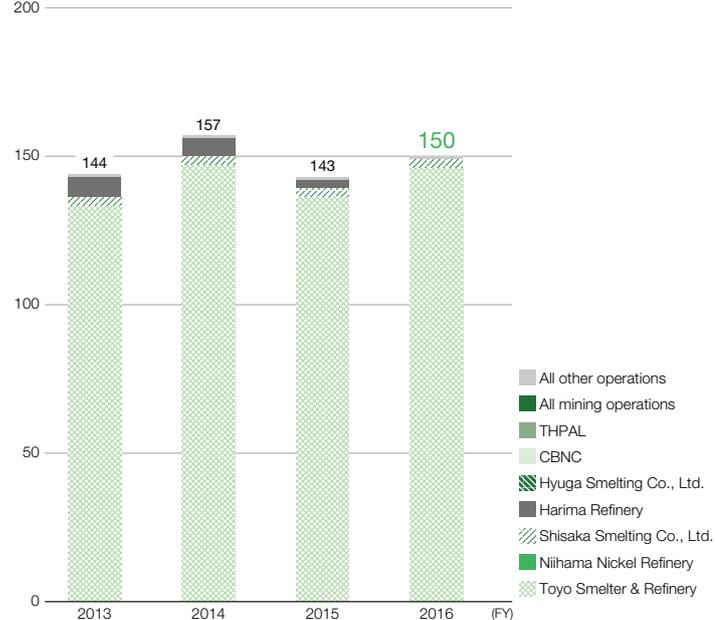
Water Usage (Freshwater)

(Million m³)



Water Usage (Seawater)

(Million m³)



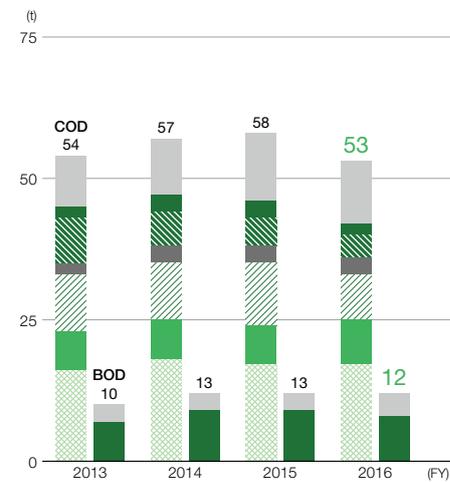
● Final Disposal Volumes of Industrial and Mining Waste

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.

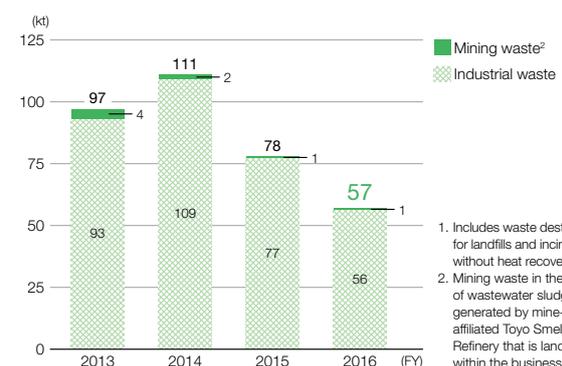
The total final disposal volume in FY2016 was 57 kilotons, which was a decrease of about 21 kilotons from FY2015. The main contributing factor was the elimination of slag emissions following the end of zinc production at the Harima Refinery.

The total volume of waste generated from all sites, classified according to processing method, direct or contracted disposal, and hazardous or non-hazardous, is shown on p. 87.

COD and BOD Pollutant Loads



Final Disposal Volumes¹ 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.

Volume of Waste (Hazardous³/Non-hazardous⁴)

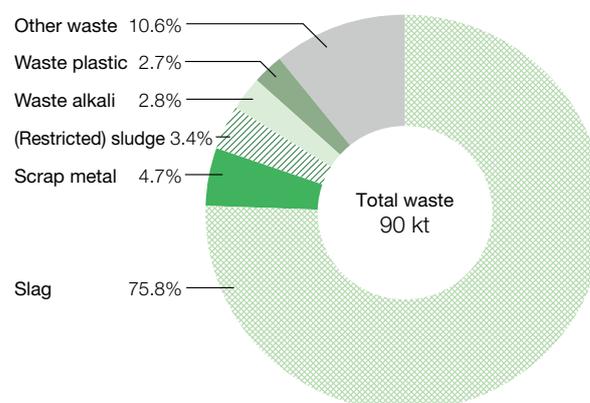
(kt)

		Total	Hazardous	Non-hazardous
Processing method	Recycling	43	11	32
	Landfill	8,050	53	7,997
	Incineration	2	1	1
	Volume reduction, etc.	2	1	1
	Total	8,097	66	8,031
Direct/contracted	Direct disposal	7,996		
	Contracted disposal	101		

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.

Breakdown of Industrial Waste (in Japan) by Type of Waste



Reduction and Avoidance of Environmental Impact that Occurs during Mine Development and Plant Construction

Example of Biodiversity Considerations in the Mineral Resources Business

The Pogo Gold Mine in Alaska, U.S.A., required 83 separate permits before operations could begin as it falls under extremely stringent environmental protection standards enforced by state and federal governments.

SMM undertook exhaustive environmental considerations right from the design stage, seeking to preserve ecosystems as well as infrastructure sustaining indigenous communities in the mine vicinity. Particularly important issues were protection of rivers where salmon return to spawn and prevention of adverse effects on moose habitats. Groundwater from the mine is purified by a treatment plant and partially reused in production processes. In gold extraction, water used during the extraction process is isolated within a closed system to make sure it is not released. The impact of mine operations is confirmed through annual monitoring of the salmon run, as well as by catching and analyzing fish to check for abnormal levels of heavy metals.

We have also tried to minimize the impact of mine access road construction on moose habitats by circumventing breeding grounds and not allowing traffic other than mine-related vehicles.



Water quality monitoring in rivers around the Pogo Gold Mine

Example of Biodiversity Considerations in the Smelting and Refining Business

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 certified environmentally responsible design 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.

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.

Contribution to Society and Local Communities

Basic Approach

The SMM Group has long been providing a secure foundation for living for its employees and their families as part of its business, and building social infrastructure in many fields, such as culture, education and medicine, and opening them to the public. We have also practiced business in a manner that is considerate of the local environment. We continue to

carry out business activities that take local communities into consideration based on the SMM Group Corporate Philosophy, Management Vision, and CSR Policy. Decisions on every project are taken following ample deliberation at meetings at all levels to ensure they do not run counter to SMM Group policy and philosophy.

Impact on Local Economies

Local Procurement

Procurement from the vicinity of our operating areas is one aspect of the SMM Group's business operations that can contribute to the local economy. Our procurement in these areas complies with legal regulations and follows fair competition practices in full recognition of the importance of mutual development.

The Niihama District, as our main business center, has always supported our business and we have developed in tandem with the community. We contribute to local development through procurement wherever the Group operates.

The proportion of payments made to local suppliers in FY2016 was 51% (¥9.3 billion) for the Niihama District. The Pogo Gold Mine procures materials and equipment from some 237 suppliers in Alaska, accounting for 42% (US\$72.7 million) of total procurement. In the Philippines, the proportion of payments made to suppliers within the country was 48% (approximately US\$131 million).

Local Hiring

The SMM Group's employment of individuals in the vicinity of operating areas not only directly contributes to the economy of the local community, but also helps to revitalize the region through human resource development and the provision of stable job opportunities. Since we believe that local residents' understanding of our business activities, paired with our understanding of local issues, is effective for deepening mutual concern, we continue to actively promote local hiring.

With regards to hiring, we have a clear recruitment process for each overseas business site and adhere strictly to laws and ordinances of the respective regions. Fairness in job appraisal, including promotions, is also ensured.

Actual conditions are periodically confirmed through the implementation of Group-wide questionnaires.

At the Pogo Gold Mine, we strive to hire people locally and 66% of the approximately 300 employees are Alaska residents. At Coral Bay Nickel Corporation (CBNC) in the Philippines, efforts have been made to employ locals from Bataraza, achieving a ratio of 59%. At Taganito HPAL Nickel Corporation (THPAL), also in the Philippines, 43% are from Claver.

Number of Locally-Hired Senior Managers
(General Managers and above) at Overseas Affiliates (March 31, 2017)

Company (Country/Region)	No.	
	Male	Female
Sumitomo Metal Mining Chile Ltda. (Chile)	2	0
Sumitomo Metal Mining do Brasil Ltda. (Brazil)	1	1
Sumitomo Metal Mining Peru S.A. (Peru)	2	0
Sumitomo Metal Mining Philippine Holdings Corporation (Philippines)	5	1
Coral Bay Nickel Corporation (Philippines)	1	0
Malaysian SH Precision Sdn. Bhd. (Malaysia)	3	3
SMM KOREA Co., Ltd. (South Korea)	1	0
Sumitomo Metal Mining Management (Shanghai) Co., Ltd. (China)	1	0
Suzhou SH Precision Co., Ltd. (China)	1	1
Shanghai Sumiko Electronic Paste Co., Ltd. (China)	4	0
Total	21	6

Mine Closure Plans

During the development of a mine, the SMM Group takes into consideration the treatment procedures that must be carried out when closing it, making efforts to minimize the environmental impact after mining is completed. Mine closures are carried out according to the SMM Group Corporate Philosophy and in accordance with laws and regulations. At mines in which SMM has more than a 50% interest, we draw up suitable plans once closure of the mine is foreseeable. Closure formalities and management are carried out according to the laws of the country in question.

Future environmental considerations at the Hishikari Mine include shaping spoil heaps into slopes, covering them with soil if necessary, and then spraying with seed to create vegetation. The costs are covered by reserves put aside for the purpose of mine pollution control, in line with Japanese law. The Pogo Gold Mine in the United States falls under Alaskan state law, which requires sites to be covered with soil and revegetated after all mine facilities have been removed. The law stipulates the

remedial programs required and their extent, the water quality parameters to be monitored, and the costs required for remedial work and revegetation.

SMM Group employees who worked at the Besshi Copper Mine and other Japanese mines that are now closed have been transferred to other business sites or given assistance in finding new jobs.

Closure Plan for Smelting Plants

In the Philippines, we are required to submit a closure and cleanup plan, not only for closure of the mine, but also for the refinery and mineral processing plant at CBNC. We are also required to put aside funds needed for the closure of any related business sites. The total cost according to the closure plan submitted by CBNC to the Department of Environmental and Natural Resources (DENR) is approximately 110 million pesos, and funds are being set aside every year for an eight-year period that started in 2012.

We are also providing assistance via SDMP* to help local residents make a living (such as in the farming and fishing industries) even after closure of a business site. The total cost according to THPAL's closure plan is approximately 120 million pesos, and funds are being set aside every year for an eleven-year period that started in 2016.

* SDMP: Social Development Management Program, conducted by a company for the welfare of residents living in the vicinity of its operating area.

Reserves for Mine Closures

Mine	Reserve name	Reserves (2016)
Hishikari Mine	Mine pollution control reserve	¥21.80 million
Pogo Gold Mine	Reclamation Bond	US\$57.10 million*

* Total reserves for the entire project. The burden of costs, when they actually incur, will be divided among companies according to their participating interest.

Social Contribution Activities

The SMM Group identifies social issues through dialogue with local communities in the vicinity of our business operations and implements social contribution activities to solve those issues with the aim of becoming “a company that earns trust and

contributes to regional development through our business and social contribution activities rooted in each region,” which is our Vision for 2020.

Major Social Contribution Activities in FY2016

Social infrastructure building activities at operating areas

- Infrastructure building and construction of schools, hospitals, etc. with operational support in the Philippines
- Scholarships bestowed at overseas operating areas

Cultural and academic support

- Special supporter of The Golden Legend organized by Aichi Prefectural Museum of Art
- Support and contributions for healthcare groups, sports organizations and other groups, support for conservation of world heritage sites, etc.

Nature conservation

- Contribution to the Keidanren Nature Conservation Fund

Disaster area support

- Contribution to storm damage relief for Typhoon No. 10
- Contributions to relief efforts for areas affected by the Kumamoto earthquakes
- Contributions to earthquake relief efforts in the Philippines
- Donations to scholarship funds for children orphaned by the Great East Japan Earthquake
- Creation of employment and setting up of a new production site for battery materials in Naraha Town, Fukushima Prefecture

Respect for People and Human Rights

Human Resources Development

Basic Approach

The basis of human resources development in the SMM Group is on-the-job training (OJT) in which supervisors and senior colleagues carefully train individual employees through duties in the workplace. SMM has also prepared programs that include a range of training and seminars, e-learning, and correspondence education to complement OJT.

In recent years, developing global human resources, training the next generation of managers, and providing

support for female employees to play active roles have been promoted as priority areas. Moreover, Vision for 2020 mentions providing opportunities every year for all employees to increase their skills and motivation, and we created the Human Resources Development Department in October 2015 to further strengthen our human resource development capability and are energetically working on it.

Human Resources Development Program

SMM Group has a framework for human resources development that is composed of three components—on-the-job training (OJT) is the base, with self-development, and off-the-job training (OFF-JT) —and works to develop the human resources required to achieve our growth strategies by utilizing a training cycle that involves selection → training → assignment → practical application → evaluation.



Introductory training for new employees (former Besshi Copper Mine climbing tour)

Specific Human Resources Development Initiatives

In particular, we focus on these human resources development initiatives:

(1) Foster a culture that develops human resources through an SMM version of OJT

(2) Develop the next generation of management

We also review training programs as required.

(1) Foster a culture that develops human resources through an SMM version of OJT

SMM's OJT requires an individual to not only learn the knowledge and skills needed for their work, but to also grow as a person. We also believe that without building deep personal connections and relationships of trust, you cannot nurture the employees who come after you or learn things yourself.

Our old training method was that of “learn by watching your bosses and seniors,” and there was the expectation that growth was achieved through tough instruction. However, as we have proceeded with OJT, our methods have changed along with changes in society and the diversification of values, and now variations in training methods and communication style are expected.

Therefore, “coaching skills training” has been carried out company-wide since FY2016 in order to develop the skills to make OJT more effective. These provide an opportunity to review the ways employees communicate and interact with the people around them, having them deal with human resources development more on their own volition, and getting individuals thinking independently and approaching growth with a goal in mind. This in turn will lead to a stronger organization.

(2) Develop the next generation of management

In addition to bottom-up training of the entire workforce, since FY2008 we have implemented a specialized program for training the next generation of management. Section manager-level and general manager-level personnel with the potential for a future senior management role at the company are selected for the program, which is designed to help them develop a senior manager's perspective. Also, by providing external training opportunities, we are increasing the number of venues for discussion and exchange with managers from other companies. Moreover, for newly promoted general manager-level personnel, we are continuing practical training that has been carried out since FY2011. This training involves current officers in charge at each site, providing guidance and advice to participants on a one-on-one basis to let them develop a sense for management. The training also involves participants themselves playing a leading role in actually addressing managerial issues faced by the company and observing the results. Furthermore, we started an Officers' coaching school in FY2014 to show that officers themselves are studying as well as cultivating an atmosphere more conducive to human resources development.



Middle Management Program (MMP)

Diversity and Equal Opportunity

Basic Approach

Since the Female Activation Support Group was established within the Personnel Department in July 2012, the Group has developed initiatives with the aim of establishing environments favorable to women based on the policy of making SMM a company where ambitious female employees feel motivated, are able to work dynamically, and gain a sense of personal growth through their jobs while demonstrating their full potential.

Moreover, in October 2015, we set up a Diversity Promotion Section within the Human Resources Development Department. This section is implementing initiatives aimed at reforming work styles and creating workplace environments favorable to diversity. These initiatives are aimed at all employees, but with a focus on providing support for participation by women and promoting employment of people with disabilities.

Establishment of Workplace Environments Favorable to Diverse Human Resources

Workplace Environments Favorable to Diverse Human Resources including Women

In FY2016, we established a framework for promoting diversity at our business sites in both Japan and overseas, and at group companies, and provided instruction for staff and supervisors responsible for diversity promotion and for staff responsible for the diversity consulting service. Furthermore, "promotion of awareness," "review of systems," and "developing individuals" have been positioned as priority issues from FY2016.

1) Promotion of awareness

Through various training courses, we are providing opportunities for employees to realize and understand how others may have different circumstances and ways of thinking, and to experience diversity for themselves. We also provide training for young female management track employees on how to approach their careers.



Diversity Workshop

In FY2017, we will use the insight gained from these training courses to create new courses.

2) Review of systems

In October 2015, we implemented a major renewal of our employee bulletin board, "Shining Employee." We added visual explanations of the steps for taking childbirth leave, childcare leave, and the like. We have also made employees aware of various systems and are following up on whether they are being used. As a result, we are seeing that progress is being made regarding system use.

3) Developing individuals

In order to support employee career development, we are preparing measures to help employees realize the core qualities they need for the future and their growth. We are also building workplace environments in which each individual employee can demonstrate their abilities to the fullest, and are progressing with considerations into measures that will leverage these abilities to further develop SMM.

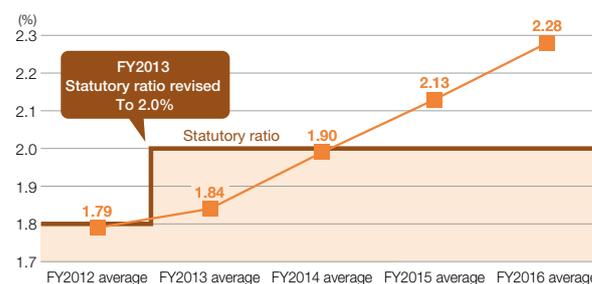
Additionally, the development and administration of a fair human resources system means there is no gender disparity in terms of basic salaries in the SMM Group.

Working with the Disabled

Through our Committee for the Promotion of Respect for Human Rights, which promotes Group-wide activities aimed at

resolving human rights issues, we have engaged in improving our employment ratio of people with disabilities through initiatives such as developing new workplaces that facilitate participation by people with disabilities, expanding the scope of disabilities that we can accommodate, and partnering with special schools with the aim of employing new graduates. As a result, we achieved the statutory disability employment ratio of 2.0% by the end of FY2014, and the average ratio for FY2016 was 2.28%. Furthermore, we have the following as part of our Vision for 2020: establish and achieve an internal target for the number of employees with disabilities in the Group. We are engaged in achieving this through activities such as holding seminars in FY2017.

Disabled Employee Ratio (SMM non-consolidated)



Support for Elderly Employees

Since revisions were made to SMM's manager re-employment system in FY2013, we have rehired all employees over the age of 60 who wished to remain employed. With an increasing number of people making use of the system, we are reviewing suitable levels of treatment and systems that can contribute to raising their motivation.

Initiatives for Enhancing Work-Life Balance

A satisfying lifestyle leads to satisfaction at work, too. Based on this belief, SMM is strengthening, and promoting the use of, various systems. In addition to restricting long working hours and encouraging employees to take paid leave, we have expanded the short-time work system available during child care, and established a job return system, which is applied in case of resignation because of marriage, child care, etc. We are also directing energy into enhancing the childcare leave system, elderly and nursing care systems, and our response to the Japanese Law for Measures to Support the Development of the Next Generation. In advancing these efforts, labor-management councils survey current conditions and draft specific provisions, and we incorporate council results in system revisions.

Respect for People and Human Rights

Respect for Human Rights

Basic Approach

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, SMM 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.

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.

Enhancing Management of Human Rights

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. The system will apply to Group employees both inside and outside Japan, persons in the supply chain who may be affected by the Group's activities, and local residents in the areas in which the Group conducts its business activities.

A human rights management program for employees began full-scale operation in FY2014, and in FY2016 we carried out a basic survey regarding human rights at 71 business sites and group companies in Japan and overseas. At sites where issues were identified, we are advancing improvements and conducting on-site inspections as required. In addition, the human rights management program will continue to be promoted Group-wide. With regard to the human rights management program for the supply chain, we carried out questionnaires for suppliers in Japan and overseas and conducted on-site inspections at four suppliers.

In FY2016, there were no human rights-related discrimination incidents. There was one human rights-related complaint and this was handled in an appropriate manner.

Human Rights Seminars

Human rights seminars are held regularly and include lectures, education on human rights risks for employees scheduled to be posted overseas, and education as part of promotion training. The primary objectives are to deepen awareness of potential human rights issues in the workplace and to prevent them from occurring. These seminars are held not only for officers and managers, but also for a broader range of employees. In addition to these seminars, we hold education on human rights, including the SMM Group Policy on Human Rights, for all employees—including those at group companies—every December during Japan's Human Rights Week. Going forward, we intend to further enhance human rights education.

Preventing Harassment

In order to prevent every kind of harassment, each workplace runs human rights education. Each business facility has established a contact person for sexual harassment and other incidents concerning human rights as well as appointing a harassment prevention officer. In FY2016, there was one complaint of workplace bullying, and appropriate actions were taken.

Mental Health Care

Initiatives related to mental health care for employees include mental health care training by specialized institutions and health

level self-checks. We have also established a health consultation system, which can be accessed at any time by employees and their families via interviews with specialists, telephone or our website. In addition, based on these systems, we are now able to comply with the implementation of stress checks and other measures, which became mandatory under the December 2015 amendment to the Industrial Safety and Health Act.

In FY2016, we implemented guidance to workplaces and provided training on mental health for managers and supervisors as well as regular employees based on the results of self-

checks. A "trial return to work" system and other measures were implemented to help employees who have been on long-term leave due to a mental disorder settle back into work.

We have also focused efforts on training in-house mental health care specialists, and 26 people had passed industrial counselor qualification examinations as of March 31, 2017.

In FY2017, we will continue to enhance mental health care initiatives and strive to maintain and improve the mental health of employees.

Respect for the Human Rights of Indigenous People and Local Citizens

Starting/Ceasing Operations

When making investments or equity contributions, the SMM Group uses a project risk check sheet for committees, primarily the Management Committee, to investigate risks that include not only human rights issues such as discrimination, forced labor, and child labor, but also the political system, economy, law and order, locally-specific diseases, labor issues, religious restrictions, and the impact on the local community. In FY2016, one investment project was proposed to the Management Committee and it did not fall under the scope of human rights issues. Continued monitoring of human rights issues is conducted after the investment or equity contribution, for example through board meetings of the company invested in. If any issues should arise, prompt action is taken after clarification of the cause.

Relocation of Local Citizens for Development

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 approval and understanding of local citizens and offer alternative land. For the Hishikari Mine, three households in

total relocated from 1983 to 1989. No relocations took place for development of the Pogo Gold Mine. For THPAL, we asked 41 households in areas to be affected by the plant's construction to relocate. 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.¹

Prevention of Child Labor and Forced Labor

We gain knowledge of current conditions through questionnaires sent out to group companies in Japan and overseas. No reports of child labor or forced labor were received during FY2016.

Artisanal and Small-Scale Mining

As of July 2017, there were no cases of work environment issues relating to artisanal and small-scale mining (ASM) in regions where SMM operates, nor did SMM have any programs for involvement in ASM.

1. Programs to help restore livelihoods: initiatives that facilitate the acquisition of skills and expertise that will enable local citizens to continue to make a living into the future.

Initiatives Relating to Conflict Minerals

Resources that are mined in the Democratic Republic of the Congo and surrounding countries lead to human rights abuses such as forced labor and child labor, and armed groups use such resources as a source of funds, thereby expanding and prolonging conflicts. The Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act), which includes provisions on conflict minerals disclosure with the aim of cutting off the source of funds for armed groups in the Democratic Republic of the Congo, became law in the United States in July 2010. Under this Act, corporations listed on American stock exchanges are obligated to report to the Securities and Exchange Commission (SEC) on their use of "conflict minerals" (gold, tin, tantalum and tungsten) originating in the Democratic Republic of

the Congo or any of nine surrounding countries.

The SMM Group clearly states in the SMM Group Policy on Human Rights that it works to prevent human rights violations such as child labor and forced labor. To give assurance that the SMM Group's gold smelting and refining business does not make use of conflict minerals that may lead to human rights violations or aggravation of conflicts, we began implementing the LBMA Responsible Gold Guidance² issued by the London Bullion Market Association (LBMA) in FY2012, and undergo an annual audit by a third party organization.

2. LBMA Responsible Gold Guidance: Guidance issued by the London Bullion Market Association which sets strict standards to prevent widespread organizational violation of human rights, ensure transactions are not used to fund conflicts or terrorism, and prevent money laundering.

Occupational Health and Safety

Basic Approach

In its CSR Policy, SMM states “According safety the highest priority, SMM shall provide safe, comfortable working environments and seek to eliminate occupational accidents,” and we are aiming to achieve this.

Therefore, the Vision for 2020 depicts “a company that accords safety the highest priority and provides comfortable working environments,” stipulating concrete targets.

To ensure safety, we promote safety-related activities under a basic policy that nurtures a safety culture and enhances line safety management.

Moreover, to provide comfortable working environments, we ascertain the level of dust in the air, the intensity of noise, the levels of specified chemicals and organic solvents, make necessary improvements to those environments, and enhance occupational health management.

Ensure safety

- Make our final target zero occupational accidents overall
- Reduce occupational accidents to three or fewer per year by 2020 and establish frameworks for achieving this target (Japan)
- Halve the frequency rate of occupational accidents by 2020 (Worldwide)
Reduce the frequency rate from 1.28 (CY2011) to 0.60 (CY2020)

Provide comfortable working environments

- Provide healthy working environments
 - (1) Achieve zero new cases of employees with occupational disease (requiring treatment) (Worldwide)
 - (2) Achieve zero Control Class 3 workplaces (excluding locations stipulated in guidelines, etc.) and reduce Control Class 2 workplaces (Japan)
- Implement other working environment improvements

Occupational Health and Safety Management System

The executive officer supervising the Safety & Environment Control Department is responsible for matters relating to health, safety and the environment, and coordinates health and safety management for the SMM Group. Also, each sector of our Head Office organization and each business site will have assigned 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 for 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.



The annual meeting of health and safety officers
Holding improvement case study presentations, lectures, and training intended to be implemented at each business site

Assuring Health and Safety

Health and Safety Activities in Business Sites

Safety-related activities in CY2016 were conducted with a focus on the following measures:

- (1) Management-led internal risk management development
- (2) Priority-oriented accident risk reduction
- (3) Improvement and entrenchment of residual risk management¹
- (4) Improvement and entrenchment of education for less-experienced employees²
- (5) More effective use of *Anzen Dojo* trainees
- (6) Enhancement of safety management of contractors

To improve the effectiveness of measures, we implement safety activities in conjunction with education through group activities with training content from the *Anzen Dojo*. Safety activities are also advanced by employees of the SMM Group together with contractors.

Health-related activities during 2016 were pursued under the following themes:

- (1) Improving work environment practices through the sharing of skills and knowledge

- (2) Reducing time individuals are exposed to harmful substances
- (3) Thorough implementation of the three occupational health managements
- (4) Enhancing awareness of, and communication about, the dangers and hazards of chemical substances
- (5) Promoting stress checks
- (6) Providing a comfortable working environment

Under a labor-management agreement concerning dust, visual display terminals (VDT), lead and noise, etc., procedures for preventing illness and taking action when illnesses occur are set forth.

In FY2016, antimony trioxide became a specified chemical substance. We notified divisions affected by this legislation in advance of the change and encouraged the required response. Going forward, we will continue to obtain information on revisions of laws and regulations that will continue to toughen, including adding risk assessment obligations and expansion of chemicals subject to the risk assessment.

1. Residual risks: Risks remaining after measures are implemented
2. Less-experienced employees: Employees with less than five years' experience

Hazard Simulation Courses (Activities at the Oji-kan Facility)

The SMM Group's practical training facility, the Oji-kan, commenced a range of hazard simulation courses in January 2010. By December 31, 2016, a period of roughly seven years, a total of 8,300 Japan-based SMM Group employees and 3,700 contractor employees had undergone training there.

To make it possible for all employees, from top management down, at each of our business sites to take part in training at the same time, Oji-kan started conducting on-site practical hazard simulations in July 2013. In 2016, 1,200 people took part in on-site courses. Business sites also use the Oji-kan's facilities for independent safety training courses.

Overseas business sites are also making use of the Oji-kan. To date, 15 employees from Coral Bay Nickel Corporation (CBNC) and THPAL in the Philippines have visited the facility to take part in hazard simulation courses. The Pogo Gold Mine in Alaska, the United States, also sends a number of officers each year to tour the facility and apply what they learn to safety activities at the mine.

Tours of the Oji-kan facility are also actively provided to other companies and organizations. Every year, a large number of them come to visit the facility to exchange information.



On-site hazard simulation

SMM Anzen Dojo

Our Safety & Environment Control Department has held the SMM *Anzen Dojo* (lit. safety training center) since 2013 with the aim of entrenching participation in safety activities by all employees through the enhancement of group activities, and continuously improving the level of safety activities at each business site. The *Anzen Dojo* trains personnel to become safety experts and leaders at their respective sites. These safety leaders, with knowledge and sensibility, return to their respective business sites to hold group-based safety education and discussion sessions, and take part in the planning, and running of safety activities. This makes it possible for business site safety activities to be implemented more effectively and efficiently.

In 2016, we held two seven-hour SMM *Anzen Dojo* courses, in spring and fall respectively, at each business site to upgrade and maintain the level of current safety leaders and improve



Anzen Dojo training (seven-hour spring course) in the Head Office area

their level of activity. We also held a short SMM *Anzen Dojo* "New Safety Leader Training Program" with three sessions aimed at supplementing and increasing the number of safety leaders. This resulted in 47 new safety leaders.

Incidence of Occupational Accidents

In Japan in 2016, there was a total of 22 occupational injury accidents at business sites (frequency rate per one million hours worked: 1.65) and there were five lost time accidents, a significant increase on 2015.

There were 11 injury accidents (frequency rate: 1.20) at

overseas business sites. The combined frequency rate for Japan and overseas was 1.46. However, there were no new instances of occupational illnesses at business sites either in Japan or overseas. Note that this data was collected during the calendar year, January to December 2016.

Data on Occupational Accidents in Japan

Year	Item	SMM non-consolidated	Group companies	Total
2016	All accidents	3	19	22
	Fatalities	0	0	0
	Lost time accidents	1	4	5
	Working days lost	66	77	143
2015	All accidents	3	5	8
	Fatalities	0	0	0
	Lost time accidents	1	1	2
	Working days lost	2	74*	76*
2014	All accidents	5	8	13
	Fatalities	0	0	0
	Lost time accidents	1	3	4
	Working days lost	50	118	168
2013	All accidents	5	11	16
	Fatalities	0	0	0
	Lost time accidents	0	1	1
	Working days lost	204	97	301
2012	All accidents	3	8	11
	Fatalities	0	0	0
	Lost time accidents	0	3	3
	Working days lost	9	172	181

Scope: SMM, subsidiaries in Japan, Nippon Ketjen Co., Ltd., N.E. Chemcat Corporation, and the Mie District Div. of Mitsui Sumitomo Metal Mining Brass & Copper Co., Ltd.

* The number of "working days lost" for "group companies" and "total" in 2015 were revised following detailed checking.

Initiatives to Fortify Accident Countermeasures

The number of accidents in the SMM Group has been falling over the long term as a result of various safety-related activities. However, due to complacency following an all-time best safety record in 2015, there were many accidents in 2016. This was due to various factors, such as the creation of new businesses and rapid increases in production, safety activities not being implemented sufficiently for both new employees and veterans alike, and accidents recurring due to similar unsafe activities and unsafe situations.

In 2017, in addition to taking even stronger leadership on health and safety by the general manager of each business site and fully utilizing safety leaders and group activities, we will continue to implement site-specific safety-related activities in line with the role of each level of our organization to nurture a culture of safety.

Additionally, on May 30, 2017, a worker at a business site in Japan entered an area with intermittently operated machinery and was caught between machines and suffocated to death. The SMM Group has focused on making its equipment safe, primarily through risk assessment. The revelation that there is still equipment that can result in a fatal accident has prompted us to declare a state of emergency and we are engaged in increasing safety efforts by demanding the inspection of every single piece of equipment within the Group that is thought to pose a risk of serious accident.

Stakeholder Communication

Engagement with Employees

Basic Approach

The basis of employee engagement is that all employees can be proud to work for the SMM Group. In order to achieve this, SMM implements a variety of efforts including social contribution through its core business, providing a workplace environment where each individual can work dynamically, establishing human resources development programs, and

ensuring respect for diversity and human rights. The top executives of each division have the fundamental responsibility for promoting activities to identify and enhance employee engagement. However, SMM as a whole conducts regular employee awareness surveys to assess the situation as well as pave the way to improving activities.

Establishment of a Workplace Environment to Enable Working Dynamically

Employee Awareness Survey

To promote communication with employees, who are important stakeholders, and create a better company and workplaces, SMM carries out employee awareness surveys through a specialized outside organization.

Following on from the first survey in 2010 and the second survey in 2013, the third survey was conducted in September 2016. The aims of the survey were to quantitatively determine how employee awareness had changed over the three years since the last survey and what kind of awareness employees possessed as they went about their jobs, and then to apply that knowledge to the development of measures for creating a better company and workplaces.

As with the previous survey, all of the roughly 3,000 employees of business sites directly controlled by SMM were surveyed, and this time, employees from Sumitomo Metal Mining Siporex Co., Ltd., Hyuga Smelting Co., Ltd., and Ohkuchi Electronics Co., Ltd. were also included. There was a total of 119 questions, and the response rate was 94.9%.

Survey results were reported to top management, general managers of Head Office divisions, general managers of business divisions, and workers' unions at feedback briefing sessions. Additionally, feedback seminars were held at directly-controlled business sites and group companies. Targeting management at each site, these seminars were used to disclose data for each site, ascertain outstanding issues for the site, and think about measures for creating better workplaces. For employees, survey results and an explanatory article appeared in the in-house bulletin, *Ibuki*, in July 2017.

Measures are being implemented at each site based on survey results and while engaging in communication with employees. The results of the latest survey are also being used as a reference in considering measures for promoting CSR in-house.

Labor-Management Relations

Workers' unions formed at SMM branch offices and business sites of SMM Group companies in Japan carry out activity under the umbrella of the Federation of Sumitomo Metal Mining Workers Union (Sumikoren). All regular employees join workers' unions in accordance with union shop agreements. Overseas, three consolidated subsidiaries have workers' unions (excluding Chinese labor unions). As of March 31, 2017, around 41%* of employees belonged to workers' unions at overseas consolidated subsidiaries. In order to build up healthy labor-management relations based on mutual trust, in which the company and workers' union mutually respect the other party's position, labor-management council meetings, or labor-management discussions, are held at least once a month with workers' unions at each branch office or group company. The Central Labor-Management Conference, a meeting between SMM management and executives of Sumikoren workers' unions, is held once a year around March.

We also implement questionnaires to ascertain conditions relating to the establishment of workers' unions overseas and actually visit overseas business sites in order to observe the labor-management situation in those sites and to exchange information. Various committees comprising members from labor and management are set up to tackle matters deemed important to both sides so that the views of both labor and management can be reflected in revisions, or the formulation of new systems. In the case of business reforms expected to have a significant impact on employees, considerations include providing sufficient advance notice. As a result of these efforts, no plant closures due to strikes or other action were reported during FY2016 within the entire SMM Group—both in Japan and overseas—and there were no serious infringements upon freedom of association.

Matters discussed with the workers' union, Sumikoren, during FY2016 include

- Discussions relating to human resources system
- Discussions relating to welfare programs

* Workers' unions membership ratio (percentage of all employees excluding officers)

Engagement with Local Communities

Basic Approach

When commencing and continuing operations in a certain area, the SMM Group seeks to coexist with the local community and to make a contribution to community development.

Therefore, in addition to establishing opportunities for regular

communication with the local community and creating an environment that promotes mutual understanding, SMM actively implements a variety of efforts to integrate with the community.

Promotion of Mutual Understanding and Contribution to Local Development

Involvement with Local Communities

Agreements are entered into with communities in line with the law at the mines, smelters and refineries in which the SMM Group has more than a 50% interest.

At the Hishikari Mine, the Pollution Prevention Council meets twice a year. In FY2016, budget briefings were held in April and September.

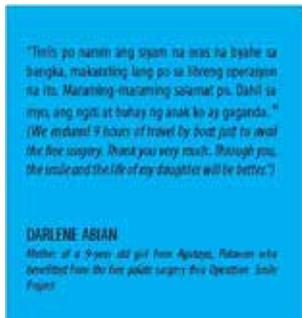
At CBNC, a Community Relations Section (COMREL) has been established. This section works to stimulate and strengthen management of the Social Development and Management Program (SDMP), a social contribution program established under the Philippine Mining Act. By means of Information Education and Communication (IEC) activities, the section is regularly sharing information with 22 villages (barangays), in the Rio Tuba area, including the 11 impact barangays. Through this activity, it obtains understanding for the SMM Group's activities, paving the way to stable operations.

CBNC has been operating a COMREL Information Center within the town site since August 2014. By having COMREL for both CBNC and RTN¹ in the same building, access for local residents was made easier, making interchange with them, such as dialog and explanatory meetings, more efficient.

Similarly, THPAL communicates with 14 barangays, including impact barangays in four nearby locations, as part of IEC

activities. In addition to this, it also carries out diverse activities such as the construction of local healthcare, school and other facilities and activities for children through SDMP and CSR. It also provides support for indigenous people through focused efforts, and strives to maintain positive relations with them through dialog.

During the approval 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. In addition, since operations began, there has been regular communication with local people. In 2016, five sessions were held to disclose information to stakeholders, including local residents, and the status of operations was explained. As yet, there have been no pending issues resulting from complaints from indigenous people in the areas surrounding the mines, smelters and refineries in which SMM has more than a 50% interest, including the Pogo Gold Mine. Furthermore, there have been no complaints to the SMM Group about community impact.



A parent and her child, who received palatal surgery under Operation Smile² (Palawan)



Quiz-type recreation for local children to instill curiosity (THPAL)

2. Operation Smile: An initiative in which plastic surgeons from Manila are dispatched to perform cleft lip and cleft palate surgery in Palawan, where many children are unable to receive such procedures for economic reasons. SMM participates in the initiative as a sponsor.

1. RTN (Rio Tuba Nickel Mining Corp.): A CBNC supplier mining company that mines nickel oxide ore that is a raw material in refining.

Communication with Shareholders and Investors

Basic Approach

SMM strives to carry out fair and understandable disclosure of information required by shareholders and parties thinking about purchasing SMM shares. Information is made available on the SMM website, including business activities, earnings, financial data, and outlines and progress updates of the 3-Year Business Plan and other growth strategies. *The Report for Shareholders* is also sent out to shareholders twice a year to report on

financial results and the progress of business strategies. We have also formulated an IR policy to serve as a set of guidelines for adequate engagement in IR activity and have published it on the SMM website. We will continue working to build and maintain a system of business administration so as to remain a company that has the trust and meets the expectations of its stakeholders, including shareholders.

Ongoing Dialogue with Shareholders and Investors

Investor Relations

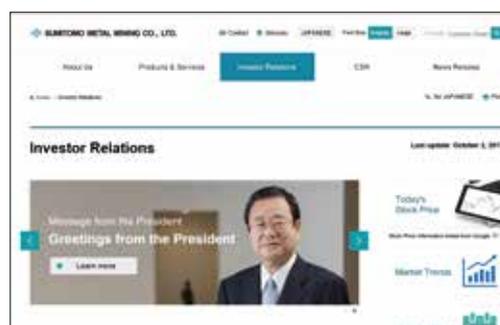
SMM holds twice yearly Business Strategy Progress Briefing Sessions in which the president provides explanations to institutional investors and securities analysts in person following the announcement of full-year and second quarter results. In February 2016, we also held a briefing session to coincide with the release of our 3-Year Business Plan. The PR and IR Department also holds earnings briefings via teleconference four times a year on days that quarterly results are announced. Documents for these briefings are made available on the same day via the SMM website.

In addition, a total of around 360 individual meetings with institutional investors and securities analysts were held in Japan and overseas in FY2016 to provide a direct communication channel. SMM participated in a conference organized by Japanese securities firms, and the president explained SMM's management issues and strategy to approximately 70 institutional investors from Japan and overseas. The president also pays visits to overseas institutional investors to explain the management policies and governance of SMM and receive feedback.

ディスクロージャー
2016年度 優良企業



As the result of various IR activities, we received the SAAJ Award for Excellence in Corporate Disclosure (top) for a sixth consecutive year, and the JIRA IR Grand Prix (bottom). Details about these awards can be found on p. 112.



SMM IR website <http://www.smm.co.jp/E/ir/>

Framework to Utilize Feedback from Shareholders and Investors

Opinions and requests received through communication with institutional and individual investors in Japan and overseas are regularly reported to management and applied to administration of the company.



Business Strategy Progress Briefing Session

Communication with Individual Investors

SMM has established a section for individual investors on the company website and works to disclose IR information. The website has Annual Reports and other information aimed at investors that provides a better understanding of our business.

We also respond to a variety of telephone and email inquiries from individual shareholders, which is a valuable opportunity for communication. In addition, there was a feature on the results of a questionnaire for individual investors in *The Report for Shareholders* issued in June 2016. The opinions received will serve as a reference for SMM's future IR activities.

General Meeting of Shareholders

The General Meeting of Shareholders is an opportunity to engage in communication with shareholders. SMM aims for a general meeting that shareholders can follow easily, using methods such as incorporation of video into presentations on business performance. Notices of meetings and reports are available on the SMM website.

Communication with Other Stakeholders

Basic Approach

SMM believes that the transparent, timely and appropriate disclosure of information is a corporate responsibility, and we try to disclose information impartially to all stakeholders. SMM actively publishes current activities and plans and

policies for the future via the SMM website. The aim is mutual understanding through communication so that business is promoted in a shared direction with all of our stakeholders.

Promotion of Mutual Understanding with Other Stakeholders

Communication with NGOs

SMM exchanges views with international environmental NGO Friends of the Earth Japan (FoE Japan) on a regular, ongoing basis about the quality of water in rivers in the area of the plants of Coral Bay Nickel Corporation (CBNC) on Palawan Island and Taganito HPAL Nickel Corporation (THPAL) on Mindanao Island in the Philippines.

By minimizing the impact of plant construction and operation on the surrounding environment, with the understanding and support of local residents, CBNC and THPAL are working to coexist with the natural environment. CBNC has also been promoting rehabilitation efforts that will turn its Tailings Storage Facility No. 1, a tailings dam no longer in use, back into a natural state.

SMM explains these local activities in detail and continues to

advance necessary improvements while listening to opinions and arguments put forward by FoE Japan.



Revegetation at CBNC tailings dam

Involvement with the International Community

ICMM Membership

The International Council on Mining and Metals (ICMM) aims to provide leadership on sustainable development initiatives for the mining and metal refining industries.

The SMM Group reflects the ICMM's 10 Principles in its CSR Policy and issues reports in line with the GRI guidelines, as is required of all member companies. As a corporate member, we also carry out a variety of initiatives, including ensuring conformance with position statements adopted for the 10 Principles.

SMM's three core businesses are mineral resources, smelting and refining, and materials. In the mineral resources and smelting and refining businesses, our aim is to become a world leader in the non-ferrous metals industry, and so we are pushing ahead with mineral exploration activities overseas and bolstering investment in existing mines. Seeking greater opportunities for operating on the global stage, SMM hopes to contribute to the development of the mining and metal refining industries in harmony with society.

Declaration of Support for the EITI

The Extractive Industries Transparency Initiative (EITI)¹ is an initiative aiming to promote social and economic development in countries which produce mineral resources by ensuring that money, such as taxes paid to governments from corporations that extract mineral resources, flow back into those countries or regions.

It is sometimes the case in resource-rich countries, where societal and economic development is often stagnant, that revenues generated by resources are not invested effectively in the country's development, leading instead to problems such as poverty, conflict and corruption. These are global issues, and advanced nations and corporations are being called upon to play a part in resolving them.

SMM agrees with the objectives of the EITI and supports its activities. As of July 2016, among countries in which SMM conducts business, Indonesia and Peru were compliant, and the United States and the Philippines are EITI candidate countries.

1. Extractive Industries Transparency Initiative <http://eiti.org/>

Compliance

Basic Approach

The corporate activities of the SMM Group are founded upon principles of compliance. Though compliance is usually construed as applying to only laws and regulations, the SMM Group goes further, viewing compliance as the fulfillment of social and moral duties as a member of society through sound corporate activities. In 2000, the year after the JCO criticality accident¹ 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 Conduct² 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.

We put compliance at the top of 17 items in the Code of Conduct, and set forth, not only as abidance by laws and regulations, but also by social norms, the following:

- 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 interest.

Compliance Management and Improvement

Compliance management is performed according to our 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, discusses policy and key measures concerning the promotion of compliance to the SMM Group.

In FY2016, the Compliance Working Group convened and confirmed the following.

1. Compliance monitoring

Looking at our compliance status in FY2016, wastewater not in compliance with standards was discharged into the sea at the Toyo Smelter & Refinery in Ehime Prefecture. While problems impacting the environment did not result, SMM received a severe warning from the Chugoku Shikoku Industrial Safety and Inspection Department. Corrective measures regarding this case have been completed. Aside from this case, there were no major violations of laws or regulations relating to products and services, including competition laws.

2. Review of compliance training

The Compliance Working Group confirmed that key matters related to compliance were made known to employees through a range of various training programs, including the fact that the Sumitomo Business Spirit, SMM Group Corporate Philosophy, and Code of Conduct require ethics-based conduct and decision-making that go beyond abidance by the laws and regulations.

Also, in order to prevent serious violation of the law from occurring, we instituted the following company regulations, promoting 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 unfairly treated, the person who initiated the unfair treatment will be punished appropriately.

In FY2016, there were 11 cases in which the Speak Up System was used. These broke down to three cases regarding employee management, three cases regarding salaries and resignation, three cases regarding safety and environmental management, and two cases regarding management of work contractors at plants. These cases were all handled properly.

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.

2. The SMM Group Code of Conduct can be viewed on p. 101. In the 2015 revision, we clarified the need to comply with competition laws and laws against bribery.

Compliance Seminars

The SMM Group has been holding annual “compliance conferences” every year since 2001, which give employees an opportunity to reaffirm their basic knowledge of compliance and learn about the latest legislative changes. After deliberation on the objectives and structure of these conferences, the Group now also implements “compliance seminars” for the senior management of SMM and group companies to ensure the implementation of the Code of Conduct and compliance with related laws and regulations.

In compliance seminars, participants not only acquire knowledge of laws and regulations but also, through messages from top management or seminars by outside experts, reaffirm ideals for senior management and issues for the organization in ensuring compliance, with the primary aim of putting the knowledge acquired through the seminars into practice in their own workplaces.

In addition to seminars, we repeatedly provide guidance on the implementation of the Code of Conduct and compliance with laws and regulations, and CSR awareness in a combined manner through everyday work.

Participants of Compliance Education (FY2016)

Type of seminar	Target	Participants
Compliance seminar (Basic course)	Newly-appointed general managers of divisions and group company officers, general managers of head office divisions, heads of branches and general managers of district divisions and plants, and managers of general affairs sections	60
Compliance seminar (Advanced course)	General managers of business divisions and administration departments, general managers of head office divisions, and heads of branches and general managers of district divisions, and presidents of subsidiaries in Japan, etc.	66
Group seminar for new employees	New management track employees and normal track employees in the Head Office area	38
Seminar for newly promoted S-class employees	Employees newly promoted to S-class	28
Seminar for newly promoted E-class employees	Employees newly promoted to E-class	46
Seminar for newly promoted section managers	Employees newly promoted to section manager	26
Secondary training for mid-career employees	New mid-career employees	6
JCO Study Center training	All SMM Group employees	663

Seminar participants includes those from our equity-method affiliates.

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 broad-minded 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.

Risk Management

Basic Approach

Setting risk management (RM) as a crucial part of efforts to strengthen its corporate structure, the SMM Group established a risk management system (RMS) integrated across the entire Group.

Reflecting the lessons learned from the JCO criticality accident, the RMS is comprised of Six Principles* that include setting compliance as the foundation. We are convinced that cementing the RMS in place and ensuring that initiatives continue are essential for the continuation of our business. Furthermore, RM is positioned as an activity that all employees

are to pursue daily, following the lead of top management. Subsequently, we added the provision “We will strive to identify risks, prevent their occurrence, and if risks occur, minimize the effects” in the SMM Group Code of Conduct applicable to officers and staff, in order to ensure that RM initiatives serve as a guide for action.

* Six Principles: (1) Compliance is the foundation, (2) The organizational leader confronting the risk is the responsible party, (3) Awareness of risk must be shared among all parties involved, (4) Adopt an RM approach in daily work, (5) Recognize that risks can occur, and (6) Coordinate risk responses with other management systems

Risk Management Framework

The supervision of RM is carried out by the SMM president, who formulates RM policies every fiscal year.

RM frameworks, responses to the occurrence of risks, and other matters are prescribed by company-wide rules. Promotion and monitoring of RM across the SMM Group overall is performed by the RM Working Group under the CSR Committee. The RM Working Group has deliberations on outcomes and issues in RM initiatives and drafts of annual RM policy, manages RM plan progress, and engages in company-wide strengthening of risk awareness. An RM Promotion Officer is placed within each division of the company to promote RM within the division and its business sites.

In the RM of the SMM Group, the top management within each division and business site formulates an RM action plan for the fiscal year, taking into account conditions surrounding his/her organization, and engages in RM. Major risks that have been assessed and entered into databases are addressed to reduce the risks, in accordance with fiscal year plans and the PDCA cycle concept. The outcomes of actions are evaluated

and improvements are effected through further action. Drills that simulate emergencies are incorporated into plans, with evaluations of the drills used to strengthen the ability to respond to emergency situations. SMM has also constructed a Crisis Management Framework for preemptively addressing particularly major risks that carry the potential for serious damage and that must be dealt with by the SMM Group as a whole. Actions under the RMS include RM internal audits, revisions to approaches during Risk Awareness Month, and RM patrols, creating opportunities to discover newly apparent risks and risks that have not yet been addressed.

The SMM Safety & Environment Control Department assesses the operational status of RMS in divisions, at business sites, and at group companies, and offers support to these. To ensure that RM activities are effective, the department also conducts RM internal audit seminars and provides guidance for various forms of drills, while also managing meetings of the RM Working Group and of RM Promotion Officers.

Principal Assumed Risks

Each organization that forms a unit of RM activity performs a review of risk registries as needed when changes occur, or regularly during Risk Awareness Month in September. Special attention is given to the risks noted below and to changes in these.

Environmental pollution

Environmental risks comprise the largest proportion of the overall risks facing the SMM Group. In addition to the mining and non-ferrous smelting and refining businesses, any type of plant must recognize that atmospheric, water and soil contamination, among other types of pollution, can be expected due to equipment breakdowns, human error in operation, natural disasters, or other causes of hazardous substance leaks. We must take sufficient measures to prevent human and environmental exposure to toxic chemicals and other substances.

Legal violations

Ignorance of legal requirements, insufficient awareness of compliance duties, etc. can cause legal violations. Violations that lead to the loss of certifications, as well as violations that may escalate into social issues, not only endanger the continuation of the business itself, but also invite damage to the social credibility of the SMM Group overall.

Occupational accidents

Safety mechanism deficiencies, unsafe behavior, operating errors, equipment defects, etc. can directly or indirectly cause employees to have accidents. Disasters can be particularly severe when explosions and fires occur.

Poor quality

Defects during the product development process or manufacturing

process, and managerial errors and other factors can lead to supplying products that do not meet customer specifications, thereby causing considerable problems for customers or society. In particular, product incidents jeopardizing personal safety and inferior quality leading to recalls must be avoided.

Natural disasters

In preparation for large-scale earthquakes, the tsunamis they spark, torrential rains, heavy snowfalls, and other natural disasters, measures must be put in place that take into account the type of work, geography, climate, and other conditions peculiar to each business site. In recent years in particular, we have seen abnormal weather to an unprecedented degree, indicating that the effects of climate change must be taken into consideration.

Overseas risks

Overseas, the risk of terrorism or rioting is far higher than in Japan. Safe behavior at the personal level, the establishment of contact methods, security at business sites, evacuation drills, requests to the government for assistance, and other preparations must be made on a daily basis, with protection of the lives of employees stationed abroad and on business trips paramount.

Pandemics

Virulent influenza or other pandemics can be severe enough to make business inoperable. These cannot be dealt with in haphazard fashion; preparations for prevention and immediate response are important.

Others

Other risks include those originating from moral misconduct, fraudulent accounting, information leaks, human rights issues, and malpractice.

Principal Initiatives

Our RM policy for FY2017 proclaims, "Top management itself will take the lead to enhance communication at every level, properly assess and review risks, and consider and execute appropriate countermeasures and actions. 'Execution of back-to-roots risk management.'" In order for top management to effectively take action against unnoticed risks and risks involving people, communication in the workplace is indispensable. Working from the meaning of the Six Principles, we place particular importance on compliance and seek to engage in management with our feet firmly on the ground.

Release of RM guidelines

To promote top management-led RM, in October 2016 we released RM Guidelines aimed at business site general managers. The guidelines cover overall business activities and address risks that call for attention. They indicate key points in management that are specific to each risk item, along with case studies of note, to enable the pursuit of RM without bias toward the business site general manager's individual concerns or areas of ability.

Responding to natural disaster risks

Based on a hazard map distributed to all business sites in 2015, we are studying site-specific measures matched to expected degrees of damage from earthquakes, tsunamis, floods, liquefaction, landslides, volcanic eruptions, and other disasters. At the same time, we continue to expand equipment and facilities for emergency response.

Implementing drills

In responding to the occurrence of risks, established procedures are meaningless if they cannot be executed. At each of our business sites we actively engage in and further improvise drills that simulate the occurrence of emergencies and crises such as environmental accidents,

fires, earthquakes, and pandemics. In the past, drills primarily consisted of hands-on, in-service drills conducted in line with scenarios and response procedures. In recent years, however, we perform workshop-based drills that present participants with issues to be addressed, and "blind scenario" drills that hide the direction the simulated situation will take in order to test instantaneous response capabilities. We strengthen response capabilities by resolving the problems and issues that are revealed by the drills. Each business site can select a form of drills applicable to its objectives, while the SMM Safety & Environment Control Department holds drill planning skills development courses to elevate the level of drills.

Risk Communication Training

Effective RM is built upon a foundation of communication. When the top management of business sites is unaware of actual conditions in the workplace or of employees' real feelings, even unthinkable situations can come about. This training has been held twice per year since March 2015 to let members of top management take another look at the state of their own communication with workplaces. Drawing on this training, new communication is occurring between business site general managers and their subordinates.

RMS adoption at overseas business sites

At overseas business sites that have completed the adoption of RMS, we used educational materials from RM internal audit seminars to promote thorough awareness. RMS at new overseas business sites focuses on business divisions under the sites' jurisdiction. With the support of overseas group businesses that have already adopted RMS, adoption is moving forward. At present, we are engaged in RM with a focus on overseas business site general managers and employees stationed abroad. We hope to further instill RM through means that include the active participation of locally hired employees.



Mine rescue drill at the Hishikari Mine



Firefighting drill at the Mie Plant of Sumitomo Metal Mining Siporex Co., Ltd.



Metal sales-related business continuity drill conducted jointly by the Osaka Branch, Nagoya Branch, and Head Office

Issues and Targets

Prevention of industrial accidents

Each business site of the SMM Group conducts operations that have a variety of chemical solutions and gases, petroleum products, intermediates, mining sediments, wastes, and other materials as a part of its business processes. Occupational accidents caused by the leakage of these must be prevented at all cost. The damage that accidents can wreak on the environment and their effects are also incalculable. To ensure that a situation like the JCO criticality accident never happens again, the prevention of industrial accidents is a goal that must always be met. Toward that end, before the start of a project we carry out risk assessments of facilities and equipment that pose the risk of serious industrial accident, and report the results of the assessments to the overseeing heads of operational divisions, together with emergency response plans. In the area of maintenance, we engage in activities with an emphasis on the improvement of management and on education and training, while strengthening and upgrading facilities.

Review of business continuity planning (BCP)

In recent years, damage resulting from natural disasters has become notably more severe. In the event of unavoidable damage due to a disaster, we cannot satisfy customers and meet their expectations if we do not restart suspended core businesses as quickly as possible. For that reason, we will not only rely upon our own restoration activities and those of suppliers to restart business, but will also formulate and revise BCP to hasten restoration, including the adoption of emergency alternate measures such as temporary relocation of business sites.

Strengthening overseas crisis management

Risks even greater than process risks are present overseas, including terrorism, kidnapping, and other external risks that threaten personal safety. To counter these, it is paramount that we take preventive measures, including everyday safe behavior. We conduct repeated crisis situation response drills through domestic and overseas cooperation, while maintaining and improving preparations for crises, as we work to further shore up the assurance of safety.

Quality Control

Basic Approach

The SMM Group's core business consists of mineral resources, smelting and refining, and materials. In addition to manufacturing and selling metal ingots made from excavated and refined ore, we process metal ingots and other incidental substances, drawing out the potential of each individual material, and turn them mainly into advanced materials, and engage in sales. To improve the quality of such materials, we established quality policies for each business division based on our company-wide quality policy. Further, through product safety and compliance with product-related laws and regulations, we manufacture products with superior safety, environment and quality levels that only our Group can provide thanks to an integrated production process from upstream ore excavation to downstream raw materials and products.

SMM Quality Standards

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

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 FY2016, we conducted audits of 28 business sites within the Group, allowing the business sites to deepen their understanding of their degree of achievement toward the quality control levels and the objectives toward which the SMM Quality Standards strive.

Human Resource Development

To maintain consistent quality to satisfy 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 efficacy of quality management systems, using twice-annual training to develop quality control officers who will improve the control level of the SMM Quality Standards.

Raising the Standard of Total Quality

At the SMM Group, we accurately determine the effects of products and services on health and safety so that we can seek improvements through organized implementation and link management systems covering the environment (considerations toward and improvements to local and global environments), occupational safety (safety of business processes) and quality (satisfaction from product use). Almost all our products are subjected to this integrated cycle to ensure the improvement of total quality.

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

In FY2017, we will again aim for the proper objectives sought by the SMM Quality Standards, and will work to improve the quality control level of the Group overall.



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



Small-group activities training (Taihei Metal Industry Co., Ltd.)



Quality control officer training (Head Office)

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.

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.

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

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

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

Information Provided on Important Products and Services

- Content, particularly with regard to substances that might produce an environmental or social impact
- Safe use of the product or service
- Recycling and disposal of the product and environmental/social impacts

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

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.

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.

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.

CSR Data Environmental Preservation

Material Flows within Business Activity

INPUTS (Resources & Energy)

Raw Materials ¹		Recycled Materials ²		Materials	
Gold and silver ore	1,048 kt	Copper scrap	134 kt	Silica sand (for copper smelting)	142 kt
Copper concentrates	1,428 kt	Secondary zinc	11 kt	Chemicals (lime-based)	1,054 kt
Nickel oxide ore	7,994 kt	Secondary precious metals	2 kt	Chemicals (sodium-based)	75 kt
Nickel matte, etc.	41 kt	Electric arc furnace dust	74 kt	Chemicals (magnesium-based)	12 kt
Raw material for batteries	17 kt	ALC waste	171 t	Sulfuric acid	531 kt
ALC raw material, incl. silica rock	206 kt			Cement, etc.	134 kt
Raw material for metalworking	1 kt				
Hydrotreating catalyst raw material	54 kt				

Percentage of recycled input materials used **2.01%**

Energy ³	Consumption	Energy Value
Heavy oil	46,323 kL	1,894 TJ
Coal/coke	510,130 t	13,167 TJ
Wood pellets	1,980 t	37 TJ
Diesel/gasoline/kerosene	25,191 kL	940 TJ
LPG/LNG	8,619 t	438 TJ
City gas/natural gas	7,345 km ³	330 TJ
Purchased electricity	1,658,164 MWh	16,175 TJ
Purchased steam	61,417 GJ	62,645 GJ

Water	
Freshwater total	39,724 km ³
Industrial water	13,887 km ³
Groundwater	12,028 km ³
Tap water	1,362 km ³
Surface water	12,448 km ³
Seawater	150,072 km ³

Business Activities in Areas of High Biodiversity Value¹

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))

1. 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.

Amount of Land Developed or Rehabilitated

(hectares)

	A: Total area of land not rehabilitated (as of the end of FY2016)	B: Area of land newly developed in FY2016	C: Area of land newly rehabilitated in FY2016	D: Total area of land developed but not rehabilitated (A+B-C)
Hishikari Mine	21	0	0	21
Pogo Gold Mine	170	3	1	171
CBNC	282	0	3	279
THPAL ²	192	615	54	753

2. Excludes area rehabilitated in cooperation with Taganito Mining Corporation.

OUTPUTS (Products & Emissions)

Products ¹	
Electrolytic copper	451 kt
Gold	21 t
Dore	8 t
Silver	209 t
Electrolytic nickel	62 kt
Nickel sulfate	23 kt
Electrolytic cobalt	4 kt
Crude zinc oxide	35 kt
Ferro-nickel	73 kt
Battery materials	23 kt
Sulfuric acid	523 kt
Slag	1,377 kt
Processed metal products	1 kt
Hydrotreating catalysts	10 kt
ALC (Siporex)	429 km ³

Percentage of products from recycled input
4.73%

Emissions into the Atmosphere

CO ₂	2,825 kt
Direct emissions ⁴	1,785 kt
Indirect emissions ⁵	1,017 kt
Emissions during transportation (Japan) ⁶	23 kt
SO _x	1,729 t
NO _x	1,479 t
Soot and dust	107 t
PRTR substances	18 t

Waste (including Items of Value)

Total waste	8,097 kt
Breakdown of total waste	
Spoil	579 kt
Flotation tailings	742 kt
Wastewater sludge from CBNC, THPAL, etc.	6,673 kt
Industrial waste (Japan)	90 kt
Other	13 kt
Landfill on premises	7,996 kt
PRTR substances ⁸	1,816 t

Emissions into Water

Total wastewater	204,710 km ³
Discharges into seas ⁷	196,027 km ³
Discharges into rivers	7,712 km ³
Underground seepage	76 km ³
Sewerage, etc.	895 km ³
COD (chemical oxygen demand)	53 t
BOD (biochemical oxygen demand)	12 t
Total phosphorus	1 t
Total nitrogen	69 t
PRTR substances (discharged into public water areas)	95 t
PRTR substances (discharged into the soil or in landfills within business premises)	6 t

- Zinc smelting stopped in September 2015 so there is no production of prime western grade zinc.
- Does not include materials recycled within plants.
- Caloric values for both Japan and overseas are calculated using coefficients conforming to the Japanese Act on the Rational Use, etc. of Energy. 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.
- 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 CO₂ emissions (334 kt-CO₂) that are outside the scope of the law.
- CO₂ emissions derived from purchased electricity in Japan are calculated using the emission factors of the electric power suppliers. Emission factors for overseas are based on International Energy Agency (IEA) data.
- 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.
- Discharges into rivers flowing into enclosed seas are included as "discharges into seas."
- Total transfers to sewerage and off-site transfers.

Laws Covered in the Environmental e-learning Course Content

Environmental Laws	Environmental Laws Basic	Environmental Laws	Environmental Laws Basic	Environmental Laws	Environmental Laws Basic
Basic Environment Act	Basic Environment Act	—	Act on Promotion of Global Warming Countermeasures	PRTR Law	PRTR Law
—	Basic Act on Biodiversity	Act on the Rational Use, etc. of Energy	Act on the Rational Use, etc. of Energy	Poisonous and Deleterious Substances Control Act	—
Basic Act on Establishing a Sound Material-Cycle Society	Basic Act on Establishing a Sound Material-Cycle Society	Air Pollution Control Act (including the content of the Act on Pollution Prevention Systems in Specified Factories)	Air Pollution Control Act	Waste Management and Public Cleansing Act	Waste Management and Public Cleansing Act
—	Act on the Promotion of Environmental Conservation Activities through Environmental Education	Water Pollution Control Act	Water Pollution Control Act	PCB Special Measures Law	—
—	Law Concerning the Promotion of Business Activities with Environmental Consideration	Soil Contamination Countermeasures Act	—	—	Act on Promoting Green Purchasing

Number of Employees & Officers Worldwide (Consolidated) (March 31, 2017)

	No. of employees at year-end				Employee gender breakdown		Average number of non-regular/limited-term employees during the year	Total	Temporary employees
	Full-time officers	Managers	Regular employees	Total	Male	Female			
SMM non-consolidated	21	480	1,799	2,300	2,046	254	220	2,520	79
Consolidated subsidiaries in Japan	62	337	2,706	3,105	2,620	485	426	3,531	274
Consolidated subsidiaries overseas	28	382	1,590	2,000	1,521	479	33	2,033	562
Total	111	1,199	6,095	7,405	6,187	1,218	679	8,084	915

Number of Employees & Officers by Region (Consolidated) (March 31, 2017)

Japan	U.S.A.	South Korea	Peru	Chile	China	Philippines	Taiwan	Malaysia	Australia	Solomon Islands	Brazil	Total
6,051	340	4	11	29	140	1,270	30	158	6	33	12	8,084

Consolidated Employee Breakdown (March 31, 2017)

	Younger than 30		30-49 years old		50 and older		Total
	Male	Female	Male	Female	Male	Female	
Managers	22	13	535	61	547	21	1,199
Regular employees	1,138	349	2,728	663	1,098	119	6,095
Total	1,160	362	3,263	724	1,645	140	7,294

- The 111 full-time officers and 679 non-regular/limited-term employees of the SMM Group are not included in this table, hence the different totals under "Number of Employees & Officers Worldwide (Consolidated)" and "Number of Employees & Officers by Region (Consolidated)" on this page.
- The number of employees mainly in China, Taiwan and Malaysia decreased compared to the end of March 2016 due to the sale of the lead frame business.

Company-Wide Human Resources Development Program

	F-class J-class	S-class	E-class	Section managers	General managers	Officers	
	Introducing training Introductory training Short-term overseas training F-class employee seminar (at each branch office) 3-yr. training program for management track employees Second-year training	Newly promoted S-class management track employee seminar S-class employee seminar (at each branch office) 3-yr. training program for newly promoted general managers Follow-up seminar New GM seminar Officers' coaching school	Overseas training, overseas assignment Language training prior to overseas assignment Overseas training Fee assistance for language proficiency tests 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 Project management training	Language training prior to overseas assignment Overseas training Fee assistance for language proficiency tests Section manager seminar Project management training	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, RM Safety, skills Self-development	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, RM Safety, skills Self-development

FY2016 Total Annual Hours of Education

(hours)

	Officers	General managers	Section managers	Regular employees	Other	Total
SMM non-consolidated	252	2,043	4,529	37,181	1,078	45,083
Consolidated subsidiaries in Japan	575	965	3,070	20,009	3,873	28,491
Consolidated subsidiaries overseas	1,235	315	1,923	34,071	1,165	38,709
Annual hours of education per employee	18.6		10.7	15.0	3.8	12.5
Number of officers and employees at the end of the fiscal year	111		1,199	6,095	1,594	8,999

Employee Turnover Number and Rate (FY2016)

Location		Younger than 30		30-49 years old		50 and older		Total
		Male	Female	Male	Female	Male	Female	
Japan	Departures	24	11	26	6	27	2	96
	Total employees	692	171	2,393	468	1,490	108	5,322
	Turnover (%)	3.5	6.4	1.1	1.3	1.8	1.9	1.8
U.S.A.	Departures	7	0	16	3	17	2	45
	Total employees	50	1	161	13	95	11	331
	Turnover (%)	14.0	0	9.9	23.1	17.9	18.2	13.6
South Korea	Departures	0	0	0	0	0	0	0
	Total employees	0	0	1	2	0	0	3
	Turnover (%)	0	0	0	0	0	0	0
Peru	Departures	0	0	0	0	0	0	0
	Total employees	0	1	7	1	1	0	10
	Turnover (%)	0	0	0	0	0	0	0
Chil	Departures	0	0	5	1	1	0	7
	Total employees	2	1	8	5	2	7	25
	Turnover (%)	0	0	62.5	20.0	50.0	0	28.0
China	Departures	54	77	4	1	0	0	136
	Total employees	22	26	40	30	9	2	129
	Turnover (%)	245.5	296.2	10.0	3.3	0	0	105.4
Philippines	Departures	115	53	90	7	16	1	282
	Total employees	380	147	553	132	24	6	1,242
	Turnover (%)	30.3	36.1	16.3	5.3	66.7	16.7	22.7
Taiwan	Departures	0	0	0	0	0	0	0
	Total employees	4	1	5	13	2	3	28
	Turnover (%)	0	0	0	0	0	0	0
Malaysia	Departures	0	0	0	0	0	0	0
	Total employees	9	13	61	54	17	3	157
	Turnover (%)	0	0	0	0	0	0	0
Australia	Departures	0	0	0	0	0	0	0
	Total employees	0	0	1	2	1	0	4
	Turnover (%)	0	0	0	0	0	0	0
Solomon Islands	Departures	0	0	0	0	0	0	0
	Total employees	1	1	27	2	1	0	32
	Turnover (%)	0	0	0	0	0	0	0
Brazil	Departures	2	0	0	0	0	0	2
	Total employees	0	0	6	2	3	0	11
	Turnover (%)	0	0	0	0	0	0	18.2
Total	Departures	202	141	141	18	61	5	568
	Total employees	1,160	362	3,263	724	1,645	140	7,294
	Turnover (%)	17.4	39.0	4.3	2.5	3.7	3.6	7.8

• Figures exclude 111 officers, 915 temporary employees, 679 non-regular and limited-term employees.

• Turnover rate (%) = number of departures ÷ number of employees at fiscal year end × 100

The 10 Principles of the ICMM¹

- 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/>

ICMM Position Statements

ICMM has adopted the following position statements to complement the 10 Principles. SMM follows through on these position statements.

- 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 EITI² 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>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>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>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>6. We recognise that achievement of greater transparency must be set in the context of respect for contracts and laws.</p> | <p>11. We believe that payments' disclosure in a given country should involve all extractive industry companies operating in that country.</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>7. We recognise the enhanced environment for domestic and foreign direct investment that financial transparency may bring.</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> |
| <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>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> | |

2. EITI: The Extractive Industries Transparency Initiative <http://eiti.org/>

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 committees on: industrial technology, risk management, Canada, environment and safety, oceanic resources, international cooperation, China, South Asia, Japan-Myanmar economic relations and Japan-Brazil economic relations Committee on Gender Diversity; participation since July 2014	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 committees relating to planning and coordination, energy, overseas development, environmental management, customs duties, funds, supply and demand, taxation, exploration and development, mining reserves (chairman and deputy chairman), sulfide ore and sulfuric acid, the special committee for depletion allowance measures, and the safety promotion committee	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)	Participation in and promotion of activities 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"> • Environment Initiatives for biodiversity, climate change, and water management • Health and safety Initiatives for sharing information on health and safety, and risk management • Materials stewardship Initiatives for science-based chemical substance management and supply chain management • Society and economy Initiatives to contribute to the economic development of society by the mining industry
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	

Communication with Stakeholders

Customers

Communication with customers occurs mainly via sales personnel. Responses are made to opinions received through action at the management level for each business using the frameworks in place.

Shareholders and Investors

In order to carry out appropriate IR activities, we established an IR Policy which specifies information disclosure standards and methods, and have made it available on our website. Institutional investors and analysts are kept informed about the progress of the business strategies under SMM's 3-Year Business Plan through Business Strategy Progress Briefing Sessions held twice a year. They are also updated on SMM's financial results through conference calls at the time of the quarterly result announcements. Meetings are also held on an individual basis to facilitate understanding of SMM's management.

Individual investors are informed of business conditions via such means as the company website and *The Report for Shareholders*, which is published twice a year.

All feedback from investors is regularly reported to the management and applied to the administration of the company.

Employees

In Japan, workers' unions formed at branch offices and SMM Group companies fall under the umbrella of the Federation of Sumitomo Metal Mining Workers' Union. SMM routinely holds briefings or discussions with each union. Overseas, organizations representing employees are regularly briefed on the business situation and opportunities for employees to offer feedback and make requests are arranged. Talks between individual employees and their supervisors are also held to ascertain the progress being made to meet job targets set for the fiscal year. Many comments and questions are fielded through these talks.

Local Communities

The SMM Group seeks to communicate sufficiently with people in the community when making inroads into a new region. Opportunities for communication are regularly arranged even after operations commence and an effort is made to offer adequate explanations to members of the community when problems occur. We also carry out various activities to strengthen ties with the community, such as providing support for and participating in events.

Business Partners

This is based on friendly relationships built up over the years. Individual divisions within the SMM Group stay in touch with business partners on a daily basis to hold dialogue on business operations and products and to exchange technological information.

Other

SMM also engages in regular information exchange and roundtable discussions with local government and industry groups in communities where our facilities and group companies are located, as well as with citizen groups related to our business.

CSR Data Other

Distribution of Economic Value to Stakeholders (FY2016)

Stakeholder	Amount (billions of yen)	Details
Suppliers	679.6	Payments to suppliers
Employees	39.7	Payments to employees
Shareholders/Creditors	17.2	Payments of dividends/ interest
Government	29.1	Taxes paid
Society*	1.2	Donations

There is no retained value other than the above. Rent for use of land is minimal and therefore included in "Payments to suppliers."

★ In the Philippines (CBNC, THPAL), the ¥1.0 billion expended through the social development management program (SDMP) and other contributions in the same country is included.

Financial Assistance from the Government (FY2016)

Stakeholder	Amount (billions of yen)	Details
Government	3.6	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, 2017 is ¥69.7 billion. The portion of the projected benefit obligation to be funded by pension assets is ¥67.9 billion. Pension assets available for allocation to that portion are ¥60.8 billion.

List of Main External Awards (FY2016)

Recognition (awarding party)	Date	Recipients	Award received for
FY2016 Contributor to Local Environment Beautification Environmental Minister's Award Ministry of the Environment	June 8, 2016	Sumitomo Railway Club	The Sumitomo Railway Club, of which SMM is a member, was recognized for its long-term contributions to local beautification activities along the bicycle and pedestrian path in the Niihama district of Ehime Prefecture.
FY2016 Mine Safety Promotion Council Chairman's Award	October 12, 2016	Sadayuki Fujiwara, Chief, Sazare Office	Recognized for distinguished service in mine safety and in pollution control of closed mines
FY2016 Award for Excellence in Corporate Disclosure Securities Analysts Association of Japan	October 26, 2016	Sumitomo Metal Mining Co., Ltd.	Selected by securities analysts to receive sixth consecutive award for being a company that carries out constructive and outstanding dialogues with investors
20th Outstanding Company History Award Japan Business History Institute	November 8, 2016	Sumitomo Metal Mining Co., Ltd.	Received the 20th Outstanding Company History Award for "The History of Sumitomo Metal Mining"
2016 Presidential Mineral Industry Environmental Award Philippines Department of Environment and Natural Resources	November 18, 2016	Coral Bay Nickel Corporation	Received the Presidential Mineral Industry Environmental Award (the most prestigious award in the Philippines' mining industry), for the third consecutive year
Transportation Service Awards Ceremony Letter of Appreciation from the Superintendent General Tokyo Traffic Safety Association	November 25, 2016	Ome District Division, Sumitomo Metal Mining Co., Ltd.	Recognized as an excellent business that has appropriately and actively practiced safe driving management and has yielded notable results in the prevention of traffic accidents for many years
65th Nikkei Advertising Awards Nikkei Inc.	December 6, 2016	Sumitomo Metal Mining Co., Ltd.	Received the 65th Nikkei Advertising Award for Excellence, in the Production Goods and Industry category. Three advertisements, each carried in <i>The Nikkei</i> once from January, were recognized for creativity and novelty.
21st Japan Explosives Safety Association Chairman's Award	December 7, 2016	Hidenori Terabe, General Manager, Kounomai Office	Recognized for 29 years of handling and managing explosives without an accident
The 2016 IR Award IR Grand Prix Japan Investor Relations Associations	December 15, 2016	Sumitomo Metal Mining Co., Ltd.	Selected for award from 258 applying companies. Recognized for proactive stance toward IR by top management, and willingness to produce an integrated report.

Independent Assurance Report (First half)



Independent Assurance Report

To the President & 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 listed in the table below (the "Indicators") for the period from April 1, 2016 to March 31, 2017 included in its Integrated Report 2017 (the "Report") for the fiscal year ended March 31, 2017; the Company's self-declaration that the Report is prepared in accordance with the Global Reporting Initiative's G4 Sustainability Reporting Guidelines (the "G4 Guidelines") 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.

Items	Pages	Indicators assured
Financial and Non-Financial Summary	8~9	Distribution of Economic Value to Stakeholders, Number of Employees & Officers by Region (Consolidated), Number of Employees & Officers Worldwide (Consolidated) and CO ₂ Emissions
Using Resources Effectively through Recycling	78	Percentage of Recycled Input Materials Used
Prevention of Global Warming	83	Unit Energy and CO ₂ Emissions Index and CO ₂ Emissions
Reduction of Environmental Impact	84~87	Volume of SO _x Emissions, Volume of NO _x Emissions, Volume of Soot and Dust Emissions, Release and Transfer Volume of PRTR Substances, Breakdown of Releases, COD and BOD Pollutant Loads, Water Usage (Freshwater and Seawater), Final Disposal Volumes of Industrial and Mining Waste in Japan and Volume of Waste (Hazardous/Non-hazardous)
Impact on Local Economies	88	Proportion and amount of payments made to local suppliers and Number of Locally-Hired Senior Managers (General Managers and Above) at Overseas Affiliates
Establishment of Workplace Environments Favorable to Diverse Human Resources	91	Disabled Employee Ratio (SMM non-consolidated)
Respect for the Human Rights of Indigenous People and Local Citizens	93	Number of investment projects which fell under the scope of human rights issues
Assuring Health and Safety	95	Data on Occupational Accidents in Japan
Establishment of a Workplace Environment to Enable Working Dynamically	96	Number of companies with workers' unions and Percentages of employees belonging to workers' unions
Compliance	101	Participants of Compliance Education
CSR Data (Environmental Preservation)	106~107	INPUTS (Resources & Energy) and OUTPUTS (Products & Emissions), Size of production site in areas of high biodiversity value and Amount of Land Developed or Rehabilitated
CSR Data (Respect for People and Human Rights)	108~109	Number of Employees & Officers Worldwide (Consolidated), Number of Employees & Officers by Region (Consolidated), Consolidated Employee Breakdown, Total Annual Hours of Education and Employee Turnover Number and Rate
CSR Data (Other)	112	Distribution of Economic Value to Stakeholders, Financial Assistance from the Government and the portion of the projected benefit obligation to be funded by pension assets and pension assets available for allocation to that portion

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, which are derived, among others, from the G4 Guidelines and Environmental Reporting Guidelines of Japan's Ministry of the Environment; self-declaring that the Report is prepared in accordance with the criteria stipulated in the G4 Guidelines; 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 reporting on the Company's approach and management of its material issues.

Independent Assurance Report (Second half)



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', 'ISAE 3410, Assurance Engagements on Greenhouse Gas Statements', issued by the International Auditing and Assurance Standards Board, and the 'Practical Guidelines for the Assurance of Sustainability Information' of J-SUS. 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 with the Company's responsible personnel to obtain an understanding of its policy for the preparation of 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 reviews of 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 also recalculating the Indicators.
- Visiting to Ohkuchi Electronics Co., Ltd. selected on the basis of a risk analysis.
- Evaluating the overall statement in which the Indicators are expressed.
- Evaluating the Company's self-declaration that the Report is prepared in accordance with the G4 Guidelines at a core level against the criteria stipulated in the G4 Guidelines.
- 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 with 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.

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 G4 Guidelines at a core level does not conform to the criteria stipulated in the G4 Guidelines;
- 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 99 and 110;
- the Company has not identified and prioritized its material issues as described on pages 63 to 65; and
- the Company has not approached and managed its material issues as described on pages 64 to 71.

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 18, 2017

Financial Data

116	Eleven-Year Financial Summary
118	Consolidated Balance Sheets
120	Consolidated Statements of Operations
120	Consolidated Statements of Comprehensive Income
121	Consolidated Statements of Changes in Net Assets
123	Consolidated Statements of Cash Flows
124	Notes to Consolidated Financial Statements
156	Independent Auditor's Report
157	Glossary
159	Consolidated Companies and Equity-Method Affiliated Companies
161	Corporate Data and Investor Information

Eleven-Year Financial Summary

SUMITOMO METAL MINING CO., LTD. AND CONSOLIDATED SUBSIDIARIES

Years ended March 31	2017	2016	2015	2014
Results for the year:				
Net sales	¥ 786,146	¥ 855,407	¥ 921,334	¥ 830,546
Gross profit	122,296	113,862	174,257	124,822
Operating income	76,390	59,720	125,779	75,418
Other income (expenses)	(82,389)	(59,161)	(2,518)	35,588
Income (loss) before income taxes	(5,999)	559	123,261	111,006
Net income (loss) attributable to owners of the parent	(18,540)	(309)	91,113	80,258
Equity in earnings (losses) of affiliated companies	(85,972)	(73,223)	23,943	29,770
Capital expenditures	125,950	51,013	55,232	66,441
Depreciation	44,232	46,141	38,125	32,426
Net interest expenses	10,546	8,927	6,250	3,530
Net cash flows from operating activities	43,796	119,704	120,003	80,014
Net cash flows from investing activities	(143,219)	(92,876)	(105,024)	(126,937)
Net cash flows from financing activities	70,392	(4,003)	(39,047)	81
Free cash flows	(99,423)	26,828	14,979	(46,923)
Financial position at year-end:				
Total assets	¥ 1,685,018	¥ 1,630,800	¥ 1,740,246	¥ 1,572,367
Net assets	1,024,121	1,075,995	1,158,945	1,019,053
Shareholders' equity *1	—	—	—	—
Long-term loans due after one year	358,564	248,036	245,000	243,130
Interest-bearing debt	495,504	400,559	394,094	383,580
Working capital	382,810	313,812	307,436	314,198
Amounts per share:				
Net income (loss)				
—Basic	¥ (33.61)	¥ (0.56)	¥ 165.11	¥ 145.35
—Diluted	—	—	149.44	129.71
Shareholders' equity	1,743.46	1,781.91	1,905.50	1,653.83
Cash dividends	11.0	31.0	48.0	37.0
Key ratios:				
ROA (%)	(1.12)	(0.02)	5.50	5.49
ROE (%) *1	(1.93)	(0.03)	9.28	9.54
Equity ratio (%) *1	57.1	60.3	60.4	58.1
Interest-bearing debt to total asset ratio (%)	29.4	24.6	22.6	24.4
Debt-to-equity ratio (times) *1	0.52	0.41	0.37	0.42
Current ratio (times)	2.82	2.39	2.29	2.40

*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.

Millions of yen (except per share amounts and key ratios)

	2013	2012*2	2011	2010	2009	2008	2007
¥	808,540	¥ 847,897	¥ 864,077	¥ 725,827	¥ 793,797	¥ 1,132,372	¥ 966,764
	140,650	132,421	138,810	105,956	56,887	198,147	203,180
	95,785	88,577	96,038	66,265	10,534	155,394	162,632
	26,670	(615)	27,356	16,511	12,408	61,110	42,985
	122,455	87,962	123,394	82,776	22,942	216,504	205,617
	86,640	65,286	83,962	53,952	21,974	137,808	126,054
	17,100	23,217	34,832	26,090	31,536	73,956	46,708
	59,291	73,143	53,105	26,414	47,723	65,145	51,567
	27,578	31,132	34,625	34,746	34,268	30,505	25,693
	(144)	663	257	(654)	(271)	(2,209)	(2,606)
	114,665	144,999	102,458	44,153	128,000	157,383	95,985
	(88,745)	(135,932)	(75,735)	(75,443)	(28,386)	(126,413)	(77,429)
	21,549	50,314	7,379	(19,322)	(74,086)	55,727	(10,073)
	25,920	9,067	26,723	(31,290)	99,614	30,970	18,556
¥	1,351,153	¥ 1,146,759	¥ 1,052,353	¥ 981,458	¥ 880,001	¥ 1,091,716	¥ 929,208
	844,547	726,039	684,103	629,684	547,251	640,345	528,921
	—	—	—	—	—	—	—
	212,323	157,119	135,128	132,311	141,716	169,394	93,800
	330,073	265,951	210,969	200,939	218,534	258,054	189,910
	338,866	312,542	267,072	229,259	206,123	266,250	103,791
¥	155.58	¥ 116.17	¥ 149.38	¥ 96.26	¥ 38.87	¥ 238.13	¥ 220.49
	142.40	106.84	136.98	88.75	36.18	231.50	213.67
	1,393.02	1,173.97	1,121.19	1,043.50	913.92	1,017.96	859.82
	34.0	28.0	32.0	20.0	13.0	30.0	27.0
	6.94	5.94	8.26	5.80	2.23	13.64	14.81
	12.13	10.12	13.80	9.89	4.02	25.39	28.99
	56.9	57.5	59.9	59.8	57.3	54.0	53.4
	24.4	23.2	20.0	20.5	24.8	23.6	20.4
	0.43	0.40	0.33	0.34	0.43	0.44	0.38
	2.60	2.67	2.30	2.19	2.17	2.04	1.39

Consolidated Balance Sheets

SUMITOMO METAL MINING CO., LTD. AND CONSOLIDATED SUBSIDIARIES

ASSETS

As of March 31, 2017 and 2016	Millions of yen		Thousands of U.S. dollars (Note 1)
	2017	2016	2017
Current assets:			
Cash and cash equivalents (Notes 3 and 8)	¥ 170,293	¥ 197,825	\$ 1,517,898
Time deposits (Note 3)	24	5,049	214
Notes and accounts receivable (Note 3):			
Trade	102,168	94,101	910,669
Unconsolidated subsidiaries and affiliated companies	1,718	4,803	15,313
Allowance for doubtful accounts	(735)	(598)	(6,551)
Inventories (Note 6)	218,535	161,974	1,947,901
Deferred tax assets (Note 9)	1,225	1,455	10,919
Other current assets	100,425	74,470	895,134
Total current assets	593,653	539,079	5,291,497
Investments and long-term receivables:			
Investment securities (Notes 3, 4 and 8):			
Unconsolidated subsidiaries and affiliated companies	292,706	325,905	2,609,020
Others	140,164	132,602	1,249,345
Long-term loans receivable (Notes 3 and 8)			
Unconsolidated subsidiaries and affiliated companies	57,382	122,236	511,472
Others	3,618	3,988	32,249
Other long-term receivables (Note 8)	60,980	40,626	543,542
Allowance for doubtful accounts	(197)	(200)	(1,756)
Total investments and long-term receivables	554,653	625,157	4,943,872
Property, plant and equipment (Note 8):			
Land	29,311	29,320	261,262
Buildings and structures	310,755	282,616	2,769,899
Machinery and equipment	611,802	596,369	5,453,267
Construction in progress	25,552	34,242	227,757
	977,420	942,547	8,712,185
Accumulated depreciation	(493,964)	(489,013)	(4,402,924)
Net property, plant and equipment	483,456	453,534	4,309,261
Deferred tax assets (Note 9)	5,666	3,648	50,504
Other assets	47,590	9,382	424,190
Total assets	¥ 1,685,018	¥ 1,630,800	\$ 15,019,324

The accompanying notes are an integral part of these financial statements.

LIABILITIES AND NET ASSETS

As of March 31, 2017 and 2016	Millions of yen		Thousands of U.S. dollars (Note 1)
	2017	2016	2017
Current liabilities:			
Bank loans (Notes 3 and 8)	¥ 79,513	¥ 77,590	\$ 708,735
Long-term debt due within one year (Notes 3 and 8)	17,427	34,933	155,335
Notes and accounts payable:			
Trade (Note 3)	40,583	37,822	361,735
Unconsolidated subsidiaries and affiliated companies (Note 3)	6,723	7,611	59,925
Others	15,959	12,083	142,250
Accrued income taxes	17,274	3,840	153,971
Accrued expenses	4,552	3,791	40,574
Advances received	445	416	3,966
Accrued restructuring charges	600	417	5,348
Accrued environmental measures	232	338	2,068
Deferred tax liabilities (Note 9)	842	195	7,505
Other current liabilities	26,693	46,231	237,927
Total current liabilities	210,843	225,267	1,879,339
Long-term liabilities:			
Long-term debt (Notes 3 and 8)	398,564	288,036	3,552,580
Deferred tax liabilities (Note 9)	21,807	15,912	194,376
Accrued environmental measures	383	325	3,414
Accrued restructuring charges	1,004	904	8,949
Provision for discontinued operations	7,799	—	69,516
Other accruals	103	257	918
Net defined benefit liability (Note 10)	9,118	14,128	81,273
Asset retirement obligations (Note 16)	8,985	7,831	80,087
Other long-term liabilities	2,291	2,145	20,421
Total long-term liabilities	450,054	329,538	4,011,534
Contingent liabilities (Note 13)			
Net assets (Note 12):			
Shareholders' equity:			
Common stock			
Authorized -1,000,000,000 shares			
Issued - 581,628,031 shares	93,242	93,242	831,108
Capital surplus	86,504	86,067	771,049
Retained earnings	718,072	744,886	6,400,499
Treasury stock, at cost	(32,877)	(32,827)	(293,048)
Total shareholders' equity	864,941	891,368	7,709,608
Accumulated other comprehensive income:			
Net unrealized holding gains on securities	36,700	20,225	327,124
Deferred gains or losses on hedges	1,601	(1,587)	14,270
Foreign currency translation adjustments	57,950	77,274	516,534
Remeasurements of defined benefit plans	498	(4,322)	4,439
Total accumulated other comprehensive income	96,749	91,590	862,367
Non-controlling interests	62,431	93,037	556,476
Total net assets	1,024,121	1,075,995	9,128,451
Total liabilities and net assets	¥ 1,685,018	¥ 1,630,800	\$ 15,019,324

Consolidated Statements of Operations

SUMITOMO METAL MINING CO., LTD. AND CONSOLIDATED SUBSIDIARIES

For the years ended March 31, 2017 and 2016	Millions of yen		Thousands of U.S. dollars (Note 1)
	2017	2016	2017
Net sales (Note 15)	¥ 786,146	¥ 855,407	\$7,007,273
Costs and expenses:			
Cost of sales	663,850	741,545	5,917,194
Selling, general and administrative expenses (Note 11)	45,906	54,142	409,181
Total costs and expenses	709,756	795,687	6,326,375
Operating income	76,390	59,720	680,898
Other income (expenses):			
Interest and dividend income	15,588	13,800	138,943
Interest expenses	(5,042)	(4,873)	(44,942)
Loss on sale and disposal of property, plant and equipment	(245)	(380)	(2,184)
Loss on impairment of fixed assets (Note 7)	(3,461)	(813)	(30,849)
Gain on sales or liquidation of investment securities	6,966	—	62,091
Gain on sales or liquidation of subsidiaries and affiliated companies	1,859	—	16,570
Exchange loss	(284)	(6,800)	(2,531)
Provision for environmental measures	(73)	(131)	(651)
Maintenance cost for ceased projects	(578)	(605)	(5,152)
Casualty loss	(16)	(100)	(143)
Equity in losses of affiliated companies	(85,972)	(73,223)	(766,307)
Loss from valuation of derivative instruments	(34)	(194)	(303)
Reversal (Provision) for allowance for losses on investments	—	16,350	—
Provision for restructuring charges	(741)	(53)	(6,605)
Provision for discontinued operations	(8,667)	—	(77,253)
Other, net	(1,689)	(2,139)	(15,054)
Total other income (expenses)	(82,389)	(59,161)	(734,370)
Income (loss) before income taxes	(5,999)	559	(53,472)
Income taxes (Note 9):			
Current	26,687	16,977	237,873
Deferred	(3,641)	3,379	(32,454)
Total income taxes	23,046	20,356	205,419
Net income (loss)	(29,045)	(19,797)	(258,891)
Net loss attributable to non-controlling interests	10,505	19,488	93,636
Net income (loss) attributable to owners of the parent	¥ (18,540)	¥ (309)	\$ (165,255)

Amounts per share of common stock:	Yen		U.S. dollars (Note 1)
	2017	2016	2017
Net income (loss) (Note 20)			
—Basic	¥ (33.61)	¥ (0.56)	\$ (0.30)
—Diluted	—	—	—
Cash dividends applicable to the year	11.00	31.00	0.10

The accompanying notes are an integral part of these financial statements.

Consolidated Statements of Comprehensive Income

SUMITOMO METAL MINING CO., LTD. AND CONSOLIDATED SUBSIDIARIES

For the years ended March 31, 2017 and 2016	Millions of yen		Thousands of U.S. dollars (Note 1)
	2017	2016	2017
Net income (loss)	¥ (29,045)	¥ (19,797)	\$ (258,891)
Other comprehensive income			
Net unrealized holding gains (losses) on securities	16,362	(26,228)	145,842
Deferred gains (losses) on hedges	3,138	(1,783)	27,970
Foreign currency translation adjustments	16,707	(9,104)	148,917
Remeasurements of defined benefit plan	4,487	(4,289)	39,995
Share of other comprehensive income of affiliated companies accounted for using equity method	(39,646)	(3,834)	(353,383)
Total other comprehensive income	1,048	(45,238)	9,341
Comprehensive income (Note 14)	(27,997)	(65,035)	(249,550)
Comprehensive income attributable to:			
Owners of the parent	(13,381)	(43,369)	(119,271)
Non-controlling interests	(14,616)	(21,666)	(130,279)

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	Common stock	Capital surplus	Retained earnings	Treasury stock	Total shareholders' equity
For the years ended March 31, 2017 and 2016	(thousands)	Millions of yen				
Balance at April 1, 2015	581,628	¥ 93,242	¥ 86,066	¥ 770,020	¥ (32,753)	¥ 916,575
Cash dividends paid		—	—	(24,825)	—	(24,825)
Net loss		—	—	(309)	—	(309)
Acquisition of treasury stock		—	—	—	(79)	(79)
Sale of treasury stock		—	1	—	5	6
Net changes of items other than shareholders' equity		—	—	—	—	—
Balance at April 1, 2016	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		—	—	—	—	—
Balance at March 31, 2017	581,628	¥ 93,242	¥ 86,504	¥ 718,072	¥ (32,877)	¥ 864,941

	Shareholders' equity				
	Common stock	Capital surplus	Retained earnings	Treasury stock	Total shareholders' equity
For the year ended March 31, 2017	Thousands of U.S. dollars (Note 1)				
Balance at April 1, 2016	\$ 831,108	\$ 767,154	\$ 6,639,504	\$ (292,602)	\$ 7,945,164
Cash dividends paid	—	—	(73,750)	—	(73,750)
Net loss	—	—	(165,255)	—	(165,255)
Acquisition of treasury stock	—	—	—	(472)	(472)
Sale of treasury stock	—	9	—	26	35
Change in ownership interest of the parent due to transactions with non-controlling interests	—	3,886	—	—	3,886
Net changes of items other than shareholders' equity	—	—	—	—	—
Balance at March 31, 2017	\$ 831,108	\$ 771,049	\$ 6,400,499	\$ (293,048)	\$ 7,709,608

The accompanying notes are an integral part of these financial statements.

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, 2017 and 2016							Millions of yen
Balance at April 1, 2015	¥ 46,679	¥ 247	¥ 87,288	¥ 435	¥ 134,649	¥ 107,721	¥1,158,945
Cash dividends paid	—	—	—	—	—	—	(24,825)
Net loss	—	—	—	—	—	—	(309)
Acquisition of treasury stock	—	—	—	—	—	—	(79)
Sale of treasury stock	—	—	—	—	—	—	6
Net changes of items other than shareholders' equity	(26,454)	(1,834)	(10,014)	(4,757)	(43,059)	(14,684)	(57,743)
Balance at April 1, 2016	¥ 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)
Balance at March 31, 2017	¥ 36,700	¥ 1,601	¥ 57,950	¥ 498	¥ 96,749	¥ 62,431	¥1,024,121

	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, 2017							Thousands of U.S. dollars (Note 1)
Balance at April 1, 2016	\$ 180,275	\$ (14,146)	\$ 688,778	\$ (38,524)	\$ 816,383	\$ 829,281	\$9,590,828
Cash dividends paid	—	—	—	—	—	—	(73,750)
Net loss	—	—	—	—	—	—	(165,255)
Acquisition of treasury stock	—	—	—	—	—	—	(472)
Sale of treasury stock	—	—	—	—	—	—	35
Change in ownership interest of the parent due to transactions with non-controlling interests	—	—	—	—	—	—	3,886
Net changes of items other than shareholders' equity	146,849	28,416	(172,244)	42,963	45,984	(272,805)	(226,821)
Balance at March 31, 2017	\$ 327,124	\$ 14,270	\$ 516,534	\$ 4,439	\$ 862,367	\$ 556,476	\$9,128,451

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, 2017 and 2016	Millions of yen		Thousands of U.S. dollars (Note 1)
	2017	2016	2017
Cash flows from operating activities:	¥ (5,999)	¥ 559	\$ (53,472)
Income (loss) before income taxes			
Adjustments to reconcile income before income taxes to net cash provided by operating activities:			
Depreciation	44,232	46,141	394,260
Loss on impairment of fixed assets	3,461	813	30,849
Loss on sale and disposal of property, plant and equipment	245	380	2,184
Loss from valuation of derivative instruments	34	194	303
Decrease (Increase) in allowance for losses on investments	—	(16,350)	—
Interest and dividend income	(15,588)	(13,800)	(138,943)
Interest expense	5,042	4,873	44,942
Equity in losses (earnings) of affiliated companies	85,972	73,223	766,307
Casualty loss	16	100	143
Decrease (Increase) in trade receivables	(23,858)	16,415	(212,657)
Decrease (Increase) in inventories	(46,634)	37,948	(415,670)
Increase (Decrease) in trade payables	2,766	18,128	24,655
Others	2,250	(7,982)	20,055
Sub-total	51,939	160,642	462,956
Interest and dividend received	8,660	10,647	77,190
Interest paid	(4,762)	(5,364)	(42,446)
Payments for maintenance costs for ceased projects	(578)	(605)	(5,152)
Payments for recovery costs	(16)	(100)	(143)
Payments for income taxes	(11,447)	(45,516)	(102,032)
Net cash provided by operating activities	43,796	119,704	390,373
Cash flows from investing activities:			
Payments for acquisition of property, plant and equipment	(50,619)	(42,880)	(451,190)
Proceeds from sale of property, plant and equipment	779	775	6,944
Payments for acquisition of intangible assets	(1,735)	(455)	(15,465)
Payments for purchases of investment securities	(5,024)	(702)	(44,781)
Proceeds from sales or liquidation of investment securities	9,081	2	80,943
Payments for purchase of securities of subsidiaries and affiliated companies	(11,187)	(25,523)	(99,715)
Payments into time deposits	(953)	(553)	(8,495)
Proceeds from withdrawal of time deposits	4,126	208	36,777
Payments for loans lent	(675)	(25,079)	(6,017)
Collection of loans repaid	9,092	394	81,041
Proceeds from sales of shares of subsidiaries resulting in change in scope of consolidation	10,051	—	89,589
Payments for purchase of mining rights	(106,155)	—	(946,206)
Others	0	937	0
Net cash used in investing activities	(143,219)	(92,876)	(1,276,575)
Cash flows from financing activities:			
Net decrease (increase) in bank loans	5,980	(1,664)	53,303
Proceeds from long-term debt	120,488	37,299	1,073,965
Repayments of long-term debt	(24,018)	(21,035)	(214,083)
Redemption of bonds	(10,000)	—	(89,135)
Contribution from non-controlling interests	3,231	10,507	28,799
Increase in treasury stocks	(49)	(73)	(437)
Cash dividends paid	(8,274)	(24,825)	(73,750)
Cash dividends paid to non-controlling interests	(3,858)	(4,212)	(34,388)
Payments from changes in ownership interests in subsidiaries that do not result in change in scope of consolidation	(13,108)	—	(116,838)
Net cash provided by (used in) financing activities	70,392	(4,003)	627,436
Effect of changes in exchange rate on cash and cash equivalents	1,499	(2,720)	13,361
Net increase (decrease) in cash and cash equivalents	(27,532)	20,105	(245,405)
Cash and cash equivalents at beginning of year	197,825	177,720	1,763,303
Cash and cash equivalents at end of year	¥ 170,293	¥ 197,825	\$ 1,517,898

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, 2017, which was ¥112.19 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 (61 subsidiaries in 2017, 68 in 2016). 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 2017, 16 in 2016).

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 22 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.

Additional information — The Company and its consolidated domestic subsidiaries have adopted "Revised Implementation Guidance on Recoverability of Deferred Tax Assets" (ASBJ Guidance No. 26, March 28, 2016) from the current year.

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 transactions 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 domestic 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, 2017 and 2016 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
2017						
Cash and cash equivalents	¥ 170,293	¥ 170,293	¥ —	\$1,517,898	\$1,517,898	\$ —
Time deposits	24	24	—	214	214	—
Notes and accounts receivable	103,886	103,886	—	925,983	925,983	—
Investment securities	280,420	342,563	62,143	2,499,510	3,053,418	553,908
Long-term loans receivable	61,000	63,979	2,979	543,720	570,274	26,554
Total Assets	¥ 615,623	¥ 680,745	¥ 65,122	\$5,487,325	\$6,067,787	\$ 580,462
Notes and accounts payable	47,306	47,306	—	421,660	421,660	—
Bank loans and long-term debt due within one year	96,940	96,940	—	864,070	864,070	—
Long-term debt due after one year	398,564	400,616	2,052	3,552,580	3,570,870	18,290
Total Liabilities	542,810	544,862	2,052	4,838,310	4,856,600	18,290
Derivative transactions	¥ 2,785 *1	¥ 2,785 *1	¥ —	\$ 24,824 *1	\$ 24,824 *1	\$ —

	Millions of Yen		
	Book values of consolidated balance sheets	Fair values	Difference
2016			
Cash and cash equivalents	¥ 197,825	¥ 197,825	¥ —
Time deposits	5,049	5,049	—
Notes and accounts receivable	98,904	98,904	—
Investment securities	252,007	307,085	55,078
Long-term loans receivable	126,224	131,166	4,942
Total Assets	¥ 680,009	¥ 740,029	¥ 60,020
Notes and accounts payable	45,433	45,433	—
Bank loans and long-term debt due within one year	112,523	112,536	13
Long-term debt due after one year	288,036	291,074	3,038
Total Liabilities	445,992	449,043	3,051
Derivative transactions	¥ (1,664)*1	¥ (1,761)*1	¥ (97)

*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

The book values approximate to the fair values due to short-term settlement of these instruments.

(c) Bonds

The fair values are based on market prices.

(d) Long-term debt

The discounted cash flow method was used to estimate the fair values, based on marginal borrowing rates as discount rate.

Derivative transactions

Refer to the Note 5 Derivative transactions.

(ii) The financial instruments excluded from the above table as of March 31, 2017 and 2016 are as follows:

	Millions of Yen		Thousands of U.S. dollars
	2017	2016	2017
	Book values of consolidated balance sheets	Book values of consolidated balance sheets	Book values of consolidated balance sheets
Unlisted equity securities	¥ 141,806	¥ 196,722	\$ 1,263,981

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, 2017 and 2016 for financial assets are as follows:

	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
2017								
Cash and cash equivalents	¥170,293	¥ —	¥ —	¥ —	\$1,517,898	\$ —	\$ —	\$ —
Time deposits	24	—	—	—	214	—	—	—
Notes and accounts receivable	103,886	—	—	—	925,983	—	—	—
Long-term loans receivable	-	1,291	13,826	45,883	-	11,507	123,237	408,976
Total	¥274,203	¥ 1,291	¥ 13,826	¥ 45,883	\$2,444,095	\$ 11,507	\$123,237	\$408,976

	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
2016				
Cash and cash equivalents	¥197,825	¥ —	¥ —	¥ —
Time deposits	5,049	—	—	—
Notes and accounts receivable	98,904	—	—	—
Long-term loans receivable	—	1,351	18,187	106,686
Total	¥301,778	¥ 1,351	¥ 18,187	¥ 106,686

(iv) The amount scheduled to be repaid after March 31, 2017 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, 2017 and 2016:

Available-for-sale securities

Securities with book values (available fair values) exceeding acquisition costs

	Millions of yen					
	2017			2016		
	Acquisition cost	Book value	Difference	Acquisition cost	Book value	Difference
Equity securities	¥ 72,152	¥ 125,922	¥ 53,770	¥ 55,032	¥ 89,818	¥ 34,786

Thousands of U.S. dollars

	2017		
	Acquisition cost	Book value	Difference
	Equity securities	\$ 643,123	\$ 1,122,400

Securities with book values (available fair values) not exceeding acquisition costs

	Millions of yen					
	2017			2016		
	Acquisition cost	Book value	Difference	Acquisition cost	Book value	Difference
Equity securities	¥ 15,098	¥ 12,267	¥ (2,831)	¥ 28,428	¥ 22,556	¥ (5,872)

Thousands of U.S. dollars

	2017		
	Acquisition cost	Book value	Difference
	Equity securities	\$ 134,575	\$ 109,341

(2) The following table summarizes book values of the securities with no available fair values as of March 31, 2017 and 2016:

Available-for-sale securities

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Unlisted equity securities	¥ 1,836	¥ 20,088	\$ 16,365

(3) 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.

Total sales of available-for-sale securities sold during the year ended March 31, 2016 amounted to ¥2 million (US\$18 thousand) and related gains amounted to ¥2 million (US\$18 thousand).

No losses on sales of available-for-sale securities were recognized for the period.

(4) 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.

There was no liquidation of available-for-sale securities during the year ended March 31, 2016.

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, 2017.

Impairment losses on available-for-sale securities amounted to ¥1,463 million (US\$12,991 thousand) during the year ended March 31, 2016.

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, 2017 and 2016 of derivative transactions for which hedge accounting has not been applied:

	Millions of yen							
	2017				2016			
	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—U.S. dollars	¥ 4,980	¥ —	¥ (52)	¥ (52)	¥ 7,676	¥ —	¥ (26)	¥ (26)
Buy position—Sterling pound	4,271	3,441	(8)	(8)	—	—	—	—
Total	¥ 9,251	¥ 3,441	¥ (60)	¥ (60)	¥ 7,676	¥ —	¥ (26)	¥ (26)
Interest:								
Interest rate cap contracts:								
Buy position	¥ 1,350	¥ —	¥ 1	¥ (1,349)	¥ 1,350	¥ —	¥ 14	¥ (1,336)
Total	¥ 1,350	¥ —	¥ 1	¥ (1,349)	¥ 1,350	¥ —	¥ 14	¥ (1,336)
Commodity:								
Forward contracts:								
Sell position—Metal	¥ 7,719	¥ 653	¥ (162)	¥ (162)	¥ 1,231	¥ —	¥ 559	¥ 559
Buy position—Metal	—	—	—	—	5,264	—	—	—
Total	¥ 7,719	¥ 653	¥ (162)	¥ (162)	¥ 6,495	¥ —	¥ 559	¥ 559

	Thousands of U.S. dollars			
	2017			
	Contracted amount and others		Fair value	Recognized gains (losses)
Total	Over 1 year	Total		
Currency:				
Forward contracts:				
Buy position—U.S. dollars	\$ 44,389	\$ —	\$ (464)	\$ (464)
Buy position—Sterling pound	38,069	30,671	(71)	(71)
Total	\$ 82,458	30,671	\$ (535)	\$ (535)
Interest:				
Interest rate cap contracts:				
Buy position	\$ 12,033	\$ —	\$ 9	\$ (12,024)
Total	\$ 12,033	\$ —	\$ 9	\$ (12,024)
Commodity:				
Forward contracts:				
Sell position—Metal	\$ 68,803	\$ 5,820	\$ (1,444)	\$ (1,444)
Buy position—Metal	—	—	—	—
Total	\$ 68,803	\$ 5,820	\$ (1,444)	\$ (1,444)

Derivative transactions for which hedge accounting has been applied for the years ended March 31, 2017 and 2016 consisted of the following:

			Millions of yen		
			Contracted amount and others		
			Total	Over 1 year	Fair value
2017					
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.

			Millions of yen		
			Contracted amount and others		
			Total	Over 1 year	Fair value
2016					
Type of transaction	Type of derivative transaction	Major hedged items			
Interest	Interest rate swap contracts:				
	Paid fixed/received floating	Long-term loans	¥ 3,885	¥ 1,295	¥ (4)
		Total		¥ 3,885	¥ 1,295
Commodity	Forward contracts:				
	Sell position—Metal	Accounts receivable	¥ 12,503	¥ —	¥ (452)
	Buy position—Metal	Accounts receivable, Accounts payable	27,616	1,190	(2,074)
	Option contracts:				
	Sell position				
	Call position—Metal*1	Accounts receivable	16,951	—	319
Total			¥ 57,070	¥ 1,190	¥ (2,207)
Interest	Interest rate swap contracts*2:				
	Paid fixed/received floating	Long-term loans	¥ 11,542	¥ 3,847	¥ (97)
		Total		¥ 11,542	¥ 3,847

*1 Commodity call option contracts are based on zero cost option contracts. There is no transfer of option fees.

*2 The interest rate swap contracts are used as hedges and meet certain hedging criteria. The net amount to be paid or received under these interest rate swap contracts is added to or deducted from the interests on the assets or liabilities for which these interest rate swap contracts were executed. Main items hedged are long-term loans.

			Thousands of U.S. dollars		
			Contracted amount and others		
			Total	Over 1 year	Fair value
2017					
Type of transaction	Type of derivative transaction	Major hedged items			
Interest	Interest rate swap contracts:				
	Paid fixed/received floating	Short-term loans	\$ 11,498	\$ —	\$ 18
		Long-term loans	181,710	181,710	6,043
	Interest rate cap contracts:				
	Buy position	Long-term loans	181,710	181,710	6,881
Total			\$ 374,918	\$ 363,420	\$ 12,942
Commodity	Forward contracts:				
	Sell position—Metal	Accounts receivable	\$ 183,314	\$ —	\$ 811
	Buy position—Metal	Accounts receivable, Accounts payable	171,486	5,455	10,723
	Option contracts:				
	Sell position				
	Call position—Metal*1	Accounts receivable	136,144	—	2,326
Total			\$ 490,944	\$ 5,455	\$ 13,860

*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, 2017 and 2016 consisted of the following:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Merchandise and finished products	¥ 57,704	¥ 47,648	\$ 514,342
Work in process	96,524	60,197	860,362
Raw materials and supplies	64,307	54,129	573,197
Total	¥ 218,535	¥ 161,974	\$ 1,947,901

7 Loss on impairment of fixed assets

(1) Loss on impairment of fixed assets for the year ended March 31, 2017 consisted of the following:

			Millions of yen	Thousands of U.S. dollars
			Loss	Loss
2017				
Location	Major use	Asset category		
Niihama City, Ehime Prefecture, Japan	Laboratory facilities	Machinery and other assets	¥ 130	\$ 1,159
Isa City, Kagoshima Prefecture, Japan	Manufacturing facilities for crystal substrates	Machinery	56	499
Minato City, Tokyo Metropolis, Japan Niihama City, Ehime Prefecture, Japan	Manufacturing facilities for lead frames (to be withdrawn)	Building, machinery and other assets	867	7,728
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	21,463
Total			¥ 3,461	\$ 30,849

The Company categorizes its operating assets by such business units 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 price (fair value less cost to sell) of the assets was used as recoverable amounts for the measurement of impairment losses.

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.

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 prices. (Such subsidiaries are grouped into one independent cash-generating unit.)

(2) Loss on impairment of fixed assets for the year ended March 31, 2016 consisted of the following:

2016			Millions of yen
Location	Major use	Asset category	Loss
Ome City, Tokyo Metropolis, Japan	Manufacturing facilities for thin-film paste	Machinery and other assets	¥ 233
Isa City, Kagoshima Prefecture, Japan	Manufacturing facilities for sapphire substrates	Machinery and other assets	348
Jiangsu, China	Manufacturing facilities for lead frames	Machinery and other assets	64
Hyuga City, Miyazaki Prefecture, Japan	Manufacturing facilities for ferronickel	Machinery and other assets	143
Kaohsiung, Taiwan	Building for thin-film paste manufacturing	Building	25
Total			¥ 813

The Company categorizes its operating assets by such business units 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 thin-film paste were reduced to their recoverable amounts because the sales volume of ITO target will not be expected to recover.

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.

- (ii) The book values of manufacturing facilities for sapphire substrates were reduced to their recoverable amounts due to the withdrawal from sapphire substrate business.

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. As sale of these assets was expected to be difficult, the net sales price was assessed as zero.

- (iii) The book values of manufacturing facilities for lead frames were reduced to their recoverable amounts due to the adverse market environment.

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 third-party appraisal or by similar means.

- (iv) The book values of manufacturing facilities for ferronickel were reduced to their recoverable amounts because one of the electric furnaces was mothballed.

The values in use of assets were used as recoverable amounts for the measurement of impairment losses.

Since the resuming of the furnace is not yet determined, it was assumed that there was no recoverable value.

- (v) The book value of the building for thin-film paste manufacturing was reduced to its recoverable amount due to the relocation of the factory.

The net sales price (fair value less cost to sell) of the asset was used as the recoverable amount for the measurement of impairment loss. As sale of the asset was expected to be difficult, the net sales price was assessed as zero.

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 1.16% and 1.01% as of March 31, 2017 and 2016, respectively.

(1) Long-term debt as of March 31, 2017 and 2016 consisted of the following:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Long-term loans:			
Due within one year ^{*1}	¥ 17,427	¥ 24,933	\$ 155,335
Due after one year, maturing through 2031 ^{*2}	358,564	248,036	3,196,042
0.48% domestic bonds due in 2016	—	10,000	—
0.77% domestic bonds due in 2018	30,000	30,000	267,404
1.26% domestic bonds due in 2021	10,000	10,000	89,134
Total	415,991	322,969	3,707,915
Amount due within one year	(17,427)	(34,933)	(155,335)
Total	¥ 398,564	¥ 288,036	\$ 3,552,580

*1 Weighted average interest rate at March 31, 2017 is 1.97%

*2 Weighted average interest rate at March 31, 2017 is 0.88%

(2) The aggregate annual maturities of long-term debt as of March 31, 2017 are as follows:

Years ending March 31,	Millions of yen	Thousands of U.S. dollars
2018	¥ 17,427	\$ 155,335
2019	54,629	486,933
2020	128,984	1,149,692
2021	30,084	268,152
2022	46,027	410,259
Thereafter	138,840	1,237,544
Total	¥ 415,991	\$ 3,707,915

(3) Assets pledged as collateral for bank loans and long-term debt as of March 31, 2017 and 2016 are as follows:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Cash and cash equivalents	¥ 1	¥ 1	\$ 9
Property, plant and equipment, at net book value and other assets	—	39,153	—
Investment securities	0	34,654	0
Long-term loans receivable	26,094	25,227	232,588
Others	343	338	3,057
Total	¥ 26,438	¥ 99,373	\$ 235,654

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, 2017 and 2016:

	2017	2016
Statutory tax rate	—%	33.1%
Loss of consolidated subsidiaries	—	4,387.3
Permanently nontaxable dividends received	—	(2,783.4)
Effect of eliminating intercompany dividends received	—	2,285.7
Difference of statutory tax rate in subsidiaries	—	1,541.1
Decrease (Increase) in valuation allowance	—	(709.3)
Equity in earnings of unconsolidated subsidiaries and affiliated companies	—	(486.1)
Difference in local tax system	—	(197.9)
Undistributed earnings of foreign subsidiaries	—	(169.2)
Tax credit	—	(133.3)
Effect of mining taxes	—	(118.1)
Permanently non-deductible items, including entertainment expenses	—	34.5
Others	—	(42.9)
Effective tax rate	—%	3,641.5%

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, 2017 and 2016 are as follows:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Deferred tax assets:			
Overseas exploration costs	¥ 5,251	¥ 5,370	\$ 46,805
Net defined benefit liability	5,050	6,786	45,013
Provision for discontinued operations	2,676	—	23,852
Loss on impairment of fixed assets	2,640	2,067	23,532
Asset retirement obligations	2,478	2,382	22,088
Provision for losses caused by subsidiaries and affiliates	1,939	595	17,283
Net operating losses carry forwards	1,670	2,079	14,885
Unrealized profits	1,626	2,836	14,493
Contribution gains on securities to employee retirement benefits trust	1,356	1,238	12,087
Allowance for bonus payable	1,051	1,084	9,368
Others	7,440	4,965	66,316
Gross deferred tax assets	33,177	29,402	295,722
Less valuation allowance	(6,178)	(4,616)	(55,068)
Deferred tax assets after deducting valuation allowance	26,999	24,786	240,654
Deferred tax liabilities:			
Net unrealized holding gains on available-for-sale securities	(14,351)	(9,585)	(127,917)
Depreciation	(10,027)	(11,592)	(89,375)
Reserve for losses on overseas investment	(4,973)	(4,973)	(44,327)
Accumulated earnings of overseas subsidiaries	(4,787)	(4,507)	(42,669)
Deferred gains on properties for tax purpose	(1,840)	(1,899)	(16,401)
Reserve for explorations	(1,629)	(1,402)	(14,520)
Depletion	(1,016)	—	(9,056)
Gains on securities contributed to employee retirement benefits trust	(542)	(535)	(4,831)
Others	(3,592)	(1,297)	(32,016)
Deferred tax liabilities	(42,757)	(35,790)	(381,112)
Net deferred tax assets (liabilities)	¥ (15,758)	¥ (11,004)	\$ (140,458)

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.

(2) Defined benefit plans

The detailed notes relating to retirement benefit plans for the 12-month period ended March 31, 2017 and 2016 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
	2017	2016	2017
Balance at beginning of year	¥ 63,576	¥ 59,972	\$ 566,682
Service costs	2,253	2,051	20,082
Interest costs	349	550	3,111
Actuarial gains and losses	74	3,211	660
Benefits paid	(2,230)	(2,282)	(19,877)
Prior service costs	749	(19)	6,676
Others	(32)	93	(286)
Balance at end of year	¥ 64,739	¥ 63,576	\$ 577,048

(ii) Movements in plan assets, excluding plans to which the simplified method is applied

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Balance at beginning of year	¥ 50,731	¥ 53,370	\$ 452,188
Expected return on plan assets	1,119	1,156	9,974
Actuarial gains and losses	5,542	(3,332)	49,398
Contributions paid by the employer	719	818	6,409
Benefits paid	(1,336)	(1,281)	(11,908)
Balance at end of year	¥ 56,775	¥ 50,731	\$ 506,061

(iii) Movements in liability (asset) for retirement benefits to which the simplified method is applied

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Balance at beginning of year	¥ 1,094	¥ 830	\$ 9,751
Retirement benefit costs	178	642	1,587
Benefits paid	(190)	(200)	(1,694)
Contributions paid by the employer	(164)	(178)	(1,462)
Other	(27)	—	(241)
Balance at end of year	¥ 891	¥ 1,094	\$ 7,941

(iv) Reconciliation from retirement benefit obligations and plan assets to liability (asset) for retirement benefits

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Funded retirement benefit obligations	¥ 67,911	¥ 66,858	\$ 605,321
Plan assets	(60,800)	(54,555)	(541,938)
	¥ 7,111	¥ 12,303	\$ 63,383
Unfunded retirement benefit obligations	1,744	1,636	15,545
Total net liability for retirement benefits at end of year	¥ 8,855	¥ 13,939	\$ 78,928
Liability for retirement benefits	¥ 9,118	¥ 14,128	\$ 81,273
Asset for retirement benefits	(263)	(189)	(2,344)
Total net liability for retirement benefits at end of year	¥ 8,855	¥ 13,939	\$ 78,929

(v) Retirement benefit costs

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Service costs	¥ 2,253	¥ 2,051	\$ 20,081
Interest costs	349	550	3,111
Expected return on plan assets	(1,119)	(1,156)	(9,974)
Net actuarial gains and losses amortization	1,732	(135)	15,438
Prior service costs amortization	79	154	704
Retirement benefit costs based on the simplified method	178	642	1,587
Total retirement benefit costs for the year	¥ 3,472	¥ 2,106	\$ 30,947

(vi) Other comprehensive income on defined retirement benefit plans, before tax

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Prior service costs	¥ 670	¥ (154)	\$ 5,972
Actuarial gains and losses	(7,203)	6,438	(64,204)
Total	¥ (6,533)	¥ 6,284	\$ (58,232)

(vii) Accumulated other comprehensive income on defined retirement benefit plans, before tax

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Unrecognized prior service costs	¥ 702	¥ 47	\$ 6,257
Unrecognized actuarial gains and losses	(2,048)	5,161	(18,255)
Total	¥ (1,346)	¥ 5,208	\$ (11,998)

(viii) Plan assets

(a) Plan assets consisted of the following:

	2017	2016
Bonds	32.5%	35.7%
Equity securities	58.2	53.8
Cash and cash equivalents	1.2	4.7
Others	8.1	5.8
Total	100.0	100.0

Plan assets include the retirement benefit trusts that were established in regards to lump-sum payment plans of 40.2% at March 31, 2017 and 35.1% at March 31, 2016.

(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:

		2017	2016
Discount rate	(Mainly)	0.6%	0.5%
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, 2017 and 2016 were ¥401 million (US\$3,574 thousand) and ¥404 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, 2017 and 2016 were ¥42 million (US\$374 thousand) and ¥70 million, respectively.

The funded status of the multiemployer pension plans at March 31, 2016 and 2015, to which contributions were recorded as net periodic retirement benefit costs, was as follows:

	Millions of yen		Thousands of U.S. dollars
	2016	2015	2016
Plan assets	¥ 256,616	¥ 329,141	\$ 2,287,334
Actuarial liability based on pension plan finance calculation and minimum actuarial reserve	287,428	361,482	2,561,974
Balance*1	¥ (30,812)	¥ (32,341)	\$ (274,640)

*1 The principle factor relating to the balance was the prior service obligations in pension financing which were -¥28,990 million (-US\$258,401 thousand) at March 31, 2016 and -¥32,939 million at March 31, 2015. The multiemployer pension plan (Japan Electronics Packaging and Circuits Employees' Pension Insurance), in which Shinko Co., Ltd. had been enrolled, was dissolved on March 31, 2017, with the approval of the Minister of Health, Labour and Welfare who acted to return the contracted-out portion back to the government, which has been handling it since April 2017. Consequently, it is not included in those assets at March 31, 2016. The impact of dissolution of the plan on operating income and loss before income taxes was immaterial.

The percentage of the Group's contribution to the multiemployer pension plans at March 31, 2016 and 2015 were 0.46% and 0.40%, respectively.

11 Research and development expense

Research and development expense included in selling, general and administrative expenses for the years ended March 31, 2017

and 2016 are ¥5,241 million (US\$46,715 thousand) and ¥5,772 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, 2017 are as follows:

	Millions of yen	Thousands of U.S. dollars
Notes and accounts receivable sold to factoring companies with recourse	¥ 24	\$ 214
As guarantor for loans of:		
Non-consolidated subsidiaries and affiliated companies	84,223	750,718
As a stockholder for future payment of:		
The mining royalty tax, interests and penalties of Cerro Verde S.A.A.	2,857	25,466
Total	¥ 87,104	\$ 776,398

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.

Pursuant to the Agreement of Guarantees and Measures to Promote Investments with the Government of Peru (the "1998 Stability Agreement"), which was effective from 1999 through 2013, Sociedad Minera Cerro Verde S.A.A. ("Cerro Verde"), the Company's affiliated company accounted for by the equity method, has paid taxes based on the assumption that the mining royalty tax regime of 2004 did not apply to Cerro Verde.

In October 2013, the Peruvian national tax authority issued to Cerro Verde a payment order of taxes for the years 2006 through

2008, plus interests and penalties thereon, because the tax authority decided that the 1998 Stability Agreement did not exempt the Copper Sulfide Ores Development Project, which commenced in 2006 (the "Project"), from the mining royalty tax regime.

Although Cerro Verde has made an appeal to related agencies that the 1998 Stability Agreement exempted the Project, the Company's share of the payment being demanded in case such demand is validated is described above.

Cerro Verde had continued to pay taxes for 2009 and onward based on the same assumption that the 1998 Stability Agreement had been effective and had exempted the Project. Although the tax authority claims that the 1998 Stability Agreement also does not exempt the Project for 2009 or onward, the tax authority has not issued to Cerro Verde a payment order of taxes for such years.

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
	2017	2016	2017
Net unrealized holding gains on securities			
Increase during the year	¥ 22,242	¥ (38,582)	\$ 198,253
Reclassification adjustments	(1,115)	1,464	(9,939)
Sub-total, before tax	21,127	(37,118)	188,314
Tax effect	(4,765)	10,890	(42,473)
Sub-total, net of tax	¥ 16,362	¥ (26,228)	\$ 145,841
Deferred gains or losses on hedges			
Increase during the year	¥ 1,176	¥ (3,728)	\$ 10,482
Reclassification adjustments	3,447	1,160	30,725
Sub-total, before tax	4,623	(2,568)	41,207
Tax effect	(1,485)	785	(13,236)
Sub-total, net of tax	¥ 3,138	¥ (1,783)	\$ 27,971
Foreign currency translation adjustments			
Increase during the year	¥ 16,365	¥ (9,104)	\$ 145,869
Reclassification adjustments	517	—	4,608
Sub-total, before tax	16,882	(9,104)	150,477
Tax effect	(175)	—	(1,560)
Sub-total, net of tax	¥ 16,707	¥ (9,104)	\$ 148,917
Remeasurements of defined benefit plans			
Increase during the year	¥ 4,722	¥ (6,303)	\$ 42,089
Reclassification adjustments	1,811	19	16,143
Sub-total, before tax	6,533	(6,284)	58,232
Tax effect	(2,046)	1,995	(18,237)
Sub-total, net of tax	¥ 4,487	¥ (4,289)	\$ 39,995
Share of other comprehensive income of affiliated companies accounted for using equity method			
Increase during the year	¥ (39,601)	¥ (3,798)	\$ (352,982)
Reclassification adjustments	(45)	(36)	(401)
Sub-total	¥ (39,646)	¥ (3,834)	\$ (353,383)
Total other comprehensive income	¥ 1,048	¥ (45,238)	\$ 9,341

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, ferro-nickel 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 lead frames and 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, 2017 and 2016 are as follows:

	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)

Millions of yen

2016	Mineral Resources	Smelting & Refining	Materials	Total of reported segments	Others*1	Adjustment*2	Consolidated
Net sales:							
Outside customers	¥ 70,448	¥ 622,523	¥ 158,302	¥ 851,273	¥ 4,134	¥ —	¥ 855,407
Inter segment	49,303	19,409	13,295	82,007	11,157	(93,164)	—
Total	¥ 119,751	¥ 641,932	¥ 171,597	¥ 933,280	¥ 15,291	¥ (93,164)	¥ 855,407
Segment income (loss)	¥ (44,317)	¥ 25,258	¥ 5,972	¥ (13,087)	¥ (828)	¥ 1,151	¥ (12,764)
Segment assets	¥ 315,902	¥ 657,742	¥ 189,302	¥ 1,162,946	¥ 20,767	¥ 447,087	¥ 1,630,800
Segment liabilities	¥ 25,528	¥ 297,361	¥ 100,127	¥ 423,016	¥ 10,526	¥ 121,263	¥ 554,805
Other items:							
Depreciation	¥ 13,972	¥ 21,673	¥ 8,014	¥ 43,659	¥ 386	¥ 2,096	¥ 46,141
Amortization of goodwill	135	—	23	158	—	—	158
Interest income	344	280	130	754	—	10,038	10,792
Interest expense	123	4,119	372	4,614	19	240	4,873
Equity in earnings (losses) of affiliated companies	(79,720)	2,885	2,856	(73,979)	—	756	(73,223)
Investment in equity-method affiliated companies	146,649	93,250	29,127	269,026	—	56,799	325,825
Capital expenditures	11,648	15,230	21,632	48,510	366	2,137	51,013

*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

2017	Mineral Resources	Smelting & Refining	Materials	Total of reported segments	Others*1	Adjustment*2	Consolidated
Net sales:							
Outside customers	\$ 693,975	\$ 4,840,708	\$ 1,425,377	\$ 6,960,060	\$ 47,213	\$ —	\$ 7,007,273
Inter segment	405,678	195,900	126,107	727,685	44,969	(772,654)	—
Total	\$ 1,099,653	\$ 5,036,608	\$ 1,551,484	\$ 7,687,745	\$ 92,182	\$ (772,654)	\$ 7,007,273
Segment income (loss)	\$ (477,707)	\$ 296,444	\$ 107,550	\$ (73,713)	\$ (580)	\$ 60,343	\$ (13,950)
Segment assets	\$ 4,180,239	\$ 5,989,286	\$ 1,831,045	\$ 12,000,570	\$ 184,874	\$ 2,833,880	\$ 15,019,324
Segment liabilities	\$ 1,385,516	\$ 2,676,798	\$ 1,109,092	\$ 5,171,406	\$ 136,474	\$ 582,993	\$ 5,890,873
Other items:							
Depreciation	\$ 143,462	\$ 158,856	\$ 81,014	\$ 383,332	\$ 3,458	\$ 7,470	\$ 394,260
Amortization of goodwill	1,079	—	205	1,284	—	—	1,284
Interest income	7,273	7,452	713	15,438	9	98,431	113,878
Interest expense	10,759	33,336	3,244	47,339	90	(2,487)	44,942
Equity in earnings (losses) of affiliated companies	(834,549)	37,793	32,481	(764,275)	—	(2,032)	(766,307)
Investment in equity-method affiliated companies	1,272,725	862,608	241,858	2,377,191	—	230,983	2,608,174
Capital expenditures	820,144	97,023	167,635	1,084,802	6,480	31,367	1,122,649

*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
	2017	2016	2017
Head Office expenses not allocated to each reported segment*1	¥ (674)	¥ (90)	\$ (6,009)
Internal interest expense	269	562	2,398
Eliminations of inter-segmental transactions among the reported segments	2,802	267	24,975
Non-operating income/expenses not allocated to each reported segment*2	4,373	412	38,979
Total	¥ 6,770	¥ 1,151	\$ 60,343

*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
	2017	2016	2017
Corporate assets not allocated to each reported segment*1	¥ 506,417	¥ 482,978	\$ 4,513,923
Offset and eliminations of inter-segmental receivables among the reported segments, including those toward Head Office divisions/departments	(188,484)	(98,562)	(1,680,043)
Total	¥ 317,933	¥ 384,416	\$ 2,833,880

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Corporate liabilities not allocated to each reported segment*1	¥ 264,533	¥ 197,656	\$ 2,357,902
Offset and eliminations of inter-segmental payables among the reported segments, including those toward Head Office divisions/departments	(199,127)	(139,064)	(1,774,909)
Total	¥ 65,406	¥ 58,592	\$ 582,993

*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.

(4) From the current consolidated fiscal year, certain assets and liabilities are netted in the same segment to manage the financial condition of each segment more appropriately.

The segment information for the previous fiscal year is prepared based on the methods after this change.

Related information

(1) Information about geographic areas

(i) Sales

2017							Millions of yen
	Japan	East Asia	Southeast Asia	North America	Others	Total	
	¥ 472,427	¥ 148,879	¥ 64,752	¥ 82,588	¥ 17,500	¥ 786,146	
2016							Millions of yen
	Japan	East Asia	Southeast Asia	North America	Others	Total	
	¥ 515,177	¥ 175,901	¥ 70,140	¥ 73,384	¥ 20,805	¥ 855,407	
2017							Thousands of U.S. dollars
	Japan	East Asia	Southeast Asia	North America	Others	Total	
	\$ 4,210,955	\$ 1,327,026	\$ 577,164	\$ 736,144	\$ 155,984	\$ 7,007,273	

- 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.
 - North America: United States, Mexico and Canada
 - Others: Australia, India, Germany, Italy, Turkey, etc.

(ii) Property, plant and equipment

2017							Millions of yen
	Japan	East Asia	Philippines	Southeast Asia	United States	Others	Total
	¥ 155,693	¥ 404	¥ 216,057	¥ —	¥ 106,438	¥ 4,864	¥ 483,456
2016							Millions of yen
	Japan	East Asia	Philippines	Southeast Asia	United States	Others	Total
	¥ 152,008	¥ 7,112	¥ 222,680	¥ 2,004	¥ 64,280	¥ 5,450	¥ 453,534
2017							Thousands of U.S. dollars
	Japan	East Asia	Philippines	Southeast Asia	United States	Others	Total
	\$ 1,387,762	\$ 3,601	\$ 1,925,813	\$ —	\$ 948,730	\$ 43,355	\$ 4,309,261

- 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
 - Southeast Asia: Malaysia and Singapore
 - Others: Australia, Solomon Islands, 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
	2017	2016	2017		
	Sales	Sales	Sales		
Sumitomo Corporation	¥ 104,256	¥ 133,912	\$ 929,281		Smelting & Refining, Materials
MITSUI & CO., LTD.	¥ —	¥ 63,915	\$ —		Smelting & Refining
Panasonic Corporation	¥ 80,054	¥ —	\$ 713,557		Smelting & Refining, Materials

(3) Information about impairment loss of fixed assets by reported segment

2017	Millions of yen					
	Mineral Resources	Smelting & Refining	Materials	Others	Adjustment	Consolidated
Loss on impairment of fixed assets	¥ —	¥ —	¥ 3,331	¥ —	¥ 130	¥ 3,461

2016	Millions of yen					
	Mineral Resources	Smelting & Refining	Materials	Others	Adjustment	Consolidated
Loss on impairment of fixed assets	¥ —	¥ 143	¥ 670	¥ —	¥ —	¥ 813

2017	Thousands of U.S. dollars					
	Mineral Resources	Smelting & Refining	Materials	Others	Adjustment	Consolidated
Loss on impairment of fixed assets	\$ —	\$ —	\$ 29,691	\$ —	\$ 1,158	\$ 30,849

(4) Information about unamortized balance of goodwill by reported segment

2017	Millions of yen					
	Mineral Resources	Smelting & Refining	Materials	Others	Adjustment	Consolidated
Balance at end of year	¥ 130	¥ —	¥ 31	¥ —	¥ —	¥ 161

2016	Millions of yen					
	Mineral Resources	Smelting & Refining	Materials	Others	Adjustment	Consolidated
Balance at end of year	¥ 268	¥ —	¥ 54	¥ —	¥ —	¥ 322

2017	Thousands of U.S. dollars					
	Mineral Resources	Smelting & Refining	Materials	Others	Adjustment	Consolidated
Balance at end of year	\$ 1,159	\$ —	\$ 276	\$ —	\$ —	\$ 1,435

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 makes rational estimates of the costs of demolishing and conducting 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, 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., 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 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 (13 to 69) and discounted by the rates of 1.5% to 11.0%.

The asset retirement obligations as of March 31, 2017 and 2016 are as follows:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Balance at beginning of year	¥ 7,831	¥ 7,525	\$ 69,801
Adjustment due to passage of time	399	421	3,556
Decrease due to fulfillment of obligations	—	(57)	—
Increase due to change in estimates	(32)	64	(285)
Others	942	(30)	8,396
Foreign exchange adjustment	(155)	(92)	(1,381)
Balance at end of year	¥ 8,985	¥ 7,831	\$ 80,087

(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, 2017 and 2016 are as follows:

	Millions of yen		Thousands of U.S. dollars	
	2017	2016	2017	2016
Due within one year	¥ 241	¥ 247	\$ 2,148	\$ 2,148
Due after one year	1,257	1,498	11,204	11,204
Total	¥ 1,498	¥ 1,745	\$ 13,352	\$ 13,352

18 Business combination

(Business divestitures)

The Company's subsidiary SH Materials Co., Ltd. ("SH Materials") sold all the shares of SH Asia Pacific, Pte. Ltd. ("SH Asia Pacific") on March 17, 2017. From the next fiscal year, SH Asia Pacific and its subsidiaries (Malaysian SH Electronics Sdn. Bhd., SH Electronics Taiwan Co., Ltd., SH Electronics Suzhou Co., Ltd., SH Electronics Chengdu Co., Ltd., SH Precision Chengdu Co., Ltd.) will be excluded from consolidated financial statements.

(1) Outline of transaction

(i) Purchaser company

Chang Wah Electromaterials Inc. and Chang Wah Technology Co., Ltd.

(ii) Contents of divested business

Lead frame business

(iii) Main reason for determining the separating business

The lead frame market shifted from a period of high growth to maturation. In addition, commoditization of lead frames as a product has proceeded and the competition in the lead frame industry is getting more intense with the rise of Chinese companies.

Under such circumstances, the Company decided to withdraw from the business.

(iv) Date of business divestiture

March 17, 2017

(v) Legal form of business divestiture

Stock transfer paid in properties such as cash

(2) Outline of applied accounting treatment

(i) The amount of transfer gain

Gain on sales or liquidation of subsidiaries and affiliated companies: ¥2,604 million (US\$23,211 thousand)

(ii) Book values of assets and liabilities separated

	Millions of yen		Thousands of U.S. dollars	
	2017		2017	
Current assets	¥	16,731	\$	149,131
Non - Current assets		5,259		46,876
Total amount of assets		21,990		196,007
Current liabilities		8,593		76,593
Long-term liabilities		30		267
Total amount of liabilities	¥	8,623	\$	76,860

(iii) Accounting treatment

The difference between sales amounts of shares and book values of shares estimated in consolidated financial statements is allocated as "Gain on sales or liquidation of subsidiaries and affiliated companies" in statements of operations.

(3) Reported segments including separated divestiture

Materials segment

(4) Estimated effect on consolidated statements of operations

Net sales: ¥20,887 million (US\$186,175 thousand)

Operating income: ¥2,442 million (US\$21,767 thousand)

19 Related party transaction

(1) Related party transaction

Related party transaction for the years ended March 31, 2017 and 2016 are as follows:

2017

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	\$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	\$ 743,141	—	¥ —	\$ —
						Pledge as security*2	63,612	567,002	—	—	—
						Loans	—	—	Long-term loans receivable*4	41,639	371,147
						Loans	Interest receivables	9,946	88,653	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, 2017 and 2016.

*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 ¥60,889 million (US\$542,731 thousand) as equity in losses (earnings) of affiliated companies. The amounts include exchange gains and losses.

2016

Name of related party	Location	Capital investment	Segment	Voting interest	Description of the business relationship	Transaction detail	Amounts	Accounts	Balance	
		Thousands of U.S. dollars					Millions of yen		Millions of yen	
Sierra Gorda S.C.M.	Santiago, Chile	\$1,659,400	Mineral Resources	Indirectly 45.0%	Debt guarantee and pledge as security for the loan etc. from the financial institution and others	Debt guarantee*1	¥ 89,948	—	¥ —	
						Pledge as security*2	71,739	—	—	
						Loans	Loans*3	—	Long-term loans receivable	106,084
						Loans	Interest receivables	10,405	Other long-term receivables	26,706

*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, 2017 and 2016.

*3 The Company determined terms and conditions of loan based on market interest rates, etc. 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, 2016 and 2015 are as follows:

Sociedad Minera Cerro Verde S.A.A.

	Millions of yen		Thousands of U.S. dollars
	2016/12	2015/12	2016/12
Total current assets	¥ 141,945	¥ 127,342	\$ 1,265,220
Total long-term assets	747,530	819,144	6,663,072
Total current liabilities	34,205	66,112	304,885
Total long-term liabilities	291,541	338,183	2,598,636
Total net assets	563,729	542,191	5,024,770
Net sales	259,372	135,112	2,311,899
Net income before tax	65,708	9,632	585,685
Net income	37,087	4,031	330,573

Sierra Gorda S.C.M.

	Millions of yen		Thousands of U.S. dollars
	2016/12	2015/12	2016/12
Total current assets	¥ 37,685	¥ 33,230	\$ 335,903
Total long-term assets	427,810	687,588	3,813,263
Total current liabilities	68,403	54,348	609,707
Total long-term liabilities	584,349	577,797	5,208,566
Total net assets	(187,257)	88,673	(1,669,106)
Net sales	69,473	34,686	619,244
Net loss before tax	(395,495)	(157,068)	(3,525,225)
Net loss	(287,554)	(112,221)	(2,563,098)

20 Earnings per share

Reconciliation of the difference between basic and diluted net income per share for the years ended March 31, 2017 and 2016 are as follows:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Basic net income (loss) per share calculation			
Numerator:			
Net income (loss) attributable to owners of the parent	¥ (18,540)	¥ (309)	\$ (165,255)
Denominator (thousands of shares):			
Weighted average number of shares	551,619	551,653	—
Basic net income (loss) per share (yen and U.S. dollars)	¥ (33.61)	¥ (0.56)	\$ (300.00)
Diluted net income per share calculation			
Numerator:			
Net income (loss) attributable to owners of the parent	¥ (18,540)	¥ (309)	\$ (165,255)
Adjusted net income (loss)	—	—	—
Denominator (thousands of shares):			
Weighted average number of shares	551,619	551,653	—
Assumed conversion of convertible bonds	—	—	—
Adjusted weighted average number of shares	551,619	551,653	—
Diluted net income per share*1 (yen and U.S. dollars)	¥ —	¥ —	\$ —

*1 Diluted net income per share for the year ended March 31, 2017 and 2016 is not calculated because of the net loss for the year although dilutive bonds exist.

21 Subsequent events

(1) Consolidation of shares and change in number of shares constituting one unit

At a meeting of board members held on May 24, 2017, the Company resolved to propose a consolidation of shares at the 92nd ordinary general meeting of shareholders (hereafter "the general meeting of shareholders") held on June 27, 2017. At the same time, the Company issued a resolution concerning a change to the number of shares constituting one unit, on the condition that the proposal for the consolidation of shares is approved at the general meeting of shareholders.

(i) Purpose of consolidation and change in number of shares constituting one unit

Acting under a plan to aggregate sales units for stock trading, stock exchanges nationwide are undertaking efforts to consolidate the unit of trading (number of shares constituting one unit) of ordinary shares of domestic companies listed on national stock exchanges to 100 shares.

As a company listed on the Tokyo Stock Exchange, the Company has decided to change the number of shares constituting one unit from 1,000 shares to 100 shares. And the Company has decided to implement a consolidation of 2 shares of the Company's stock into 1 share, for the purpose of adjusting the number of shares constituting one unit (the purchase amount per number of shares constituting one unit) to an appropriate level.

(ii) Details of the consolidation

(a) Type of shares to be consolidated: Common stock

(b) Consolidation ratio: Shares will be consolidated at a ratio of 1 share per 2 shares held by shareholders who are recorded in the final Register of Shareholders on September 30 (effectively September 29), 2017, with October 1, 2017 as the effective date of the consolidation.

(c) Number of shares decreased due to consolidation

Total number of issued shares prior to consolidation (March 31, 2017)	581,628,031 shares
Number of shares decreased due to the consolidation	290,814,016 shares
Total number of issued shares following consolidation	290,814,015 shares

Note: The "number of shares decreased due to the consolidation" and "total number of issued shares following consolidation" are theoretical values calculated from the "total number of issued shares prior to consolidation" under the share consolidation ratio.

(iii) Handling of fractions of less than 1 share

When the consolidation results in a fraction of a share, the Company will dispose of the fractional shares in bulk in accordance with the provisions of Article 235 of the Companies Act, and will pay the proceeds of the sale to shareholders in proportion to the fractions held.

(iv) Total number of authorized shares to be issued following consolidation: 500 million shares (prior to consolidation: 1 billion shares)

The provisions of the Articles of Incorporation that stipulate the total number of authorized shares to be issued will be deemed as having been amended as above, as of the effective date of the consolidation (October 1, 2017).

(v) Details of the change in number of shares constituting one unit

The number of shares constituting one unit will be changed from 1,000 shares to 100 shares as of the effective date of the consolidation.

(vi) Schedule of consolidation of shares and change in number of shares constituting one unit

Meeting of the Board of Directors	May 24, 2017
General Meeting of Shareholders	June 27, 2017
Effective date of consolidation of shares and change in number of shares constituting one unit	October 1, 2017

(vii) Effect on per share information

Per share information for the years ended March 31, 2017 and 2016 on the assumption that the consolidation of shares had been implemented as of April 1, 2015, are as follows:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Net assets per share	¥ 3,486.92	¥ 3,563.82	\$ 31,080
Net income (loss) per share	(67.22)	(1.12)	(599.00)

Note: Diluted net income per share for the year ended March 31, 2017 and 2016 is not calculated because of the net loss for the year although dilutive bonds exist.

(2) Completion of acquisition of interest in a gold project in Canada

On June 20, 2017, the Company completed procedures for acquisition of a 27.75% interest of the Cote Gold Project in Ontario, Canada through SMM Gold Cote Inc., a subsidiary of the Company. This 27.75% interest is a 30.0% interest of IAMGOLD Corporation, which owns a 92.5% interest of the overall project.

(i) Reason of acquisition

In its long-term vision, the Company is aiming to increase its attributable gold production to 30 tonnes per year. The acquisition of interest in the project represents a step forward in its efforts to attain this goal.

(ii) Percentage of shares subject to be acquired

27.75% of the overall Cote Gold Project in Ontario, Canada

(iii) Percentage of shares after acquisition

The Company has a 27.75% interest of the project.

(iv) Acquisition price

US\$195 million

(v) Timing of acquisition

June 20, 2017

(3) Appropriation of retained earnings

The following appropriation of retained earnings of the Company, which has not been reflected in the accompanying consolidated financial statements for the year ended March 31, 2017, was approved at a shareholders' meeting held on June 27, 2017:

	Millions of yen	Thousands of U.S. dollars
Year-end dividends of ¥6.00 per share	¥ 3,310	\$ 29,504

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, 2017 and 2016, 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, 2017 and 2016, 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, 2017 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 11, 2017
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

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

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 (Niihama, 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

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 (61), equity-method affiliated companies (15)

at March 31, 2017

Mineral Resources	Voting Shares (%)	Location	Operations
Consolidated companies			
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
Sumac Mines Ltd.	100	Canada	Exploration
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
Equity-method affiliated companies			
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 Salade 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
Consolidated companies			
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
Sumic Nickel Netherlands B.V.	52	Netherlands	Investment in nickel and cobalt development businesses, sale of nickel and cobalt
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
Equity-method affiliated companies			
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	25	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
Consolidated companies			
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
Ohkuchi Materials Co., Ltd.	100	Japan	Manufacture of lead frames
Niihama Electronics Co., Ltd.	100	Japan	Manufacture of flexible circuit materials
Niihama Materials Co., Ltd.	100	Japan	Manufacture of lead frames
SH Precision Co., Ltd.	100	Japan	Manufacture of lead frames
Shinko Co., Ltd.	97	Japan	Design, manufacture, and sale of printed circuit boards
Sumiko Tape Materials Singapore Pte. Ltd.	100	Singapore	Regional headquarters for international tape materials operations
Malaysian SH Precision Sdn. Bhd.	100	Malaysia	Manufacture and sale of lead frames
Taiwan Sumiko Materials Co., Ltd.	100	Taiwan	Manufacture of thin film materials
Suzhou SH Precision Co., Ltd.	100	China	Manufacture of lead frames
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
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
Equity-method affiliated companies			
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
GRANOPT Co., Ltd.	50	Japan	Manufacture and sale of rare earth iron garnet (RIG)
Others			
Consolidated companies			
Sumiko Techno-Research Co., Ltd.	100	Japan	Environmental measurement verification operations such as water quality, air, soil, noise and vibration, etc.; 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, and 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, 2017

Corporate Data

Founded	1590
Incorporated	1950
Paid-In Capital	¥93.2 billion
Number of Employees	7,384* (Consolidated)
Head Office	11-3, Shimbashi 5-chome, Minato-ku, Tokyo 105-8716, Japan

* The 21 SMM full-time officers are not included in the figure, hence the year-end total figure in Number of Employees & Officers Worldwide (Consolidated) on p. 108 is different.

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/>

Investor Information

Closing Date	March 31	
Ordinary General Meeting of Shareholders	June	
Common Stock	Number of authorized shares	1,000,000,000
	Number of issued and outstanding shares	581,628,031
	Number of shareholders	36,916
	Listing of shares	Tokyo
	Stock transaction unit	1,000 shares

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

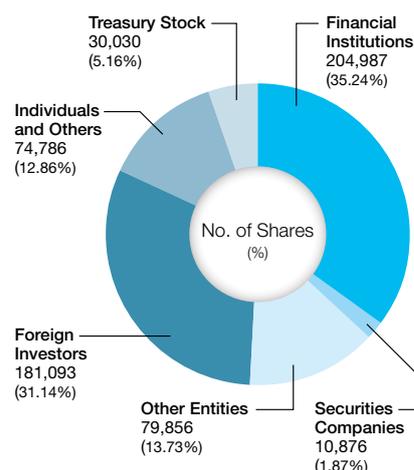
Major Shareholders

	Number of shares held (thousands)	Shareholding ratio (%)
Japan Trustee Services Bank, Ltd. (Trust Account)	41,993	7.6
The Master Trust Bank of Japan, Ltd. (Trust Account)	39,326	7.1
Toyota Motor Corporation	22,116	4.0
Japan Trustee Services Bank, Ltd. (Trust Account 5)	9,954	1.8
Japan Trustee Services Bank, Ltd. (Trust Account 9)	7,826	1.4
Sumitomo Mitsui Banking Corporation	7,650	1.4
Sumitomo Realty & Development Co., Ltd.	7,490	1.4
Sumitomo Life Insurance Company	7,474	1.4
Japan Trustee Services Bank, Ltd. (Trust Account 1)	7,377	1.3
Japan Trustee Services Bank, Ltd. (Trust Account 7)	7,304	1.3

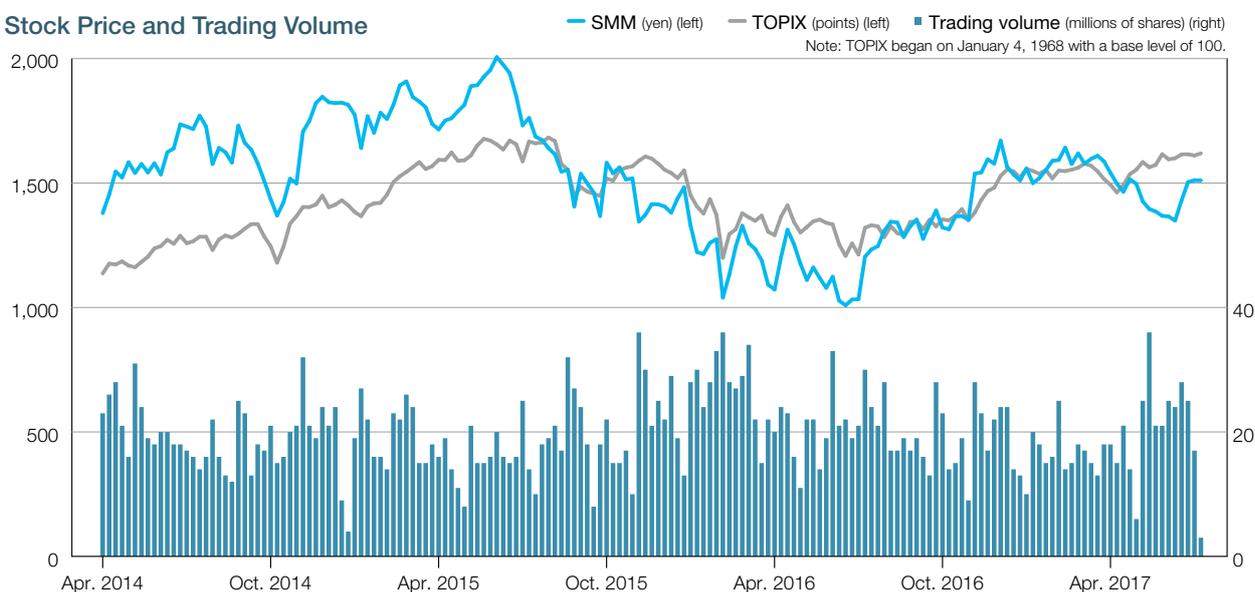
Notes:

- We own 30,030 million shares of treasury stock.
- 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



 **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/>



The following environmental considerations were applied to the printing of this report:

- The report uses paper certified by the Forest Stewardship Council® (FSC®) and made with wood from FSC®-certified forests.
- The report is printed using vegetable oil-based ink.