## CSR Report 2013

SUMITOMO METAL MINING CO., LTD.









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#### **Editorial Policy**

This report has been created for the benefit of customers, citizens of local communities, shareholders, suppliers, employees and all other stakeholders. The intention was to provide a clear outline of activities Sumitomo Metal Mining Co., Ltd. (SMM) is pursuing in order to achieve sustainable co-existence with society and the global environment.

The articles in this report focus on activities relating to the "Six Key CSR Areas," which were selected in 2008 after three months of deliberation in six workshops by an in-house group of 20 people comprising executive officers and general managers of Head Office divisions. Their selection was based on the impact those areas have on the company and the extent of related social needs. To determine those needs, we used insight gained through regular communication with stakeholders and information from other sources (e.g. GRI\* guidelines and other international standards, and trends in civil society). For each of the Six Key CSR Areas, we have set a Vision for 2020, and we created a roadmap in 2008 that shows the course to realize these visions.

Against the backdrop of changing social situations, the Vision for 2020 and its roadmap were revised by the CSR Committee in May 2012, when the 2012 3-Year Business Plan was formulated. This is our third report prepared in alignment with the GRI Sustainability Reporting Guidelines at an application level of A+. This declaration is externally assured.

Global Reporting Initiative (GRI): An organization established with the purpose of creating and promoting international guidelines for sustainability reports

#### Boundary of the Report

#### Sumitomo Metal Mining Co., Ltd. (SMM)

The Sumitomo Metal Mining Group (consolidated subsidiaries)

Economic Aspects: SMM, consolidated subsidiaries and affiliates Environmental Aspects: SMM and consolidated subsidiaries

From the perspective of significance, we included equity-method application affilial Nippon Ketjen Co., Ltd., but excluded consolidated subsidiaries with a low environmental impact. The following subsidiaries and affiliates have been covered. Some statements on Taganito HPAL Nickel Corporation have been made, but the company is not included in aggregate data as operations are not yet underway.

Sumitomo Metal Mining Pogo LLC, Sumiko Logistics Co., Ltd., Taihei Metal Industry Co., Ltd., Hyuga Smelting Co., Ltd., Shisaka Smelting Co., Ltd., Coral Bay Nickel Corporation, Ohkuchi Electronics Co., Ltd., Sumiko Kunitomi Denshi Co., Ltd., Shinko Co., Ltd., SumikoTec Co., Ltd., Nittosha Co., Ltd., Niihama Electronics Co., Ltd., Malaysian SH Electronics Sdn. Bhd., SH Electronics Suzhou Co., Ltd. Sumiko Electronics Taiwan Co., Ltd., SH Electronics Taiwan Co., Ltd. SH Electronics Chengdu Co., Ltd., SMM Precision Co., Ltd., Igeta Heim Co., Ltd., JCO Co., Ltd., Sumiko Lubricant Co., Ltd., Japan Irradiation Service Co., Ltd., Sumitomo Metal Mining Siporex Co., Ltd., Nippon Ketjen Co., Ltd., Sumitomo Metal Mining Engineering Co., Ltd.

Social Aspects: SMM and consolidated subsidiaries

#### **Publication Date**

November 2013 Previous publication: November 2012 Next scheduled publication: November 2014

#### **Period Covered**

April 1, 2012 – March 31, 2013 (Some activities before or after the above period have also been included)

#### **Referenced Guidelines**

GRI Sustainability Reporting Guidelines, Version 3.0 Environmental Reporting Guidelines of the Japanese Ministry of the Environment (2012 version)

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

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#### Photographs on This Page

#### Drilling work at Hishikari Mine

The Hishikari Mine in Isa City, Kagoshima Prefecture was opened in 1985 and achieved 200 tons of total mined gold in 2012.

The white vein in the back of the mine is a quartz vein and contains gold.

## Becoming an SMM Group where every employee is constantly reflecting on their actions and aware of others, thereby better contributing to society

#### Yoshiaki Nakazato

Q1

President and Representative Director



How do you perceive the business environment and social issues surrounding SMM today?

We're a company that creates products from the earth's resources, so the first thing society expects from us is to use limited resources as effectively as possible. The history of SMM is, in a sense, a history of overcoming environmental pollution-putting to use the technologies and knowledge we gained from that experience in our development activities is our contribution to global environmental preservation. We also believe that working through various methods of social contribution to operate in harmony with and to the benefit of surrounding communities in emerging economies will be an important part of our business as the breadth of our business activities expands in these regions. What types of contribution activities these communities will truly benefit from is often something we can only know after first going to them. We hope to increase the quality of these programs as we experience firsthand the way locals live.

The biggest issue in Japan is the recovery from the Great East Japan Earthquake. The wounds of communities ravaged by the earthquake and tsunami remain unhealed more than two years after the disaster. We've sought to support the recovery through providing a steady supply of the basic and advanced materials we produce. We've also made charitable contributions, for example by giving financial aid to students who face difficulty continuing their education, and delivering food to disaster areas. Going forward, we hope to extend more long-term forms of support that are truly useful to the complete recovery of the disaster areas.



What efforts would you like employees to make individually to help SMM achieve its 2012 3-Year Business Plan and the two goals set forth in it, to become a "World Leader in the Non-ferrous Metals Industry" and an "Excellent Company of Japan"?

Our new business plan calls for pursuing growth in our three core businesses—mineral resources, smelting and refining, and materials—and, as numerical targets, achieving ¥100.0 billion in net income. We've acquired the capacity to make ¥100.0 billion annually on a recurring profit basis through our 2009 3-Year Business Plan so to drive further growth and meet these targets we need every employee in mineral resources, smelting and mining, and materials working in solidarity as members of the SMM Group. I want the SMM Group to be a company where employees can feel the pride and joy of working for a World Leader in the Non-ferrous Metals Industry and an Excellent Company of Japan—positions that will be attained by their own efforts.

Q3 What goals are important for expanding SMM's business globally?

A One is to raise the quality of our management systems. Technology and on-site capabilities have been major drivers of growth for the SMM Group, and management systems such as those used for accounting and human resources management

are critical infrastructural supports. As our business activities become increasingly globalized, our management systems need to evolve in a likewise manner. Diversity within our organization is also essential when considering globalization from a human resources perspective. I think that accepting, absorbing, or otherwise overcoming the disagreement and discord that occurs when people of different



cultures and with different values join our company has a way of strengthening our corporate culture.

When we suddenly realize several years or maybe decades from now that people of all types have assimilated easily to our organization, that will be the time when the SMM Group can say it is truly globalized.

This is a new endeavor, so we're bound to make mistakes. The important thing is to keep trying anew after every set back.



What goals are important for developing human resources?

I think of human resources as precious resources, not commodities. So how do we cultivate these resources? People can absorb information through training, but they'll quickly forget any information they don't use. To raise training to a level that's on par with acquiring skills through hands-on experience, we need human resources development programs that are highly tailored, which means each workplace needs to get involved. So how should we think of and create these programs? This is something that separates the innovative companies from the rest.



What approach will SMM take to instill CSR concepts into employee thinking and behavior?

In FY2012, the SMM Group revised its roadmap for achieving the Vision for 2020, thus setting the course we plan to take as a company. Right now we are at the stage of making sure employees are acting on a personal awareness of social responsibility.

I want employees to think about how their work and their activities are impacting society. For example, regarding work

safety: our company is built on the assumption that each employee is leading a safe life everyday. In other words, safety is an important foundation on which our company stands. It is for this reason that I want each employee to think of their own safety in their work. I want them to understand the significance of the rules as well—why we have our procedures and rules concerning safety, and why they have to be followed.

Furthermore, regarding quality control in manufacturing: it is important that we constantly consider quality from the customer's perspective. By doing so, employees will start to consider why maintaining that quality is important, which will lead to further improvements.

In this way, I hope each employee will grow to understand the meaning of their work and activities, and the SMM Group will become a more vibrant organization of individuals.

What do you want employees to be mindful of in their daily work?

To meet the targets that we have set, lead by example, and exercise self-restraint and proper courtesy—this is the action philosophy Chairman Nobumasa Kemori lives by, and should serve as a code of conduct for every management executive. I plan to adopt them myself, and I think employees should be mindful of them as well.

I like to travel to ancient temples in Japan. When taking off my shoes before stepping up into the main sanctuary of a temple, there is often a sign at the entrance that reads, "Look carefully where your own footsteps fall." This is a Zen proverb that also means, "Know thyself." I take it to mean that before complaining to others, you should look closely at yourself. It's something I'm mindful of every day.

CSR is the same thing. It's about reflecting on your own actions, and always thinking about others as if you were in their shoes. An organization made up of employees who practiced this would never fail to do what's right for society. I would like our employees to approach their work every day with an awareness like that.

## **Overview of Business Operations**

#### **Corporate Data**

Company name: President:	Sumitomo Metal I Yoshiaki Nakazat	0 /	Main Facilities Head Office:	11-3, Shimbashi 5-chome, Minato-ku, Tokyo (Shimbashi Sumitomo Building)
Founded: Incorporated:	1590 1950		Main branch: Branches:	Osaka Branch Nagoya Branch, Besshi-Niihama District Division (Ehime Prefecture)
Capital: Listings: No. of consolidate	¥93.2 billion Tokyo Stock Exch	nange 58	Plants:	Toyo Smelter & Refinery (Ehime Prefecture) Niihama Nickel Refinery (Ehime Prefecture) Harima Smelter (Hyogo Prefecture) Ome District Division (Tokyo)
No. of equity-met		15		Sagami Plant (Kanagawa Prefecture) Isoura Plant (Ehime Prefecture)
No. of employees	(consolidated) <sup>1, 2</sup> :	8,370 (745)	Mine:	Hishikari Mine (Kagoshima Prefecture)
Net sales (consoli	idated)1:	¥808.5 billion	Research centers:	Ichikawa Research Laboratories (Chiba Prefecture) Niihama Research Laboratories (Ehime Prefecture)
Recurring profit (c	consolidated)1:	¥115.0 billion		Battery Research Laboratories (Ehime Prefecture)
1. As of March 31, 2013	3			Materials Research & Development Center (Tokyo)
2. The average number number of additional	of full-time employees d temporary staff is shown		Main Products 1. Mineral Resour	rces Segment:

Gold and silver ore, copper concentrates, copper, gold

- 2. Smelting & Refining Segment:
  - Copper, gold, silver, electrolytic nickel, ferro-nickel, zinc, chemical products
- 3. Materials Segment:

Semiconductor materials, thick film materials, thin film materials, battery materials, crystal materials, magnetic materials, oil refining catalysts, automotive catalysts, autoclaved lightweight concrete, lubricants No. of countries and regions where business is conducted: 16



Consolidated Recurring Profit/Consolidated Net Income (Billion yen)



#### Net Sales by Region (Million Yen)

Number of Officers/Employees by Region



Other (1.7%) North America 156 (3.7%) 335 China (8.8%) 806 East Asia (9.0%) Total 823 9,135 Southeast Japan Asia (13.6%) (63.2%) 1,245 5,770 "Number of officers/employees by region" does not match "No.

of employees (consolidated)" as it includes full-time officers, non-regular and limited-term employees

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#### Japan

#### Sumitomo Meta

#### Mineral Resources

Sumiko Resource Development Co. Sumiko Solomon Smelting & Refining Acids Co., Ltd. MS Zinc Co., Ltd. Shisaka Smelting Sumiko Logistics Taihei Metal Indus Hyuga Smelting C Mitsui Sumitomo Copper Co., Ltd. Materials Igeta Heim Co., L • SH Copper Produ SH Precision Co. SH Materials Co. SMM Precision C • N.E. Chemcat Co Ohkuchi Electron Ohkuchi Material Granopt Co., Ltd JCO Co., Ltd. Shinko Co., Ltd. Sumiko Kunitomi Sumiko Lubricant SumikoTec Co., L Sumitomo Metal Niihama Electroni Niihama Materials Nittosha Co., Ltd. Nippon Ketjen Co Japan Irradiation Other Businesses Sumiko Technical Sumiko Techno-F Sumiko Plantech

#### Sumitomo Metal Co., Ltd.

	Asia	North America
tal Mining Co., Ltd.	Mineral Resources	Mineral Resources
<b>C</b>	<ul> <li>Cordillera Exploration Co., Inc. (Philippines)</li> </ul>	SMMA Candelaria Inc. (U.S.)
S	Smelting & Refining	SMM Exploration Corporation (U.S.)
es Exploration &	<ul> <li>Jinlong Copper Co., Ltd. (China)</li> </ul>	Sumitomo Metal Mining America Inc. (U.S.)
o., Ltd.	Sumitorio Metal Mining Management	Sumitomo Metal Mining Arizona Inc. (U.S.)
n Exploration Co., Ltd.	(Shanghai) Co., Ltd. (China)	Sumitomo Metal Mining Pogo LLC (U.S.)
ng	Coral Bay Nickel Corporation (Philippines)	Stone Boy Inc. (U.S.)
	Nickel Asia Corporation (Philippines)	Sumitomo Metal Mining Canada Ltd. (Canada)
d.	<ul> <li>Taganito HPAL Nickel Corporation (Philippines)</li> </ul>	SMM Resources Ltd. (Canada)
g Co., Ltd.	Sumitomo Metal Mining Philippine Holdings	Sumac Mines Ltd. (Canada)
s Co., Ltd.	Corporation (Philippines)	
ustry Co., Ltd.	<ul> <li>P.T. Vale Indonesia Tbk (Indonesia)</li> </ul>	
Co., Ltd.		
Metal Mining Brass &	Materials	
	Dongguan Sumiko Electronic Paste Co., Ltd. (Object)	Other Regions
	(China)	
Ltd.	<ul> <li>Shanghai Sumiko Electronic Paste Co., Ltd. (China)</li> </ul>	Mineral Resources
ducts, Co. Ltd.	SH Electronics Suzhou Co., Ltd. (China)	Compañia Contractual Minera Candelaria
., Ltd.	Suzhou SH Precision Co., Ltd. (China)	(Chile)
., Ltd.	Sumiko Advanced Materials (Suzhou) Co., Ltd.	Compañia Contractual Minera Ojos del Salado
Co., Ltd.	(China)	(Chile)
Corporation	SH Electronics Chengdu Co., Ltd. (China)	Sumitomo Metal Mining Chile Ltda. (Chile)
nics Co., Ltd.	SH Precision Chengdu Co., Ltd. (China)	SMM Sierra Gorda Inversiones Ltda. (Chile)
als Co., Ltd.	Sumico Lubricant Trading (Shanghai) Co., Ltd.	<ul> <li>Sierra Gorda S.C.M. (Chile)</li> <li>Sumitomo Metal Mining Peru S.A. (Peru)</li> </ul>
d.	(China)	<ul> <li>Sociedad Minera Cerro Verde S.A. (Peru)</li> </ul>
	Taiwan Sumiko Materials Co., Ltd. (Taiwan)	Sumitomo Metal Mining do Brasil Ltda. (Brazil)
	Sumiko Electronics Taiwan Co., Ltd. (Taiwan)	Sumitomo Metal Mining Oceania Pty. Ltd.
i Denshi Co., Ltd.	SH Electronics Taiwan Co., Ltd. (Taiwan)	(Australia)
nt Co., Ltd.	SMM KOREA Co., Ltd. (South Korea)	SMM Cerro Verde Netherlands B.V.
Ltd.	Malaysian Electronics Materials Sdn. Bhd.	(Netherlands)
Mining Siporex Co., Ltd.	(Malaysia)	SMM Solomon Ltd. (Solomon Islands)
nics Co., Ltd.	Malaysian SH Electronics Sdn. Bhd. (Malaysia)	
als Co., Ltd.	Malaysian SH Precision Sdn. Bhd. (Malaysia)	Smelting & Refining
d.	SH Asia Pacific Pte. Ltd. (Singapore)	• Figesbal S.A. (New Caledonia)
Co., Ltd.	Sumiko Tape Materials Singapore Pte. Ltd.	Sumic Nickel Netherlands B.V. (Netherlands)
n Service Co., Ltd.	(Singapore)	Other Businesses
3	Sumiko Leadframe (Thailand) Co., Ltd.	SMM Holland B.V. (Netherlands)
al Service Co., Ltd.	(Thailand)	
Research Co., Ltd.		
n Co., Ltd.		SMM
Mining Engineering		Consolidated subsidiaries
3 6 6		Euity-method affiliates

Corporate Philosophy for a Sustainable Society The Sumitomo Group has been developing its business for around 400 years through continuous adherence to the Sumitomo Business Spirit. Acknowledging the importance of the values and ethics our forerunners built into the Sumitomo Business Spirit, we will make every effort to strengthen SMM Group business and consolidate society's trust in us.

The SMM Group upholds the Sumitomo Business Spirit in its Corporate Philosophy and Management Vision. The very activities we pursue to substantiate the visions expressed in those lines constitute SMM's CSR activity and their implementation will take us closer toward our goal of "sustainable co-existence with society and the global environment."

#### 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.

#### **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.

## Six Key CSR Areas and Vision for 2020

In 2008, SMM determined key areas of CSR activity for the Group and a Vision for 2020 based on the impact of those areas on the Group and the extent of related social needs. We will actively pursue initiatives in those areas in line with the CSR Policy, toward our goal of "sustainable co-existence with society and the global environment."

#### Stakeholder Communication

A company that is open to communication with stakeholder groups worldwide

#### Occupational Health and Safety

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

- No occupational accidents throughout the SMM Group (including business partners)
- Zero incidence of occupational disease
- Create workplaces where protective equipment (earplugs/masks) is unnecessary
- A vibrant company whose workforce is physically and mentally healthy

## Effective Use of Resources

A company that generates resources using innovative technology

Business development through technologies to process low-grade/hard-to-process ores and recycle materials from urban sources

## Six Key CSR Areas and Vision for 2020

#### Respect for People and Human Rights

- A company that respects human rights and diversity of employees, develops employees with high awareness of human rights, and gives equal opportunities depending on motivations to work and abilities of employees
- A company that respects human rights of people who are affected by business activities of the SMM Group
- A company that does not get involved in complicity with an entity that causes violations of human rights at areas with undeveloped social infrastructure and at troubled areas

#### Environmental Preservation Reduced CO<sub>2</sub> emissions (energy savings) and conservation of biodiversity

#### A company that meets international anti-global warming standards by using advanced technologies

- Zero industrial waste emissions
- An expansion of material business concerning products with low environmental impact (creating, storing, and saving of energy)

## Contribution to Society and Local Communities

A company in which employees are proud to work along with the company on social contribution activities rooted in the area

SMM Group CSR Objectives Sustainable Co-existence with Society and the Global Environment

## **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 business and Head Office divisions.

Attached to the CSR Committee are two working groups—the Compliance and Risk Management 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 communication. Each of these six subcommittees, which correspond to the SMM Group's "Six Key CSR Areas," works toward annual targets in the quest to realize the "Vision for 2020."

CSR activities consistent with these annual 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 operates a PDCA (Plan-Do-Check-Act) cycle, reviewing activities each year and evaluating the company's performance in social, environmental and financial terms.

#### CSR Promotion Framework



## **Our Stakeholders**

Prior to the launch of CSR activities at SMM in 2008, deliberations were held relating to the SMM Group Corporate Philosophy, Management Vision, CSR Policy and Vision for 2020, and the following entities with an interest in SMM's activities were identified as stakeholders: customers, shareholders, employees, local communities, creditors, business partners, citizen groups, and the government. SMM aims to maximize its corporate value and has established targets that specify the "ideal company" for each stakeholder category.

#### **Communication with Stakeholders**

#### Customers

**Employees** 

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**

Institutional investors are informed about the running of the company through conference calls and business strategy progress briefings at the time of earnings announcements, as well as meetings held on an individual basis as the occasion arises.

Individual investors are briefed on business conditions via the company website, the Report for Shareholders, and other media.

All feedback from investors is regularly reported to the management and applied to the administration of the company.

In Japan, workers' unions formed at branch offices and

routinely holds briefings or discussions with each union.

regularly briefed on the business situation and opportunities

for employees to offer feedback and requests are arranged.

SMM Group companies fall under the umbrella of the Federation of Sumitomo Metal Mining Workers' Union. SMM

Overseas, organizations representing employees are

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 Stakeholders**

SMM also engages in regular information exchange and round-table 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.

#### An attractive investment as a company aiming to raise corporate value through efficient A company with all-round competitiveness, business management and sound governance boasting advantage over competitors in terms of technology, quality, delivery and price while delivering a dividend commensurate with performance and disclosing information as Customers Shareholders appropriate A company that provides a healthy Local A company seeking to co-exist with the local community and contribute to work environment where individual Employees Communities roles within the organization are clearly defined and employees take regional growth SMM pride in their work A company demonstrating considerable **Business** technological capability and integrity Creditors A trustworthy company with strong Partners while placing value on trust and with earning power and sound finances which mutual prosperity can be assured Citizen A company that maintains total legal Government Groups A company that engages in an appropriate level of communication, maintaining an acute awareness of its corporate responsibilities compliance and contributes to the growth of the countries and communities in which it operates

#### Each SMM Stakeholder Category's "Ideal Company"

Special Feature 1: The History of the SMM Group —CSR Implementation Founded on the Sumitomo Business Sprit

## A Philosophy Inheriting a 400-Year Legacy

### Legacy 1 Respect for Technology and Globalization

"I met a foreigner by the name of Hakusui, and I learned from him about how to extract silver from Japanese crude copper."

The History of the Sumitomo Family

#### Development of Nanban-buki

Nanban-buki, a technique for removing silver from crude copper, was developed through trial and error by Riemon Soga (father to Tomomochi Sumitomo), who had learned about the principle behind the process from a European.

A revolutionary smelting method at the time, *nanban-buki* was used to produce copper for export from Nagasaki (the only international trade port during Japan's isolationist period, or *sakoku*, between 1639–1854) to overseas markets such the Netherlands and China, where it had an immense impact on the monetized economy of East Asia.

Sumitomo maintained international relations even during sakoku. For example, the head of the Dutch trade post in Nagasaki visited Sumitomo's copper smelting operations in Osaka during the Edo period (1603–1868). This experience led to the commissioning of a French engineer to help modernize the Besshi Copper Mine, and later to the development of overseas mining sites by SMM such as the Bethlehem and Pogo mines.





▲ Scroll painting of Besshi Copper Mine





"We will train our mining engineers and in doing so steadily develop the Besshi Copper Mine."

Saihei Hirose (first Director General of Sumitomo) Human Resources Development

-

▲ Saihei Hirose (1828–1914) (Photo: Sumitomo Historical Archives)

In the Meiji period (1868–1912), Sumitomo set out to modernize the Besshi Copper Mine with its own employees. The company sent Monnosuke Shiono and another employee to study at the École Nationale Supérieure des Mines de St-Étienne, a mining engineering school in France. After gaining experience working at mines around the region, Shiono returned to Japan and helped build the Western-style Niihama Sobiraki Smelter.

Today, engineers trained at Hishikari Mine serve important roles in the operation of Pogo Mine in the United States and in mine development in South America.



🔺 Besshi Copper Mine area

before reforestation (1881)

▲ Western-style smelter in Sobiraki, Niihama

(circa 1890)

|1600

Copper bars used as payment in foreign trade in Nagasaki

1590 Riemon Soga opens *Izumiya* copper smelting and decorative copperwork business in Kyoto

1596–1615 Riemon Soga develops "*nanban-buki*" smelting method to separate silver from crude copper



1700

- 1680 Store opened in Uragoto-machi (now Goto-cho) as headquarters for Nagasaki trade
- 1691 Besshi Copper Mine opened, beginning 283 years of <u>operations</u>

1874 French engineer Louis Larroque arrives in Japan

1800

- 1876 Modernization of Besshi Copper Mine begun based on Larroque's report
- 1888 Operation of Western-style smelter begun in Sobiraki, Niihama
- 1893 Group of farmers files suit against Ehime Prefecture over crop damage caused by smelter smoke
- 1894 Number of trees planted at Besshi Copper Mine increased from 60,000 to 1 million annually

## Legacy 3

### **Business for the Common Good**

"Jiri-rita Koshi-ichinyo" (Benefit yourself and others, for they are the same.)

Masaya Suzuki (third Director General of Sumitomo)

#### Commercialization of Separation and Refining Technologies

These words by Masaya Suzuki imply that while the goal of business is profit, profit for the company and profit for the public must equal out. During the Edo period, Sumitomo disclosed its *nanban-buki* technique to copper smelters in Osaka. Before then, smelters were selling copper with silver impurities to overseas markets at low prices. But with the spread of *nanban-buki*, they were now able to separate silver from the copper bound for export and

sell it at high prices. Sumitomo maintained not only its own profit, but that of the public's. Recently, extracting nickel ore has become more difficult. SMM became the first company to successfully commercialize a technology that recovers nickel from low-grade oxide ore,

a mineral resource that previously went unused. This has led to a more effective use of the nickel resources around the world.



▲ Masaya Suzuki (1861–1922) (Photo: Sumitomo Historical Archives)

The SMM Group has faced significant changes many times in its more than 400-year history. However, we are continuing our business with the Sumitomo Business Spirit that we invariably exercise in any business environment.

Teigo Iba

(1847-1926)

(Photo: Sumitomo Historical Archives)

### Legacy 4 Appreciation for Mother Earth

#### Forestation and Sulfur Capture

In the Meiji modernization age, Mt. Besshi had been transformed into a red, barren mountain wasteland as its forests were cleared to procure firewood for roasting ore and charcoal for smelting, and as sulfur dioxide gas laid waste to other plant and animal life

Sumitomo took various actions over the years to solve the pollution problem, such as moving the smelter to an uninhabited island, putting limits on copper production, and installing sulfur dioxide capture and neutralization technologies. It also planted as many as 1 million trees annually at the Besshi Copper Mine site to restore the forest. A century later, Mt. Besshi is now back to its lushly vegetated state.

SMM's attitude of striving for a sustainable co-existence with society and the global environment is alive to this day in the environmentally considerate development of Pogo Mine.



Bethlehem Mine

Coral Bay Nickel Corporation plant

2000

2005 At Coral Bay Nickel Corporation (Philippines), SMM becomes first in world to commercialize technology for recovering nickel from low-grade oxide ore

2006 Environmentally considerate mining operations begun at Pogo Gold Mine (Alaska, U.S.)

2008 Creation of CSR Policy and Vision for 2020 mark official launch of CSR activities Besshi Copper Mine after reforestation

#### 2021

World Leader in Non-ferrous Metals Industry Excellent Company of Japan (Last year of 2018 3-Year Business Plan)

2020

Realize

Vision for 2020

## 1900

- 1905 Copper smelter relocated to Shisaka Island
- 1939 Sulfur dioxide gas neutralization plant completed, bringing end to smelter smoke problems; Sumitomo enters nickel business
- 1950 Besshi Mining Co., Ltd. established
- 1952 Company name changed to Sumitomo Metal Mining Co., Ltd.
- 1963 Financing and ore-purchase agreement signed for development of Bethlehem Copper Mine (Canada)
- 1973 Besshi Copper Mine closed
- 1983 Hishikari Mine (Kagoshima) opened

## Legacy 5 Schemed business for 100 years of national development

"With Besshi Copper Mine near its end, we will start new businesses to replace it."

Kageji Washio (CEO of Sumitomo Besshi Mining Co., Ltd.)

#### Coexistence and Co-prosperity with Local Communities

Because mining is an exercise in resource extraction, all mines must eventually close. To protect its stakeholders and support the continued growth of local communities and the nation following the closure of Besshi Copper Mine, in the early Showa period (1926–1989), Sumitomo created and implemented a Niihama development plan that included building ports, roads, schools, and other infrastructure. The company also branched off into chemicals, machinery, construction, power generation, forestry, and other businesses in place of the mine. By the time Besshi Copper Mine closed in 1973, Niihama had grown to becoming a thriving industrial city.

As in Japan, SMM will work with the communities surrounding its overseas mines and smelters to find long-term solutions for the sustainability of local communities even before the closure of operations.



▲Kageji Washio (1881–1981)



—Special Feature 2—

## World-leading SMM Quality

LN/LT wafers

## LN/LT Wafers —Making Strides on the World Stage Together with Our Customers

Sumiko Kunitomi Denshi manufactures oxide crystals known as LN/LT<sup>1</sup>, a substrate which is cut into wafer-thin slices used in Surface Acoustic Wave (SAW) filters for mobile communication devices. SAW filters are devices which isolate electronic signals of a certain frequency, and our wafers play a crucial role in achieving a stably high SN ratio<sup>2</sup>.

Through our customer Murata Manufacturing Co., Ltd., which boasts the world's leading market share in SAW filters, Sumiko Kunitomi Denshi wafers are incorporated in many handset models produced by smartphone manufacturers worldwide. Our customers choose us due to the superior compositional stability of our products and our wafer processing technology. Utilizing 30 years of technical know-how, we are currently the only company capable of processing substrates with a diameter as large as 6"ø into wafers. This unique capability give us a major advantage. Our technological superiority and reliable high quality has won accolades and trust from our customers, and as a result Sumiko Kunitomi Denshi has grown to claim the world's No. 1 share of the LN/LT wafer market. Demand for our wafers is

#### **Employee's Perspective**

Five years ago at Sumiko Kunitomi Denshi, we began initiatives aimed at improving productivity, centered on 5S activities<sup>3</sup>. These efforts were successful in increasing capacity and reducing lead time. The biggest change I noticed was that more people were thinking independently. This attitude also contributed to improved safeness and product quality.

Compared to when I joined the company, our young employees are extremely diligent. While I was impressed with the way they worked tirelessly even during night shifts, I felt something was missing. It recently struck me that this "something" was the ability to think independently. Working together with our young staff to make improvements I am thrilled at the way our culture has changed.

In the second half of FY2013 we plan to ship 120,000 wafers. Although this is almost twice the volume of FY2012 and there



are a lot of problems which could arise, I see it as a chance to think independently and have fun making improvements. This will be the next task for both me and the Crystal Department.

Masahiro Konishi Senior Engineer, Production Control, Crystal Materials Dept., Sumiko Kunitomi Denshi Co., Ltd.

 5S activities: A Japanese workplace organization method with five processes: seiri (sorting), seiton (setting in order), seiso (systematic cleaning), seiketsu (standardizing), and shitsuke (sustaining rules and procedures) expected to grow further in the future as mobile communication devices become multi-functional and slimmer in size. We will work to accurately identify our customers' needs, achieve even

higher levels of quality in wafer manufacturing, and ensure a stable product supply.



Yusuke Nishimura General Manager, Crystal Materials Dept., Sumiko Kunitomi Denshi Co., Ltd.

 LN/LT: LN→LiNbO<sub>3</sub> (lithium niobate), LT→LiTaO<sub>3</sub> (lithium tantalate)
 SN Ratio: In information engineering (particularly telecommunications engineering), the ratio between signal and noise. A higher value represents less noise and therefore a higher quality signal.

#### **Customer's Comment**

Kanazawa Murata Manufacturing mainly handles development and production of high-frequency portable communication devices. We hold the world No. 1 share for production and sales of SAW filters, and have grown to become an indispensable supplier to the Japanese and more recently the global mobile phone manufacturing industry. In particular, global demand for SAW devices used in smartphones has increased significantly, and due to the growing need for high-speed large capacity data transmission, we are required to develop and deliver products with even higher performance on shorter cycle times. SMM's LN/LT wafers are used in the internal elements which form the heart of our SAW devices. SMM's crystal manufacturing and processing technology is outstanding, and we place great trust in their track record of excellence. As valued business partners, we will continue our



close cooperation with SMM in order to deliver high quality products to the world and to further the development of both companies as well as the Japanese electronic components industry.

Masatoshi Koike

Director and General Manager, Kanazawa Murata Manufacturing Co., Ltd. As manufacturers, the SMM Group believes it is our social responsibility and mission to deliver products and services that bring a high level of satisfaction to customers-who are important stakeholders—and to make society more prosperous in the process.



### **Electrolytic Nickel** -Aiming to Lead the Global Non-ferrous Metals Industry through **Our Technology-based Business Model**

While nickel is well known as a raw material in the manufacture of stainless steel, it is also at the forefront of cutting-edge industries-with a wide range of usages from a material in electronics and batteries to applications in the aerospace industry. A high purity level is required, particularly in electronics and electroplating applications, and SMM's high-purity nickel receives high acclaim from a range of industries.

As Japan's only manufacturer of electrolytic nickel, we have sound technological capability built from years of experience. In addition to achieving even higher levels of purity and productivity at an early stage through our original MCLE method manufacturing technology, on the raw material side we have introduced our HPAL<sup>2</sup> method for creating intermediate material mixed sulfide (nickel grade: up to 60%) from low-grade oxide ore-becoming the first company in the world to commercialize these technologies.

Even if the ratio of low-grade ore increases in the future, our company's strength is our technology to continue providing a

#### **Employee's Perspective**

When manufacturing electrolytic nickel we take great care to produce quality products in a stable manner, focusing not only on composition grade but also on how the metal is cut and packaged. Several years ago there was a long-term strike at a major overseas nickel manufacturer, and worldwide nickel supply was pressed to the limit. Japan also experienced a serious shortage of nickel for use in electroplating and batteries, and our plant worked at full output day after day. This happened to coincide with the midsummer heat. I was in charge of the electrolysis process, and I remember turning the current in the electrolytic bath up to its maximum and working drenched in sweat. It was perhaps this event which earned SMM's nickel products a reputation for high quality and ease of use, and many customers continue to purchase our products to

this day. Those of us working on the shop floor were proud that our products were rated highly by customers around the world, and these events gave us confidence in our ability.

Hidekazu Aoki

Electrolysis and Cutting Process Assistant Manager, Electrolytic Nickel Sect., Niihama Nickel Refinery



stable supply of high-grade electrolytic nickel to meet our customers' usage needs.

Demand for nickel is expected to increase in the future with economic development in

emerging countries, and we accordingly plan to raise our production capacity from 41,000 tons to 65,000 tons in FY2013.

Nobuhiro Matsumoto General Manager, Niihama Nickel Refinery (currently Deputy General Manager, Administration Dept., Non-Ferrous Metals Div.)



MCLE method: Matte Chlorine Leach Electrowinning 2. HPAL method: High Pressure Acid Leach





SMM's quality standards that are acclaimed around the world, and the sound technological capability on which this quality is built. We must appreciate the legacy built up over the years by our predecessors, make further refinements, and pass on this knowledge to the next generation. This uncompromising quest for knowledge is what drives the competitiveness of SMM's products. Quality is an important part of CSR which connects customers and employees. It is when we sincerely listen to our customers' needs and finally gain their recognition after devoting diligent effort that we feel an unparalleled sense of joy and pride as a manufacturer. Regardless of the era, we consider it our mission to generate profit by creating products that bring joy to our customers and society. I believe that raising our quality (value)-and hence SMM's corporate

value-through sound technology and unyielding effort will ultimately bring happiness to both our employees and to society.

> Shinya Sato Manager, Quality Management Sect., Safety & Environmental Control Dept.





## **Effective Use of Resources**

### Targets, FY2012 Achievements and FY2013 Plan

Perspectiv	e Aim	Target	FY2012 Achievements
	velopment rces	Nickel exploration and development on the Solomon Islands	<ul> <li>Explored existing mining zones, and requested mining rights</li> <li>Commenced exploration of new mining zones</li> </ul>
	Acquisition and development of new resources	Develop the Sierra Gorda Mine (begin production in 2014)	<ul> <li>Improved recovery rate and mineral concentrate quality, as shown in design of facilities</li> </ul>
esources	Acquis	Start operations at the Taganito Project as planned (in 2013)	Construction work progressed as planned
Effective use of natural resources	Effective use of refining technologies to process low-grade/hard-to-process ores	Establish new mineral analysis technology to develop ideal processing methods for nickel ore	<ul> <li>Created a database for mineral identification using Mineral Liberation Analyzer (MLA), a new mineral analysis system</li> </ul>
ective use o	Effective us technologie low-grade/hard-	Develop mineral processing technology for extracting low-impurity/high-grade copper concentrates from high-impurity copper ores	<ul> <li>Developed dressing technology for the separate recovery of copper/molybdenum from ore</li> </ul>
Effe	Recover elements besides target metals	Recover raw materials for iron manufacturing from nickel oxide ores	<ul> <li>A pilot plant for the recovery of chromium from nickel oxide ore is currently under construction</li> <li>Continued to develop raw materials processing for iron manufacturing using iron in nickel oxide ore; pilot plant is scheduled</li> </ul>
	Recover besides ta	Recover previously ignored elements in ores besides targeted metals	<ul> <li>Established processes to recover scandium from nickel oxide ore</li> </ul>
	zation cycled -	Advance recycling of Ni-MH batteries	<ul> <li>Recovery of valuable metals from Ni-MH battery scrap is underway</li> </ul>
	erials	Advance processing of recycled copper raw material at the Toyo Smelter & Refinery	Processed even more recycled materials than planned
us	ective e of ducts	Establish technology for maintaining or improving slag quality	Implemented slag characteristic testing, etc.

Expectations for SMM Group

Katsuhiko Kokubu Professor, Graduate School of Business Administration, Kobe University

As an industry that comes under heavy criticism from society with regards to the destruction of nature and conducting business in developing countries, the mining industry must be proactive and disclose information appropriately. SMM is highly regarded for developing processing technologies for low-grade/hard-to-process ores and urban recycled materials as part of a business expansion program in its endeavor to fulfill its Vision for 2020.

Although much has been said about individual activities, it may be difficult to see the connection between these activities and the overall management strategy just from written reports. What is the connection between the roadmap and the Vision for 2020? How is the current situation evaluated in the light of that ideal company? If CSR activities and information disclosure can clarify these ideas, the picture will be more complete.

As the mining industry has a great influence on the local region, the type of activities that should be implemented with regard to local communities should be included when considering the effective use of resources. Management systems should be developed to promote the systematic implementation of some of the amazing individual activities that are already taking place.



#### Vision for 2020

#### A company that generates resources using innovative technology

Business development through technologies to process low-grade/hard-to-process ores and recycle materials from urban sources

Challenges	FY2013 Plan
<ul> <li>Unified development of existing mining zones and new zones where mining rights have been acquired</li> </ul>	<ul><li>Continuing exploration</li><li>Acquisition of mining rights</li></ul>
<ul> <li>Production to commence in 2014, as indicated in revised plans</li> </ul>	<ul> <li>Strengthening of project promotion framework</li> <li>Continuing technological development for improved recovery and mineral quality</li> </ul>
<ul> <li>Complete project and commence commercial production as scheduled</li> </ul>	<ul> <li>Commence commercial production (autumn 2013)</li> </ul>
Discover the cause of poor leach rates in oxide ore using MLA	<ul> <li>Specify insoluble minerals</li> <li>Investigate measures to improve leach rate</li> </ul>
<ul> <li>Improve separation of copper/molybdenum and strengthen in-house technology to be applied in mines</li> </ul>	<ul> <li>Continue basic tests to improve separation</li> </ul>
• Pilot scale testing	<ul> <li>Complete a pilot plant for chromium recovery and commence production</li> <li>Construct a pilot plant for use of iron resources</li> </ul>
Pilot scale testing	<ul> <li>Build pilot plant and begin testing processes</li> </ul>
<ul> <li>Establish new, even more efficient recycling processes</li> </ul>	<ul> <li>Continue stabilized processing of battery scrap</li> <li>Improve processes</li> </ul>
• Further increase collection and processing	• Further promotion of copper recovery from recycled materials
<ul> <li>JIS revisions relating to copper and ferro-nickel slag for concrete</li> </ul>	<ul> <li>Tackle JIS revisions for concrete</li> </ul>
	Kazuo Ikeda

#### Subcommittee Chairman's Comment

Kazuo Ikeda Chaiman, Efficient Resource Utilization Subcommittee Managing Executive Officer General Manager, Technology Div.

The Earth has limited mineral resources, some of which will dry up some day. In recognition of that fact, SMM's mission is to create new resources using our strengths as a cutting-edge technology company. For example, useful metals can be efficiently extracted from low-grade minerals that contain many impurities. Valuable metals are being extracted from worn out batteries and other waste materials by means of recycling, which also helps to reduce waste. As the ideal company, we hope to have established these technologies by 2020 so that a cycle of PDCA will lead us towards a new goal.

Further technological development requires greater mutual cooperation and the synergy of advanced technologies possessed by each Division. The Smelting/Refining Development Center is scheduled to start in FY2013 with the goal of increasing our technological strength. Even for employees who are not directly connected to the recycling department, we want everyone to receive information via the in-house bulletin and other methods so as to raise awareness of the usefulness of our work in society, and what is expected of us in terms of effective use of resources.





#### **Basic Approach**

SMM Group business centers on the utilization of the Earth's valuable, yet limited, resources. Effective use of resources is therefore considered an important issue for management as we seek sustainable business development. Based on this understanding, the SMM Group has included "effective use of resources" as one of its Six Key CSR Areas and is advancing recycling efforts. As the Vision for 2020 depicts "a company that generates resources using

#### Making Effective Use of Low-grade Ore

The Coral Bay Nickel Corporation (CBNC)<sup>1</sup> on Palawan Island in the Philippines is using a hydrometallurgy technique called the HPAL<sup>2</sup> method in adjacent mines to recover nickel from low-grade oxide ore, which was not previously being made into products.

- Capital: 587.5 million Philippine pesos. 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.
- High Pressure Acid Leach (HPAL): A method used to extract nickel and cobalt using sulfuric acid in a high-temperature, high-pressure autoclave (pressure vessel).

#### **CBNC Scandium Recovery**



▲ View of CBNC

CBNC is producing mixed nickel-cobalt sulfides by means of the HPAL method. However, a small amount of scandium<sup>3</sup> is present in the raw material ore. In order to use this element in a practical way, Niihama Research Laboratories has developed a recovery method that efficiently recovers the scandium from the production process. A pilot scandium oxide production plant is being set up at CBNC within 2013, with plans for test production of 10 kg a month from 2014. Based on the results of the trial at the pilot plant, SMM aims to commercialize production by setting up an industrial-scale scandium oxide production line by around 2015.

Scandium is a rare earth element with an estimated worldwide production output of 10 tons a year. Demand is currently limited by the low production output, unstable supply and high cost. However, a more stable supply would lead to greater demand for scandium for use in additives to aluminum and solid oxide fuel cell electrolytes.

#### Katsuhiro Tomoda Deputy General Manager, Administration Dept., Non-Ferrous Metals Div. (currently Head of Nickel Sulfate Project, Non-Ferrous Metals Div.)



3. Scandium (symbol Sc): A rare earth element that was discovered in 1879. It is a silvery-white metal with a specific gravity of 2.99. In addition to increasing the strength, thermal resistance, and corrosion resistance of aluminum as an additive, it can be used in solid oxide fuel cell electrolytes, and as an electrode in alkali batteries and in metal-halide lamps.

## Using Resources Effectively through Recycling

Besides procuring copper and precious metal scrap from scrap dealers, the SMM Group recovers precious metals and other valuable metals from electric furnace dust, waste circuit boards, and other such items.

#### **Recovery of Resources from Electric Furnace Dust**

Electric furnace dust released during melting and recycling in the electric furnace production process for scrap iron consists of approximately 20% zinc, which is a precious resource. Shisaka Smelting processes the electric furnace dust in a Waelz kiln via high-temperature reduction and volatilization. The volatilized zinc is concentrated into crude zinc oxide, and, after wetting it to remove any halogen, the material is dried, producing a raw material consisting of 60% zinc. It is then transported to Harima Smelting, a zinc smelting plant. The Company boasts the largest throughput in Japan, and is playing an important role in the effective use of zinc resources.

The iron pellets produced in the kiln after volatizing the

zinc are re-used as raw materials for steelmaking by electric furnace manufacturers. We are working hard to improve the quality in order to maximize the recycling ratio.

> Takeshi Kusakabe President, Shisaka Smelting Co., Ltd.



#### My Way of Doing Good



When I'm on the train, I give up my seat if I see an elderly person, a parent with their children, or a pregnant woman. We should try to make a more considerate society.

Hiroko Kogami, Corporate Planning Dept.



I'm in charge of closed and suspended mines. In the area around the office, there are many older people who live alone. I make a point of going to talk to them.

Hirotoshi Ikegami, Ohkuchi Office

innovative technology," we are developing technologies that will assist with the effective utilization of natural resources which have not previously been converted into resources, such as low-grade and hard-to-process ores. We are also endeavoring to recover precious and other valuable metals from items such as used home appliances and electronic devices, and develop and refine recovery technologies.



#### **Precursor Sales Promotion**

The Battery Materials Group in the Sales & Marketing Department is promoting sales of precursors for lithium-ion secondary batteries. The development of positive electrode materials for secondary batteries for use in automobiles has so far been carried out in conjunction with automobile manufacturers. Positive electrode materials for batteries were sold directly to battery manufacturers as a finished

product. However, as we expect a dramatic increase in demand for positive electrode materials for secondary batteries for use in automobiles, and as SMM's nickel and cobalt business is



Precursor—a positive electrode material used in batteries

expected to grow, we aim to expand sales by supplying precursors to secondary battery positive electrode manufacturers, who have been the competition until now.

Due to the current issues in the airplane industry, conditions are not exactly favorable for lithium-ion secondary batteries. However, we believe we can contribute to global environmental preservation and effective use of resources by utilizing SMM's strengths as a manufacturer of materials for state-of-the-art technology that is both friendly to the environment and extremely good at energy

conservation. The Isoura Plant and Battery Research Laboratories are working toward improved safety and price reduction, which contributes to increased sales.

Isao Kawanishi Manager, Battery Materials Group, Sales & Marketing Dept., Materials Div.







The province of Palawan hosts vast tracts of tropical rainforests and a huge expanse of marine wildlife, which are known all over the world as the Philippines' last ecological frontier. I support the company's environment and safety initiatives as they help to strengthen ties with local communities.

Elizabeth Gelladula, CBNC



I play baseball during my lunch break. I can talk freely with my bosses, junior colleagues and people from other departments when I'm playing. It helps to build good relationships in the workplace.

Kenji Suzuki, Japan Irradiation Service Co., Ltd.



#### **Environmental Impact Reductions** from Effective Utilization of Resources **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 two thirds 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 FY2012 was around 966 kilotons. The volume of copper slag sold was around 888 kilotons.

Hyuga Smelting manufactures ferro-nickel, a material used in stainless steel. It generated around 854 kilotons of ferro-nickel slag in FY2012. Around 741 kilotons of ferro-nickel slag was sold as a recycled material, its main destination being blast furnaces for steelmaking. With magnesia content of around 30%, ferro-nickel slag is used as a source of magnesia for blast furnace flux. Both copper slag and ferro-nickel slag are also used as substitutes for natural sand in concrete aggregate and public works in ports and harbors

#### Zero Emissions Initiatives at Ome District Division

Supply chain management is indispensable for achieving zero emissions\*. Instead of limiting efforts to minimizing industrial waste emissions during the production stage, primarily through the design of environmentally-friendly production processes, we must also ensure that considerations toward the environmental impact of consumption and disposal are incorporated into the selection and production processes for raw materials. The Ome District Division has been pursuing environmental impact reductions through waste reduction since FY2001. Zero emissions were achieved in FY2003 as the division collaborated with a number of other companies to recycle waste into resources, and this status has been maintained since (except for FY2006).

Employees are highly committed to waste reductions and their efforts in support of thorough waste sorting and recycling contributed to continued zero emissions in FY2012, with 0.01% of waste disposed in landfills.

\* Zero emissions:

#### Making Effective Use of Low-Grade Ores

The plant of CBNC commenced full-scale operations in April 2005. Adjacent to the plant, the Rio Tuba Nickel Mining Corporation nickel mine has excavated nickel oxide ore since its opening. However, while high-grade oxide ore 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 the use of high-pressure acid leaching (HPAL), a hydrometallurgical technique. Large-scale production using this process demands a high degree of equipment engineering and operational skill. Industry players the world over had been struggling with 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 social significance.

In order to make full use of this HPAL technology, SMM embarked on its Taganito Project in 2009. The project entails the construction, in the Taganito District on Mindanao Island in the Philippines, of a large HPAL process plant with an annual production of 30 kilotons of nickel. The project is progressing well and operations are scheduled to get underway in autumn 2013.



A Piles of low-grade ore

When less than 1% of total waste is disposed in landfills.

Landfill disposal rate=volume of waste disposed in landfills/total volume of waste disposed × 100

#### **Recycling of Nickel Metal Hydride Batteries**

SMM engages in the manufacture and sale of materials for the nickel metal hydride (Ni-MH) batteries employed in hybrid vehicles. Since FY2000, we have also been conducting research into the recycling of Ni-MH batteries. With the growing popularity of fuel-efficient hybrid vehicles, demand for Ni-MH batteries, an essential component, has jumped.

SMM anticipated the launch of a used Ni-MH battery collection and recycling operation, and therefore, in 2010, it commenced the recycling of nickel electrode plates at its Niihama Nickel Refinery, becoming the first company in the world to realize "battery to battery" recycling.

By applying nickel manufacturing technologies to the recycling of materials, we are working to ensure effective use of resources and thereby contribute to environmental preservation.

#### Ni-MH Battery Recycling: Flow Diagram



## Using Resources Effectively through Recycling

Besides procuring copper and precious metal scrap from scrap dealers, the SMM Group recovers precious metals and other valuable metals from electric furnace dust, waste circuit boards, and other such items. In FY2012, the recycled materials ratio increased to 3.4% due to an increase in secondary copper materials and electric furnace dust (see Table 1).

Recovery and recycling of copper and its alloys was readily pursued even before the 3Rs (Reduction, Reuse and Recycling) were advocated because of their high scrap value. All the copper shavings are recycled as raw material by manufacturers of electric cables and wrought copper and copper alloy products.

Similarly, the SMM Group collects waste cables and used copper pipes and converts the copper into new resources. In FY2012, recycled copper materials increased gradually to the equivalent of around 74 kilotons of product, or 17.0% of output (FY2011: 15.5%).

For recycled zinc materials, the Harima Smelter switched to "oxide ores only" operation in which 100% recycled materials are used.

#### Table 1 Ratio of Recycled Materials Used

	FY2010	FY2011	FY2012
Total volume of materials used (kt)	6,861	7,107	7,731
Recycled materials (kt)	204	218	263
Recycled materials ratio (%)	3.0	3.1	3.4

#### **Oxide Ores Only**

In April 2012, Harima Smelter switched to an oxide ores only operation to reduce waste and promote recycling. This involves smelting zinc metal without imported sulfide ores through the processing of only recycled oxide ore materials.

The oxide ores used mainly consist of zinc and other materials which group company Shisaka Smelting recovers through the processing of dust generated by steel manufacturers that operate electric furnaces. Using such recycled materials, Harima Smelter has introduced technology for manufacturing zinc material using the imperial smelting process (ISP), a method for simultaneous smelting of lead and zinc, and is working to improve the efficiency of operations.

The Harima Smelter will continue working to reduce waste in Japan and contribute to society through the recovery and recycling of zinc and other valuable metals.



## **Environmental Preservation**

### Targets, FY2012 Achievements and FY2013 Plan

Target	FY2012 Achievements
Continue reducing unit energy consumption by 1% compared to the previous year	<ul> <li>The Technology Division conducted business site patrols, and the Engineering Division provided support as planned (FY2012 scope: Isoura Plant)</li> </ul>
Reduce CO <sub>2</sub> emissions by the entire SMM Group	<ul> <li>Individual divisions carried out energy-saving investment as planned, reducing CO<sub>2</sub> emissions by 16 kilotons and reducing unit energy consumption of the SMM Group in Japan by 4.1% from FY2011 levels</li> </ul>
Reduce final disposal of industrial waste to zero	<ul> <li>Although sales of iron pellets for use in end form increased as a result of efforts to enhance quality and expand sales, demand for usage as an iron source declined, resulting in an overall decrease in sales volume; consequently the total volume of final disposal of industrial waste increased.</li> </ul>
	<ul> <li>In the zinc smelting business, SMM switched to "recycled materials only" operation from FY2012 to reduce the generation of zinc slag</li> </ul>
	<ul> <li>Toyo Smelter &amp; Refinery (copper smelting) invested in facilities enabling the return of precipitate from water treatment to the refining process</li> </ul>
Expand sales of materials used in products with a low environmental impact (1.5 times base year sales) Base year: 2011	<ul> <li>Sales increased by a factor of 1.3 against the base year as demand did not expand to the extent predicted</li> </ul>
	<ul> <li>Conducted measures for alleviating environmental impact using EMS at each workplace</li> </ul>
Advance biodiversity preservation initiatives	<ul> <li>Conducted joint environmental measures with upstream businesses in CBNC and Taganito Project</li> </ul>
	<ul> <li>The Safety &amp; Environmental Control Department visited sites to provide guidance on environmental measures</li> </ul>

#### Expectations for SMM Group

#### Keisuke Takegahara

General Manager, Environmental Initiative & Corporate Social Responsibility-Support Dept., Development Bank of Japan Inc.

In light of continued extreme weather patterns, for the past several years the World Economic Forum (based in Davos, Switzerland) has listed the increase in greenhouse gas emissions among the highest global risks in terms of likelihood in its annual Global Risk analysis. In response to this increasingly pressing issue, you have mapped out a vision to become a company that meets international anti global warming standards through advanced technologies, and have conducted ongoing efforts centered on reducing emissions per production unit. In the 2012 report, you stated our resolve to proactively invest in energy-saving measures. Energy conservation is an important CSR objective in an industry which consumes a large amount of energy, and also sends a positive message that the company is making efforts to improve its corporate value through improved productivity. Another area I would like to look at is your progress towards the Vision for 2020, which you set as a future ideal. From the perspective of recent trends such as Scope 3\* carbon accounting, combating global warming no longer simply involves the single vector of reducing the SMM Group's GHG emissions. Given such developments, I believe contribution through means such as environmentally-friendly products will become increasingly important. I hope you will promote the benefits of combating climate change from a more comprehensive angle.

\* Scope 3: Indirect emissions of GHGs outside the scope of corporate activity. For example, GHGs emitted during procurement of materials, logistics and distribution, product usage and disposal, etc.



### Vision for 2020

#### A company that meets international anti-global warming standards by using advanced technologies

- Zero industrial waste emissions
- An expansion of material business concerning products with low environmental impact (creating, storing, and saving of energy)

Challenges	FY2013 Plan	
Develop projects with high return on investment	<ul> <li>Continue supporting energy conservation initiatives by individual divisions</li> </ul>	
Advance management of unit energy consumption	• Carry out energy conservation measures planned by individual divisions	
at overseas workplaces • Develop strategy for reducing CO <sub>2</sub> emissions	<ul> <li>Advance the identification and improvement of unit energy consumption, including at overseas workplaces</li> </ul>	
	● Begin study of strategy for reducing CO₂ emissions	
<ul> <li>Further refine technology for improving iron pellet quality and continue sales promotions</li> <li>Utilize Toyo Smelter &amp; Refinery's facilities for processing precipitate from wastewater treatment</li> </ul>	<ul> <li>Further expand sales of iron pellets</li> <li>Maintain stable "recycled materials only" operations</li> <li>Advance recycling of precipitate from wastewater treatment at Toyo Smelter &amp; Refinery</li> </ul>	
• Continue efforts to increase quality and expand sales	• Expand sales of materials used in products with a low environmental impact (1.7 times base year sales; base year: 2011)	
	<ul> <li>Conduct education targeting each employee level at the SMM Group in Japan to increase understanding of biodiversity</li> </ul>	
Increase awareness and understanding of biodiversity	<ul> <li>Continue measures for alleviating environmental impact (reduce emissions of chemical substances, conduct comprehensive water management)</li> </ul>	
	<ul> <li>Continue environmental management based on international standards</li> </ul>	

#### Subcommittee Chairman's Comment

### Takashi Sugiura Chairman, Environmental Preservation Subcommittee Executive Officer CSR Executive Officer General Manager, Safety & Environment Control Dept.

The SMM Group's main business of mining development carries the inherent risk of destruction of natural surroundings and environmental pollution if not conducted responsibly. It is for this reason that our company has had a long-held belief that as a very minimum we must conduct our operations in ways that do not harm the livelihoods of local residents, the natural environment, or biodiversity. Based on this principle, we have worked to promote energy conservation by improving the efficiency of our production equipment and processes, and have now reached the stage where we are expanding our view to include the way energy is used and created, and making necessary improvements.

In order to realize our Vision for 2020, it is important that we consider the issues on a company-wide level and change the way we approach problems. In the future, rather than each of the resources, metals, and materials divisions handling issues individually, we will cooperate to tackle specific themes on a company-wide level, utilizing the strengths of each division. We are also studying joint initiatives with other companies as necessary. If our vision was represented by the peak of a mountain, we are still only 30% up the slope. The reason for this is because we have set our sights so high. As we steadily advance our company-wide initiatives, I believe that each of our employees maintaining a strong awareness of environmental preservation in both their work and private lives will help us make major strides toward the peak.





Initiatives in the Six Key CSR Areas Environmental Preservation

#### **Basic Approach**

Many potentially harmful substances are handled by SMM Group businesses during mineral resource processing and manufacturing. Even a small accident carries the risk of seriously affecting local people and the environment. In order to ensure that this risk never materializes, SMM Group emphasizes the need to prevent contamination by supplying equipment and management systems, and by providing training for relevant staff

#### **Daily Management of Exhaust Gas**



▲ Practice emergency drill

Niihama Nickel Refinery has established exhaust gas processing facilities to detoxify sulphur oxides, nitrogen oxides and soot and dust in exhaust gases. Numerous scrubbers have also been installed to detoxify the exhaust gases produced during work processes to leach raw materials and remove impurities. The exhaust gas concentration levels in such equipment are under continuous observation. As the refinery is situated near an urban area, if exhaust gases containing harmful substances were somehow released into the atmosphere, the people in the surrounding areas would be affected. Accordingly, exhaust gas management equipment is used as a matter of course, and observation tools are maintained with the greatest attention to detail.

Gas concentration measurement devices are situated throughout the factory, as every work process involves the use of chlorine gas and hydrogen sulphide gas. The entire work site is continually checked for gas leaks, and we are constructing a system that automatically shuts down the

plant if any problems are detected. We regularly practice how to deal with a gas leak so that we are able to respond quickly if there is ever an abnormal situation.



Shigeki Matsuki Manager, Technical Sect., Niihama Nickel Refinery, Non-ferrous Metals Div.

#### My Way of Doing Good



I've been looking after a moth orchid given to the office as a gift for almost a year. It's like an oasis for the Sales Department. Working steadily on the orchid to make it bloom is a bit like our business.

Mayuka Inoue, Osaka Branch



I really like being able to greet people freely, not only at work, but also people who I don't know who live in the local area.

Mitsuhiro Yamaguchi, Hyuga Smelting Co., Ltd.





▲ Wastewater processing system emergency valve and water tank

The wastewater processing system at SH Electronics Suzhou Co., Ltd. (SHS) is unique, as the wastewater contains cyanide, acid, copper, silver and nickel. After establishment in 2004, SHS introduced the wastewater processing system in order to protect the environment and to meet local regulations. The wastewater is re-used in the manufacturing process as fresh water after being processed by the system. More than 30% of the water is recycled every day.

SHS installed an emergency valve and water tank in 2005 in order to prevent wastewater from leaking externally in the unlikely event of an accident. If necessary, the emergency valve can be closed and the wastewater stored in the water tank. It can then be transported into the wastewater processing system using a pump where it is purified until it can be released.

There are 10 qualified employees in the SHS Wastewater Department. While carrying out their daily duties, sessions are held periodically to

practice what would happen in a worst-case scenario.

Li Hao Manager, Environment Health Safety, SH Electronics Suzhou Co., Ltd.

• • • • •

members.

Annual practice sessions are held in order to learn how to limit the effects, and how to prevent the trouble from spreading in case an incident did ever occur. We are also installing a system that automatically shuts off the discharge if any abnormalities are detected in the wastewater port. We will continue to control environmental risks properly and to strengthen our activities toward risk reduction.

#### **Management of Closed/Suspended Mines**

Since Yoichi Mine was closed in 1963, we have been managing the tailing accumulation site as well as processing groundwater in the mine.



The release of accumulated tailings<sup>1</sup> and the

▲ Inspection of control system at a factory handling mine water neutralization

release of untreated water are recognized as the two major risks for management. As for management of the accumulation site, we have taken on earth and sand produced in river-based conservation work by the Hokkaido government since FY2003 and we are reclaiming wetland areas through reforestation programs. And through promoting the maintenance of mountainside water channels and circuits, we improved drainage functions and reduced the burden on dam bodies<sup>2</sup>.

Remote observation systems for mine water processing were introduced in FY2005. In FY2007, underground storage of mine water<sup>3</sup> became possible due to new water piping, which allowed for regular mine water processing. In case of trouble with the equipment, it is now possible to store water inside the mine to prevent the release of untreated water.

Electricity usage has decreased by 9.8% since 2011 thanks to environmental impact-reducing initiatives by improving operational processes, while operational levels have been maintained.

Since the Great East Japan Earthquake in FY2011, risk

reduction has been incorporated into everyday business processes by means of annual damage limitation practice sessions for earthquakes or tsunamis.



#### Tsuyoshi Takada Senior Staff, Yoichi Office

- 1. Tailings: The residual material left after recovering valuable minerals from an ore; sediment containing low-grade minerals.
- Dam bodies: Dams built to prevent tailing spillage from accumulation sites.
   Underground storage of mine water: Using excavated tunnels to temporarily
- store water inside mines.

#### River Maintenance at THPAL (Philippines)

Every mining company in the Philippines is obligated to participate in the Adopt A River Program<sup>4</sup>. As one such mining company, Taganito HPAL Nickel Corporation



The Watermaster dredging machine

(THPAL) took responsibility for the Hayanggabon River in 2012 and has established a permanent environmental preservation policy for river bank protection work. The Finnish-made Watermaster dredging<sup>5</sup> machine has been installed in response to the urgent need to completely remove silt<sup>6</sup> that



 Before dredging/river bank protection work (above); After dredging/river bank protection work (below)

accumulates in rivers. The river has become cleaner and more transparent as a result of dredging, which is conducted in the 800 m section between the mouth of the river and the tailing dam, in addition to the effect of river bank protection work. We are now planning to deploy the Watermaster in coastal areas and along the Taganito River.

This project promotes harmonization with the local area as part of a strengthened environmental preservation program.



- Hidetoshi Watanabe Risk Management Consultant, Taganito HPAL Nickel Corporation
- Adopt A River Program: A program to clean up and maintain rivers, carried out in cooperation with local villages. The program lasts for a period of three years.
- 5. Dredging: To sweep the base of a river to remove earth and sand.
- Silt: General term for the fine earth and sand deposits in upstream rivers and coastal areas. An influx of silt is the main cause of muddy rivers.

#### My Way of Doing Good



As safety officer in the Drilling Department, my job is to ensure the health and safety of my colleagues working in a cramped and hot environment inside the mines. Outside of the mine, my number one priority is the natural environment and local residents.

Mitsuhiro Kubo, Sumiko Resources Exploration & Development Co., Ltd.



Many women work here. Childcare leave makes it possible to have a job and raise a family. In fact, I first joined the company as a replacement for someone on childcare leave.

Rumiko Teradaira, Shinko Co., Ltd.



#### **Basic Approach**

SMM views climate change due to global warming as a threat to the planet's biodiversity and a serious risk to SMM Group business activities. SMM aims to become "a company that meets international anti-global warming standards by using advanced technologies," as stated in our Vision for 2020. The company is focused on reducing CO<sub>2</sub> emissions generated by business activities.

Our main objective in FY2012 was to promote energy conservation activities with the targets of reducing CO<sub>2</sub> emissions across the entire Group and 1% year-on-year reduction in unit energy consumption, that put forward for environmental preservation, one of the Six Key CSR Areas.

We also put in place an energy management framework, applicable to the entire Group, in line with CSR objectives and in response to 2008 revisions to the Act on the Rational Use of Energy, which oblige business operators to manage energy consumption. Energy management meetings and patrols of each business facility are being conducted mainly by the Technology Division with the goal of stimulating energy conservation activities.

#### **Initiative Examples**

#### (1) Sumitomo Metal Mining Siporex Mie Plant

The Siporex Mie Plant produces construction materials such as autoclaved lightweight concrete (ALC). Steam (heat), electricity and other types of energy are used in vast quantities in the production of ALC. In FY2012, two improvements were made to the use of heat energy.

One improvement was the recycling of heat energy. Autoclaves (steam kilns) are used to produce ALC. Before 2012 what was left over of the steam after heating up one section was discarded. The pipe system and control system have now been remodeled in order to recycle exhaust steam, which is directed from four autoclaves to the next autoclave in the system, where it is put to use.

The second improvement was made by switching fuels. Oil was previously used to fuel boilers, but this has now been changed to city gas. Gas piping construction and boiler remodeling was carried out to accommodate city gas. Since switching to city gas, there has been a drastic reduction in emissions of soot and dust, carbon dioxide and sulfur oxide in comparison to the use of oil. We have also been able to get rid of oil storage facilities and the risk of oil spills and fires has been eliminated.

Based on these improvements, CO<sub>2</sub> emissions from boilers decreased from 8.3 kilotons in 2011 to 7.4 kilotons in 2012. The resulting approximately 3.7% conservation of energy helps to reduce environmental burden and also has benefits in terms of cost reduction.

#### (2) Sumitomo Metal Mining Head Office Building

The Head Office building, which was constructed 30 years ago, has undergone a gradual renewal since 2008, with deteriorating facilities being replaced with the latest energy conservation facilities.

The two absorption refrigeration systems installed in 2008 made a great contribution to summertime air conditioning power reduction after the Great East Japan Earthquake in 2011. Efforts to save power included switching 152 twin fluorescent tube lights to energy saving single lights with reflecting panels, and installing 91 LED illuminators in the underground parking lot. In recognition of what was achieved in FY2011, The Japan Electric Association Kanto Region Electricity Usage Rationalization Committee awarded the SMM Head Office building the excellence prize in FY2012.

Along with the continued introduction of low-energy lighting, air conditioned hot and cold water pumps and air handling inverters were also installed in FY2012. Contracted power has been reduced from 1,200 kW to 1,100 kW thanks to the approximate 150 kW of energy conservation resulting from these initiatives. Energy consumption in FY2012 had a

4.4% year-on-year decrease over FY2011, which brought about a reduction in CO<sub>2</sub> emissions of 118 tons.



Wataru Kataoka, Manager of Facilities, Legal & General Affairs Dept.



#### FY2012 Results

In the Japanese smelting and refining business in FY2012, there was a year-on-year decrease of 12.2% in unit energy consumption over FY2011. This result was due to energy conservation activities and an increase in production output.

There was also a 16 kiloton reduction in CO<sub>2</sub> emissions in the Japanese smelting and refining business as a result of energy conservation activities. However, due to an increase in emission factors by power suppliers (approximately 64 kilotons) and an increase in production output (approximately 47 kilotons), overall CO<sub>2</sub> emissions went up by approximately 95 kilotons over FY2011. Unit CO<sub>2</sub> emissions decreased by 9.1%. Due to production increases at CBNC, overseas CO<sub>2</sub> emissions increased by 19 kilotons.

In FY2013, we are aiming for a 16 kiloton reduction of CO<sub>2</sub> emissions in smelting and refining and other businesses in Japan by means of continued energy conservation activities and new trials.

CO<sub>2</sub> emissions from transportation within Japan, which are indirect emissions, are being reduced through efforts to increase the use of ship transportation and improve load efficiency. In FY2012, emissions during transportation totaled 21 kilotons, a decrease of around 1 kiloton from the previous year. This was a result of a partial replacement of automobile transportation with ship transportation and by decreasing the transportation distance.

#### **Issues and Targets**

SMM has introduced a full range of initiatives for cutting greenhouse gas, primarily CO<sub>2</sub>, emissions generated by business activities, but in order to bring about further benefits, we are going to have to invest considerably in facility and process improvements. Given that the rising of electricity costs and fuel prices has become more pronounced since FY2011, we will also continue to explore initiatives previously set aside as being factors in increasing costs, such as the introduction of renewable energy and switching fuels.

In the smelting and refining business, our energy requirements will inevitably rise due to the degradation of ores, the raw material, and the promotion of recycling. Striking a balance between lessening environmental impact and securing profit will therefore require great resourcefulness, accompanied by technological innovation, and not just an extension of initiatives advanced so far. The SMM Group accepts this challenge, aiming to reduce unit energy consumption by 1% each year.

In view of the changing power situation after the Great East Japan Earthquake, Keidanren (Japan Business Federation) published in January 2013 a revised climate change policy in its "Commitment to a Low Carbon Society." The Japan Mining Industry Association, a non-ferrous metals industrial organization, used this new policy as the basis for announcing the industry target of "a 15% reduction in unit CO<sub>2</sub> emissions by FY2020 in comparison to FY1990." SMM has already achieved this target in the Japanese smelting and refining business, but we are working towards the goal of reducing unit energy consumption by 1% each year, as described above.





\* Unit energy and CO2 emissions index

The amount of energy consumed and CO<sub>2</sub> emitted during the production of 1 ton of product, assuming the FY1990 value to be 1 (including fuels used as reducing agents).

#### CO2 Emissions

FY1990 boundary: smelting/refining business in Japan FY2008–2012 boundary: mining and smelting/refining businesses



\* Direct emissions for both Japan and overseas are calculated using emission factors conforming to the Japanese Act on Promotion of Global Warming Countermeasures. Besides CO<sub>2</sub> emissions resulting from regulated activities, this includes CO<sub>2</sub> emissions resulting from the non-energy activities and the combustion of fuels used as reducing agents, which are not regulated. The figures have been revised for past FY data.

We used to apply a flat emission factor of 0.555 kg/kWh for electric power. For calculations from FY2009, however, we apply emission factors used by electric power suppliers for each year for electricity purchased in Japan. Emission factors for overseas are based on International Energy Agency (IEA) data.

### Initiatives for Reducing Environmental Impact (Indirect Effects of Biodiversity)

#### **Basic Approach**

The history of our copper smelting and refining business, forming the core of the SMM Group, also tells the history of our action against smoke pollution, which manifests as damage to crops caused by sulfur dioxide released during the smelting process. Initiatives for reducing environmental impact have therefore been sustained by successive generations as an essential part of business. The scope of initiatives has also been expanded to encompass issues related to biodiversity preservation, including water usage reduction and other forms of comprehensive water management.

#### **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 precipitate (mining waste) from the mine-affiliated Toyo Smelter & Refinery that undergoes final disposal.

In FY2012, 98 kilotons of waste underwent final disposal, a decline of about 5 kilotons from the previous year. Reasons for this decline include a drop in the amount of zinc slag generated at the Harima Smelter, and an increase in the recycling of wastewater precipitate at the Toyo Smelter & Refinery which, along with other factors, resulted in a roughly 14 kiloton reduction. Meanwhile, an increase in the amount of iron pellets (pellet-shaped solid material containing iron and other elements) generated in the process of recovering zinc from electric furnace dust at Shisaka Smelting, together with a decline in the sale of iron pellets, added roughly 9 kilotons to the final disposal volume.

We will continue efforts to improve the quality of our iron pellets and promote sales, while working to reduce the final disposal volume by increasing the amount of wastewater sludge reused in the refining process (see Fig. 1).

We have summarized the volumes of waste generated at all business sites, including overseas sites, according to the disposal or processing method, whether disposal or processing was performed directly or contracted, and how much of the waste was hazardous and non-hazardous (see Table 1).



Mining Waste in Japan

#### Table 1 Volume of Waste (Hazardous<sup>3</sup>/Non-hazardous<sup>4</sup>) by Disposal or Processing Category (kt)

				(,
		Total	Hazardous	Non-hazardous
Processing method	Recycling	44	2	42
	Landfill	5,612	95	5,517
	Incineration	2	2	1
	Volume reduction, etc.	1	0	0
	Total	5,659	99	5,560
Direct/ Contracted	Direct disposal	5,517		
	Contracted disposal	142		
	method Direct/	Processing method Landfill Incineration Volume reduction, etc. Total Direct/ Optrect/	Processing method Processing Method Processing Incineration Volume reduction, etc. Total Direct/ Direct disposal 5,517	Recycling         44         2           Processing method         Landfill         5,612         95           Incineration         2         2           Volume reduction, etc.         1         0           Total         5,659         99           Direct disposal         5,517

- 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).
- Waste other than harmful waste

#### **Risk Management for Mining Waste**

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

Oxidization of rocks (spoil) containing sulfide minerals can cause acidic water that contains sulfate ions or water containing heavy metal ions and therefore wastewater from mines is properly processed in water treatment facilities before release. The Pogo Mine further alleviates risk by surrounding all mineralized spoil with dehydrated flotation tailings so as to isolate it from the outside environment. Tailings containing chemicals that are a high risk to the environment are stabilized by mixing them with cement for use as backfill, while all other tailings are stored outside the mine after undergoing dehydration to reduce volume. Reducing the volume of the tailings reduces the area required for accumulation sites and alleviates risk related to the structural stability of sites.

#### Soot and Smoke Emissions

SOx emissions increased by around 7% in FY2012 compared to FY2011. Although Hyuga Smelting worked to reduce emissions through more efficient fuel use, in FY2012, in addition to increased capacity utilization, the increased processing of in-stock intermediates with higher sulfur content, and the use of high-sulfur coal resulted in a net increase. Coral Bay Nickel Corporation (CBNC), meanwhile, realized a reduction of around 30% from FY2011 through the use of higher-grade coal. Despite increased capacity utilization, Toyo Smelter & Refinery managed its operations efficiently, resulting in no net change from FY2011 (see Fig. 2).

NOx emissions increased by around 4% compared to FY2011. Fuel use coinciding with the Harima Smelter's switch to oxide ores-only operations had a particularly significant impact on NOx emissions (see Fig. 3).

Soot and dust emissions have been tabulated and disclosed in this report for business sites in Japan since FY2010 and CBNC since FY2011. Through the use of higher-grade coal, as noted above, CBNC achieved a significant reduction in soot and dust emissions as well, bringing emissions for the entire Group down by roughly 11% (see Fig. 4).

## Fig. 1 Final Disposal Volumes<sup>1</sup> of Industrial and

#### Fig. 2–6

Toyo Smelter & Refinery Niihama Nickel Refinery Shisaka Smelting Harima Smelter
 Hyuga Smelting CBNC All mining operations



Fig. 3 Volume of NOx Emissions





#### **COD and BOD Pollutant Loads**

Many SMM Group sites face onto Japan's Seto Inland Sea and are subject to controls on the total amounts of chemical oxygen demand (COD), nitrogen and phosphorus emissions under the Act on Special Measures Concerning Conservation of the Environment of the Seto Inland Sea.

COD in FY2012 decreased slightly from the previous year. Toyo Smelter & Refinery has identified no significant reasons for this decrease, and considers it to be within the range of variation of its measuring instruments (see Fig. 5).

#### Fig. 5 COD and BOD<sup>6</sup> Pollutant Loads



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

#### Water Usage

0

2009

Freshwater usage increased modestly as a result of increased production activity across the Group. Seawater usage in FY2012 declined to less than that in FY2010, when production of electrolytic copper at the Toyo Smelter & Refinery was lower (usage in FY2011 dropped considerably due to plant suspension for full furnace renovation work). Use of seawater for cooling decreased at the Harima Smelter as a result of eliminating sulfuric acid in conjunction with the switch to oxide ore-only operations (see Fig. 6).

The SMM Group has commenced initiatives to reduce water usage with a view to preserving biodiversity, and is re-examining its water usage at each of its business sites.

#### Fig. 6 Water Usage (Freshwater/Seawater)



2010

2012

(FY)

2011



#### **Chemical Substance Releases and Transfers**

The following is an overview of FY2012 releases and transfers of chemical substances in Japan managed in line with the Pollutant Release and Transfer Register (PRTR) system.

The SMM Group had 25 data-submitting sites (26 in FY2011) and 39 substances requiring registration (40 in FY2011).

The total release and transfer volume (releases + transfers) rose considerably, to 2,831 tons, due to an increase in transfers. The transfer of manganese increased by around 580 tons as a result of an increase in the final disposal of iron pellets, which contain manganese, generated in the process of recovering zinc from electric furnace dust at Shisaka Smelting, and an increase in the manganese content of zinc slag processed as industrial waste from the Harima Smelter (see Fig. 1).

While the total release of chemical substances into the atmosphere and water decreased, the amount of arsenic compounds in wastewater sludge sent to company landfills increased (see Fig. 2).

No ozone-depleting substances were released from production processes of the SMM Group.



#### Fig. 1 Total Transfer and Release of PRTR Substances





#### **Issues and Targets**

To reduce the amount of industrial waste that undergoes final disposal, we will strive to improve the quality of our iron pellets and expand sales channels to electric furnace manufacturers.

To curb SOx and NOx emissions, we need to procure as much low-sulfur and low-nitrogen fuel as possible, as the amount of sulfur and nitrogen in coal used as fuel and a reducing agent has an impact on direct emissions of these substances. CBNC will continue efforts to curb emissions. Hyuga Smelting, meanwhile, is looking into alternative fuels, considering the sulfur content of coal.

To optimize water use, we will continue to strive for a more precise water balance while making longer-term efforts.

To achieve further reductions in PRTR substance releases into the atmosphere, we will take all available steps, including improvements to environmental facilities as well as more stringent operational management, while aiming to meet medium- and long-term targets. We are also trying to find alternatives to cleaning agents with volatile organic compounds (VOCs) for the cleaning of materials.

PRTR substance transfers are strongly linked to changes in the final disposal volume of iron pellets\* generated at Shisaka Smelting, given the amount of chemical substances this material contains. For this reason, we will continue efforts to improve the quality of iron pellets and continue to promote their sale.

\* Iron pellets: pellet-shaped solid material containing iron and other elements left over after recovery of zinc from electric furnace dust generated by electric furnace manufacturers.

#### SMM Group's FY2012 PRTR Substance Release and Transfer Volume

	Releases				(t) Transfers	
Chemical substance*	Atmosphere	Water	Soil	Landfill	Sewerage	Waste
Zinc compounds (water-soluble)	0.0	1.2	0.0	0.0	0.0	0.1
Antimony and its compounds	0.0	0.0	0.0	0.0	0.0	1.3
Asbestos	0.0	0.0	0.0	0.0	0.0	1.7
Ethylbenzene	0.1	0.0	0.0	0.0	0.0	0.2
Ferric chloride	0.0	0.0	0.0	0.0	0.0	0.5
Cadmium and its compounds	0.0	0.1	0.0	2.5	0.0	0.2
Xylene	1.3	0.0	0.0	0.0	0.0	0.1
Silver and its water- soluble compounds	0.0	0.0	0.0	0.0	0.0	0.5
Chromium and chromium(III) compounds	0.2	0.1	0.0	0.0	0.0	107
Cobalt and its compounds	0.0	0.0	0.0	0.0	0.0	1.7
Inorganic cyanide compounds	0.3	0.0	0.0	0.0	0.0	0.1
Dichloromethane (methylene dichloride)	11	0.0	0.0	0.0	0.0	0.5
Selenium and its compounds	0.0	0.0	0.0	0.2	0.0	0.0
Copper salts (water-soluble)	0.0	0.4	0.0	0.0	0.0	9.1
1,2,4- trimethylbenzene	0.2	0.0	0.0	0.0	0.0	0.0
Toluene	2.3	0.0	0.0	0.0	0.0	7.8
Naphthalene	0.0	0.0	0.0	0.0	0.0	2.0
Lead	0.0	0.0	0.0	0.0	0.0	250
Lead compounds	2.3	0.0	0.0	0.1	0.0	27
Nickel	0.0	0.0	0.0	0.0	0.0	3.8
Nickel compounds	0.8	0.5	0.0	1.7	0.0	55
Arsenic and its inorganic compounds	0.1	0.3	0.8	14	0.0	47
Hydrogen fluoride and its water-soluble salts	0.0	8.3	0.0	0.0	0.0	0.0
Water-soluble salts of peroxydisulfuric acid	0.0	0.3	0.0	0.0	0.0	1.7
Boron compounds	0.0	72	0.0	0.0	0.0	2.6
Polychlorinated biphenyl	0.0	0.0	0.0	0.0	0.0	8.0
Formaldehyde	0.0	0.0	0.0	0.0	0.0	4.0
Manganese and its compounds	0.0	0.5	0.0	0.0	0.0	2,160
Methylnaphthalene	0.7	0.0	0.0	0.0	0.0	1.8
Molybdenum and its compounds	0.1	0.0	0.0	0.0	0.0	14
						(mg-TEC
Dioxins	110	0.0	0.0	0.0	0.0	69

\* Of 39 registered substances, only those with release/transfer amounts of 0.1 tons or above are shown. (Does not include dioxins.)

## Material Flows within Business Activity

The SMM Group ascertains the amount of resources and energy it consumes, as well as the Group's overall environmental impact in quantitative terms, and carries out various activities to lower environmental impact. Here we summarize the inputs and outputs to and from operations in Japan and overseas during FY2012.

	Raw Materials <sup>1</sup>			Recycled Materials <sup>2</sup>
	Gold and silver ore	947 kt	ALC raw material,	Copper scrap 90 kt
NPUT	Copper concentrates 1,	521 kt	incl. silica rock 190 kt	Secondary zinc 51 kt
	Nickel oxide ore 4,	731 kt	Raw material for	Secondary precious metals 3 kt
esources & Energy	Nickel matte, etc.	36 kt	metalworking 1 kt	Scrap for metalworking 1 kt
			Hydrotreating catalyst	Electric arc furnace dust 118 kt
			raw material 41 kt	ALC waste 401 t
Energy <sup>3</sup>			Materials	Water
Heavy fuel oils	58,891 kl (2,431,732 GJ)		Silica sand (for copper smelting)	Freshwater total 31,777 MI
Coal/coke	411,633 t (10,902,345 GJ)		145 kt	Industrial water 13,545 MI
Wood pellets	4,196 t (74,689 GJ)		Chemicals (lime-based) 724 kt	Groundwater 9,837 MI
Diesel/gasoline/kerosene	26,369 kl (989,972 GJ)		Chemicals (sodium-based) 50 kt	Tap water 2,064 MI
LPG/LNG	8,668 t (440,313 GJ)		Chemicals (magnesium-based)	Surface water 6,332 MI
City gas	1,666 MI (75,422 GJ)		12 kt	Seawater 155,155 MI
Purchased electricity 1,78	6,644 MWh (17,388,475 GJ)		Cement etc. 71 kt	

(1,837 GJ)

### OUTPUT **Products & Emissions**

Purchased steam

Products <sup>1</sup>			
Electrolytic copper	436 kt	Crude zinc oxide	4 kt
Gold	25 t	Ferro-nickel	107 kt
Dore	10 t	Sulfuric acid	888 kt
Silver	213 t	Slag	1,818 kt
Electrolytic nickel	41 kt	Processed metal products	1 kt
Nickel sulfate	9 kt	Hydrotreating catalyst	8 kt
Electrolytic cobalt	3 kt	ALC (Siporex)	405 MI
Prime western grade zinc	50 kt	Recycling-derived products ratio	3.45%

Emissions into the Atmosphere				
CO <sub>2</sub>	2,638 kt			
Direct emissions <sup>4</sup>	1,556 kt			
Indirect emissions <sup>5</sup>	1,061 kt			
Emissions during transp (Japan) <sup>6</sup>	ortation 21 kt			
SOx	1,743 t			
NOx	830 t			
Soot and dust	157 t			
PRTR substances	20 t			

#### **Emissions into Water** Total wastewater 186,205 MI Emissions into seas7 178,263 MI Emissions into rivers 6,470 MI Underground seepage 95 MI Sewerage, etc. 1,377 MI COD (chemical oxygen demand) 57 t BOD (biochemical oxygen demand) 6 t Total phosphorus 1 t Total nitrogen 84 t PRTR substances (discharged into public water areas) PRTR substances (discharged into the soil or in landfills within business premises) 84 t 19 t

Waste (including items of value)						
Total waste	5,659 kt					
Landfill on premises	5,517 kt					
Breakdown of total waste						
Spoil	518 kt					
Flotation tailings	693 kt					
Wastewater sludge from CBNC, etc.						
	4,302 kt					
Industrial waste (Japan)	138 kt					
Other	8 kt					
PRTR substances <sup>8</sup>	2,708 t					

The switch to oxide ore-only operations for zinc production has eliminated the use of zinc and lead concentrates and production of electrolytic lead.

Does not include materials recycled inside plants.

Calorific values for both Japan and overseas are calculated using coefficients conforming to the Japanese Act on the Rational Use of Energy. Fuels used as reducing agents are also included. Figures in parentheses indicate the primary 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 4. Besides CO2 emissions resulting from regulated activities, this includes CO2 emissions (246 kt-CO2) resulting from non-energy sources, which is not regulated.

5. Emission factors used by electric power suppliers are employed for electricity purchased in Japan. 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 of Energy and the Act on Promotion of Global Warming Countermeasures. Emissions into rivers flowing into enclosed seas are included as "emissions into seas

8. Total transfers to sewerage and off-site transfers

1,801 GJ



#### **Basic Approach**

The SMM Group is making every effort to reduce the environmental impact of its manufacturing, distribution and other business activities. The Group also makes use of technology and knowledge related to metals and minerals gathered over the years through the manufacture of non-ferrous metals to maximize the unique potential of each material.

We are also strengthening SMM Group supply chains to increase our involvement in efforts to reduce the environmental impact of final product use.

#### **Expansion of Energy-related Materials Business**

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 the domains shown in the diagram below relating to the creating, storing, and saving of energy.

The Battery Materials Department of the Materials Division manufactures positive electrode materials for nickel metal hydride batteries used mainly in hybrid vehicles, and positive electrode materials for lithium batteries used in electric vehicles and other products.

Hybrid vehicles are vehicles that use regenerative brakes and other electric generation systems to turn mechanical energy during coasting and deceleration into electrical energy. This electricity is stored in an on-board battery, and then used to power an electric motor that assists the engine during starts and acceleration. Recapturing and storing previously wasted energy for later use in this way has the effect of enhancing the vehicle's energy efficiency. Hybrid vehicles that use this technology have a fuel economy that is, on average, 20% better than their gasoline-only counterparts, and therefore emit proportionally less CO<sub>2</sub> and have a commensurately smaller environmental impact from driving.

Electric vehicles, on the other hand, are vehicles that use a battery and motor in place of gasoline (or other fuel) and an internal combustion engine. Unlike hybrid vehicles, which generate their electricity inside the vehicle, electric vehicles store in their on-board battery electricity that is generated outside the vehicle. As a result, the environmental impact of driving an electric vehicle is about the same as the environmental impact of a power plant. Generally speaking, electric vehicles emit less CO<sub>2</sub>—and therefore have a smaller environmental impact during use—for every kilometer driven than a gasoline-engine vehicle.

As mentioned above, both hybrid vehicles and electric vehicles need to store energy in the form of electricity, and so they both have a battery for that purpose. Most hybrid vehicles today are fitted with a nickel-metal hydride (Ni-MH) battery. Ni-MH batteries use nickel hydroxide as a positive electrode material and what is called a hydrogen storage alloy, an alloy of nickel and lanthanum or other rare earth metal, as a negative electrode material. SMM manufactures the nickel hydroxide that goes into making the positive electrode.

Because electric vehicles do not have an engine and therefore use only electricity to propel the vehicle, they are equipped with a lithium-ion (Li-ion) battery, which can store more electricity than a Ni-MH battery. Li-ion batteries use a chemical compound combining lithium oxide and one or more metal oxides such as nickel and cobalt, as a positive electrode material, and carbon, which can store lithium ions, as a negative electrode material. SMM manufactures the metal oxide compounds that go into making the positive electrode.

The demand for environmentally friendly vehicles such as the hybrid and electric vehicles discussed here is expected to grow more and more as time passes. By supplying battery materials for these vehicles, SMM believes it can make an important contribution to reducing the environmental impact of automobiles.

By capitalizing on technologies for synthesizing inorganic materials based on the refining techniques we have cultivated over the years, and by conducting more efficient production that integrates the refining of nickel and cobalt from ore with the final synthesis of battery materials, we also hope to contribute to reductions in the environmental impact of battery material manufacturing.





#### **Basic Approach**

Mineral resources business operators cannot choose where to operate as they are only able to mine where there are ore deposits. This is one major difference from other industries. Incorporating environmental considerations into business activities is therefore a challenge for mineral resources business operators that will go on indefinitely.

These operators must also endeavor to restore the land to its original state on closure of a mine. Smelting and refining, a core business of the SMM Group, is another industry in which due consideration of the environment is required, as the history of smoke pollution shows.

The SMM Group acknowledges that it cannot do business without environmental initiatives. When planning a new operation, we carry out detailed studies in advance on the expected environmental impact and take appropriate action according to those findings.

SMM's Hishikari Mine, where production of ore began in 1985, is today the only metal mine in Japan operating on a large scale. Prior to the start of operations, we carried out a voluntary environmental assessment, steps ahead of Japanese domestic legislation at the time.

SMM also advances initiatives relating to biodiversity and ecosystem services<sup>1</sup>, acknowledging that the type of business we are involved in makes it paramount that we consider both the direct impact of new projects and the indirect impact of factors such as emissions of CO<sub>2</sub> and various kinds of chemical substances from existing businesses.

#### **Biodiversity Considerations**

The preservation of biodiversity, or the intricate balance of all living things, is often put forward as a major environmental challenge.

Both mining businesses operating in the midst of nature and smelting or refining businesses with their varied environmental aspects have an impact on biodiversity, whether directly or indirectly.

In addition to reducing the various environmental impacts of existing facilities, due consideration is paid to the surrounding environment for all projects undertaken by the SMM Group. This consideration starts at the design stage and is made in accordance with laws as we conduct development and operations. It is also our basic policy to engage in adequate communication with citizens of local communities and governments at national and regional levels, and to disclose information where permissible as requested by citizen groups and other parties.

For projects over a certain size, checks are undertaken to determine whether there is any risk of biodiversity being undermined. If it is determined—through third-party environmental surveys performed prior to development that development and business activities in a locality will have a significant impact on rare species, then we will prepare and implement management plans for preventing or minimizing, restoring and compensating that impact. No localities have required preparation of management plans as a result of preliminary environmental surveys pertaining to current projects (see Table 1).

The SMM Group has always paid due consideration toward the protection of nature in the running of our business and we will continue with efforts to preserve biodiversity based on the above approach.

#### Hishikari Mine Surveys of Protected Species

The Sendai River running through Isa, Kagoshima Prefecture, where the Hishikari Mine is located, is home to *chisujinori* (*Thorea okadae*)<sup>2</sup>, a threatened red algae protected as a Japanese natural monument, and *kawagoke-so* (*Cladopus japonicus*)<sup>3</sup>, a riverweed designated as a prefectural natural monument.

The Hishikari Mine carries out independent monitoring of *chisujinori* and *kawagoke-so* growth and reports findings to government authorities and local citizens.

- Ecosystem services: Benefits for humans provided by ecosystems. The benefits are broad and include the provision of physical materials and regulation of the environment.
- 2. Chisujinori (Thorea okadae): A protected freshwater algae species endemic to Japan belonging to the Thoreaceae red algae family and whose distribution is limited to select rivers in central and southern Kyushu. It grows mainly in flowing water, clinging to rocks and trees. The Japanese name (lit. "blood-vessel moss") comes from its similarity in color and shape to blood vessels.
- 3. Kawagoke-so (Cladopus japonicus): A rare algae-like plant found in Japan only on the island of Yakushima and in parts of mainland Kagoshima Prefecture and Miyazaki Prefecture. It grows in fast-flowing rivers in tropical and subtropical areas, adhering to bedrock and large loose rocks. As the plant can only grow in clear rivers with extremely high water quality, it serves as an indicator of river pollution and other environmental change.

# Table 1 Business Activities in Areas of High Biodiversity Value<sup>4</sup> Area Size of production site (1,000 m<sup>2</sup>) Details Seto Inland Sea 620 (Minoshima & lenoshima islands) Shisaka Smelting operates on Minoshima and lenoshima islands, neighboring Setonaikai National Park (IUCN Category 2) 4. Protected areas cla and above by the Ir Conservation of Na neighboring areas (Areas classified as Shisaka Smelting operates on Palawan Island (in hunting-prohibited and bird protection areas (IUCN Category 4))

 Protected areas classified as Category 4 and above by the International Union for Conservation of Nature (IUCN) and neighboring areas (SMM research). Areas classified as Category 1 are of highest priority.

(hectares)

#### Amount of Land Disturbed or Rehabilitated

	A Total area of land disturbed but not rehabilitated (as of the end of FY2011)	B Area of land newly disturbed in FY2012	C Area of land newly rehabilitated in FY2012	D Total area of land disturbed but not rehabilitated (A+B-C)		
Hishikari Mine	21.8	0	0	21.8		
Pogo Mine	<b>132</b> <sup>5</sup>	26	0	158		
CBNC	371	57	79	349		
THPAL	277.5	0	0	277.5		

5. Area calculation has been revised.

#### Biodiversity Considerations at Mines and Refineries

Initiatives in Development of the Pogo Mine The Pogo 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 that comes into contact with chemicals during the 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 prohibiting traffic not related to the mine.



Fish are caught in a river near the Pogo Mine for monitoring

Environmental Considerations in Operations at Coral Bay Coral Bay Nickel Corporation (CBNC) in the Philippines

produces intermediates used in the manufacture of electrolytic nickel.

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 undertaking various procedures before submission of an Environmental Impact Assessment (EIA) summarizing the environmental effects to the DENR.

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 2005 based on an environmentally responsible design certified after passing through such procedures (See Fig. 1). The refinery has set up an Environmental Management Office (EMO) to promote environmental initiatives in operations.

Besides environmental surveys by the EMO, a team of representatives from organizations such as the DENR, local authorities and NGOs carry out regular sampling of air, water, flora and fauna, ensuring ongoing monitoring of the environment.

#### Fig. 1 ECC Acquisition Process





▲ Monitoring near the CBNC pier

#### Initiatives for the Taganito Project

SMM is building a nickel refining project (the Taganito Project) in the Taganito District of north-eastern Mindanao Island in the Philippines, aiming for a start of commercial operations in autumn 2013. As the site for the plant was already being used to grow coconuts, we expected the impact of the project on surrounding ecosystems would be small. A preliminary survey of flora and fauna by outside experts discovered no rare species on the construction site itself. However, a number of wildlife species in the surrounding area, where there is potential for adverse environmental effects as a result of the plant development, are included on red lists of endangered species issued by the International Union for Conservation of Nature (three bird species and one mammal species) and the Philippine government (eight plant species).

Although the plant vicinity has not been designated an important habitat (a habitat that, if damaged, will threaten the survival of the species) for any of these species, we are monitoring the area based on the plant's environmental impact statement (EIS) from the perspective of biodiversity preservation. The project will be advanced cautiously while ensuring that plant construction and operations do not have a significant impact on ecosystems and minimizing the environmental impact of wastewater and other factors.



#### **Business Site Organizations**

Every year, the company president sets targets (SMM Group environmental targets) in consideration of Group-wide objectives such as pollution prevention. Business sites and Group companies of each business division play a lead role in advancing environmental preservation activities of the SMM Group for the purpose of achieving the president's targets. Through environmental management systems established according to the ISO 14001 standard, each place of business adopts specific targets and plans and seeks continual improvements while executing the PDCA (Plan-Do-Check-Act) cycle.

Each place of business sets targets and takes action on specific themes, including:

- Pollution prevention (environmental risk reduction/control)
- Compliance with environmental laws and acts
- Biodiversity preservation (environmental impact reduction, environmental management based on international standards)

Business divisions and the Safety & Environment Control Department at the Head Office collect and analyze performance data and urge corrective action as required.

#### **Support for Business Sites**

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. Environmental care activities involving visits to these sites to check up on initiatives for lowering the risk of environmental accidents have been carried out since FY2008.

During environmental care activities, the Safety & Environment Control Department uses checklists to make sure there are no outstanding issues relating, for example, to chemical substance management procedures at each stage—acceptance, storage, management, monitoring and measurement, and disposal—or to the education of employees who handle the substances, and performance. Actual procedures are confirmed on site and issues (areas for improvement) are identified. Reports on findings are prepared in order to share issues among site representatives and heads of related divisions.

In FY2012, 17 sites underwent such checks. Detailed management and on-site checks were performed, identifying issues and recommendations.

#### **Environmental Education**

We seize every available opportunity to provide education, covering introductions to environmental issues through to seminars on maintenance and management practices. We also encourage acquisition of pollution control manager and other public environmental qualifications by employees.

#### On-site Introductory Education

Education is provided to raise awareness among newly graduated and mid-career employees, helping them to acknowledge the importance of environmental preservation and recognize the direct influence of day-to-day tasks on environmental matters.

After placement, employees undergo education programs that are determined according to the needs of each workplace. Programs might include education relating to work procedures for avoiding environmental impact, chemical substances, and environmental preservation activities in the workplace and their respective roles, as well as emergency drills.

#### Environmental e-learning

An e-learning course dealing with principal environmental legislation was launched in the second half of FY2008 with the objective of raising levels of compliance. By the end of the year, more than 1,900 people had taken the course, which is intended for administrators and supervisors of environmental management processes as well as internal environmental auditors. We will update the course by modifying content to reflect law revisions, ensuring its continued effectiveness as a tool for learning by newly appointed internal environmental auditors and other personnel, for confirming regulations and statutory limits, and for education about laws relating to workplaces.

#### Internal Environmental Audit Seminars

This is a program for training internal auditors, who play a central role in environmental management activities, taking responsibility, for example, for performing internal audits of their respective divisions. Participants who pass a final examination after completing the two-day curriculum become certified auditors. In FY2012, the seminar was held six times for a combined 104 participants, bringing the number of internal environmental auditors to more than 2,250 people.
# **Chemical Substance Management** in the Materials Business

Given the countless situations in which chemicals are handled in the SMM Group, each business site has its own chemical substance management framework operating under the direction of the division to which it is affiliated. When the opportunity to use a new chemical arises, information on the hazards it poses and on its regulatory requirements is gathered beforehand and its adoption is decided in an on-site committee meeting (see Fig. 1). Regardless of legal and regulatory obligations, a GHS<sup>1</sup> label<sup>2</sup> and SDS<sup>3</sup> are attached to all chemicals supplied to downstream operations.

Semiconductor materials and advanced materials, including those with a low environmental impact, are incorporated into electrical and electronic products and circulated widely to domestic and foreign markets. SMM therefore places importance on communication with its supply chain, and in addition to the management activities mentioned above, promotes green procurement from suppliers and answers surveys from customers on chemical content

Some of our material products are ultimately exported to countries within the European Union (EU) after finding their way into our customers' products via the supply chain. The SMM Group also works to comply with regulations in the EU, where the RoHS Directive<sup>4</sup> and REACH Regulation<sup>5</sup> have been adopted with the primary goal of safeguarding human health and the environment.

As a result of the RoHS Directive, the use of six substances—lead, mercury, cadmium, chromium (VI), polybrominated biphenyl (PBB), and polybrominated diphenyl ethers (PBDE)—is now prohibited in all electrical and electronic devices marketed in the EU. As one example of how the SMM Group has worked to comply with the RoHS Directive, SMM has made efforts to shift to lead-free products, managing to commercialize lead-free solders as well as pastes employing resistive glass, a focal product group.

The REACH Regulation includes a system for authorizing -by type of use-the manufacture, import, and use of chemicals substances that have a high social utility and have no feasible alternatives, but only under controlled situations that prevent exposure and sufficiently mitigate

#### Fig. 1 Management Framework for Adopting New Chemicals

risk. Faced with a growing list of chemical substances requiring authorization, the Materials Division keeps track of when substances are placed on the Candidate List (the step before they are made to require authorization) and, for substances that are present in our products, immediately starts exploring ways to comply with the regulation.

Given our responsibility to maintaining a supply of materials, these considerations sometimes lead us to develop products that use alternative substances, and promote a broad transition to the alternative based on customer feedback.

- GHS (Globally Harmonized System of Classification and Labeling of Chemicals): A system for classifying and communicating chemical hazards according to type and degree and in accordance with globally harmonized rules. Hazards are communicated via SDSs and easily understandable symbols
- 2. Label: A term encompassing all printed and/or graphic elements that convey the hazard information of a product. Labels in the SMM Group are selected based on the divisions that use them and are affixed, printed, and/or attached directly to the container or outer packaging of the hazardous substance.
- SDS (Safety Data Sheet): A succinct document providing information on the 3. physical and safety characteristics of a chemical to ensure that it is handled safely
- RoHS Directive: The Restriction of Hazardous Substances Directive. REACH Regulation: The Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals.

## **Issues and Targets**

No major spills or environmental infringements (against international treaties, covenants, laws or ordinances) occurred during FY2012.

However, we have not eliminated close-call events which could directly lead to accidents, such as chemical spillage in our facilities

All business sites will continue efforts to raise the quality of management by following the PDCA cycle for their respective environmental management systems. At the same time, the Safety & Environment Control Department has drawn up a three-year plan starting in FY2013 to further expand its environmental care activities to include support for all business sites worldwide. In FY2012, it conducted checks at four overseas business sites, thus beginning the plan ahead of schedule. It will continue performing these checks to ensure ever-tighter management of chemical substances.





# **Contribution to Society and Local Communities**

# Targets, FY2012 Achievements and FY2013 Plan

	Target	FY2012 Achievements
local communities	Support the development of human resources in local communities	<ul> <li>Continued support for Niihama Manufacturing Industry Promotion Center, including staff dispatch</li> <li>One Chinese student accepted for FY2013</li> <li>Funds donated and memorandum concluded with NGO to support school attendance for impoverished people in Manila</li> </ul>
s that are embedded in	Contribute to maintaining and developing the living conditions, culture and traditions of local communities without impeding their independence or harmony	<ul> <li>Renovation of Sumitomo Besshi Hospital in Niihama, management of schools and hospitals in the Philippines, donations of funds for infrastructure business and infrastructure facilities in Japan and overseas at SMM business locations</li> <li>Contribution to Keidanren Nature Conservation Fund, and cooperation toward art exhibition at Sen-oku Hakuko Kan and special exhibition at Besshi Copper Mine Memorial Museum</li> <li>Donations to universities and research organizations</li> </ul>
Engage in support activities that are embedded in local communities	Have employees also actively participate in social contribution activities	<ul> <li>In-house recognition for CSR activities</li> <li>"Things we should know about societal issues" column newly-established in in-house bulletin</li> <li>Product display and sales event for the intellectually disabled</li> <li>Established a panel to support learning opportunities at SMM Strategy Planning Training Center for impoverished people in Manila with help of NGO</li> <li>Agreement made with workers' union to increase volunteer leave (seven days per annum)</li> </ul>
Provide support for recovery and reconstruction after arge-scale disasters	Implement as many assistance measures as possible to help with recovery and reconstruction following devastating disasters anywhere in the world	<ul> <li>Contributed funds to help with flooding and typhoon damage in the Philippines, earthquake damage in the Solomon Islands and flooding damage in northern Kyushu</li> </ul>
Provide : recovi reconstru large-scal	Provide ongoing assistance to victims of the Great East Japan Earthquake	<ul> <li>Contribution to education fund for the three disaster-struck prefectures (Iwate, Miyagi and Fukushima)</li> </ul>

# Expectations for SMM Group

Yoko Takahashi President, Japan Philanthropic Association

Problems are mounting up for not only the area affected by the Great East Japan Earthquake, but also Japan and the whole world. The highly detailed activities of various NPOs, in addition to the efforts being made by governments, are the source of value creation for a new society. Recently, we have seen greater cooperation between different sectors—such as government, business and NPOs—which is proving to be an effective way of solving these challenging societal issues. It's clear from this report that a wide range of activities have been developed to meet the needs of different regions, and that great effort is being made toward integration with local communities. The next stage requires a unified worldwide focus for the SMM Group based on these achievements. This will enable high-impact problem solving and improved external information transmission and receptivity, and at the same time, increase the pride and loyalty employees have toward SMM. As employees build face-to-face relationships by getting involved in various local activities, I hope SMM Group will carry out friendly and productive contribution activities as important members and colleagues in the community.



# Vision for 2020

A company in which employees are proud to work along with the company on social contribution activities rooted in the area

Challenges	FY2013 Plan
<ul> <li>Overall human resources development support achievements for the entire SMM Group not yet obtained</li> </ul>	<ul> <li>Support activities are still in progress</li> <li>Information about human resources development support for the entire SMM Group is being obtained and sorted</li> </ul>
<ul> <li>Needs-based support</li> </ul>	<ul> <li>Support is being given according to need</li> <li>Support for other cultural and educational activities in connection to SMM business</li> </ul>
<ul> <li>Establish a culture that encourages familiarity with social contribution activities</li> </ul>	<ul> <li>Increase recognition for CSR activities</li> <li>Introduce examples of employees who have contributed to society and who have taken volunteer leave</li> </ul>
<ul> <li>Implement support more quickly</li> </ul>	<ul> <li>Consider appropriate donation recipients and donation methods in advance with regard to support for natural disasters at business locations</li> <li>Support NGOs carrying out disaster rescue missions in the Philippines</li> </ul>
<ul> <li>Support according to the needs of the disaster-affected areas</li> </ul>	<ul> <li>Continue scholarship support</li> </ul>

# Subcommittee Chairman's Comment

Kazushi Ino Chairman of the Corporate Citizenship Subcommittee; General Manager of Legal & General Affairs Dept.

A company is, by its nature, a part of society. Moreover, our business exists thanks to the Earth's productivity. It is obvious that our appreciation for our place in society should move us to give something back to society, the nation, and to nature. Sumitomo will place importance on winning the trust of society and maintaining all relationships of mutual trust, and will respond to all matters with integrity and assurance, so as to achieve the steady development of its business operations. Each one of us as individuals who work for the SMM Group should want to embody the Sumitomo business spirit. I hope that each and every employee remains conscious of the need to display that sense of gratitude in any situation. By so doing, the course you should take will naturally reveal itself.

We have continually offered cultural support, and support at SMM business locations, as well as support for areas affected by natural disasters such as the Great East Japan Earthquake. There are many challenges ahead of us as we try to become the "ideal company." The contribution (including numerical targets) that we can make as a "World Leader in the Non-ferrous Metals Industry" and as an "Excellent Company of Japan" is a subject for consideration, and will be included in the specific targets for 2014.





Initiatives in the Six Key CSR Areas Contribution to Society & Local Communities

# **Basic Approach**

The SMM Group has long been contributing to local communities while advancing its business, not only by securing housing for employees and their families, but also by supporting infrastructure that benefits the entire region in such a wide range of areas as medical care, education and culture. We have also shown concern for regional environments. SMM Group continues to

# **Contributions to Maintaining and Developing the Living Conditions, Culture** and Traditions of Local Communities

#### **Supporting Drinking Water Plant Construction in Peru**

A ceremony attended by President Ollanta Humala of the Republic of Peru was held on July 24, 2012, to mark the completion of a drinking water plant in Arequipa city. The Sociedad Minera Cerro Verde (SMCV) company,



▲ Supporting drinking water plant construction

which operates the Cerro Verde mine (16.8% owned by SMM), provided US\$90 million to fund this construction. The plant produces 1.5 tons of drinking water every second, providing water and sewer services to approximately 500,000 local residents for the first time (in the future, the plant will be able to produce 3 tons a second). Management of the plant is handled by a public water services corporation and a private association. SMCV is supporting the cultivation of professional engineers. All of this is helping to create jobs.

SMCV is proactively and voluntarily involved in social contribution activities, which encourages coexistence and mutual prosperity with local communities. As a partner company, SMM contributes to the activities and takes them as a model when we implement independent development in the future.



Daijiro Uehara General Manager, SMM Peru

#### **Contributing to Local Communities in Solomon**

Nickel explorations in the Solomon Islands began in 2006. Environmental and social baseline studies and impact assessments, mineral deposit modeling, mine planning,

facilities design and pre-feasibility studies for premised mine development have been conducted since 2010. In 2012, mining rights were requested for three of the five mining sites acquired that had been approved for social and environmental impact assessments.



SMM Group donation (Sir Dudley Tuti Collage)

# My Way of Doing Good



work in public relations. We have a responsibility to the local communities to give not only our financial support but also our time. I volunteer with a number of business and civic organizations and try to make Alaska's interior a great place to live.

Lorna Shaw, Sumitomo Metal Mining Pogo LLC

Practical development and production is being promoted by training human resources from the local area wherever possible, which is a fundamental aspect of coexistence and mutual prosperity with the local community. A scholarship program was set up in the project area in FY2011 to contribute to education opportunities and school facilities. Other contributions on the Solomon Islands include two

previous donations to the Island's Olympic team and reconstruction support after the earthquake and tsunami in February 2013.



Toshiaki Maeda Director, General Manager Technical, SMM Solomon Limited (currently Manager, Solomon Project Dept., Mineral Resources Div.)

### **Delivery Lessons at Hyuga Smelting**

Hyuga Smelting has been participating in the Hvuga City "Business Delivery Lessons" program since 2011. The goal of this program is (1) to pass on the enjoyment of learning, (2) to raise awareness of the usefulness of technology produced by

local companies in daily



An experiment to produce high heat using electric power in the delivery lesson

life, and (3) to pass on the importance of work through contact with working people.

On October 10, 2012, 24 sixth-year students at Shiomi Elementary School were invited to the factory for the second delivery lesson. In addition to a factory tour, an experiment was conducted in which the lead in a mechanical pencil (which resembles electrodes from an electric furnace) was electrified in order to produce a high heat. This taught the students about using electric power to dissolve ore in the stainless steel materials manufacturing process. The students enjoyed the experience, and made such

comments as, "I understand the use of products better after seeing these examples. The experiments made science more fun for me."

Naonobu Hayakawa Managing Director General Manager, General Affairs Dept. Hyuga Smelting Co., Ltd.





I always protect myself from harm as I do not touch any moving parts, and I never press buttons which have functions I'm not aware of.

Lu Xiao Dong, SH Electronics Suzhou Co., Ltd.

incorporate consideration toward local communities into activities today in line with the SMM Group Corporate Philosophy and Management Vision, and the CSR Policy. Due deliberation is made during meetings of various kinds to ensure that decisions made within various projects do not act counter to SMM Group policy or philosophy.

# **Disaster Relief Assistance** for Local Communities

# **Comments from an Employee Involved** in Volunteer Reconstruction Work after **Great East Japan Earthquake**

The Great East Japan Earthquake of March 11, 2011 caused so much damage that even now, two years after the incident, there are still countless problems remaining. I am originally from Sendai, but thankfully my family home wasn't damaged. There was



great support from

▲ Removing rubble from the soil by hand (Minamisanriku)

across Japan and from overseas, not to mention the hard work of local people. I was presented with the opportunity to return home in order to care for my hospitalized family. I used this opportunity to get involved in support activities in the Sendai coastal region and in Minamisanriku for a total of 50-plus days. These activities included agricultural land restoration, farming reactivation, categorized removal of rubble from town areas (for use as mineral resources) and visits to temporary housing by a group of traditional dancers in Hyuga City where I previously worked.

As there are no successors who can take over the business and the business environment is unstable, the economic soundness and potential behind using volunteers to support the reopening of local agricultural and fishery industries is unclear. However, it would be unbearable if we were to do nothing and just let the agricultural land and fishing ports that have been handed down over hundreds of years go to ruin. SMM's policy of using the core business to support reconstruction includes rebuilding the lives of

individuals, who are ultimately the end users in regional

economies. I want to continue to get involved in such support activities as I've realized that it accomplishes something significant.



Kazutaka Kikuchi Manager, Finance & Accounting Dept.

# **Presentation of President's Letter of Thanks** for CSR Endeavors

The following people were presented with Letters of Thanks for CSR endeavors by the President at the ceremony held on June 19, 2013.

Recipients	CSR activity recognized	Congratulatory remarks from then-President Kemori
Yuko Kondo, Sumiko Techno-Research Co., Ltd.	Remarkable achievements in Japan national and world boomerang tournaments	Becoming number one in the world is something extraordinary. You've given young people the dream of becoming the best in the world.
Sadamitsu Kuroki, Takayuki Koresawa and Hiroyuki Mitsugi, Hyuga Smelting Co., Ltd.	Outstanding achievements in the field of local firefighting	Japan has an increasingly aged population with fewer and fewer young people taking on honest hard work. Contributing to your local community is an ambitious activity.
Kenji Nonaka, Nippon Ketjen Co., Ltd.	Participated in numerous volunteer activities in the areas affected by the Great East Japan Earthquake	Volunteering on an individual basis is something that not everyone can do, and is something to be very proud of.
Takao Arizono, Ohkuchi Electronics Co., Ltd.	Plays an important role as a softball referee and local physical training instructor	Engaging in group activities that have rules is important for the development of young people. Providing leadership in this area over a long period shows a high awareness of social contribution.

Then-President Kemori offered the following words of commendation to all present.

You all used your own time to contribute to society. It was not part of the Company's contribution program. We hope that others will follow your example. Please keep up these activities and continue to inspire the employees around you.



Recipients of the President's Letters of Thanks for CSR Endeavors (front row)

# My Way of Doing Good



I am responsible for the company newsletter. I try to contribute to environmental preservation in the printing by using soy ink, which can be recycled, and by using paper that contributes to periodic thinning, which maintains healthy forests.

Izumi Taniguchi, Public Relations & Investor Relations Dept.



I am an occupational health nurse. In line with the company's staff healthcare program, I hope to create a friendly and healthy workplace environment through health education lectures and other activities.

Emma Zhao, SH Electronics Taiwan Co., Ltd.



#### **Impact on Local Economies**

At business facilities where SMM Group activities have a considerable impact on the local economy we contribute to the community in a variety of ways such as through considerations regarding supplier selection and employment.

For example, the Pogo Mine procures materials and equipment from some 239 suppliers in Alaska, and the total value of those transactions is around US\$66 million a year. Efforts have been made to employ local Alaskans, and now roughly 65% of the approximate 300 employees live in Alaska. Our other efforts have included providing ongoing financial assistance to the city of Delta Junction, the closest municipality to the mine, and making donations to the University of Alaska Fairbanks.

Hiring of local employees from Palawan Island at CBNC, the Philippines, is at a ratio of 54%. We are continuing to conduct support activities for local communities with regards to school education, health care, hygiene and better living.

#### **Starting/Ceasing Operations**

When starting up business in a region—or withdrawing from it—meetings are held by the Management Committee and others involved to determine how to respond to political and economic risks, risks to humans, and other risks relating, for example, to region-specific diseases, employment, labor disputes and other labor issues, religious constraints, and border disputes. If a crisis occurs, we clearly identify the causes and take swift action. The SMM Group requires serious matters at any business facility, subsidiary, or affiliate to be discussed in a timely fashion.

#### **Mine Closure Plans**

Taking into consideration the treatment procedures that must be carried out once mining is finished, the SMM Group makes an effort to minimize the impact on the environment during the development stage. When actually closing a mine, procedures are advanced in a proper manner in keeping with 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 Mine in the United States falls under Alaskan state law, which requires sites to be covered in 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 used to work at the Besshi Copper Mine and other Japanese mines that are now closed have been transferred to other workplaces or given assistance in finding new jobs.

#### Reserves for Mine Closures

Mine	Reserve name	Reserves (2012)
Hishikari Mine	Mine pollution control reserve	¥18.67 million
Pogo 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.

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 the Coral Bay Nickel Corporation (CBNC). We are also required to put aside funds needed for the closure of any related workplaces. The total cost according to the closure plan submitted by CBNC to the Department of Environmental and Natural Resources (DENR) is 110 million pesos, and funds will be set aside every year for a seven-year period starting 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 facility.

\* SDMP: Social Development Management Program, conducted by a company for the sake of the welfare of residents living in an area of its business activities

#### **Involvement with Local Communities**

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

At the Hishikari Mine, pollution prevention meetings are held twice a year. In 2012, budget briefings were held in April and September.

As part of the process of obtaining a permit for the Pogo Mine, "G2G consultations" were undertaken by the Alaska state government. This involved providing explanations about the project to communities located within a radius of 200 km from the Pogo Mine, in particular 13 indigenous communities within the Tanana River basin, and gathering their opinions. Communication with local citizens has continued on a regular basis even after the commencement of operations. During 2012, four sessions were held to disclose information to local residents and other stakeholders, and we provided briefings on operations. So far, there have been no pending issues resulting from complaints from indigenous communities in the area surrounding the Pogo Mine or other mines, smelters and refineries in which the SMM Group has more than a 50% interest. The Comrel (Community Relations) section was established under the CBNC General Affairs Department. By means of the IEC (Information Education Campaign) activity, this section is regularly sharing information with the 11 impact barangay in the Rio Tuba area. Once every two months, CBNC top management holds a discussion with the authorities in Rio Tuba in order to exchange ideas with the local communities, which passes on an understanding of our activities and helps to create a stabilized business.

> Laurence Amores Comrel Chief Supervisor, Coral Bay Nickel Corporation

# **Social Contribution Activities**

The SMM Group carries out a wide range of social contribution activities in Japan and overseas. The Corporate Citizenship Subcommittee within the CSR Committee has been deliberating on specific social contribution measures suitable for SMM, which is aiming to become "a company in which employees are proud to work along with the company on social contribution activities rooted in the area," as expressed in the Vision for 2020.

Initiatives centering on the four areas below were implemented in each location during 2012:

- (1) Support for personnel training and infrastructure maintenance in local communities
- (2) Restoration and reconstruction support after devastating disasters in Japan and overseas
- (3) Support in the fields of the environment, academia and culture
- (4) Support for employee activities that contribute to society

# **Examples of Social Recognition**

Some of the awards received by the SMM Group in FY2012

# Major Donations in FY2012

# Support for the areas struck by the Great East Japan Earthquake

- Contribution to the Iwate Learning Hope Fund
- Contribution to the Great East Japan Earthquake Miyagi Children's Education Fund
- Contribution to the Fukushima support fund for children affected by the Great East Japan Earthquake
- Contribution to the Ehime Egao-no Mutual Fund
- Donation of rice produced in Kyowa, Hokkaido
- Donation of influenza preventative supplies

### Support for other disaster areas

- Contribution for rain-damaged north Kyushu
- Contribution for rain-damaged Metropolitan Manila, the Philippines
- Contribution for hurricane damage on Mindanao Island, the Philippines
- Contribution for earthquake damage on the Solomon Islands

#### Academic support

- Contribution to the Japanese Foundation for Cancer Research
- Contribution for the assembly of the International Association of Volcanology and Chemistry of the Earth's Interior

#### Nature Conservation

 Contribution to the Keidanren Nature Conservation Fund

Recognition (Awarding party)	Recognition (Awarding party) Date		Award received for
Kyushu Mining Association safety award (Kyushu Industrial Safety and Inspection Department)	May 28, 2012	Hiroaki Yamashita (Hishikari Mine Dept.)	Promotion of safety education and danger awareness for contractors in Hishikari Mine Department external construction and civil engineering
Award for Excellence in Corporate Disclosure (Securities Analysts Association of Japan)	October 15, 2012	Sumitomo Metal Mining Co., Ltd.	Ranked No. 1 in the Iron/Non-ferrous Metals Category as evaluated by securities analysts
Award for Excellence in Workplace Traffic Safety (Japan Traffic Safety Association, National Police Agency)	January 16, 2013	Besshi-Niihama District Div.	Long-term Plant-based activities toward the prevention of traffic accidents





# Relations with Society

# Main Organizations in Which SMM Has Membership

Organization	Responsibilities of SMM officers and employees	Initiatives relating to public policy
Nippon Keidanren	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	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, and the special committee for depletion allowance measures	Submission of mining industry policy demand to relevant government agency 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	1 director; participation in Operations 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 and promotion of activities in each of the following committees: Social and Economic Development, Environment and Climate Change, Health and Safety, and Materials Stewardship	<ul> <li>Environment Initiatives for biodiversity, global warming countermeasures and water management</li> <li>Health and safety Enhanced performance through use of benchmarks and sharing of health and safety information</li> <li>Materials stewardship Initiatives for science-based chemical substance management and supply chain management</li> <li>Society and economy Promotion of EITI activities, preparation of various toolkits and guidelines, and promotion of best practice</li> </ul>
Japan Society of Newer Metals	Director; participation in Target Group and Compound Semiconductor Group	Hearings with government in relation to policy (rare metal reserve issues, etc.)
Japan Electronics and Information Technology Industries Association (JEITA)	Participation in Electronic Components Board and Electronic Materials Committee	Studies on tasks and regulatory revisions required for Japan to make progress in electronic equipment and electronic components industries, and submission of written opinions to the government
Battery Association of Japan	Associate member	
Japan Powder Metallurgy Association (JPMA)	Participation in MIM Committee	

# 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.

### The 10 Principles of the ICMM Principle 1: Implement and maintain ethical business practices and sound systems of corporate governance. Principle 2: Integrate sustainable development considerations within the corporate decision-making process. Principle 3: Uphold fundamental human rights and respect cultures, customs and values in dealings with employees and others who are affected by our activities. Principle 4: Implement risk management strategies based on valid data and sound science. Principle 5: Seek continual improvement of our health and safety performance Principle 6: Seek continual improvement of our environmental performance. Principle 7: Contribute to conservation of biodiversity and integrated approaches to land use planning. Principle 8: Facilitate and encourage responsible product design. use, re-use, recycling and disposal of our products. Principle 9: Contribute to the social, economic and institutional development of the communities in which we operate. Principle 10: Implement effective and transparent engagement, communication and independently verified reporting arrangements with our stakeholders.

# **ICMM Position Statements**

ICMM has adopted the following position statements to complement the 10 Principles. SMM follows through on these position statements. Note: The position statements below are summarized versions of statements issued by ICMM

- 1. Transparency of Mineral Revenues Support for the Extractive Industries Transparency Initiative (EITI)
- 2. Policy on Climate Change Work to reduce greenhouse gas emissions
- 3. Mercury Risk Management Carry out responsible management of mercury
- 4. Mineral Resources and Economic Development Contribute to economic development and poverty reduction in resource-rich countries
- 5. Mining and Protected Areas Undertake not to explore or mine in World Heritage properties
- 6. Mining and Indigenous Peoples Respect indigenous peoples and their rights
- 7. Mining Partnerships for Development Enhance mining's social and economic contribution

# **Declaration of Support for the EITI**

The Extractive Industries Transparency Initiative (EITI)\* is an organization 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, flows 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 October 2013, the Philippines, the Solomon Islands and Indonesia are the only candidate countries in which SMM is conducting business.

\* Extractive Industries Transparency Initiative homepage: http://eiti.org/

# **The EITI Principles**

- 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.
- 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.
- 3. We recognise that the benefits of resource extraction occur as revenue streams over many years and can be highly price dependent.
- 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.
- 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.
- 6. We recognise that achievement of greater transparency must be set in the context of respect for contracts and laws.
- 7. We recognise the enhanced environment for domestic and foreign direct investment that financial transparency may bring.
- 8. We believe in the principle and practice of accountability by government to all citizens for the stewardship of revenue streams and public expenditure.
- 9. We are committed to encouraging high standards of transparency and accountability in public life, government operations and in business.
- 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.
- 11. We believe that payments' disclosure in a given country should involve all extractive industry companies operating in that country.
- 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.

# Respect for People and Human Rights

# Targets, FY2012 Achievements and FY2013 Plan

Target	FY2012 Achievements
Implement human rights education throughout the entire SMM Group and make progress on establishing workplaces free of human rights infringements and fostering employees with strong human rights awareness	<ul> <li>Created training documents for SMM Group Policy on Human Rights, including English, Chinese (Simplified and Traditional) and Spanish versions for overseas locations</li> <li>Human rights education included in new employee training and newly-promoted section manager training</li> <li>Former Committee for the Promotion of Antidiscrimination Issues was reorganized on April 1, 2013, becoming the Committee for the Promotion of Respect for Human Rights in order to tackle wider human rights issues</li> </ul>
Create workplaces which allow motivated employees to work in diverse ways suited to the needs of the workplace	<ul> <li>Ratio of disabled employees in FY2012 was 1.79% on average and therefore the target was unattained. Consulted other companies taking the lead in disabled person employment. We are considering how to use the Head Office and Besshi District to create new posts that can be filled by disabled employees.</li> <li>Female Employment Support Group began operation in the Personnel Department on July 1, 2012. Lecture held in February 2013 by Hisae Tai, President of TAI Work Style Research Group targeting division general managers and Group company presidents.</li> <li>Examined the systems for accepting enthusiastic employees at overseas Group companies as fixed-term trainees in Japan</li> </ul>
Learn about and understand human rights issues worldwide and how corporations impact human rights, and implement necessary measures like awareness activities on an ongoing basis	<ul> <li>Compliance seminar (Basic course) conducted on September 18, 2012. Compliance seminar (Advanced course) conducted on February 13, 2013. Overseas management training conducted twice on June 14-16, 2012, and February 14-16, 2013. Contents of the above are changed in the annual revision.</li> <li>Study sessions regarding human right issues on employees and local residents held</li> </ul>
Refuse to be complicit in human rights infringements while appealing to parties within the supply chain over which the SMM Group has influence to prevent human rights infringements	<ul> <li>Conducted supply chain human rights issues study sessions</li> </ul>

# Expectations for SMM Group

Hisae Tai President, TAI Work Style Institute

The Human Rights Policy, which was established in 2010, and a company-wide PDCA cycle activity that challenges the supply chain and communities where you conduct business, as well as the organization itself are amazing initiatives and they are unique to the globally-expanding SMM Group. In Japan, the scope of human rights is often limited to a very narrow field. However, I want every employee to recognize that respect for diversity is included in the right to be given opportunities based on one's ambition and ability, regardless of nationality or gender, and that improving one's work-life balance is included in the right to have a rewarding private life while doing a worthwhile job. By so doing, it is hoped



that various possibilities will open up for each individual in terms of more opportunities for self-development, sufficient time to connect with society, and minimization of the conflict between one's work responsibilities and family responsibilities, such as nursing and childcare. This will have a positive effect on society as a whole.

When human rights infringements do occur, such as sexual harassment, and the normal administrative channels cannot be used, there are assistance functions in place, such as directly reporting or consulting top management. But are these procedures functioning? In order for these procedures to be used effectively, it is important that you publicize the usage method and promote the fact that those who use it will not be discriminated against. You could even use CSR reports to promote their use.

# Vision for 2020

A company that respects human rights and diversity of employees, develops employees with high awareness of human rights, and gives equal opportunities depending on motivations to work and abilities of employees

A company that respects human rights of people who are affected by business activities of the SMM Group

A company that does not get involved in complicity with an entity that causes violations of human rights at areas with undeveloped social infrastructure and at troubled areas

Challenges	FY2013 Plan
<ul> <li>The SMM Group Human Rights Policy must be spread to all employees without fail in every Group company by the Committee for the Promotion of Respect for Human Rights</li> </ul>	<ul> <li>Distribute SMM Group Human Rights Policy education materials and teacher manuals to all business locations and Group companies inside Japan and overseas, and use these documents to carry out training for all employees</li> <li>Continue to include human rights education in new employee training and newly-promoted section manager training to supplement human rights education taking place in December for Human Rights Week</li> <li>Hold regular meetings of the Committee for the Promotion of Respect for Human Rights 1) To check, plan and enforce human rights education</li> <li>2) To inspect what is being done about human rights issues that arise</li> </ul>
<ul> <li>The Company requires greater know-how in terms of disabled employee support systems and organization</li> </ul>	<ul> <li>Achieve statutory ratio, and pioneer the Head Office and the Besshi-Niihama District Division as new locations for the continuous employment of disabled people</li> <li>Female Career Support <ol> <li>Raising awareness</li> <li>Conduct training for managers and supervisors, all the female employees, and female management track employees</li> </ol> </li> <li>System review <ul> <li>Study and implement female support measures appropriate to a World Leader in the Non-ferrous Metals Industry and an Excellent Company of Japan</li> <li>Infrastructure placement <ul> <li>Place female lockers and showers in Toyo Smelter &amp; Refinery, Isoura Plant, and Harima Smelter</li> </ul> </li> <li>Others <ul> <li>Vitalization of "Shining Employee" electronic bulletin board system, inclusion of regular column in <i>Ibuki</i> in-house magazine, and re-employment support as a part of female career support measures and so on</li> </ul> </li> </ul></li></ul>
<ul> <li>Establish human rights survey methods and subjects within the Group</li> </ul>	<ul> <li>Conduct compliance seminar (basic course and advanced course). Schedule special training for Group company presidents in addition to existing compliance education. Continue to conduct two sessions for overseas management training.</li> <li>Divide Human Rights &amp; Human Resources Development Subcommittee into three working groups to examine specific policies. Establish the direction for SMM Group human rights surveys in the current FY, and propose to each Chairman the human rights survey methods and subjects of survey for the Group in FY2013.</li> </ul>
<ul> <li>Establish human rights survey methods and subjects for business partners, raw materials suppliers, and local communities</li> </ul>	<ul> <li>Specific examination of human rights surveys for business partners, raw materials suppliers, and local communities. Propose to each Subcommittee Chairman the target of May 2014 for business partners and raw materials suppliers, and July 2014 for local communities</li> </ul>

# Subcommittee Chairman's Comment

# Hiroyuki Asai

Chairman, Human Rights & Human Resources Development Subcommittee; Executive Officer; General Manager, Personnel Dept.

What this Department requires from employees is that each one of us should be able to utilize a high awareness of human rights in order to act independently both inside and outside the company. That is why, in addition to the human rights education that has already been carried out, the Committee for the Promotion of Respect for Human Rights was established this spring, and training has been conducted for all employees to be fully aware of the Human Rights Policy in Japan and overseas. We have also started to examine the construction of a Human Rights Due Diligence structure for the entire SMM Group to supplement the human rights investigations taking place in each branch office.

Since 2012, we have put more effort into female career support, and we have been promoting infrastructure supply and childcare leave systems, while encouraging a change of attitude by means of lectures. We will also be pushing ahead with the employment of disabled people going forward. It's clear that new initiatives to facilitate the lively employment of diverse personnel are in great demand, which is the target for SMM as a "World Leader in the Non-ferrous Metals Industry," and as an "Excellent Company of Japan." We hope that every employee will be individually motivated to take on appropriate challenges, rather than just being part of company initiatives.





# **Basic Approach**

The SMM Group Corporate Philosophy states that, based on respect for all individuals and in recognition of each person's dignity and value, SMM is seeking to be a forward-minded and vibrant company. The CSR Policy declares that, in order to continue sound business activities, SMM shall respect human

# **Protection of Human Rights**

The SMM Group has set forth a policy on human rights aligned with the SMM Group Corporate Philosophy and the SMM Group Code of Conduct. In determining the policy, opinions were sought both from within the Group, as well as from outside experts.

The policy prescribes compliance not only with domestic laws and ordinances relating to human rights, but also with various international standards. Furthermore, we plan to appeal to outside parties with whom the SMM Group has a relationship to prevent human rights problems arising. There were no reports of discrimination encroaching on human rights during FY2012.

We are pushing ahead with the education of employees on human rights issues throughout the entire SMM Group.

# **Human Rights Policy Training**

In August 2010, the SMM Group Policy on Human Rights was established in accord with Japanese laws and international standards with the goal of achieving a society without human rights violations. Having previously been limited to human rights issues in Japan (deeply rooted discrimination issues, sexual harassment and power harassment issues, for example), the Head Office zone started to conduct human rights training in line with various international standards. However, the SMM Group Policy on Human Rights has yet to be fully adopted throughout the Group.

Therefore, training materials have now been produced with the help of certain NGOs that specialize in human rights. Progress in this area also needs to be made overseas, so the materials have been translated into English, Spanish and Chinese. A teacher manual has also been prepared.

The training materials and teacher manuals are being distributed in Japan and

around the world in FY2013 for increased implementation of the human rights policy.



Toshiya Uemura

Deputy General Manager, Personnel Dept. (currently General Manager, Personnel Dept., N.E. Chemcat Corporation)

# My Way of Doing Good



I am in charge of workplace safety. Humans are always going to make mistakes, but accidents can be significantly reduced if we just continually warn our colleagues about any dangers, as we would with our families, and if we maintain reciprocal communication.

Tetsuya Koshino, Shisaka Smelting Co., Ltd.

# **Human Resources Development**

The SMM Group undertakes human resources development in line with the following basic approach, as stipulated in our human resources development regulations.

- (1) Actively support the motivation and ambitions of employees
- (2) Tailor activity to match the advancement of each individual employee
- (3) Carry out activity in a systematic and organized manner on an ongoing basis with a view to the long term
- (4) Organically link activity to human resources management systems
- (5) Adapt flexibly to diverse management needs

# Hishikari Mine Human Resources Development

The Hishikari Mine has produced 200 tons of gold since opening 30 years ago. In order to establish a stable long-term production system, a 210,000-ton ore production framework has been established for FY2013 and onwards. In addition to being the largest working gold mine



Agricultural irrigation water measurement on the new graduate training course

in Japan, the Hishikari Mine is an important location for human resources training.

The Mineral Resources Division is engaged in securing mining rights in other countries. In order to operate a mine overseas, human resources must be trained in the field of mining engineering. In order to fulfill part of that human resources requirement, new graduates of mining and geology are assigned to Hishikari Mine for four or five years where on-the-job training (OJT) provides them with specialist skills and the fundamentals of mine operation technologies. After graduating from this mining school, they are sent to support

existing mines overseas, or to identify and develop new mining projects. One benefit of working for SMM is that we possess operational mines that allow for such human resources training within Japan.

Yasuhiro Kusaba Manager, Mining Sect., Hishikari Mine Dept.





I like to attend events that support developing countries and events held by environmental NGOs. After the earthquake, I felt like I needed to make a contribution to society, so I try to do whatever I can both privately and professionally.

Ayaka Ide, Sales & Marketing Dept., Materials Div.

rights and shall try to be a company in which diverse human resources take active parts. The medium-term management plan integrates these ideas from the philosophy, policy and other statements into human resources strategy, through which we are pursuing a wide range of initiatives.

# **Employee Diversity**

Given our aims to raise corporate competitiveness and achieve sustainable growth, we are making efforts to acquire and develop a diverse workforce comprising human resources who stand out as individuals and who can make a contribution toward attaining those aims.

# **Diversity Initiatives at Overseas Locations MSHE (Malaysia)**



Employees of MSHE Malavsia

The tag line "To Know Malaysia is to Love Malaysia" aptly illustrates this peaceful country, where 26 million people live harmoniously. Malaysian society can be summed up as multicultural, multiracial and multi-religious with a unique blend of religions, socio-cultural and economic activities, traditions, dress, languages and food. There are various peoples in Malaysia, including Malays, Chinese, and Indians, as well as more than 50 indigenous groups, each with their own traditions and customs.

Malaysia's goal of being "One Malaysia" is best described by the magic of the phrase "Unity in Diversity." An ethno-political balance has been achieved as the government works toward overall economic development through political and economic policies that promote equitable participation for all races.

The Malaysian SH Electronics Sdn. Bhd. (MSHE) staff recruitment policy is strictly based on merit, and does not take into account race or nationality. Mutual understanding between employees with regard to customs and

cultural/religious practices helps to maintain a harmonious working environment. Malaysia as a whole acknowledges and respects ethnic diversity as a strength.



Ishak Yaacob Administration Manager, Malaysian SH Electronics Sdn. Bhd.

# My Way of Doing Good



If we manage to avoid the problems that we encounter, it's beneficial if we warn other people of the dangers so that they don't get caught up in them.

Li Qiurong, SH Electronics Chengdu Co., Ltd.

# Female Participation in the Workplace

SMM at one time had a largely male workforce, but promoting female employees has become a feature of the modern world alongside globalization and the declining birth rate. In July 2012, the Personnel Department set up the Female Activation Support Group. "Why now?" "Isn't it too difficult?" "Until now, we have achieved corporate growth without putting emphasis on female employment... Company employees probably have many different ideas, such as those above.



▲ Managing supervisors meeting

In the future, corporate value will be raised by welcoming diversity, which requires a fundamental change in attitude with regards to certain issues that cannot be overlooked, including the scope of female employment. In FY2013,

meetings were scheduled targeting female employees and managing supervisors. The first step is to make each and every employee realize that greater female participation is an issue that affects all of us.

Narumi Yoshida Female Activation Supporting Group Leader, Personnel Dept.





**NADE** Selected by the Tokyo Stock Exchange as a Nadeshiko Brand for Care Support of Female Employees as a Nadeshiko Brand for Career

On February 26 2013, SMM was recognized as a Nadeshiko Brand by the Tokyo Stock Exchange for its support of women in the workplace. Support for greater female participation has only just begun, but we have high expectations for this activity in the future.



It's something my boss taught me, but we become unable to think of new ideas when we get too wrapped up in routine work. I strive to constantly maintain a sensitivity to fun and new experiences.

Hiroya Eto, Mie Siporex Service Co., Ltd.



# Human Rights Considerations When Making Investments

When making investments or equity contributions, the SMM Group confirms the absence of intrinsic issues relating to human rights, such as discrimination, forced labor or child labor. Projects are also screened for risks during the decision making process using check sheets. Continued monitoring is conducted after the investment or equity contribution, for example through board meetings of the company invested in. If an issue arises, we will demand its resolution. In FY2012, although one of the eight investment projects proposed at Management Meetings fell under the scope for checking, it was confirmed that no human rights issues existed.

# **Relocation of Local Citizens for Development**

Hishikari Mine and Pogo Mine are excavated using underground mining techniques involving the digging of drifts in the ground, which means the impact on the surface is relatively low. Even so, 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. During the initial development phase of the Hishikari Mine, we requested and carried out relocation of three households in total from 1983 to 1989. No citizens had to be relocated for development of the Pogo Mine.

During the Taganito Project scheduled to commence commercial production in autumn 2013, we asked 41 households in areas to be affected by operations 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. We are implementing ongoing measures to support the sustainability of the relocated citizens' lifestyles, such as technical assistance for crop cultivation in their new places of settlement.



▲ A ceremony in Taganito for the signing of an agreement on relocation of citizens

### **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 FY2012.

#### **Artisanal and Small-scale Mining**

As of September 2013, 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.

### **Human Rights Seminars**

Human rights seminars are held regularly, the primary objectives being to deepen awareness of potential human rights issues in the workplace and to prevent them from occurring. These seminars are held mainly for officers and managers at Head Office divisions, while seminars at business divisions and district divisions target a broader range of employees.

Having established the SMM Group Policy on Human Rights, we intend to enhance human rights education further.

#### **Preventing Sexual Harassment**

To prevent sexual harassment, each business facility has a dedicated consultation office and a designated sexual harassment prevention promotion officer. In FY2012, two cases of sexual harassment were reported and dealt with appropriately.

### **Enhancing Management of Human Rights**

From FY2013 the SMM Group began studying the construction of a Group-wide human rights management program that incorporates a human rights due diligence framework. We aim to build a framework system to prevent and avoid complicity in either direct or indirect violations of human rights, and to respond appropriately to any concerns which come to light.

The system will apply to Group employees both in 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. We have established working groups for each of these target scopes and have begun studying the issues.



### Human Resources Development Program

In order to realize the growth strategy put forward in its 3-Year Business Plan, the SMM Group has defined the human resources it is looking for: people who see opportunity in change, perceive issues correctly, and push forward with determination toward finding solutions.

A framework structured around three components on-the-job training (OJT), which is the primary component, self-development, and off-the-job training (OFF-JT)—has been put in place to develop such human resources. We also systematically carry out more specialized education through human resources development programs created for different job types.





Newly promoted E-class employee training



▲ Newly promoted general manager training



Middle management program (MMP)

## Specific Human Resources Development Initiatives

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

(1) International employee development(2) Next-generation senior management development

We also intend to introduce new programs and review existing training programs as required.

#### International employee development

The globalization of business has created a need for human resources who can actively pursue SMM's business strategy at overseas facilities and within markets for each of our main businesses.

Acknowledging that the development of such human resources needs to start as early as possible, SMM implements a short-term overseas training program whereby all new management track employees are seconded overseas for a two-month period. More than just an opportunity to polish up language skills, the program is designed to bring about general improvements to the employees' ability to accommodate other cultures and their ability to act under their own initiative in an overseas setting. Training in business skills, which are perhaps one common language within a global business, is also readily incorporated into the different types of management training and training for employees promoted to new positions. International employee development is thus approached from a number of angles, not simply from the language aspect.

#### Next-generation senior management development

Bottom-up training of the entire workforce used to be the main objective, but in FY2008 we also launched a specialized program for training the next generation of senior managers. Section manager-level personnel with the potential for a future senior management role at the company are selected for the program, which is carried out over about six months and is designed to help them develop a senior manager's perspective.

Another program was launched in FY2011 for newly promoted general manager-level personnel. This involves current officers in charge at each workplace providing guidance and advice to participants on a one-on-one basis to let them develop a sense for management, and participants themselves playing a leading role in actually addressing managerial issues faced by the company and observing the results.

## SMM Strategy Planning Training Center

The SMM Strategy Planning Training Center opened in Susono City, Shizuoka Prefecture in September 2010 under the concept of coming together with a vision, and going away confident that the vision will be realized. The center is set in a natural environment, surrounded by greenery and with an outlook toward nearby Mount Fuji. Besides conference rooms of varying size and a hall, accommodation is available for just over 70 people, making it a versatile training facility.

The center is used for many purposes, such as training programs, as well as officer training retreats and divisional strategy conferences.



SMM Strategy Planning Training Center



## Working Environments Favorable to Women

In March 2012 a team of female employees from various backgrounds submitted a proposal on ways to make better use of female human resources to the general manager of the Personnel Department. In response to the team's proposal, the Female Activation Support Group was established in July 2012 and commenced activities.

The group's activities aim to develop SMM into a company in which ambitious female employees can actively tackle challenging work and feel a sense of personal growth through their job while utilizing their abilities to their full potential. The group has set three main categories on which to conduct initiatives to support careers of female employees:

- 1) Promotion of awareness
- 2) Review of systems
- 3) Development of infrastructure

First, as a part of efforts to raise awareness, the group held seminars to help senior management understand the issues facing women in their careers. In FY2013 the group plans to hold seminars and training aimed at managers and all female employees, mainly at the sites under the direct control of the SMM Group.

SMM launched an electronic bulletin board system on its intranet in April 2013 that centralizes a range of information related to career development of



▲ Training for female employees

female employees, including messages from the President, and notices directly from the Female Activation Support Group, and explanations of systems and procedures related to important life events. The bulletin board has begun introducing examples of employees who maintain a particularly healthy work-life balance by actively participating in social and community contribution activities. It has also begun introducing examples of employees who maintain a particularly healthy work-life balance, including fathers and grandfathers playing an active role in childcare, as well as publishing. It also publishes articles by female employees currently raising children.

In June 2013 SMM introduced a system for holding meetings with departmental managers before taking maternity leave and after taking childcare leave in order to support women returning to work after childcare leave and promote mutual understanding in the workplace. Through this system SMM aims to increase communication and mutual understanding between the returning employee and the people in the workplace to which they will return.

The SMM Group is also taking steps to review the work environment and infrastructure to create an environment in which women can develop long-term careers, and is working to improve facilities (changing rooms, showers, etc.) as the number of female employees grows.

In addition to improvement of the working environment, we are also enhancing hiring of female management track employees. Six of the 31 management track employees who joined the company in the spring of 2013 were women. In the future, we aim to increase the number of female employees who overcome the challenges of specific life events by providing support so that they can work enthusiastically throughout their careers. We have set targets for 2020 of increasing the percentage of female in management track hires to 30%, and supporting career development to increase the number of female managers to 10.

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

SMM has been implementing an action plan with the aim of reaching the statutory disabled employee ratio target.

We currently carry out ongoing initiatives within regular recruitment activity, including company presentations and Web-based recruitment. Although we made continued efforts, SMM's average disabled employee ratio for FY2012 was 1.79%, falling short of the statutory requirement in Japan.

We will press ahead with activities assisting the creation of environments where disabled employees can work alongside other employees. These include expanding the scope of placement, establishing infrastructure, and finding new places where disabled people can work.

# Support for Veteran Employees

SMM has overhauled its re-employment system in response to revisions (effective April 2013) to Japan's Act on Stabilization of Employment of Elderly Persons. SMM and our affiliate companies in Japan have introduced measures for utilizing elderly human resources, such as the re-employment system.

SMM's efforts regarding the utilization of elderly human resources will be continued.

## Initiatives Relating to Locally-hired Employees at Overseas Affiliates

The SMM Group clarifies recruitment processes for each overseas facility while adhering 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.

## Initiatives for Enhancing Work-life Balance

A satisfying lifestyle leads to satisfaction at work, too. Based on this belief, SMM is making efforts to enhance the work-life balance of employees.

Efforts include strengthening, and promoting the use of, various systems. In addition to restricting long working hours and encouraging employees to take paid leave, we have enhanced the reduced working hour system available during child care and established a new return-to-work system.

We are also directing energy into enhancing the child-care 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, we make full use of labor-management councils for surveying current conditions and drafting specific provisions.



# 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 if they should 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.

(hours)

Officers	General managers	Section managers	Regular employees	Other	Total
147	1,422	6,171	33,552	119	41,411
365	517	2,857	12,577	2,284	18,600
173	472	4,738	54,719	7,313	67,415
6.3	13	.4	14.3	9.9	13.7
	147 365 173	Officers         managers           147         1,422           365         517           173         472	Officers         managers         managers           147         1,422         6,171           365         517         2,857           173         472         4,738	Officers         managers         managers         employees           147         1,422         6,171         33,552           365         517         2,857         12,577           173         472         4,738         54,719	Officers         managers         employees         Other           147         1,422         6,171         33,552         119           365         517         2,857         12,577         2,284           173         472         4,738         54,719         7,313

#### FY2012 Total Annual Hours of Education



\* Figures are limited to education/training organized by personnel and general affairs divisions

#### Human Resources Development Program (SMM Employees)





# People and Human Rights-related Data

	Ν	lo. of employe	ees at year-en	d	Employees gender breakdown		Average number of non-regular/limited-	Total	Temporary
	Full-time officers	Managers	Regular employees	Subtotal	Male	Female	term employees during year	Total	employees
SMM non-consolidated	20	464	1,679	2,163	1,934	229	240	2,403	72
Consolidated subsidiaries in Japan	56	333	2,607	2,996	2,544	452	371	3,367	70
Consolidated subsidiaries overseas	33	408	2,790	3,231	2,338	893	134	3,365	94
Total	109	1,205	7,076	8,390	6,816	1,574	745	9,135	236

#### Number of Employees/Officers (Consolidated) (March 31, 2013)

\* The 20 full-time officers of Sumitomo Metal Mining Co., Ltd. and 745 non-regular/limited-term employees are not included in the figure presented in the Corporate Data on page 5 of this report, hence the different total here.

### Number of Employees/Officers Worldwide (Consolidated) (March 31, 2013)

Japan	U.S.A.	South Korea	Peru	Chile	China	Philippines	Taiwan
5,770	335	8	12	35	806	836	815
Singapore	Malaysia	Thailand	Indonesia	Australia	Solomon Islands	Brazil	Total
37	368		0	5	100	4	9,135

### Consolidated Employee Breakdown (March 31, 2013)

	Younger than 30		30–49 y	30–49 years old		50 and older	
	Male	Female	Male	Female	Male	Female	
Managers	39	7	661	59	429	10	1,205
Regular employees	1,260	552	3,569	865	749	81	7,076
Subtotal	1,299	559	4,230	924	1,178	91	8,281

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Full-time officers of Sumitomo Metal Mining Co., Ltd.: All male, 50 and older
 The 109 full-time officers and 745 non-regular/limited-term employees of the SMM Group are not included in this table, hence the different totals under "Number of Employees/Officers (Consolidated)" and "Number of Employees/Officers Worldwide (Consolidated)" on this page

# Number of Locally-hired Senior Managers (General Managers and Above) at Overseas Affiliates (March 31, 2013)

Company		No.	
Company	Male	Female	
Sumitomo Metal Mining Chile Ltda. (Chile)	1	0	
Sumitomo Metal Mining do Brasil Ltda. (Brazil)	0	1	
Coral Bay Nickel Corporation (Philippines)	3	1	
Sumitomo Metal Mining Philippine Holdings Corporation (Philippines)	2	1	
Taganito HPAL Nickel Corporation (Philippines)	1	0	
Sumitomo Metal Mining Management (Shanghai) Co., Ltd. (China)	1	0	
SH Asia Pacific Pte. Ltd. (Singapore)	5	0	
Malaysian SH Electronics Sdn. Bhd. (Malaysia)	7	4	

Company		lo.
		Female
Malaysian Electronics Materials Sdn. Bhd. (Malaysia)	0	1
Sumiko Electronics Taiwan Co., Ltd. (Taiwan)	1	2
SH Electronics Chengdu Co., Ltd. (China)	1	1
SH Precision Chengdu Co., Ltd. (China)	1	0
SH Electronics Suzhou Co., Ltd. (China)	1	1
SMM KOREA Co., Ltd. (South Korea)	1	0
Shanghai Sumiko Electronic Paste Co., Ltd. (China)	1	1
Total	26	13

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Location		Younger than 30		30–49 years old		50 and older		Total
Location		Male	Female	Male	Female	Male	Female	
	Departures	13	9	33	16	26	4	10
Japan	Total employees	638	195	2,719	417	1,045	69	5,08
	Turnover (%)	2.0	4.6	1.2	3.8	2.5	5.8	2.
	Departures	9	0	30	3	13	1	5
U.S.A.	Total employees	56	0	156	17	88	9	32
	Turnover (%)	16.1	0	19.2	17.6	14.8	11.1	17
	Departures	0	0	0	0	0	0	
South Korea	Total employees	0	1	4	2	0	0	
	Turnover (%)	0	0	0	0	0	0	
	Departures	0	0	0	0	0	0	
Peru	Total employees	4	2	2	2	0	0	
	Turnover (%)	0	0	0	0	0	0	
	Departures	0	0	0	0	0	0	
Chile	Total employees	0	1	24	6	2	0	
	Turnover (%)	0	0	0	0	0	0	
	Departures	0	0	0	0	0	0	
Brazil	Total employees	0	0	0	1	0	0	
	Turnover (%)	0	0	0	0	0	0	
	Departures	202	116	25	16	0	0	3
China	Total employees	265	166	220	137	7	0	7
	Turnover (%)	76.2	69.9	11.4	11.7	0	0	45
	Departures	25	6	31	5	1	0	40
Philippines	Total employees							
mippines	Turnover (%)	188	68	509	43	8	2	8
	Departures	13.3	8.8	6.1	11.6	12.5	0	8
Feliuse e		44	30	99	85	3	0	2
Taiwan	Total employees	60	66	392	220	19	7	7
	Turnover (%)	73.3	45.5	25.3	38.6	15.8	0	34
	Departures	0	0	0	0	0	0	
Singapore	Total employees	1	2	15	12	4	2	
	Turnover (%)	0	0	0	0	0	0	
	Departures	94	60	40	83	1	0	2
/lalaysia	Total employees	87	57	154	61	4	2	3
	Turnover (%)	108.0	105.3	26.0	136.1	25.0	0	76
	Departures	0	0	0	0	0	0	
ndonesia	Total employees	0	0	0	0	0	0	
	Turnover (%)	0	0	0	0	0	0	
	Departures	0	0	0	0	0	0	
Thailand	Total employees	0	0	0	0	0	0	
	Turnover (%)	0	0	0	0	0	0	
	Departures	0	0	0	0	0	0	
Australia	Total employees	0	1	0	1	1	0	
	Turnover (%)	0	0	0	0	0	0	
	Departures	0	0	0	0	0	0	
Solomon Islands	Total employees	0	0	35	5	0	0	
	Turnover (%)	0	0	0	0	0	0	
	Departures	387	221	258	208	44	5	1,12
Total	Total employees	1,299	559	4,230	924	1,178	91	8,28
- Total	Turnover (%)	29.8	39.5	4,200 6.1	22.5	3.7	5.5	13

Figures exclude officers, non-regular, limited-term and temporary employees
 Turnover rate (%) = number of departures ÷ number of employees at fiscal year end × 100. In cases where the number of departures is greater than the number of employees at fiscal year end, the turnover rate will exceed 100%.



# Occupational Health and Safety

# Key Measures for Achieving the Vision for 2020

	Facilities:	Minimize risks for existing equipment based on risk assessments. Ensure the inherent safety of new equipment.
Safety	People:	Implement rank-based safety education (SMM <i>Anzen Dojyo</i> , hazard simulation training, group education, and education by outside instructors) to ensure that each worker accords safety the highest priority, and enhance the safety mentality and skills.
	Management:	Implement the PDCA cycle for safety activity (work observations, risk assessments, safety audits, etc.) with general managers of workplaces leading efforts to ensure safety within the organization.

# Targets, CY2012 Achievements and CY2013 Plan

Target	CY2012 Achievements
<ul> <li>Number of accidents in CY2012</li> <li>Employees (SMM-controlled workplaces and group companies): 5 lost time; 15 in total</li> <li>Contractors: 3 lost time; 6 in total</li> <li>Number of accidents in CY2013</li> <li>Employees (SMM-controlled workplaces and group companies): 3 lost time; 10 in total</li> <li>Contractors: 2 lost time; 4 in total</li> </ul>	<ul> <li>Number of accidents in CY2012</li> <li>Employees: 3 lost time; 11 in total (20 additional small-scale accidents)</li> <li>Contractors: 2 lost time; 6 in total (8 additional small-scale accidents)</li> </ul>
No new cases of occupational disease No Control Class 3 workplaces	<ul> <li>There were no new cases of occupational disease</li> <li>Number of Control Class 3 workplaces (as of March 2013) Dust: 4; lead: 1; nickel compounds: 3; arsenic and its compounds: 1; manganese: 1</li> </ul>
Promote the four cares (self-care, outside care, care by the organization, care by health staff)	<ul> <li>Continued meetings with industrial physicians for employees who worked long hours</li> <li>Mental health checks were implemented through employee assistance programs (EAP) (2,781 employees)</li> <li>Mental health care training was implemented (21 times)</li> <li>Industrial counselor training (3 counselors)</li> </ul>

# Expectations for SMM Group

# Yukihiro Hoshi

Managing Director; General Manager, Technology & Environment Dept. Japan Mining Industry Association

The Japan Mining Industry Association works to share information on and study health and safety related issues at its member companies through such organizations as the Safety Act Sectional Meeting, Safety and Health Sub-committee, and Safety Site Meeting.

I always focus on the wishes of our important stakeholders—the families of our employees and contractors—who want to see their family off every morning and hear him/her cheerfully call out "I'm home!" in the evening. Safety is therefore an issue that affects all of society.

In addition to SMM's hazard training simulation zone at the Oji-kan facility, and the JCO Study Center, from 2013 the company began holding safety training courses at the SMM *Anzen Dojyo*. I understand that the facility aims to vitalize group training at each business site by developing human resources who will play a central role in training and instructing others in workplace safety matters across the Group. I hope that graduates of the *Dojyo* program will form their own ideas on what needs to be done to ensure safety in their own workplaces, share these ideas with their managers and junior staff, and take action to reform workplace safety initiatives.

As SMM works towards its Vision for 2020, business operations at sites outside Japan are likely to expand further. In the future, I would like to hear reports on the company's health and safety initiatives at its overseas sites.



# Vision for 2020

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

- No occupational accidents throughout the SMM Group (including business partners)
- Zero incidence of occupational disease
- Create workplaces where protective equipment (earplugs/masks) is unnecessary
- A vibrant company whose workforce is
- physically and mentally healthy

Physical Health	<ul> <li>Strengthen work environment improvements and maintenance with a priority on Control Class 3 workplaces*.</li> <li>Gather information on chemical substance regulations and legal revisions and carry out appropriate action at related workplaces.</li> </ul>
	* 1 Class 3 workplaces: Under the Japanese Industrial Safety and Health Act, indoor workplaces that handle harmful chemical substances and conduct hazardous operations are categorized from Control Class 1 to Control Class 3 based on the results of work environment measurements. Control Class 3 workplaces are those with the most critical measurement values, and improvements to these working environments are legally required.
Mental Health	Continue current activities and enhance mental health initiatives.

Challenges	CY2013 Plan
<ul> <li>More than half of all accidents, including small-scale accidents, involved less-experienced employees</li> <li>Some accidents involved unsafe practices, insufficient management, and recurrence of past accidents</li> </ul>	<ul> <li>Entrench implementation of work observations</li> <li>Carry out accident prevention measures in priority areas</li> <li>Implement employee education for individual workplaces</li> <li>Enhance education for less-experienced employees</li> <li>Enhance safety management for contractors</li> </ul>
<ul> <li>Work environment: Although on a declining trend overall as increases and decreases fluctuate, a zero level has not yet been reached</li> </ul>	<ul> <li>Steadily implement and continue work environment improvements</li> <li>Manage use and maintenance of protective equipment</li> <li>Comply with new regulations and legal revisions relating to chemical substances</li> </ul>
<ul> <li>Implementing on an ongoing basis</li> </ul>	<ul> <li>Counseling for employees who work long hours</li> <li>Mental health checks</li> <li>Mental health care training (managers, supervisors and regular employees)</li> <li>Industrial counselor training</li> </ul>

# Takashi Sugiura

Subcommittee Chairman's Comment

Chairman, Occupational Health & Safety Subcommittee; Executive Officer; CSR Executive Officer; General Manager, Safety & Environment Control Dept.

It is of course essential that we protect the health and safety of all employees, including those of our contractors, and ultimately we aim to provide an environment where employees feel the joy and satisfaction of life through their work.

In 2012, there were 11 accidents at the Group, which was fewer than the target we set. I believe this improvement is due to our progress in identifying problem areas and building a framework for data collection to create effective measures to prevent recurrence, as well as improved awareness among employees that accidents are not acceptable, emphasized by the heads of departments immediately rushing to the work floor when an accident occurs.

In the future, as we aim toward zero occupational accidents, I believe we must work to ensure employees have a strong awareness that they must prevent injuries to themselves and others. We must also ensure that managers not only work to prevent recurrence of accidents and share information across Group sites, but also perform risk assessments to detect and prevent any possible accidents before they occur, and create and operate safety initiative plans tailored to the situation at each workplace. At the SMM *Anzen Dojyo* which opened in March 2013, we will train students gathered from sites across the Group in safety philosophy, techniques, and training methods to provide them with the skills to become safety leaders at their respective workplaces after they return. By conducting high-level safety initiatives tailored to each workplace, we will work to achieve our Vision for 2020.





## **Basic Approach**

SMM engages in a wide range of activities in line with its CSR Policy, which states, "According safety the highest priority, SMM shall provide safe, comfortable working environments and seek to eliminate occupational accidents."

The Vision for 2020 includes, "a company that accords safety the highest priority and provides comfortable working environments," stipulating the following four specific targets.

Safety	No occupational accidents throughout the SMM Group (including business partners)
Physical	<ul> <li>Zero incidence of occupational disease</li> <li>Create workplaces where protective</li></ul>
Health	equipment (earplugs/masks) is unnecessary

Mental • A vibrant company whose workforce is physically and mentally healthy

Safety-related activities are advanced under a basic policy to "nurture a safety culture and ensure thorough safety management at all business sites and Group companies" in order to provide safety assurance and to realize the CSR Policy and Vision for 2020.

To raise the effectiveness of these measures, we are working to strengthen safety management at the divisional level, focusing particularly on specified "top-priority workplaces," where statistically many accidents occur. Activities related to health include ascertaining levels of

dust, lead, noise, specified chemicals within work environments, making improvements to those environments where necessary, and enhancing occupational health management.



An annual meeting of health, safety and environmental personnel. Held at Harima Smelter, Non-Ferrous Metals Division, in 2012.

# Occupational Health and Safety Management Frameworks

The executive officer with jurisdiction over the Safety & Environment Control Department, who takes responsibility for matters relating to health, safety and the environment, coordinates health and safety management for the SMM Group.

The general manager of each workplace is appointed health and safety manager for that workplace, as provided for under the Japanese Industrial Safety and Health Act. Health and safety management is advanced within the organization according to instructions given by the general manager.

Constructive discussion on ways to improve health and safety in the workplace takes place during meetings of the occupational health and safety committees comprising representatives from both labor and management.

# Health and Safety Activities in the Workplace

Each workplace carries out initiatives relating to health and safety based on annual targets for the SMM Group set for each of those areas.

The following are safety-related measures given priority during 2012.

- (1) Implementation of work observations<sup>1</sup>
- (2) Implementation of accident prevention measures in priority areas
- (3) Implementation of employee education for individual workplaces
- (4) Strengthening of education for less-experienced employees<sup>2</sup>
- (5) Minimization of risk through risk assessments

Other priority safety initiatives implemented by individual workplaces, with top management leading by example, include safety evaluations by top management, learning from close-call events, and hazard prediction training. Safety activities are advanced by employees of the SMM Group together with contractors.

Health-related activities during 2012 were pursued under the following themes.

- (1) Steady implementation and continuation of work environment improvements
- (2) Protective equipment usage management and upkeep(3) Enhancing awareness of, and communication about,
- the dangers and hazards of chemical substances
- (4) Compliance with stricter work environment regulations relating to chemical substances
- (5) Care as part of health management (e.g. health guidance for employees showing signs of conditions)

As an initiative relating to occupational diseases, levels of dust, lead, noise, specified chemicals and other parameters within work environments are measured on a regular basis each year and controls are in place for each parameter.

A labor-management agreement pertaining to dust, VDT syndrome, lead and noise sets forth procedures for preventing illness and taking action when illnesses occurs.

Even before the regulations were introduced, procedures and improvements have been promoted in accord with industry guidelines for indium compounds, cobalt and non-organic compounds, which were added to the list of specific chemical substances in October 2012. We will continue to gather information about regulations in order to implement appropriate measures.

 Work observations: Fixed-point observations of workers' movements
 Less-experienced employees: Employees with less than five years' experience

# **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 telephone or our website.

# My Way of Doing Good



Every two years, I have a display at a *bojagi* (Korean patchwork cloth) exhibition. I have learned the importance of accumulating small things and perseverance by making these items.

Junko Chiba, Administration Dept., Non-Ferrous Metals Div.



MSHE management respects the rights of employees and impartial decision-making has long been carried out without discriminating employees. I think that's something amazing.

Azri Marzen, Malaysian SH Electronics Sdn. Bhd.

Self-checks have continued in FY2012. Based on the results, training is being conducted for guidance in respect to workplace communication. Practical training was implemented for managers and supervisors to enhance care of employees within the organization, along with basic courses for regular employees. A "return to work trial" system was also implemented to help employees who have been on long-term leave due to a mental disorder settle back into work life. We are also nurturing in-house mental health care specialists by having labor affairs personnel obtain industrial counselor qualifications.

In FY2013, we will continue to improve upon the four cares—care provided by the organization, self-care, care provided by health staff, and care provided by outside institutions.

#### **Incidence of Occupational Accidents**

The total number of accidents at workplaces in Japan during 2012 was 11, which improved upon the previous best safety performance of 14 accidents in 2009. There were 17 accidents at overseas workplaces. No fatal accidents occurred at workplaces in Japan or overseas. There were no instances of occupational illnesses in Japan, but one case was recognized overseas, with an incidence of slight deafness at the plant in China (the company concerned was liquidated on February 1, 2013). Note that this data is based on the calendar year, January to December 2012.

## Activities at the Oji-kan Facility

The SMM Group's experience-based training facility, the Oji-kan, commenced hazard simulation courses in January 2010. By March 31, 2013, a period of roughly three years, a total of 3,354 Japan-based SMM Group employees and 2,486 contractor employees had undergone training there. Some workplaces in the Niihama District even use the Oji-kan's facilities for their own independent safety activities.

Overseas workplaces also make good use of the Oji-kan. Employees from Coral Bay Nickel Corporation take part in hazard simulation programs each year. Executives from the Pogo Mine have observed the facility and are applying what they have learned to safety activities at the mine.

Tours of the Oji-kan facility are also provided to other

corporations and outside organizations. Every year, a large number of such corporations and organizations come to visit the facility.



▲ Training and education for those taking the lead in workplace safety began in March 2013 at the SMM Anzen Dojyo

# **Issues and Targets**

When comparing accidents that occurred in 2011 with those of 2012, the involvement of less-experienced employees dropped from around 60% of all accidents to 40%, and the ratio of accidents occurring at top-priority workplaces dropped from 80% to 50%. Room for improvement remains as there are still accidents that were the result of unsafe activities, former accidents that have re-occurred, and accidents caused by not following safety education (procedures and rules).

In 2013, we will advance key initiatives to address these issues, namely entrenching implementation of work observations; accident prevention measures in priority areas; employee education for individual workplaces; and enhancement of education for less-experienced employees. As part of the plan to strengthen workplace safety activities and safety education, the Safety & Environmental Control Department is training those taking the lead in workplace safety at each business site at the SMM *Anzen Dojyo*.

In the area of health, the Safety & Environment Control Department will implement health patrols at Control Class 3 workplaces and provide guidance on improvements. Compliance with chemical substance controls will be ensured by identifying, and taking necessary action on, the dangers and hazards of chemicals and other substances while following legislative developments. In terms of mental health, we are enhancing mental health education for regular employees, managers and supervisors. Health management will continue to be advanced through implementation of health guidance, consultation and education by industrial physicians based on health examination results.

Data on Occupational Accidents in Japan

#### SMM n olidated Group companie Total Year All accidents 8 11 3 Deaths 0 0 0 2012 Lost time accidents 0 3 3 Working days lost 9 172 181 All accidents 5 11 16 Deaths 0 0 0 2011 Lost time accidents 4 1 5 Working days lost 313 60 373 All accidents 8 11 19 Deaths 0 0 0 2010 Lost time accidents 2 3 5 Working days lost 98 27 125 All accidents 5 9 14 Deaths 0 0 0 2009 Lost time accidents 3 1 4 Working days lost 453 1 454 All accidents 12 16 28 0 Deaths 0 0 2008 Lost time accidents 2 4 6 12 12 Working days lost 24

\* Boundary: 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.
\* No fatal accidents have occurred at SMM or a group company since 2004

My Way of Doing Good



I treasure all of the aspects of everyday living, and I enjoy the process of work more than just the results of work. Even when results are not immediately obvious, I try to imagine that my actions will be useful in 10, or even 100 years.

Hiroko Hosaka, Vancouver Office



I am a member of the Junior Chamber International Niihama, and we try to get involved in town planning and training young people. I hope that this activity will contribute to developing the town, even if only in a small way.

Tai Ito, Battery Research Laboratories, Technology Div.



# Safety Initiatives

We are working toward zero occupational accidents throughout the SMM Group (including contractors) by establishing safe workplaces all over the world.

# **Initiatives at Toyo Smelter & Refinery**



▲ Training less-experienced employees at the Oji-kan facility

My job is to make sure that every employee can return home safely from work. Our safety initiatives include workplace safety evaluations and other types of risk assessment and patrol activities. Workplace procedures are reviewed depending on the results of these activities. It's easy to become complacent if the activities don't change, so we plan activities and add new elements every year. There is no end point for safety measures, and accidents may occur even if safety tools are properly used. The key issue for me is to ensure that safety initiatives in each workplace are kept up to date by viewing things from an on-site perspective. It is vital for community-based companies to make regional contributions and I believe that keeping factories accident free will allow us to contribute to local communities. I am proud to work for Sumitomo as we aim to eliminate workplace accidents.

Be safe!



Tsutomu Noda Safety Staff, Administration Sect., Non-Ferrous Metals Div., Toyo Smelter & Refinery

# My Way of Doing Good



My job includes such duties as interpretation and sales. Although Chinese and Japanese staff members have different customs and ideas, I want to do my best to bridge the gap between them.

Cindy Wan, Dongguan Sumiko Electronic Paste Co., Ltd.

# **Initiatives at CBNC**



A Practice fire drill

Coral Bay Nickel Corporation (CBNC) was established in 2002. 10 years have already passed, and I think our safety activities have reached the same level as SMM plants in Japan, thanks to various avenues of support. However, CBNC's supervisors are younger than those in other SMM plants, so we decided to start a Safety Culture Committee in 2012 which mainly consists of members trained at the SMM Oji-kan. This committee encourages the supervisors to think about basic safety rules and it raises their safety awareness.

CBNC achieved zero accidents in 2012. We are trying to maintain and improve on this record, but unfortunately the number of accidents suffered by our contractors has not decreased. Although a Contractors' Safety Committee Meeting is conducted every month to pass on safety information, safety management is still lacking. In 2013, we are starting new programs to prevent complacency regarding safety activities and to completely eradicate accidents by improving safety in the Harbor Maintenance

Group and by inspecting the actual work of contractors for safety.

Diosdad Paraiso Safety Section Manager, Coral Bay Nickel Corporation





I try to get back to nature through my hobby, which is climbing mountains with as little equipment as possible.

Yusuke Otsuka, Sales & Marketing Dept., Materials Div.



# **Initiatives at SHAP (Singapore)**



▲ Meeting after the factory audit

SH Asia Pacific Pte. Ltd. (SHAP) has established a Workplace Safety and Health Management System Framework in line with government regulations using the fundamental principles from our parent company, SMM-Japan, and this system is being duly implemented at the SHAP Office and all subsidiaries.

SHAP's CSR Department works closely with the SMM Safety & Environment Control Department, as well as all Group companies and government authorities to establish health and safety initiatives and standard practices, and to raise health and safety awareness throughout the SHAP Group. Specifically, we are working toward the goal of zero accidents by means of factory audits, factory inspections from the monthly health and safety committee, risk assessments and emergency drills and training.

As a result of these activities, workplace accidents decreased from 21 accidents in 2008 to just five accidents in 2012.

A safe workplace makes people more productive, which

increases the benefits to the company. That is why health and safety initiatives are so important.



Karen Tan Section Manager, CSR Dept., SH Asia Pacific Pte. Ltd.

# My Way of Doing Good



I am involved in initiatives to make Niihama City more attractive and to clean the main building areas. It feels more refreshing when it's clean so I want to get as heavily involved as I can.

Miho Miyazaki, Besshi-Niihama District Div.

# **Health Initiatives**

We are aiming to establish workplaces where there is zero incidence of occupational disease and protective equipment (earplugs/masks) is unnecessary.

# **Indium Management at Ome District Division**

The Ome District Division started its sputtering targets business in 1996, after which it began marketing transparent conductive-film target products, the main component of which is indium oxide. As the



▲ ICP-MS analysis equipment

various powders were being handled, improvements were made in the three areas of occupational health management<sup>1</sup> for dusty workplaces. The Ministry of Health, Labor and Welfare provided companies handling tin-doped indium oxide with directives for the prevention of health impairment in 2004 and 2010. Improvements were made to meet the standards laid out in both cases. In order to create a suitable working environment for the ppb<sup>2</sup> level, training was provided for the newly-installed ICP-MS analysis equipment<sup>3</sup>, which measures the working environment. Improvements in the workplace were quickly made as a result of these measurements. Employee health management also came to include a high-level medical examination with cooperation from our risk evaluation committee members Keio University and Kyushu University.

Since January 2013, indium compounds have fallen under specialized regulations that are helping to establish an increasingly safe and secure workplace.



- Three Areas of Occupational Health Management: Established standards for occupational health management in the areas of working environment, work, and health.
- ppb: concentration of 1  $\mu g$  per liter, or 1 in 1,000 ppm.
- 3. ICP-MS analysis equipment: Inductively coupled plasma mass spectrometer for super-sensitive chemical identification and volume analysis



When crossing a road, you have to look around for cars when going through traffic lights. It's the same for work safety-make sure there are no safety hazards before acting.

Li Wei Hua, SH Electronics Suzhou Co., Ltd.



# Stakeholder Communication

Aiming to achieve the communications conditions shown on the right

# Targets, FY2012 Achievements and FY2013 Plan

Target	FY2012 Achievements
Create opportunities for face-to-face dialogue with stakeholders	<ul> <li>Second employee awareness survey conducted in February 2013. Results analyzed to provide feedback to each facility and plant in order to make a better company with better workplaces</li> <li>Created introductory video for SMM's CSR activities, which was distributed to plants and group companies in Japan and overseas. Ascertained level of understanding regarding CSR via viewer questionnaire</li> <li>Gathered information of other companies in order to produce educational materials for Sumitomo Business Spirit, SMM Group Corporate Philosophy, etc. Specific teaching materials will be produced</li> <li>Published examples of Group CSR activities in in-house bulletin. Feature articles for each CSR activity are being published in every issue from 2013</li> <li>Besshi District Plant tour and former Besshi Copper Mine climbing tour conducted in July for SRI and ESG representatives of institutional investors</li> <li>Communication Subcommittee study group held for partnership with citizen groups and the government at Pogo Mine</li> <li>Continued to exchange information regularly with related environmental NGOs</li> </ul>

# Expectations for SMM Group

Dr. Michiyo Morisawa Japan Director, PRI

Responsible Investment (RI) involves evaluating businesses that are targets for investment from a long-term perspective. When making the decision to invest, environmental, social and corporate governance (ESG) issues are taken into account in addition to financial information as it's important that the company will continue to operate in the long-term. Responsible Investment has quickly spread throughout the world of investment, and it is already recognized as the standard evaluation method for the industry, particularly in the U.S. and Europe. The importance of ESG varies according to the type of industry and the type of business. In the mineral resources business, which makes up the core of SMM's revenue and is fundamental to the future business strategy, operational development that considers the environment and contributions to local communities are of increasing importance. Information disclosure, along with safety, labor-management relations and supply chain management are important issues, and SMM is highly recognized in that regard. Disclosing the appropriate information as required by stakeholders gains the trust of society and improves corporate evaluation. In 2012, SMM began a dialogue with Principles for Responsible Investment (PRI\*) institutional investors. I hope that such communication will continue to be made with each stakeholder in the future.



\* PRI: Principles for Responsible Investment Optional principle where ESG (environment, social, corporate governance) issues from within the range of tru-liability are reflected in the decision-making process of institutional investors. Promoted by the United Nations Environment Program (UNEP) and the UN Global Compact. e of trustees'

# Vision for 2020

A company that is open to communication with stakeholder groups worldwide

- SMM and stakeholders engage in dialogue in good faith with respect for each party's standpoint
- · SMM carries out transparent information disclosure, and ensures explanations are complete in order to achieve mutual understanding
- · Key themes: transparency, accountability, attentiveness, and dialogue

#### FY2013 Plan Challenges Based on a comparison with the last survey, inspect • Draft feedback and action plan based on the results of the second the results of initiatives over the last three years since employee awareness survey the first survey Based on the questionnaire, it was found that there is • Communicate 3-Year Business Plan to employees (in-house a disparity in employee awareness of the Six Key bulletin, videos, etc.) **CSR** Areas Create specific teaching materials by narrowing • e-learning project/materials for CSR education down contents and format, etc. Continue policy of internal communication of CSR Information sharing regarding community contribution activities activities in the in-house bulletin

- Continue policy of increasing SRI and ESG representatives' understanding of SMM
- Improve level of CSR activities by studying the example of leading companies
- Collaborative ties have not yet been fully established
- and community interaction at facilities and group companies
- Continue communication with institutional investors regarding CSR and ESG
- Internal education and sharing examples of cooperation with NGOs/NPOs
- Hold regular meetings and construct collaborative ties with NGOs involved in human rights and environmental activities

# Subcommittee Chairman's Comment

Takashi Ito Chairman, Communication Subcommittee; Managing Executive Officer; General Manager, PR and IR Dept.

It is vital that SMM builds up a relationship that facilitates a free exchange of ideas with each of our eight stakeholders in Japan and overseas, including customers, shareholders, investors, employees and local communities, and that we achieve greater mutual understanding. We currently have a consistent relationship, but there are also some issues between us. One issue is how to go about strengthening communication with local communities in overseas locations. Although a long history has been built up in Japan that allows for continuous communication, communication is still lacking overseas due to cultural differences and other issues. In this fiscal year, in particular, we have put a lot of effort into strengthening ties with citizen groups. By explaining our business activities and CSR initiatives, we can pass on a greater understanding of our Company, which will construct a better relationship with great mutual trust and cooperation.

The minor actions of each and every employee are fundamental to building a relationship of mutual trust with stakeholders. I would like you all to work while keeping in mind the idea that everything you do represents the Company.





# Initiatives in the Six Key CSR Areas Stakeholder

Communication

# **Basic Approach**

Prior to the launch of CSR activities at SMM in 2008, deliberations were held relating to the SMM Group Corporate Philosophy, Management Vision, CSR Policy and Vision for 2020, and the following entities with an interest in SMM's activities were identified as stakeholders: customers, shareholders, employees,

# **Communication with Local Communities**

The SMM Group seeks adequate communication with people in the local community when making inroads into a new region. We also build up relationships of trust with the local community through regular communication even after operations commence.

# Communication with Local Communities at THPAL



Regular meeting with local government

I have been assigned to the Community Relations Section (ComRel) since March 2010. ComRel serves as a link between the Company and local communities in the implementation of the Social Development Management Program (SDMP). We reach out to the community through various channels, known collectively as the Information Education Campaign (IEC). These activities include regular meetings with local government, convening the majority of the public in a General Assembly, and gathering small groups of individuals for Focus Group Discussions (FGD). Canvassing, in particular, raises awareness of THPAL operations and products, and how the Company protects the environment and supports the community. It also gives local residents the chance to voice their questions and

concerns. These activities help us to co-exist with society, and encourage the independence of local government even after THPAL has finished operating.



Elvira V. Laspinas Community Relations Officer, Taganito HPAL Nickel Corporation

# My Way of Doing Good



I am in charge of waste processing. The world is becoming more strict about sorting waste these days. At SMM, we are trying to reduce waste by sorting it, which contributes to recycling.

Kazuto Hosaka, Harima Smelter



It's very important to conduct employee health education. We can prevent pandemics by using company databases and e-mail to provide employees with the latest information.

Xiao Han Wen, Sumiko Electronics Taiwan Co., Ltd.

# Initiatives by Sumiko Kunitomi Denshi



▲ Skiing lesson at the town-operated ski resort

Sumiko Kunitomi Denshi Co., Ltd. is located in Hokkaido near the Sea of Japan at the western base of the Shakotan Peninsula, a snowy region about 30 minutes by car from the Niseko ski resort. The mountains behind the Company property are used as a ski resort operated by the town. There is a rope tow and other nighttime equipment that facilitate skiing at night during the short winter days.

The Kyowa Town ski association that I belong to conducts skiing lessons in conjunction with the local board of education for elementary and junior high school students, and arranges tournaments for beginners and more advanced skiers at the local town-operated ski area.

I teach early-year elementary school students to ski. The skis seem so heavy for these young children. I'm also in charge of officiating the slalom event at the ski tournament.

The population of Kyowa Town, the town where the Company is based, continues to decrease. It's difficult to interact within the community in winter because of the heavy

snowfall, but I think it's great that we can encourage community participation through skiing.

Yukinobu Yoneyama General Manager, Magnetic Materials Dept., Sumiko Kunitomi Denshi Co., Ltd.



local communities, creditors, business partners, citizen groups, and the government. SMM aims to maximize its corporate value and has established targets that specify the "ideal company" for each stakeholder category.

# **Communication with Customers**

We are working to improve customer satisfaction through regular communication with customers.

# Communication with Customers at SMMK (South Korea)

SMM KOREA Co., Ltd. (SMMK) is the point of contact for customers of the SMM Materials Division in South Korea. We always keep sincerity at the forefront of our minds when it comes to regular communication with customers. In terms of the effect of being sincere in actual communication with a customer company, we were able to propose a plan that benefited both SMM and the customer with regards to the quality of copper polyimide substrates, where the burden on SMM was decreased and customer satisfaction was increased. Regular communication is part of the reason why customers can trust the high level of quality in SMM products.

Things are getting more difficult as South Korean

customers want to buy materials from South Korean manufacturers. SMMK will continue to communicate with sincerity and to build good customer relationships, which will promote sales of our products.



Park Sungjin Deputy General Manager, SMM KOREA Co., Ltd.

# Communication with Shareholders and Investors

SMM makes every effort to carry out fair and understandable disclosure of information required by shareholders and parties thinking about investing in SMM shares. Opinions from all of our shareholders are sought at regular information exchanges and round-table discussions, which is put to use by Company management.

# Communication from an SRI Perspective at Besshi-Niihama District Division

It is becoming increasingly important for the business investment activities of institutional investors to be based on



▲ Explaining the history of SMM to investors at the former Besshi Copper Mine

Socially Responsible Investment (SRI). This refers to the idea of considering a company's Corporate Social Responsibility (CSR) activities as well as its financial status when deciding whether to invest. In line with this purpose, the UN published the "Principles for Responsible Investment" (PRI). As new IR initiatives, SMM conducted inspections and conferences in the Besshi District on July 19 and 20 that were primarily aimed at PRI institutional investor personnel.

Health and safety initiatives and hazard simulation courses were demonstrated at the Oji-kan facility, while employee compliance awareness at the JCO Study Center showed that criticality accidents have not been forgotten. At the Besshi Copper Mine Memorial Museum and while climbing the former Besshi Copper Mine, the participants gained a deeper understanding about the Company's historic business activities in terms of past CSR programs, such as tree planting and the victory over smoke pollution.

There was a lively exchange of ideas about the Company's overall CSR activities at the conference, which was a reminder of why such events are so important.

Kunihiko Miyamoto General Manager, Public Relations & Investor Relations Dept.



My Way of Doing Good



I participate in regional activation by joining neighborhood associations and fire-fighting companies. Despite being over 50 years old, I do everything I can and communicate with others in order to protect the local community.

Shinji Manabe, Niihama Electronics Co., Ltd.



In my daily accounting work, I try my best to be environmentally friendly by using double sided printing and recycling used paper. I believe that being eco-friendly is a key factor in business sustainability.

Alice Zhao Qing, SMM Oceania Pty. Ltd.



## **Basic Approach**

The SMM Group aims to create work environments that allow employees to remain proud of where they work and what they do. We are putting systems in place for tapping the opinions of employees and applying them to management.

#### **Employee Awareness Survey**

In March 2010, SMM commissioned an employee awareness survey to an external specialist organization in order to create a better company and workplace through communication with employees, who are important stakeholders. Results from the survey were used to provide feedback to employees through means such as the company newsletter, and we have formulated and are implementing action plans to address the issues identified in each division.

As three years had passed since the previous survey, we also conducted a second employee awareness survey in February 2013 to assess current employee awareness and any changes over the past three years, and to use the feedback to further improve the company and workplace environments. As previously, the survey was commissioned to an external specialist organization. Once the data has been collated and analyzed by the commissioned organization, we will provide feedback to each division.



▲ Employee awareness survey form

### Labor-management Relations

Workers' unions formed at SMM branch offices and facilities of SMM Group companies in Japan carry out activity under the umbrella of the Federation of Sumitomo Metal Mining Workers Union (Sumikoren). In principle, all regular employees join workers' unions in accordance with union shop agreements. Overseas, two consolidated subsidiaries have workers' unions. As of March 31, 2013, around 10% 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 company and union mutually respect the other party's position, labor-management council meetings, or labor-management discussions, are held at least once a month with unions at each branch office or group company. The Central Labor-Management Conference, a meeting between SMM management and executives of Sumikoren 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 facilities in order to observe the labor-management situation in those locations 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 to, or the additional formulation of, a wide range of measures. In the case of business reforms expected to have a significant impact on employees, considerations include providing sufficient advance notice. Although in FY2012 we exited the bonding wire business as well as the production of lead frames in Thailand and subtractive COF in Taiwan, we gave notice of these decisions earlier than the legally required period in consideration of the future of our employees. As a result of these efforts, no plant closures of a week or more due to strikes or other action were reported during FY2012 within the entire SMM Group-both in Japan and overseasand there were no serious infringements upon freedom of association.

# Matters discussed with unions (during FY2012) included:

- Business conditions overview
- Monthly performance figures
- Plans relating to business restructuring



# **Relations 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 in SMM shares. Information necessary for investors is made available on the SMM website, including business activities, earnings, financial data, and outlines and progress updates of 3-year business plans and other growth strategies. The Report for Shareholders is also sent out to shareholders on a regular basis.

We have also formulated an IR policy to serve as a set of guidelines for adequate engagement in IR activity. This policy sets standards for information disclosure and disclosure methods, and is available for public viewing on the company website.

Corporate governance refers to the frameworks in place which give order to corporate activity for the purpose of maximizing the value of the corporation and ensuring sound business. SMM views corporate governance as one of the most important management themes. We work to build and maintain an optimal system of business administration, pursuing transparency and efficiency of management in order to continue being a company that earns the trust of shareholders and all other stakeholders, and meets their expectations.

#### **Investor Relations**

SMM holds twice yearly Business Strategy Progress Briefing Sessions in which the president explains business strategies for institutional investors and securities analysts following announcement of full-year and second quarter results. In addition, the company held a briefing session in conjunction with the announcement of its 3-Year Business Plan in February 2013. The PR and IR Department also holds earnings briefings via teleconference four times a year, for each quarterly settlement.

In addition, a total of around 470 individual meetings with institutional investors and securities analysts were held in FY2012 to provide a direct communication channel. We also pay visits to institutional investors to gain feedback from personnel responsible for governance and exercising of voting rights.

# Shareholder Composition (March 31, 2013)



#### **Communication with Individual Investors**

SMM has established a section for individual investors in the company website and endeavors to disclose IR information in an accessible manner. The website provides data that provides a better understanding of our business, and also includes information such as materials aimed at institutional investors and Annual Reports.

We also respond to a variety of telephone and email inquiries from individual shareholders, which is a valuable opportunity for direct communication. In the Report for Shareholders issued in December 2012 we asked individual shareholders to complete a questionnaire, and received a large volume of responses. We will use the feedback collected to improve our future IR activities.

# Feedback from Shareholders and Investors to Management

Opinion 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.

#### **General Meeting of Shareholders**

The General Meeting of Shareholders is an opportunity to engage in communication with shareholders. Efforts are being made to invigorate the meeting, for example by providing early notice of meetings and through the use of electronic voting.

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.

# **Issues and Targets**

In FY2012 SMM was again chosen by the Securities Analysts Association of Japan for an Award for Excellence in Corporate Disclosure, following its selection in FY2011.

By continuing to enhance IR activities, we aim to promote greater understanding of SMM's business approach among more people. For communicating information, we will enhance the "Investor Relations" section on the company website further and make it more accessible.



Pursue quality levels that stand

out from the trends of the time

Abide by laws and rules and

strive to create products

incorporating safety and

#### **Basic Approach**

The SMM Group's core businesses are mineral resources, smelting and refining, and materials. In addition to ore refining and the manufacture and sale of metal ingots for use as a raw material, we manufacture and sell products such as semiconductor materials and advanced materials, drawing out the potential of each metal through our own processes. The customers of our raw materials and processed materials businesses may differ, but we strive to fulfill the needs of each and every one, by introducing world-class, cutting-edge technologies to ensure high levels of performance and quality. The whole SMM Group pursues superior product creation, incorporating quality, safety and environmental considerations, through compliance with product safety and other product-related laws and regulations. This is something that only we can do as a company carrying out manufacturing from the raw materials stage.

1

2

# Company-wide Quality Policy

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

**Quality Management Frameworks** 

At SMM, based on the company-wide quality policy, personnel with responsibility over each business site set policies and plans tailored to their particular circumstances and issues and put in place management systems centered on the ISO 9001 standard<sup>1</sup>. Furthermore, we pursue effective activities through proper system operation, and those activities are audited under an internal quality audit system. The Quality Management Committee works to promote and support the implementation of quality activities of each business division throughout the company. The committee is responsible for reviewing company-wide activities and deliberating on changes to the company-wide quality policy. The Safety & Environment Control Department is in charge of communicating and administering matters relating to the company-wide quality policy. It also provides support, in the form of guidance, assistance, information and education, to the personnel in charge of quality control in each business.

 Around 80% of business sites in Japan have acquired ISO 9001 certification. All locations which have not been certified operate their own quality management systems.

#### **Employee Growth through "Quality Training"**

To maintain consistent customer satisfaction in quality, it is necessary to nurture employees who can respond to ever changing demands and circumstances. To that end, we have begun systematic quality training for administrators and manufacturing sites. Moreover, we are conducting skill improvement programs for internal quality auditors to ensure the integrity of all processes and implementation of continual improvements.

#### **Raising the Standard of "Total Quality"**

At SMM, we accurately determine the effects of products and services on health and safety so that we can seek improvements through organized implementation and linking of 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). For that purpose, we work to raise the level of "total quality" through current assessments, the setting of improvement targets, the execution of improvements and verification for each process. Almost all our products are subjected to this kind of "Assessment to Improvement" cycle.



#### Cycle for Instilling Our Products with "Total Quality"

# 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 in the manufacture of their products. Information customers require in order to handle our products properly from safety and environmental perspectives, as well as information enabling them to supply the final product, is generally communicated in product specifications at the time of contract, during technical discussions, and via inspection certificates<sup>2</sup> and SDS, based on a database of information ranging from the past to the most recently acquired knowledge, and necessary surveys.

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 operation of a management system, reviewing the information based upon the latest technology, recent laws and regulations, and requests from customers.

2. Inspection certificate: Product composition and performance documentation issued for each batch

#### Important Information on Products and Services

- Does the product or service contain or involve materials that are potentially harmful, particularly to the environment or society?
- What information is available regarding how to use the product or service safely?
- Will recycling or disposal of the product harm the environment or society?

We also conduct surveys linked to life cycle assessments (LCA) for copper, nickel and zinc through associations related to individual products.

#### Methods for Providing Information

**Provision of information relating to specifications** Information regarding product specifications requested by the customer on their order placement sheet is provided by showing specifications of the product delivered by SMM on the order received sheet.

# Provision of information relating to chemicals

Customers have a major interest in companies' response to regulations on health and safety relating to product handling and chemical substance regulations. The SMM Group provides information on chemical substances contained in products using SDS and other methods.

#### Other methods

The SMM Group also engages in transactions such as sales of different types of lubricants and ingots of gold, where the customers are 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 among consumers.

There were no violations of laws or regulations relating to products and services during FY2012.

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	Applicable to products/services containing substances controlled or 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 an environmental or social impact	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		
Disposal of the product and environmental/social impacts	All products/services containing substances requiring management under legislation		

#### **Communication with Customers**

As mentioned earlier, most SMM Group products are raw or processed materials and they have a major influence on the performance and quality of the products manufactured by customers. It is therefore vital that we engage in apt and adequate communication with customers all the way from the order through to delivery and follow-up confirmation that our products performed according to specifications after passing into the hands of customers. We also implement other initiatives required for some products, including routine questionnaires, and use information such as complaint trends and customer feedback to evaluate the satisfaction of individual customers on a five-tiered scale. The findings are incorporated into action and measures at the management level through the management systems in place.

# Issues and Targets: Creating Quality through Employee Involvement

After re-acknowledging that quality is all about striving to fulfill the requirements of the customer, with everyone involved making an effort to find out what those requirements really are, information sharing activities were commenced in FY2011. These activities require dynamic efforts based on timely and accurate communication. Ongoing improvements are being made to management systems to be utilized for the activities. In terms of product safety and information disclosure, we will bolster frameworks for disclosing all the information customers require, including information on substances in our products, and further ensure frameworks allowing a swift and appropriate response to customer needs. As for raising the level of customer satisfaction, first we will improve methods of measuring and evaluating customer satisfaction and then work to increase customer satisfaction through effective measures after accurately identifying the issues at hand.



# **Basic Approach**

A large number of suppliers' help maintain the operations of the SMM Group's plants. They include: suppliers of various ores and intermediate materials; suppliers of ancillary materials, fuel and other materials used for operations; manufacturers of machinery, equipment and plant facilities; and contractors. In the SMM Group, we believe it's important to build relationships with these suppliers based on fairness and mutual trust, enabling mutual prosperity over the long term.

The SMM Group Code of Conduct calls for group companies to fulfill their collective responsibility toward business partners by striving to be "a company demonstrating considerable technological capability and integrity while placing value on trust and with which mutual prosperity can be gained" and stipulates engagement in "free and fair transactions carried out under conditions of propriety" as the Group's stance on purchasing activities.

 At SMM, raw materials procurement is performed by individual business divisions while procurement of equipment and materials for operations (including ancillary materials) is performed by the Purchasing Department.

# **Supplier Selection**

Suppliers are selected in line with our regulations on materials. The following criteria are taken into account.

- 1. Credit rating
- 2. Level of technology
- 3. Condition and capacity of equipment
- 4. Delivery date certainty and flexibility in abnormal circumstances
- 5. Willingness to cooperate with SMM

When engaging in business for the first time, a materials transaction notice is sent to the supplier, who submits a letter of intent after confirming SMM's policy and approach.

The Purchasing Department is in contact with around 4,000 suppliers. Basic transaction agreements are entered into with suppliers with whom transactions of a certain size are expected on an ongoing basis (381 companies as of March 2013).

Suppliers who enter a basic transaction agreement are asked to respond to a supplier survey once every three years.

Although agreements and supplier surveys do not touch upon human rights, SMM does recognize observance of human rights by suppliers as an important criterion. The Purchasing Department conducts human rights questionnaires in line with the SMM Group Policy on Human Rights established in August 2010, targeting suppliers of parts and ancillary materials contained in SMM products that could potentially impact the supply chain (SMM, customers and consumers). Hearings based on the findings are conducted during follow-up visits to suppliers. Hearings were held with 11 suppliers during FY2012 based on findings from the FY2010 questionnaire (targeting 15 companies). This completed hearings with all suppliers who finalized the questionnaire in FY2010. SMM managed to confirm there were no problems with any of its suppliers' efforts to observe human rights, and to convey the aims behind its own initiatives.

#### **Communication with Suppliers**

Smooth and regular communication with suppliers is vital for gaining an accurate grasp of suppliers' opinions and requests, and trends within particular industries, as well as for exchanging information relating to process improvements and new technologies. Divisions in charge of procurement engage in this kind of dialogue daily based on friendly relationships the SMM Group has built up over the years with suppliers.

## **Consideration for Local Communities**

Procurement is one aspect of the SMM Group's business operations which benefits local economies. We undertake procurement in local communities according to the company's purchasing classifications.

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 FY2012 was 54% (¥11.8 billion) for the Niihama District.

# Establishing a System for Supply Chain Management

The Materials Division views maintenance and operation of a system for supply chain management as its corporate responsibility and an important part of business administration.

Society's needs change with the times, and suppliers' technical expertise and facilities may not always fit the division's requirements. And, needless to say, industry trends and the opinions of suppliers must be taken into account when we engage in transactions.

The Materials Division maintains ties with suppliers through ongoing, two-way communication. In regard to environmental preservation in particular, the division asks suppliers to complete surveys about chemical substance management, acquisition of environmental certification, progress on energy and resource savings, and waste reduction. It also shares environmental preservation initiatives in which it is involved.

# **Initiatives Relating to Conflict Minerals**

The Democratic Republic of the Congo and surrounding countries produce large amounts of minerals such as gold, tin and tantalum. Excavation of these mineral resources can lead to severe human rights abuses such as forced labor and child labor, and rebel forces and other armed groups use these resources as a major source of funds, thereby expanding and prolonging conflicts.

Besides requesting nations to ban arms exports to countries involved in conflicts, the international community is trying to stem conflict with ever stricter demands, such as asking the mineral resources industry to boycott minerals sold by armed groups.

Laws and other regulations are also being put in place. In the United States, the Dodd-Frank Wall Street Reform and Consumer Protection Act became law in July 2010. The act defined specific minerals (gold, tin, tantalum, tungsten) produced in the Democratic Republic of Congo and nine surrounding countries as "conflict minerals" and obligated corporations listed on American stock exchanges to report to the Securities and Exchange Commission (SEC) on the use of conflict minerals.

In the electronics industry, which uses large amounts of elements like tantalum and gold for mobile phones and PCs, major corporations have led formulation of the Electronic Industry Code of Conduct (EICC). The code asks companies, when procuring raw materials, to go beyond legal compliance and promote compliance with global standards on social responsibility relating to such areas as labor conditions and employment practices, health and safety, ethical employment practices, and environmental protection.

Given the above circumstances, the SMM Group agrees with and declares support for the principles of the Extractive Industries Transparency Initiative (EITI)<sup>2</sup>. Based on the SMM Group Policy on Human Rights, it is working to improve transparency among raw materials suppliers to avoid contributing to human rights violations related to conflict minerals. In order to guarantee that no conflict minerals are used in the SMM Group's gold smelting business, from FY2012 we began operating in accordance with the LBMA Responsible Gold Guidance<sup>3</sup> issued by the London Bullion Market Association (LBMA), and our compliance of the Guidance was assured by a third party organization.

- The Extractive Industries Transparency Initiative: a global cooperative framework that aims to prevent corruption and conflict—thereby promoting responsible resource development that leads to growth and the reduction of poverty—through greater transparency in payments made to governments by extractive industries such as oil, gas and mineral resources.
- 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.

#### **Issues and Targets**

In the future, not only the Purchasing Department but all divisions with procurement functions (Purchasing Department and the raw materials departments of each division) will strive to prevent the violation of human rights in the supply chain in accordance with the SMM Group Policy on Human Rights. To achieve this, the CSR Committee and Human Rights & Human Resources Development Subcommittee will create systems and frameworks for identifying potential problems.



# Examples of Communication with Other Stakeholders

### **Examples of Communication with NGOs**

The SMM Group is working to engage in regular communication with stakeholders.

We continued to exchange views with Friends of the Earth Japan (FoE Japan), the international environmental NGO, about water in the rivers surrounding Coral Bay Nickel Corporation (CBNC) on Palawan Island, and another nickel smelter in the Taganito District on Mindanao Island.

CBNC has worked to coexist with the surrounding environment through mutual understanding and cooperation with local residents since the initial project to construct the smelter began in 2001. We are also striving to reduce impact on the surrounding environment of the Taganito smelter.

We have sought to gain FoE Japan's understanding for our environmental initiatives in the Philippines, such as disclosing wastewater data in addition to explaining the above measures. We will continue listening to the opinions voiced by FoE Japan, and maintain a relationship of positive communication.

# **Economic Aspects**

# **Strengthening Economic Ties with Stakeholders**

#### **Overview of FY2012 Financial Results**

With regards to the global economy in FY2012, the overall recovery was generally at a modest pace, with a lingering yet slightly reduced sense of financial panic in Europe, economic slowdown in emerging nations, and robust expenditure in the U.S. In Japan, subsidies for eco-cars and the reconstruction demand following the Great East Japan Earthquake supported domestic demand, but the export situation was hampered by the yen continuing to appreciate and fears of global economic deceleration. However, there was massive anticipation for a swift economic recovery following a revision to the traditionally surging yen after the political power shift at the end of 2012.

In the non-ferrous metals industry, prices bottomed out half way through FY2012 and the market has been stagnant since then due to low demand.

As for the electronics industry, although components for smart phones looked promising, demand became sluggish following an inventory adjustment in the summer.

Against this backdrop, the SMM Group has worked to strengthen competitiveness in the three core businessesmineral resources, smelting and refining, and materialsand channel resources into growth businesses in line with the 2009 3-Year Business Plan for FY2010-2012, with a basic idea of promoting a new growth strategy under a long-term vision through business realignment.

Consolidated net sales for this period were ¥808.5 billion, decreasing ¥39.4 billion from FY2011 due to a decrease in the materials business caused by withdrawing operations from the bonding wire industry and a decrease in the smelting industry due to the depreciating price of nickel.

Consolidated operating income increased ¥7.3 billion from FY2011 to ¥95.8 billion as there was an improvement towards the end of the term due to rapid yen depreciation, and there were strong sales of electrolytic copper. Consolidated recurring profit increased ¥6.2 billion over FY2011 to ¥115.0 billion, while consolidated net income increased ¥21.4 billion to ¥86.6 billion.

Consolidated total capital was ¥1,351.2 billion, composed of ¥506.6 billion in liabilities and ¥844.6 billion in net assets.



#### Consolidated Recurring Profit

(Billion yen)



# Consolidated Net Income

(Billion ven)


# Aiming to be a World Leader in the Non-ferrous Metals Industry and an Excellent Company of Japan

SMM began as a company in the copper smelting business, and beyond just securing interests in superior resources, we believe that we can contribute to society by providing high quality base metal and materials, which raises our corporate value. This is the real meaning of being a "World Leader in the Non-ferrous Metals Industry," which is the objective of our continuing growth. In order to become an "Excellent Company of Japan," we are aiming at the outworking of our growth strategy under a stable management foundation with earning power at a scale of ¥1,000.0 billion/year in net sales, and ¥100.0 billion/year in net income, and thorough corporate governance and enhanced CSR activities based on a solid corporate philosophy and management vision.

# **Distribution of Value to Stakeholders**

Economic value was distributed to stakeholders during FY2012 as follows:

Payments made to suppliers to purchase merchandise necessary for business, for example, were ¥676.4 billion.

Employee salaries and welfare expenses were ¥27.9 billion.

# **Distribution of Economic Value to Stakeholders**

To shareholders and creditors, SMM paid a total of ¥24.8 billion in dividends and interest on debt.

To the government, we paid ¥28.2 billion in taxes.

To society, we contributed ¥0.4 billion, including donations for social contribution activities.

Financial assistance from the government totaled ¥0.2 billion and included cash subsidies and grants.

### **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 (in some cases, a qualified retirement pension plan); and an employees' pension fund. The projected benefit obligation is ¥57.2 billion. The portion of the projected benefit obligation to be funded by pension assets is ¥52.7 billion. Pension assets available for allocation to that portion are ¥45.9 billion.

\* Amounts are rounded to one decimal place. Detailed financial information can be viewed in the "IR Information" section of the SMM website. http://www.smm.co.jp/E/ir/

Stakeholder	Amount	Details
Suppliers	¥676.4 billion	Payments for purchase of merchandise, etc.
Employees	¥27.9 billion	Payments to employees
Shareholders/Creditors	¥24.8 billion	Payments of dividends/interest
Government	¥28.2 billion	Taxes paid
Society	¥0.4 billion	Donations, etc.

\* A retained value of ¥72.1 billion is not included in the above. Rent for use of land is minimal and therefore included in "Payments for purchase of merchandise, etc."

#### Financial Assistance from the Government

Stakeholder	Amount	Details
Government	¥0.2 billion	Subsidies, grants, etc.

\* No governments have an equity stake in SMM

Distributed Economic Value

# **Corporate Governance**

# **Basic Approach**

Corporate governance refers to the framework set up to govern corporate activity for the purpose of maximizing the value of the corporation and ensuring the strength of the business. SMM views corporate governance as one of the most important management themes.

SMM has adopted corporate auditor and executive officer systems, thereby clarifying authority and responsibilities within executive functions and enabling the Board of Directors to concentrate on supervision and swift decision-making.

The company has also set out the SMM Group Corporate Philosophy based upon the Sumitomo Business Spirit. Furthermore, the SMM Group Code of Conduct was formulated as a set of behavioral guidelines for officers and company employees to follow when putting this philosophy into practice.

Through persistent efforts to practice the Corporate Philosophy, and sound and efficient corporate activity, we will contribute to society and fulfill our responsibilities toward all our shareholders and other stakeholders.

### **Corporate Governance Framework**

Our company's corporate governance framework is shown in Figure 1.

- SMM's organizational structure is divided into three areas: "Decision-making and Supervision," performed by the Board of Directors; "Business Execution," with the president taking overall responsibility; and "Auditing."
- "Execution of Business" and fulfillment of "Social Responsibility" (CSR activity/internal controls) are viewed together as "Business Execution."
- The Management Committee discusses important matters relating to the management of the company. It aims to promote rational business judgment and decision-making by deliberating issues in advance of meetings of the Board of Directors, as well as efficient management and appropriate internal controls.
- 4. The CSR Committee, chaired by the president, comprises the heads of business divisions and corporate staff divisions. The committee was formed with two working groups and six subcommittees, when existing activities were restructured under the new program of CSR activities on October 1, 2008.
- 5. The Internal Controls Committee, chaired by the president, advances internal controls in line with the Japanese Financial Instruments and Exchange Act of June 2006. In compliance with the act, a report on the effectiveness of internal controls was submitted in June 2013, together with the company's securities report for the year ended March 2013, to the Director-General of the Kanto Local Finance Bureau after first obtaining an internal controls audit report recognizing its appropriateness from an auditing firm.

In establishing and upholding internal controls, we will work to clarify the roles and duties of SMM Group officers, executive officers and employees and ensure that continual improvements are made.

## Roles of Divisions and Bodies Directors/Board of Directors

As of August 2013, SMM has eight directors, including one outside director. The term of a director<sup>1</sup> is one year. Remuneration for all directors except outside directors is determined according to a performance-based remuneration system<sup>2</sup>. Ordinary meetings of the Board of Directors are convened once a month and extraordinary meetings are held as required. This structure allows for quick and flexible decision-making. The Board of Directors discusses and passes resolutions on important matters relating to the business execution of the company, including issues relating to conflicts of interest, in line with provisions such as those stipulated in laws and ordinances, articles of incorporation and regulations pertaining to the Board of Directors. Details are disseminated through reporting to the Executive Officers' Meeting. SMM's president chairs the Board of Directors.

#### **Management Committee**

Management Committee meetings are convened by the president, executive vice president, senior managing executive officers and other related executive officers and personnel. SMM's outside directors and corporate auditors may also attend.

The Management Committee engages in broad-ranging discussion on important matters which require a resolution by the Board of Directors or the final approval of the president and which demand particularly careful deliberation. The Committee decides for or against submission of matters to the Board of Directors and provides support on matters falling under the president's direct authority.

### **Executive Officer**

SMM adopted an executive officer system in June 2001. A provision was included in the articles of incorporation in June 2004 to clarify the status of executive officers.

Executive officers<sup>3</sup> are entrusted with important positions such as that of heads of business divisions or heads of corporate staff divisions and are conferred inherent authority for business execution. The progress in execution of business affairs is reported to the Executive Officers' Meeting once a month. Like for directors, remuneration for executive officers is determined according to a performance-based remuneration system.

#### **Corporate Auditors/Board of Corporate Auditors**

As of August 2013, SMM had four corporate auditors, two of whom were outside auditors. Corporate auditors attend and express opinions at important meetings, including meetings of the Board of Directors and the Management Committee. Corporate auditors from SMM, while taking care to remain independent, provide audit-based opinions as full-time auditors. Outside auditors offer independent opinions based on specialized experience and knowledge.

Corporate auditors carry out audits, such as audits of the execution of duties by directors, according to auditing plans approved by the Board of Corporate Auditors.

The Board of Corporate Auditors convenes once a month immediately prior to ordinary meetings of the Board of Directors and as otherwise required.

#### **Internal Audit Department**

The Internal Audit Department was established for the purpose of undertaking routine internal audits used to monitor and supervise the execution of business matters. The department carries out internal audits of the entire SMM Group. The department supplies information to the corporate auditors on a timely basis, providing, for example, explanations of auditing plans. The corporate auditors also attend the department's internal audit briefings for executive officers and other personnel.

- Candidates for director, possessing the character and abilities required to implement the SMM Group Corporate Philosophy and fulfill the group's social responsibility, are nominated by the Board of Directors and approved by a resolution passed at the General Meeting of Shareholders
- Directors (excluding outside directors), executive officers and senior managers are evaluated on various criteria, chiefly quantitative results, safety, business strategy and human resources development
- 3. Six executive officers also serve as directors (as of August 2013)



### Fig. 1 Corporate Governance Framework

# **Regulatory Compliance**

# **Basic Approach**

The corporate activities of the SMM Group are founded upon principles of compliance. Though compliance is usually construed as applying to 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 accident<sup>1</sup> of September 1999, the SMM Group formulated a "Corporate Reform Plan" and embarked on a new beginning with three initial priorities:

- 1. Reconfirm and disseminate corporate philosophy;
- 2. Strengthen the condition of the corporation;
- 3. Reform corporate culture.

The corporate philosophy and SMM Group Code of Conduct<sup>2</sup> were consequently revised in 2004. Compliance—the first of 17 items included in the Code of Conduct—calls for conduct complying not only with laws and rules, but also with social norms, as follows:

- Officers and employees will comply with foreign and domestic laws and rules, and conform with social norms
- No officer or employee will 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 interests of the company
- 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. The radiation accident caused immeasurable suffering to the local community, with citizens living close to the facility forced to evacuate.
- The SMM Group Code of Conduct can be viewed in the "Corporate Philosophy" section of the SMM website: http://www.smm.co.jp/E/corp\_info

# **Compliance Management and Strengthening**

Compliance management is performed according to our basic compliance regulations. The Compliance Working Group of the CSR Committee plays a central role in compliance improvements and strengthening with represented divisions taking charge of the following main measures:

- 1. Draft revisions to the SMM Group Code of Conduct
- 2. Establish and revise compliance-related regul ations
  - Basic compliance regulations
  - Regulations on insider trading prevention and information management
  - Regulations on the safeguarding of personal information
  - Export administration regulations
  - Regulations for managing the legal process database
  - Regulations on the management of confidential information. etc.

# 3. Implement compliance education

A range of different training programs draw upon principles within the Sumitomo Business Spirit, SMM Group Corporate Philosophy and CSR Policy to ensure awareness among employees that compliance within the SMM Group calls for ethics-based conduct and decision-making, going beyond conformance with laws and regulations.

#### 4. Convene the Compliance Working Group

Confirmation of the compliance status in FY2012 by the Compliance Working Group indicated that there were no major violations of laws or regulations relating to the environment and products and services, including antitrust legislation.

#### Speak Up System

In situations where problems or doubts remain after referring to the SMM Group Code of Conduct, and consultation with a superior fails to bring forth an appropriate response, employees are able to report the matter directly through several channels. In-house liaison is with the general managers of the Legal & General Affairs Department, the Safety & Environmental Control Department, and the Internal Audit Department. Outside liaison is with the designated legal attorney. The source of the information is always kept secret and if, for any reason, the informant is unfairly treated, the person responsible will be punished appropriately.

In FY2012, there were two cases handled at SMM liaisons, which included one consultation regarding employment control, and one consultation regarding welfare programs. Appropriate measures are in place to deal with such consultations.

## **Compliance Seminars**

The SMM Group commenced annual "compliance conferences" in 2001, giving employees an opportunity to reaffirm their knowledge of compliance basics and learn about the latest legislative changes. After deliberation on the objectives and structure of these conferences, the Group now implements compliance seminars in order to educate senior management of SMM and group companies about the Code of Conduct and to ensure compliance with work-related laws and ordinances. These seminars include education for personnel in charge of legal processes at each workplace involving introduction of specific case examples.

In addition to seminars, guidance provided in the workplace on an ongoing basis integrates Code of Conduct dissemination, compliance with laws and rules, and CSR awareness.

#### Recipients of Compliance Education (FY2012)

	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
	Type of seminar	Target	Participants
Compliance education	Compliance education (Basic course) Newly-appointed division general managers and group company officers		64
	Compliance seminars (Advanced course)	General managers of business divisions, administration departments, Head Office divisions and branch offices, presidents of subsidiaries in Japan, etc.	79
	Group seminar for new employees	Newly graduated employees and clerks in the Head Office zone	32
	Seminar for newly promoted E-class employees	Employees newly promoted to E-class	35
	Seminar for newly promoted section managers	Employees newly promoted to section manager	25
	Education for mid-career employees	New mid-career employees	4
Legal procedures training		Employees who carry out legal procedures	38

# **Risk Management**

### **Basic Approach**

The Corporate Reform Plan, formulated by SMM in April 2000 based on reflections from the JCO criticality accident of 1999, acknowledged the importance of risk management improvements for strengthening the company's condition. The Code of Conduct, too, stipulates that "all officers and employees will incorporate risk management principles into the performance of their business operations or related work."

In August 2001, a Group-wide risk management system was established, structured upon features such as total compliance. The purpose was to ensure SMM will never again cause a major incident. Regulations pertaining to risk management systems were also established. Energy has been channeled into risk management initiatives ever since as they are essential for business continuity. With the launch of CSR activities in the autumn of 2008, the Risk Management Working Group set up under the CSR Committee was charged with promoting initiatives, in the same way that compliance initiatives, occupational health and safety activities and environmental management activities were to be promoted. In addition to efficiency, we have also been working to raise the effectiveness of activities, such as reviewing activities of focus to make them suited to the characteristics of each facility.

Since 2002, SMM has established regulations pertaining to the inherent safety of equipment and has been implementing initiatives aimed at realizing safer equipment and preventing occupational accidents throughout the SMM Group. Furthermore, to prevent more serious industrial accidents, we conduct risk assessments employing HAZOP (hazard and operability studies) and other methods as part of our systematic safety evaluations and measures at plants. Always leaning toward the side of safety, SMM has been actively incorporating preventive approaches to risk management.

## **Climate Change Risk**

Potential risks for SMM in relation to climate change include a raw materials shortage, which may occur if source mine operations are disrupted due, for example, to abnormal weather, and flooding of plants located in waterfront areas as a result of rising sea levels. In recent years, SMM has been strengthening day-to-day energy conservation efforts with the goal of reducing greenhouse gas emissions in order to combat global warming, which is believed to be a cause of abnormal weather. The company is also directing efforts into the development of energy-saving refining processes.

## **Frameworks and Initiatives**

Risk management in the SMM Group is generally advanced through the efforts of individual business divisions. Business divisions seek to accurately identify the risks involved in managerial decision-making and within each business process and to determine courses of action, bearing in mind their specific economic, environmental and social circumstances. SMM has put together a framework for risk management based on these efforts, establishing risk identification guidelines along with various systems, including a risk registry, an in-house risk management auditing system and risk management patrols.

The Risk Management Working Group, with close affiliation to the Compliance Working Group, coordinates risk management matters for the Group as a whole and directs energy into preventing the actualization of risks. Risk management systems have been introduced for each business unit at business divisions throughout the Group, including overseas subsidiaries. At least once a year, or whenever the need arises, divisions identify and assess the various types of unsafe behavior and other risks and take action to control them, registering or reviewing them as necessary and implementing countermeasures<sup>1</sup>.

Self-checks by individual business divisions and various audits<sup>2</sup> are performed to ascertain whether risk management PDCA (Plan-Do-Check-Act) cycles are operating smoothly and according to the rules and regulations and to determine revisions. Findings are reflected in plans for the following fiscal year.

In line with the FY2012 policy of "strengthening top management with regards to risk management from a business continuity perspective—crises always come to pass at some point," strengthened measures to deal with actualized risks have been practiced in drills. Risk management was also reviewed from a business continuity point of view.

At overseas workplaces, risk management has been continually strengthened at selected model plants in each business division since FY2011.

- The Finance & Accounting Department, for example, uses various methods to check accounting processes of the entire Group, which are performed according to uniform standards and procedures. Effort also goes into actually lowering risk through procedural improvements such as centralizing processes for payments to outside parties at Head Office.
- 2. Audits include risk management internal audits/inspections, audits by the Internal Audit Department, investigation by the senior management of group divisions and audits by the Safety & Environment Control Department.

### **Issues and Targets**

From now on, we will be planning how to lower incidence and minimize damage in the case of a risk being actualized, examining individual Business Continuity Plans (BCPs) for the business and products, and meeting the demands of society.

At overseas locations, we are continuing to establish and implement stronger risk management systems, and we are strengthening our preparedness in relation to international crises, such as kidnappings and terrorist activities.

# **SMM's Response to Stakeholder Opinion**

# Third-party Opinions on CSR Report 2012 and SMM's Responses

Opinion		Response
• Standards such as ISO 26000 require companies to review their systems for managing the value chain in order to protect human rights. I hope you will take the lead in adopting global standard procedures, work to identify the status of business counterparties, and consider the lifestyles of residents in the regions in which you operate.	$\rightarrow$	<ul> <li>In addition to the human rights investigations and responses conducted by our branch offices, during FY2013 we plan to begin studying construction of a framework for conducting human rights due diligence on a Group-wide level.</li> </ul>
• Regarding your target for utilizing female employees, wouldn't it be more appropriate to adopt a policy of creating a better workplace environment for women, which would ultimately result in a greater number of female employees?	$\rightarrow$	<ul> <li>We have established the Female Activation Support Group within the Personnel Department, held discussion sessions with senior management, reviewed career support systems, and expanded facilities to improve the working environment for female employees.</li> </ul>

# Main Comments on CSR Report 2012 from Employee Survey and SMM's Response (2,118 Survey Responses)

Area for Improvement		Response
<ul> <li>I was glad to see an explanation of how my work is contributing to society. In the future I would like more information on how to develop our initiatives further, so I know that my work is helping benefit society.</li> <li>I felt the report needs a more specific explanation of what I can do as an individual and what is expected of the SMM Group's employees</li> <li>I felt that including the perspectives of employees from each site made this year's report more approachable and readable. Although the report included outlines of each initiative, I think that including more detailed information on what effect initiatives have and what the Group is aiming for would benefit readers even more.</li> </ul>	$\rightarrow$	<ul> <li>We have included the following content to provide explanation on how our business activities relate to social issues, and how employees are involved: <ul> <li>Included comments from subcommittee chairpersons on their hopes and expectations for SMM employees</li> <li>Included a special feature on SMM's quality philosophy</li> <li>Following on from last year, introduced in detail the activities of many workplaces, and clearly explained how our business relates to social issues</li> </ul> </li> </ul>
• I felt that the report contained too much writing. I think it would be easier for readers if information was summarized into key points and more charts and photographs were included.	$\rightarrow$	• We aimed to improve the readability of this year's report by reducing the amount of text and including more photographs on each page
<ul> <li>While the report contains information about current initiatives, how about introducing some of the Group's past activities?</li> <li>I would like to see some information on the history of SMM</li> </ul>	$\rightarrow$	<ul> <li>We have included a special feature on SMM and social issues over the company's 420-year history</li> </ul>
<ul> <li>I would like to see a little more information on areas the Group regards as the current key issues</li> </ul>	$\rightarrow$	<ul> <li>For each of the Six Key CSR Areas we have outlined the results of initiatives and listed the items we regard as current key issues</li> </ul>
<ul> <li>A large proportion of the report is devoted to the smelting and refining, and the mineral resources businesses. I would like to see more articles and initiatives related to the materials business.</li> </ul>	$\rightarrow$	• We have increased the number of articles and employee's perspective sections for the materials business both inside and outside Japan
I would like a little more content on health and safety	$\rightarrow$	<ul> <li>We have increased the health and safety section by two pages, and included more information on the initiatives our employees are taking</li> </ul>

#### The content was very easy to understand, and I particularly enjoyed hearing the perspectives of employees working in the field.

- The report helped me understand how my day-to-day work relates to CSR.
- The SMM Group's human resource development policy and initiatives for tackling human rights issues were explained very clearly.
- The report really helped me understand that although conducting business while protecting and coexisting with the global environment is not an easy task, each of our individual efforts can combine to make a big impact.

# Praise

- It was a good chance for me to see what my colleagues in different fields were doing. Seeing the faces of people I know made it an interesting read.
- It inspired me to work towards the CSR Policy and Vision for 2020.
- There were many examples of initiatives at each business site, and I gained a more concrete image of the type of CSR activities I should take.
- Reports from each site clearly outlined the role SMM should play in society.
- The report helped me understand the necessity and importance of ties and communication with local communities. Maintaining this positive relationship instills trust in the company.
- The report was very easy to understand as FY2011 targets and achievements as well as FY2012 targets and plans for each of the Six Key CSR Areas were presented clearly. Detailed explanations of each initiative also made it easier to understand what the concept of CSR involves. I look forward to seeing more examples of the initiatives taken by each business site to help all employees share an awareness that their work itself is CSR.

# **Independent Assurance Report**



# **Independent Assurance Report**

To the President & Representative Director of Sumitomo Metal Mining Co., Ltd.

#### Purpose and Scope

- We were engaged by Sumitomo Metal Mining Co., Ltd. (the "Company") to provide limited assurance on its CSR Report 2013 (the "Report") for the fiscal year ended March 31, 2013. The purpose of our assurance engagement was to express our conclusion, based on our assurance procedures, on whether: • the environmental, social and economic performance indicators listed in the table below (the "Indicators") for the period from April 1, 2012 to March 31,
- 2013 included in the Report are prepared, in all material respects, in accordance with the Company's reporting criteria; • the Company's self-declaration on the Global Reporting Initiative ("the GRI") application level (A+) conforms to the application level criteria stipulated by
- the GRI; • the Company's policies are aligned 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 as described on pages 43 to 44;
- the Company has identified and prioritized its material issues as described on page 2;
- the Company has approached and managed its material issues as described on pages 15, 16, 21, 22, 37, 38, 45, 46, 55, 56, 61 and 62; and
- all the material sustainability information defined by the Japanese Association of Assurance Organizations for Sustainability Information ("J-SUS") is included in the Report.

The content of the Report is the responsibility of the Company's management. Our responsibility is to carry out a limited assurance engagement and to express our conclusion based on the work performed.

Items	Pages	Indicators assured				
Initiatives for Effective Use of Resources	20	Ratio of recycled materials used				
Initiatives in Global Warming Control	26	Unit energy and CO <sub>2</sub> emissions index and CO <sub>2</sub> emissions				
Initiatives for Reducing Environmental Impact	27 - 30	Final disposal volumes of industrial and mining waste in Japan, Volume of waste (hazardous/non-hazardous) by disposal or processing category, Volume of SOx emissions, Volume of NOx emissions, Volume of soot and dust emissions, COD and BOD pollutant loads, Water usage (freshwater/seawater), Total transfer and release of PRTR substances and Breakdown of PRTR substance releases				
Material Flows within Business Activity	31	INPUT (Raw materials, Recycled materials, Energy, Materials and Water) and OUTPUT (Products, Emissions into the atmosphere, Emissions into water and Waste including items of value)				
Biodiversity Considerations	33	Size of production site in areas of high biodiversity value and Amount of land disturbed or rehabilitated				
Human Rights Initiatives	49	Number of investments which have undergone human rights screening				
	52	Total annual hours of education and Disabled employee ratio (SMM non-consolidated)				
People and Human Rights-related Data	53	Number of employees/officers, Number of employees/officers worldwide, Consolidated employee breakdown and Number of locally-hired senior managers (general managers and above) at overseas affiliates				
	54	Employee turnover number and percentage				
Occupational Health and Safety	58	Number of occupational accidents (all accidents, deaths, lost time accidents and working days lost) in Japan				
Relations with Employees	65	Number of companies with workers' unions and Percentages of employees belonging to workers' unions				
Relations with Suppliers	69	Number of suppliers with which hearings were held based on findings from the FY2010 questionnaire and Payments made to local suppliers				
Strengthening Economic Ties with Stakeholders	72	Distributed economic value, Financial assistance from the government and Projected benefit obligation to be funded by pension assets and pension assets available for allocation to that obligation				
Regulatory Compliance	75	Recipients of compliance education				

#### Criteria

The Company applies its own reporting criteria as described in the Report. These are derived, among others, from the Sustainability Reporting Guidelines version 3.0 of the GRI and Environmental Reporting Guidelines of Japan's Ministry of the Environment. We used these criteria to evaluate the Indicators. For the completeness of material sustainability information, we used the 'Sustainability Reporting Assurance and Registration Criteria' of J-SUS. For the GRI application level, we used the criteria stipulated by the GRI.

#### **Procedures 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' 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 on the Report consisted of making inquiries, primarily of persons responsible for the proparation of information presented in the Report, and applying analytical and other procedures. The level of assurance provided is thus not as high as that provided by a reasonable assurance engagement. Our assurance procedures included:

Interviews with the Company's responsible personnel to obtain an understanding of its policy for the preparation of the Report.

- With respect to the Indicators,
  - Reviews of the Company's reporting criteria.
  - Inquiries about the design of the systems and methods used to collect and process the Indicators.
  - 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 a recalculation of the Indicators.
  - Visit to the Ome District Division selected on the basis of a risk analysis.
  - Evaluating the overall statement in which the Indicators are expressed.
- Evaluating the Company's self-declared GRI application level against the application level criteria.
- An assessment of 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.
- Interviews and documentation reviews of the Company's process of identifying and prioritizing its material issues.
- Interviews and documentation reviews of the Company's approach to and management of its material issues.
- Assessment of whether or not all the material sustainability information defined by J-SUS is included in the Report.

#### 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 on the GRI application level does not conform to the application level criteria stipulated by the GRI;
- 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 43 to 44;
- the Company has not identified and prioritized its material issues as described on page 2;
- the Company has not approached and managed its material issues as described on pages 15, 16, 21, 22, 37, 38, 45, 46, 55, 56, 61 and 62; and • all the material sustainability information defined by J-SUS is not included in the Report.

We have no conflict of interest relationships with the Company that are specified in the Code of Ethics of J-SUS. We conducted our engagement with a team with expertise in environmental and social aspects as well as assurance engagements.

# KpMG A2SA Sustainability Co., Ltd.

KPMG AZSA Sustainability Co., Ltd. Tokyo, Japan October 21, 2013



As a testament to the reliability of the sustainability information in this report SMM is authorized to attach the mark shown above, which indicates that the report meets the standards for sustainability report assurance and registration established by the Japanese Association of Assurance Organizations for Sustainability Information (http://j-sus.org/english.html).

# **GRI Content Index**

To show that reports are based upon the GRI Reporting Framework, SMM declares the reporting level using the GRI system of "application levels." Application levels are classified as indicated in the diagram below.

This report is aligned with the GRI Sustainability Reporting Guidelines, Version 3.0, at an application level of A+. This declaration is covered in assurance provided by KPMG AZSA Sustainability Co., Ltd.



\* The Mining & Metals Sector Supplement of the GRI's G3 Guidelines is used for this report

Item Profile		Indication	Relevant Page(s)
1. Stra	tegy a	and Analysis	
1.1		Statement from the most senior decision maker of the organization (e.g., CEO, chair, or equivalent senior position) about the relevance of sustainability to the organization and its strategy.	Interview with the President (3–4)
1.2		Description of key impacts, risks, and opportunities.	Interview with the President (3–4) Risk Management (76)

2. Orgar	nizational Profile	
2.1	Name of the organization.	Overview of Business Operations (5–6)
2.2	Primary brands, products, and/or services.	Overview of Business Operations (5–6)
2.3	Operational structure of the organization, including main divisions, operating companies, subsidiaries, and joint ventures.	Overview of Business Operations (5–6)
2.4	Location of organization's headquarters.	Overview of Business Operations (5–6)
2.5	Number of countries where the organization operates, and names of countries with either major operations or that are specifically relevant to the sustainability issues covered in the report.	Overview of Business Operations (5–6)
2.6	Nature of ownership and legal form.	Overview of Business Operations (5–6)
2.7	Markets served (including geographic breakdown, sectors served, and types of customers/beneficiaries).	Overview of Business Operations (5–6)
2.8	<ul> <li>Scale of the reporting organization, including:</li> <li>Number of employees;</li> <li>Net sales (for private sector organizations) or net revenues (for public sector organizations);</li> <li>Total capitalization broken down in terms of debt and equity (for private sector organizations); and</li> <li>Quantity of products or services provided.</li> </ul>	Overview of Business Operations (5–6) Strengthening Economic Ties with Stakeholders (71–72)
2.9	<ul> <li>Significant changes during the reporting period regarding size, structure, or ownership including:</li> <li>The location of, or changes in operations, including facility openings, closings, and expansions; and</li> <li>Changes in the share capital structure and other capital formation, maintenance, and alteration operations (for private sector organizations).</li> </ul>	N/A
2.10	Awards received in the reporting period.	Examples of Social Recognition (42)

3. Rep	3. Report Parameters				
Report	Profile				
3.1	Reporting period (e.g., fiscal/calendar year) for information provided.	Period Covered (2)			
3.2	Date of most recent previous report (if any).	Publication Date (2)			
3.3	Reporting cycle (annual, biennial, etc.)	Publication Date (2)			
3.4	Contact point for questions regarding the report or its contents.	Enquiries (2)			
Report	Scope and Boundary				
3.5	<ul> <li>Process for defining report content, including:</li> <li>Determining materiality;</li> <li>Prioritizing topics within the report; and</li> <li>Identifying stakeholders the organization expects to use the report.</li> </ul>	Editorial Policy (2) Our Stakeholders (10)			

Item Profile	Indication	Relevant Page(s)
3.6	Boundary of the report (e.g., countries, divisions, subsidiaries, leased facilities, joint ventures, suppliers).	Boundary of the Report (2)
3.7	State any specific limitations on the scope or boundary of the report.	Boundary of the Report (2)
3.8	Basis for reporting on joint ventures, subsidiaries, leased facilities, outsourced operations, and other entities that can significantly affect comparability from period to period and/or between organizations	Boundary of the Report (2)
3.9	Data measurement techniques and the bases of calculations, including assumptions and techniques underlying estimations applied to the compilation of the Indicators and other information in the report.	Initiatives in Global Warming Control (26) Initiatives for Reducing Environmental Impact (27) Material Flows within Business Activity (31)
3.10	Explanation of the effect of any re-statements of information provided in earlier reports, and the reasons for such restatement (e.g., mergers/acquisitions, change of base years/periods, nature of business, measurement methods).	Initiatives in Global Warming Control (26) Biodiversity Considerations (33)
3.11	Significant changes from previous reporting periods in the scope, boundary, or measurement methods applied in the report.	Boundary of the Report (2)
GRI Coi	ent Index	
3.12	Table identifying the location of the Standard Disclosures in the report.	GRI Content Index
Assurar	e	
3.13	Policy and current practice with regard to seeking external assurance for the report. If not included in the assurance report accompanying the sustainability report, explain the scope and basis of any external assurance provided. Also explain the relationship between the reporting organization and the assurance provider(s).	Independent Assurance Report (78)
4. Gov	nance, Commitments, and Engagement	
Governa	ice	
4.1	Governance structure of the organization, including committees under the highest governance body responsible for specific tasks, such as setting strategy or organizational oversight.	Corporate Governance (73-74)
4.2	Indicate whether the Chair of the highest governance body is also an executive officer (and, if so, their function within the organization's management and the reasons for this arrangement).	Corporate Governance (73-74)
4.3	For organizations that have a unitary board structure, state the number of members of the highest governance body that are independent and/or non-executive members.	Corporate Governance (73-74)
4.4	Mechanisms for shareholders and employees to provide recommendations or direction to the highest governance body.	Relations with Employees (65) Relations with Shareholders and Investors (66) Corporate Governance (73–74)
4.5	Linkage between compensation for members of the highest governance body, senior managers, and executives (including departure arrangements), and the organization's performance (including social and environmental performance).	Corporate Governance (73–74)
4.6	Processes in place for the highest governance body to ensure conflicts of interest are avoided.	Corporate Governance (73–74)
4.7	Process for determining the qualifications and expertise of the members of the highest governance body for guiding the organization's strategy on economic, environmental, and social topics.	Corporate Governance (74)
4.8	Internally developed statements of mission or values, codes of conduct, and principles relevant to economic, environmental, and social performance and the status of their implementation.	Corporate Philosophy for a Sustainable Society (7) Six Key CSR Areas and Vision for 2020 (8)
4.9	Procedures of the highest governance body for overseeing the organization's identification and management of economic, environmental, and social performance, including relevant risks and opportunities, and adherence or compliance with internationally agreed standards, codes of conduct, and principles.	CSR Promotion Framework (9) Relations with Society (43–44)
4.10	Processes for evaluating the highest governance body's own performance, particularly with respect to economic, environmental, and social performance.	CSR Promotion Framework (9)
Commit	ents to External Initiatives	
4.11	Explanation of whether and how the precautionary approach or principle is addressed by the organization.	Biodiversity Considerations (33–34) Initiatives in Global Warming Control (25–26) Risk Management (76)
4.12	Externally developed economic, environmental, and social charters, principles, or other initiatives to which the organization subscribes or endorses.	Relations with Society (43-44)
4.13	<ul> <li>Memberships in associations (such as industry associations) and/or national/international advocacy organizations in which the organization:</li> <li>Has positions in governance bodies;</li> <li>Participates in projects or committees;</li> <li>Provides substantive funding beyond routine membership dues; or</li> <li>Views membership as strategic.</li> </ul>	Relations with Society (43)
Stakeho	Jer Engagement	
4.14	List of stakeholder groups engaged by the organization.	Our Stakeholders (10)
4.15	Basis for identification and selection of stakeholders with whom to engage.	Our Stakeholders (10)
4.16	Approaches to stakeholder engagement, including frequency of engagement by type and by stakeholder group.	Our Stakeholders (10) Initiatives in the Six Key CSR Areas: Stakeholder Communication (62) Relations with Employees (65) Relations with Shareholders and Investors (66) Relations with Customers (67–68) Relations with Suppliers (69–70) Examples of Communication with

ltem Profile	Indication	Relevant Page(s)
4.17	Key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns, including through its reporting.	Our Stakeholders (10) Initiatives in the Six Key CSR Areas: Contribution to Society and Local Communities (37–38) Human Rights Initiatives (49) Initiatives in the Six Key CSR Areas: Stakeholder Communication (61–62) Relations with Employees (65) Relations with Superholders and Investors (66) Relations with Suppliers (69–70) Examples of Communication with Other Stakeholders (70) SMM's Response to Stakeholder Opinion (77)

5. Mar	5. Management Approach and Performance Indicators				
Econo	mic				
		Disclosure on Management Approach	Relations with Society (41–44) Strengthening Economic Ties with Stakeholders (71–72)		
Aspect:	Econo	mic Performance	-		
EC1	CORE	Direct economic value generated and distributed, including revenues, operating costs, employee compensation, donations and other community investments, retained earnings, and payments to capital providers and governments.	Relations with Society (44) Strengthening Economic Ties with Stakeholders (71–72)		
EC2	CORE	Financial implications and other risks and opportunities for the organization's activities due to climate change.	Risk Management (76)		
EC3	CORE	Coverage of the organization's defined benefit plan obligations.	Strengthening Economic Ties with Stakeholders (72)		
EC4	CORE	Significant financial assistance received from government.	Strengthening Economic Ties with Stakeholders (72)		
Aspect:	Marke	t Presence			
EC5	ADD	Range of ratios of standard entry level wage compared to local minimum wage at significant locations of operation.	_		
EC6	CORE	Policy, practices, and proportion of spending on locally-based suppliers at significant locations of operation.	Relations with Society (41) Relations with Suppliers (69)		
EC7	CORE	Procedures for local hiring and proportion of senior management hired and workforce from the local community at locations of significant operation.	Relations with Society (41) Initiatives Relating to Employee Diversity (51) People and Human Rights-related Data (53)		
Aspect:	Indire	ct Economic Impacts			
EC8	CORE	Development and impact of infrastructure investments and services provided primarily for public benefit through commercial, in-kind, or pro bono engagement.	Initiatives in the Six Key CSR Areas: Contribution to Society and Local Communities (37–38) Relations with Society (41)		
EC9	ADD	Understanding and describing significant indirect economic impacts, including the extent of impacts.			
Enviro	nmen	tal			
		Disclosure on Management Approach	Initiatives in the Six Key CSR Areas: Effective Use of Resources (15–16) Initiatives in the Six Key CSR Areas: Environmental Preservation (21–22) Initiatives in Environmental Preservation (35)		
Aspect:	Materi	als			
EN1	CORE	Materials used by weight or volume.	Initiatives for Effective Use of Resources (20) Material Flows within Business Activity (31)		
EN2	CORE	Percentage of materials used that are recycled input materials.	Initiatives for Effective Use of Resources (20) Material Flows within Business Activity (31)		
Aspect:	Energ	у	·		
EN3	CORE	Direct energy consumption by primary energy source.	Material Flows within Business Activity (31)		
EN4	CORE	Indirect energy consumption by primary source.	Material Flows within Business Activity (31)		
EN5	ADD	Energy saved due to conservation and efficiency improvements.			
EN6	ADD	Initiatives to provide energy-efficient or renewable energy based products and services, and reductions in energy requirements as a result of these initiatives.	Initiatives in the Six Key CSR Areas: Environmental Preservation (21–22) Initiatives in Creating Products with Low Environmental Impact (32)		
EN7	ADD	Initiatives to reduce indirect energy consumption and reductions achieved.	_		
Aspect:	Water		I		
EN8	CORE	Total water withdrawal by source.	Initiatives for Reducing Environmental Impact (28) Material Flows within Business Activity (31)		
EN9	ADD	Water sources significantly affected by withdrawal of water.	_		
EN10	ADD	Percentage and total volume of water recycled and reused.	_		
Aspect:	Biodiv	ersity	I		
EN11	CORE	Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.	Biodiversity Considerations (33)		
EN12	CORE	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas.	Biodiversity Considerations (33) Relations with Society (41)		
EN13	ADD	Habitats protected or restored.	N/A		
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Item Profile		Indication	Relevant Page(s)			
EN14	ADD	Strategies, current actions, and future plans for managing impacts on biodiversity.	Biodiversity Considerations (33–34)			
EN15	ADD	Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk.	Biodiversity Considerations (33–34)			
Aspect	Aspect: Biodiversity					
MM1		Amount of land (owned or leased, and managed for production activities or extractive use) disturbed or rehabilitated.	Biodiversity Considerations (33)			
MM2		The number and percentage of total sites identified as requiring biodiversity management plans according to stated criteria, and the number (percentage) of those sites with plans in place.	Biodiversity Considerations (33)			
Aspect	Emiss	ions, Effluents, and Waste				
EN16	CORE	Total direct and indirect greenhouse gas emissions by weight.	Initiatives in Global Warming Control (26) Material Flows within Business Activity (31)			
EN17	CORE	Other relevant indirect greenhouse gas emissions by weight.	Initiatives in Global Warming Control (26) Material Flows within Business Activity (31)			
EN18	ADD	Initiatives to reduce greenhouse gas emissions and reductions achieved.	Initiatives in Global Warming Control (25-26)			
EN19	CORE	Emissions of ozone-depleting substances by weight.	Initiatives for Reducing Environmental Impact (29)			
EN20	CORE	NOx, SOx, and other significant air emissions by type and weight.	Initiatives for Reducing Environmental Impact (27–28)			
EN21	CORE	Total water discharge by quality and destination.	Initiatives for Reducing Environmental Impact (28) Material Flows within Business Activity (31)			
EN22	CORE	Total weight of waste by type and disposal method.	Initiatives for Reducing Environmental Impact (27) Material Flows within Business Activity (31)			
EN23	CORE	Total number and volume of significant spills.	Initiatives in Environmental Preservation (36)			
EN24	ADD	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII, and percentage of transported waste shipped internationally.	_			
EN25	ADD	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the reporting organization's discharges of water and runoff.	_			
ММЗ		Total amounts of overburden, rock, tailings, and sludges and their associated risks.	Initiatives for Reducing Environmental Impact (27) Material Flows within Business Activity (31)			
Aspect	Produ	cts and Services				
EN26	CORE	Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation.	Initiatives in Creating Products with Low Environmental Impact (32)			
EN27	CORE	Percentage of products sold and their packaging materials that are reclaimed by category.	Initiatives for Effective Use of Resources (20)			
Aspect	Comp	liance				
EN28	CORE	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations.	Regulatory Compliance (75)			
Aspect: Transport						
EN29	ADD	Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce.	_			
Aspect: Overall						
EN30	ADD	Total environmental protection expenditures and investments by type.	_			
EN30	ADD	Total environmental protection expenditures and investments by type.	_			

Labor Practices and Decent Work					
		Disclosure on Management Approach	Initiatives in the Six Key CSR Areas: Respect for People and Human Rights (45–46) Initiatives in the Six Key CSR Areas: Occupational Health and Safety (55–56) Relations with Employees (65)		
Aspect: Employment					
LA1	CORE	Total workforce by employment type, employment contract, and region.	People and Human Rights-related Data (53)		
LA2	CORE	Total number and rate of employee turnover by age group, gender, and region.	People and Human Rights-related Data (54)		
LA3	ADD	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by major operations.	—		
Aspect: Labor/Management Relations					
LA4	CORE	Percentage of employees covered by collective bargaining agreements.	Relations with Employees (65)		
LA5	CORE	Minimum notice period(s) regarding operational changes, including whether it is specified in collective agreements.	Relations with Employees (65)		
MM4		Number of strikes and lock-outs exceeding one week's duration, by country.	Relations with Employees (65)		

ltem Profile		Indication	Relevant Page(s)			
Aspect: Occupational Health and Safety						
LA6	ADD	Percentage of total workforce represented in formal joint management–worker health and safety committees that help monitor and advise on occupational health and safety programs.	Occupational Health and Safety (57–58)			
LA7	CORE	Rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities by region.	Occupational Health and Safety (58)			
LA8	CORE	Education, training, counseling, prevention, and risk-control programs in place to assist workforce members, their families, or community members regarding serious diseases.	Occupational Health and Safety (57–58)			
LA9	ADD	Health and safety topics covered in formal agreements with trade unions.	—			
Aspect:	Trainii	ng and Education				
LA10	CORE	Average hours of training per year per employee by employee category.	People and Human Rights-related Data (52)			
LA11	ADD	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings.	Human Resources Development Initiatives (50) Initiatives Relating to Employee Diversity (51) People and Human Rights-related Data (52)			
LA12	ADD	Percentage of employees receiving regular performance and career development reviews.	_			
Aspect:	Divers	sity and Equal Opportunity				
LA13	CORE	Composition of governance bodies and breakdown of employees per category according to gender, age group, minority group membership, and other indicators of diversity.	People and Human Rights-related Data (53)			
LA14	CORE	Ratio of basic salary of men to women by employee category.	Initiatives Relating to Employee Diversity (51)			
Huma	n Rigł	nts				
		Disclosure on Management Approach	Initiatives in the Six Key CSR Areas: Respect for People and Human Rights (45–46) Human Rights Initiatives (49) Relations with Suppliers (69)			
Aspect:	Invest	ment and Procurement Practices				
HR1	CORE	Percentage and total number of significant investment agreements that include human rights clauses or that have undergone human rights screening.	Human Rights Initiatives (49)			
HR2	CORE	Percentage of significant suppliers and contractors that have undergone screening on human rights and actions taken.	Relations with Suppliers (69)			
HR3	ADD	Total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained.	Human Rights Initiatives (49)			
Aspect:	Aspect: Non-discrimination					
HR4	CORE	Total number of incidents of discrimination and actions taken.	Human Rights Initiatives (49)			
Aspect:	Freed	om of Association and Collective Bargaining				
HR5	CORE	Operations identified in which the right to exercise freedom of association and collective bargaining may be at significant risk, and actions taken to support these rights.	Relations with Employees (65)			
Aspect:	Child	Labor				
HR6	CORE	Operations identified as having significant risk for incidents of child labor, and measures taken to contribute to the elimination of child labor.	Human Rights Initiatives (49)			
Aspect:	Force	d and Compulsory Labor				
HR7	CORE	Operations identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of forced or compulsory labor.	Human Rights Initiatives (49)			
Aspect:	Secur	ity Practices				
HR8	ADD	Percentage of security personnel trained in the organization's policies or procedures concerning aspects of human rights that are relevant to operations.	_			
	-	nous Rights				
HR9	ADD	Total number of incidents of violations involving rights of indigenous people and actions taken.	_			
MM5		Total number of operations taking place in or adjacent to Indigenous Peoples' territories, and number and percentage of operations or sites where there are formal agreements with Indigenous Peoples' communities.	Relations with Society (41)			
Society						
		Disclosure on Management Approach	Initiatives in the Six Key CSR Areas: Contribution to Society and Local Communities (37–38) Relations with Society (41) Risk Management (76)			
Aspect:	Aspect: Community					
SO1	CORE	Nature, scope, and effectiveness of any programs and practices that assess and manage the impacts of operations on communities, including entering, operating, and exiting.	Relations with Society (41)			

ltem Profile		Indication	Relevant Page(s)		
MM6		Number and description of significant disputes relating to land use, customary rights of local communities and indigenous peoples.	Relations with Society (41)		
MM7		The extent to which grievance mechanisms were used to resolve disputes relating to land use, customary rights of local communities and Indigenous Peoples, and the outcomes.	Relations with Society (41)		
Aspect:	Corrup	otion			
SO2	CORE	Percentage and total number of business units analyzed for risks related to corruption.	Risk Management (76)		
SO3	CORE	Percentage of employees trained in organization's anti-corruption policies and procedures.	Regulatory Compliance (75)		
SO4	CORE	Actions taken in response to incidents of corruption.	Regulatory Compliance (75)		
Aspect:	Public	Policy			
SO5	CORE	Public policy positions and participation in public policy development and lobbying.	Relations with Society (43)		
SO6	ADD	Total value of financial and in-kind contributions to political parties, politicians, and related institutions by country.	_		
Aspect:	Anti-C	competitive Behavior			
SO7	ADD	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes.	Regulatory Compliance (75)		
Aspect:	Comp				
	CORE	Monetary value of significant fines and total number of non-monetary sanctions for	Regulatory Compliance (75)		
Aspect:		non-compliance with laws and regulations.			
		Number and description of significant disputes relating to land use, customary rights of local			
MM6		communities and Indigenous Peoples.	Relations with Society (41)		
MM7		The extent to which grievance mechanisms were used to resolve disputes relating to land use, customary rights of local communities and Indigenous Peoples, and the outcomes.	Relations with Society (41)		
Aspect:	Reset	tlement	Γ		
MM8		Number (and percentage) of company operating sites where artisanal and small-scale mining (ASM) takes place on, or adjacent to, the site; the associated risks and the actions taken to manage and mitigate these risks.	Human Rights Initiatives (49)		
MM9		Sites where resettlements took place, the number of households resettled in each, and how their livelihoods were affected in the process.	Human Rights Initiatives (49)		
Aspect:	Closu	re Planning	Г		
MM10		Number and percentage of operations with closure plans.	Relations with Society (41)		
Produc	ct Res	sponsibility			
		Disclosure on Management Approach	Relations with Customers (67)		
Aspect:		mer Health and Safety			
PR1	CORE	such procedures.	Relations with Customers (67–68)		
PR2	ADD	Total number of incidents of non-compliance with regulations and voluntary codes concerning health and safety impacts of products and services during their life cycle, by type of outcomes.	Relations with Customers (68) Regulatory Compliance (75)		
Aspect:	Produ	ct and Service Labeling	Г		
PR3	CORE	Type of product and service information required by procedures, and percentage of significant products and services subject to such information requirements.	Relations with Customers (68)		
PR4	ADD	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes.	Relations with Customers (68)		
PR5	ADD	Practices related to customer satisfaction, including results of surveys measuring customer satisfaction.	Relations with Customers (68)		
Aspect:	Marke	ting Communications			
PR6	CORE	Programs for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion, and sponsorship.	Relations with Customers (67–68)		
PR7	ADD	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship by type of outcomes.	Relations with Customers (68)		
Aspect:	Custo	mer Privacy			
PR8	ADD	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data.	_		
Aspect: Compliance					
PR9	CORE	Monetary value of significant fines for noncompliance with laws and regulations concerning the provision and use of products and services.	Relations with Customers (68)		
Aspect: Materials Stewardship					
MM11		Programs and progress relating to materials stewardship.	Initiatives in the Six Key CSR Areas: Effective Use of Resources (15–16) Initiatives in Creating Products with Low Environmental Impact (32) Relations with Customers (67–68)		



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- The report is printed on recycled paper
- The report is printed using vegetable oil-based ink

