

Effective Use of Resources

Basic Approach

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

technology" as stated in our Vision for 2020. We are developing technologies to effectively utilize minerals which have not previously been converted into resources, such as low-grade and hard-to-process ores. We are also endeavoring to develop technologies for recycling resources, including the effective recovery of copper and precious metals contained in items such as used home appliances and electronic devices and valuable metals, such as nickel, from used batteries.

Making Effective Use of Low-Grade Ores

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

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

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

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



Low-grade nickel ore for THPAL

¹ Coral Bay Nickel Corporation (CBNC)
Shareholders: Sumitomo Metal Mining Co., Ltd. (54%), Mitsui & Co., Ltd. (18%), Sojitz Corp. (18%), Rio Tuba Nickel Mining Corp. (10%)
Head Office: Rio Tuba, Bataraza, Palawan Province, Philippines
² Taganito HPAL Nickel Corporation (THPAL)
Shareholders: Sumitomo Metal Mining Co., Ltd. (62.5%), Mitsui & Co., Ltd. (15%), Nickel Asia Corporation (22.5%)
Head Office: Taganito, Surigao del Norte Province, Philippines

Using Resources Effectively through Recycling

Recovery and recycling of copper and copper alloys were readily pursued because of their high scrap value even before the 3Rs (reduction, reuse and recycling) were advocated as a catch-

Ratio of Recycled Materials Used

FY	2013	2014	2015
Total volume of materials used (kt)	7,850	12,055	11,795
Recycled materials (kt)	271	264	233
Recycled materials ratio (%)	3.5	2.2	2.0

phrase by society. Almost all the copper shavings generated by manufacturers of electric cables and wrought copper and copper alloy products are reused as raw material.

The SMM Group procures copper and precious metal scrap from the market and recovers valuable and precious metals from electric arc furnace dust and used printed circuit boards, among other sources.

In FY2015, the proportion of recycled materials such as copper alloy secondary materials and electric arc furnace dust was about the same level as in FY2014. Meanwhile, the ratio of recycled materials was practically unchanged at 18.1% (18.3% in FY2014) as production of electrolytic copper from recycled copper materials was approximately 76 kilotons in FY2015.

Slag as a Recycled Material

Copper slag is a by-product produced during smelting at the Toyo Smelter & Refinery, which manufactures electrolytic copper. The main use for copper slag (almost one-half of the total volume) is cement production in Japan and overseas. With an iron content of around 40%, copper slag is widely used as a source of iron for cement. Copper slag output in FY2015 was approximately 893 kilotons, with a sales volume of approximately 977 kilotons.

Hyuga Smelting manufactures ferro-nickel, a material used in stainless steel. It generated around 707 kilotons of ferronickel slag. Approximately 704 kilotons of ferro-nickel slag was sold as a recycled material, mainly to blast furnaces for steelmaking. With a magnesia content of around 30%, ferro-nickel slag is used as a source of magnesia for blast furnace flux. By taking advantage of their respective features, both copper slag and ferro-nickel slag are also used as substitutes for natural sand in fine concrete aggregate and harbor and civil engineering construction. In April 2016, Japan Industrial Standards (JIS) for fine concrete aggregate was revised and an environmentally safe quality was added. Demand is also increasing for tougher environmental standards for slag, and ours comfortably meets this demand.

Recycling Nickel Metal Hydride Batteries

SMM manufactures and sells materials used in the cathodes of nickel-metal hydride (Ni-MH) batteries for hybrid vehicles (HV). Demand for Ni-MH batteries is surging as more fuel efficient HVs become more common.

This sharp increase in demand will ultimately lead to massive end-of-life Ni-MH battery disposals in a dozen years or so. Ni-MH batteries contain a substantial amount of useful metals and advancing the recycling of end-of-life units is extremely important not merely in terms of reducing waste but also for effective

resource utilization.

SMM, which focuses on the effective resource utilization aspect of recycling, has been researching ways to recycle Ni-MH batteries since FY2000. In FY2010, in collaboration with Toyota Motor Corporation, SMM collected used Ni-MH batteries from end-of-life HVs and recycled their components for use in cathode materials on new Ni-MH batteries, thus enabling the world's first "battery-to-battery" resource cycle. We established facilities at Niihama Nickel Refinery, and are promoting recycling operations.

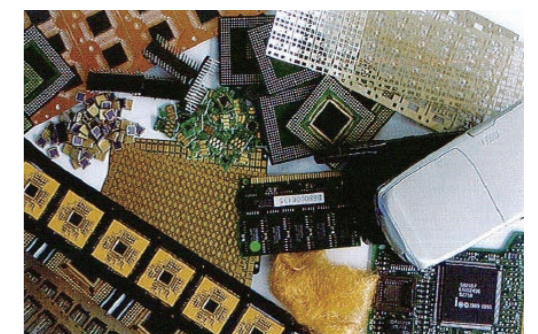
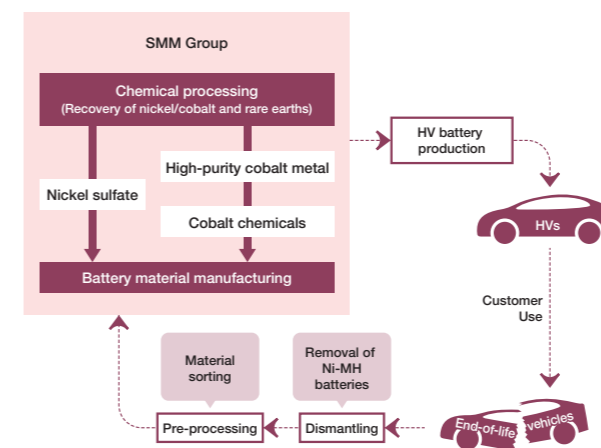
Recycling Precious Metal

SMM smelts non-ferrous metals using raw material ores extracted from mines both inside and outside Japan. Meanwhile, with the recycling of non-renewable resources³ as our social commitment, we apply proprietary smelting technologies in the separation and recovery of precious metals from end-of-life home appliances and electronic components.

Japan, while poor in natural resources, is one of the few urban mine countries in the world. The Precious Metals Recycling Division of Ohkuchi Electronics Co., Ltd., a SMM Group company, collects, separates and mills urban mine raw materials including precious metals, then roasts and dissolves them using acids and alkali to effectively recover and concentrate precious metals for reuse as alloys in other metals at our Toyo Plant.

In recent years, the amount of precious metals used in making home appliances has fallen due to cost reductions and technological innovations, and the form of collected raw materials and their suppliers are diversifying. The SMM Group will flexibly adapt to these market conditions and contribute to society while collaborating in all directions in hopes of fulfilling our mission as a non-ferrous smelter.

Ni-MH Battery Recycling: Flow Diagram



Some recycled materials

³ Non-renewable resource: A resource that decreases the more it is used; that is, a resource that decreases by the rate it is used and whose growth is slow.

Global Environmental Considerations

Environmental Management

Basic Approach

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

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

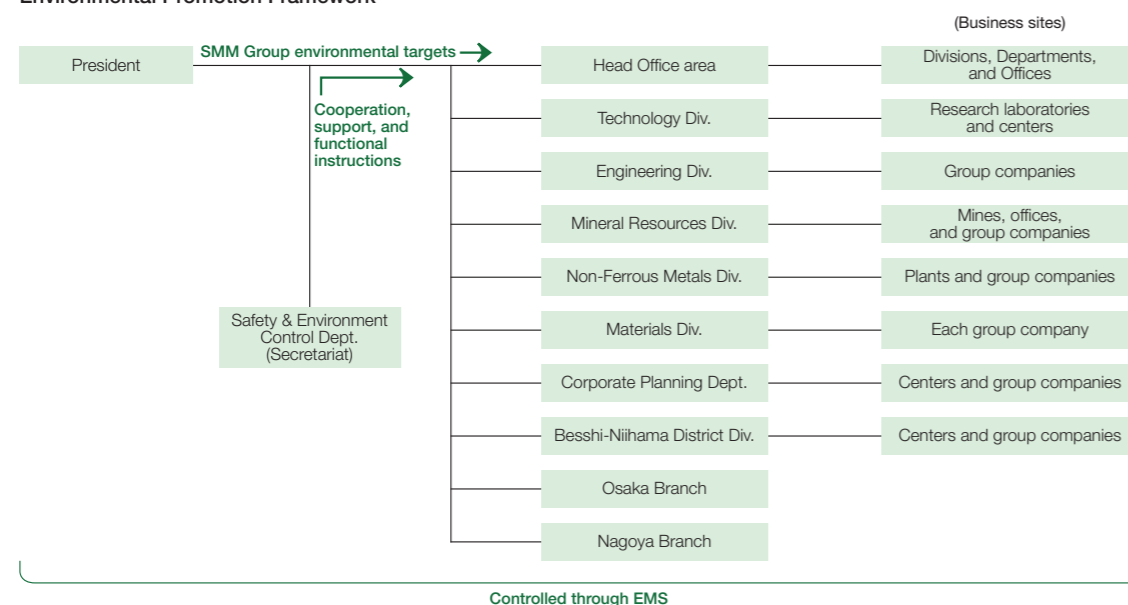
Environmental Management System and Education

Environmental Management Initiatives

Every year, the President sets targets (SMM Group environmental targets) in consideration of the environmental risks faced by the SMM Group. In response, business sites and group companies of each business division integrate these targets into their environmental management systems, established according to the ISO 14001 standard. As for environmental management systems which serve as the basis for environmental preservation activities, the Head Office, branches and all production bases and

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

Environmental Promotion Framework



Internal Environmental Audit Seminars

The SMM Group has adopted an in-house qualification system for internal environmental auditors, the key people in workplace environmental management, and completion of a training course is a requirement for obtaining the qualification. The Safety & Environment Control Department implements training for all internal environmental auditor instructors at business sites in Japan, and for new environmental auditors as well. Because of the 2015 revisions to the ISO 14001 standard, we carried out educational seminars for moving to the new standard. There were three seminars in the area around our Head Office, and

one seminar for the Besshi area, which provided training to 169 participants. Additionally, training seminars for new environmental auditors were held in the Head Office area, the Besshi area, and at Hyuga Smelting and 58 participants completed these seminars.

Response to Environmental Risks

The SMM Group handles large amounts of chemical substances during the manufacturing of products, particularly in smelting and refining operations, and for that reason some business sites bear considerable environmental risk. Each site continuously performs environmental management and runs accident response drills

corresponding to the magnitude of risk. In addition, every year, the heads of every division that exercises control over business sites, inspect those business sites (including group companies) to check whether environmental management is being implemented appropriately. Moreover, in the Niihama District, where the SMM Group's largest smelter and refining facilities are located, the Safety & Environment Control Center (Besshi-Niihama District Division) provides guidance to business sites located within the district on their initiatives for environmental management. The center also provides support for group business sites located within the local region, such as by regularly holding meetings for the exchange of information. In the Materials Division, a Safety & Environment Control Department was established to provide the business sites under its control with support and guidance on environmental management.

Since FY2008, the Safety & Environmental Control Department has continued its environmental care activities, visiting these business sites to check on the status of activities to reduce the risk of environmental accidents. The department prepares reports on the results of checks and shares any issues with the head of the business site and the head of the department responsible for the site. Countermeasures are considered at the business site, leading to improvements in the level of environmental management. In FY2015, environmental care activities were held for 17 business sites, including overseas sites.

In addition, close-call events are reported to the Safety & Environment Control Department when they exceed voluntary standards and/or have an effect on operations. In the event of an incident, the Safety & Environment Control Department will provide advice after checking the causes and the response taken. In addition, the department also makes efforts to prevent similar close-call events from occurring elsewhere, such as by alerting each business site in the SMM Group, where necessary, and requiring them to check and report back on their control status, and by encouraging preventive action to be taken if factors were present similar to those that caused the incident. There was one major leak in FY2015. A procedural mistake at THPAL (Philippines) led to a hydrogen sulfide discharge that could not be completely absorbed by facilities for removing hazardous substances and resulted in 155 residents of the surrounding area feeling unwell. After the incident, health exams and consultations were provided to area residents, in addition to providing apologies and briefings on both the cause of the incident and measures to prevent recurrence. We are re-emphasizing thorough compliance with procedures, etc. in order to ensure that this incident does not happen again. Finally, no local residents or employees suffered ill effects to their health from this accident.

Parties lodged four complaints related to environmental matters, all of which were handled appropriately. Going forward, we will work to continually raise the level of our operations.

Risk Management for Mining Waste

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

Spoil and tailings containing sulfide minerals can oxidize and generate sulfuric acid, which can easily become a source of acidic water that contains heavy metal ions; therefore wastewater from mines is properly processed in water treatment

facilities before release.

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

Seismic Retrofit Work at Mining Waste Accumulation Sites in Japan

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

Environmental e-learning

The SMM Group has established two e-learning courses on environmental laws with the objective of raising levels of compliance, and employees, especially managers and supervisors involved in environmental management and internal environmental auditors, are taking part in the courses. Moreover, course content, which is updated in line with legal amendments, is also used after learning to check legal requirements and for education on environmental laws in the workplace. The e-learning course on Japan's main environmental laws introduced in the second half of FY2008 covers ten laws that are deeply related to the business of SMM and provides explanations of mandatory standards and notification procedures. As failing to comply with these requirements constitutes a violation of the law, employees must be certain to keep them in mind when conducting business. In the second half of FY2013, a new e-learning course entitled Basic Environmental Laws was released in order to deepen understanding about the underlying spirit of the law and to encourage employees to execute their duties to the best of their ability. Given not only compliance with regulations and obligations, but also the voluntary risk management and information disclosure demanded of businesses today, the course provides a stepping stone for properly conducting business. This course covers 12 laws, including the Basic Environment Act, the Basic Act on Biodiversity, and the Basic Act on Establishing a Sound Material-Cycle Society.

Approach to Biodiversity

Basic Approach

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

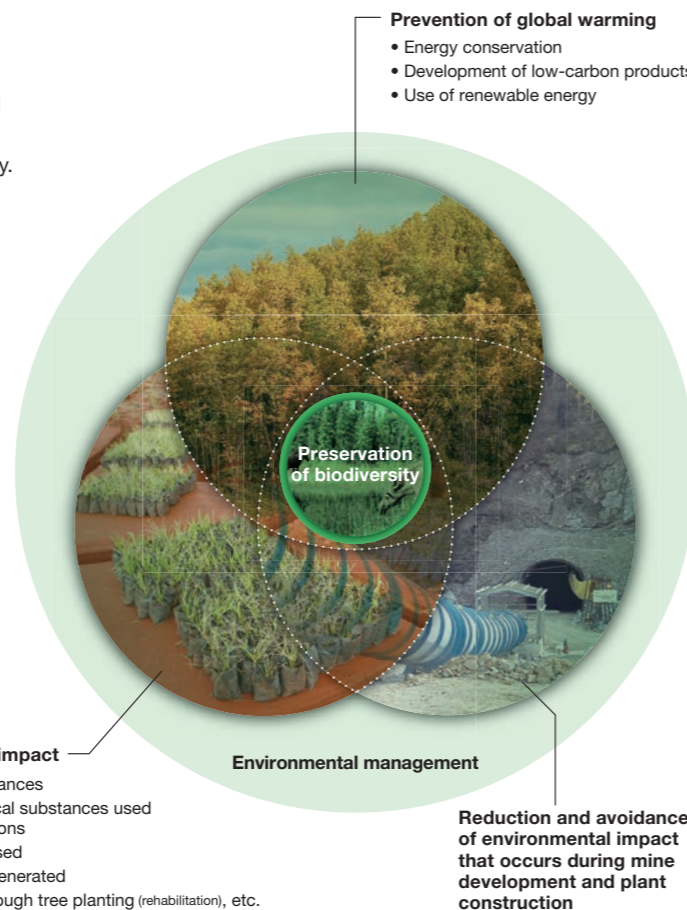
SMM views climate change due to global warming as a threat to biodiversity as well as a serious risk to SMM Group business activities. We are expanding our low carbon impact products business (creating, storing, and saving energy) and proceeding to reduce CO₂ emissions by installing energy-saving technology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

For all of our core businesses—mineral resources, smelting and refining, and materials—direct and indirect impacts on biodiversity are unavoidable, but we are striving to decrease and avoid environmental impacts in our development, operations, and product use.

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

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

SMM Group’s Approach to Biodiversity



Prevention of Global Warming

Development of Products and Technologies that Contribute to Reducing Environmental Impact

The SMM Group sees its supplying of specialty materials for products with a low environmental impact to be one of its contributions to a more sustainable society.

By focusing on energy-related materials, the SMM Group aims to expand its business in domains related to the creating, storing, and saving of energy.

Demand is expected to continue growing for environmentally friendly vehicles such as hybrid and electric cars. The CO₂ emitted when producing the electricity for an electric vehicle to run 1 km is less than the CO₂ emitted by a gasoline-engine vehicle over the same distance, making the environmental impact from the

use of electric vehicles lower. In our Materials Division’s Battery Materials Business Unit, we are producing cathode materials for nickel metal hydride batteries mainly going into hybrid vehicles, and cathode materials for lithium ion batteries going into electric vehicles and other consumer products. We are achieving lower environmental impacts through an integrated battery materials production process extending from extracting nickel and cobalt from mines, to refining them in smelting processes, and then synthesizing battery materials. This last step utilizes technology for synthesizing inorganic materials, which itself applies the smelting and refining technology we have amassed to date. SMM believes that leveraging high productivity to supply battery materials for environmentally friendly vehicles can contribute to reducing the

overall environmental impact of vehicles.

Additionally, in our Materials Division’s Applied Powder Materials Business Unit, we are manufacturing lanthanum hexaboride (LaB₆) and cesium tungsten oxide (CWO) inks as new near-infrared shielding materials. Using these inks in applications such as window glass cuts near-infrared rays contained in sunlight, which greatly reduces temperatures. Use of these inks, mainly in automotive glass and building windows, boosts air conditioner efficiency contributing to saving energy.

Energy Conservation at SMM Business Sites

● Domestic Group CO₂ Emissions

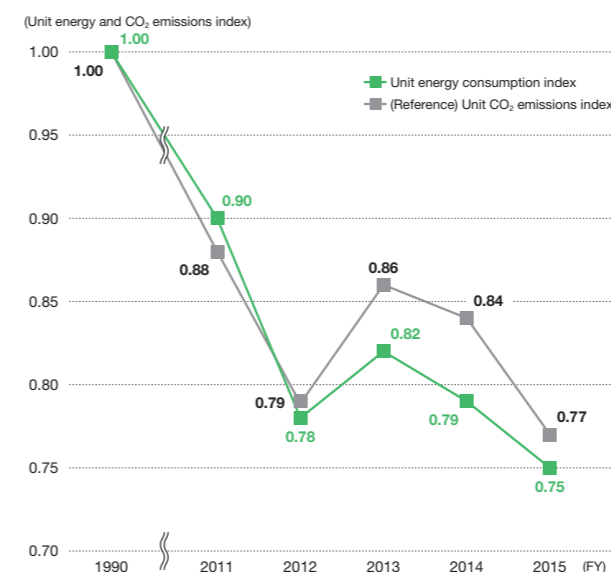
The Group’s FY2015 volume of energy-derived CO₂ emissions inside Japan decreased approximately 199 kilotons due to the end of production of prime western grade zinc. Energy saving activities contributed some 16 kilotons in reductions, and moreover, the effect of improved emissions factors of electric power suppliers brought approximately 22 kilotons in reductions. Total emissions were about 1,705 kilotons, which was a nearly 236-kiloton decrease compared to FY2014.

● Smelting and Refining Business in Japan

Unit energy consumption in the domestic smelting and refining business improved by approximately 5.4% in FY2015 compared with FY2014. The main reason for the improvement was our achievement of planned production volumes of copper and nickel, thanks to stable operations. Meanwhile, unit CO₂ emissions improved some 8.0% due to lower production of high-energy products (prime western grade zinc and ferro-nickel) and lower emissions factors of electric power suppliers.

Unit Energy and CO₂ Emissions Index¹

Scope: Smelting/Refining Business in Japan



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

For FY2016 we are forecasting a drop in CO₂ emissions of approximately 190 kilotons in our domestic smelting and refining business, as well as our other businesses, from continued and increased energy-saving activities.

● Overseas Business

In our overseas business, energy-derived CO₂ emissions decreased approximately 10 kilotons, to approximately 1,056 kilotons.

● Domestic Transportation

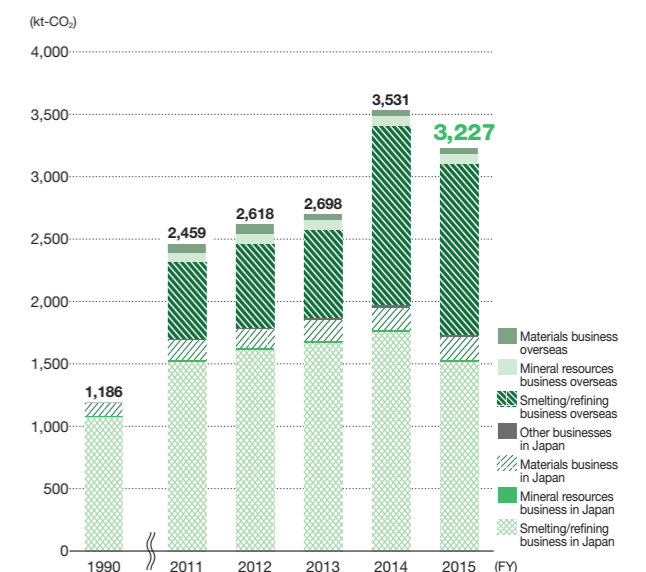
In order to reduce indirect CO₂ emissions in domestic transportation, efforts are being made to increase the use of ship transportation and improve load efficiency. In FY2015, CO₂ emissions decreased by about 1 kiloton, to 25 kilotons, compared with FY2014, due to an increase in truck load efficiency by Siporex and increased ship transportation by Hyuga Smelting.

● Initiatives as a Member of The Japan Mining Industry Association

The Japan Mining Industry Association, a non-ferrous metals industrial organization, took part in the planning of a “Commitment to a Low Carbon Society” led by Keidanren (the Japan Business Federation) as the basis for announcing the industry target of a “15% reduction in unit CO₂ emissions by FY2020 in comparison to FY1990.” SMM has already achieved this target in the Japanese smelting and refining business, and we are working towards the goal of further reducing CO₂ emissions by continuing to lower overall CO₂ emissions by 1% each year and by adopting renewable energy.

CO₂ Emissions

FY1990 Scope: Business in Japan
FY2011-2015 Scope: All businesses in Japan and Overseas



• Emissions in Japan and overseas which do not relate to electric power are calculated using emission factors conforming to the Japanese Act on Promotion of Global Warming Countermeasures. These include non-energy-derived CO₂ emissions (454 kt-CO₂) that are outside the scope of the above act. CO₂ emissions derived from purchased electricity in Japan are calculated using the emission factors of the electric power suppliers. Emission factors for overseas are based on International Energy Agency (IEA) data.

Reduction of Environmental Impact

Management of Chemical Substances

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

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

Semiconductor materials and advanced materials produced by the SMM Group are incorporated by our customers into

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

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

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

Reduction in Volume of Chemical Substance Emissions, etc.

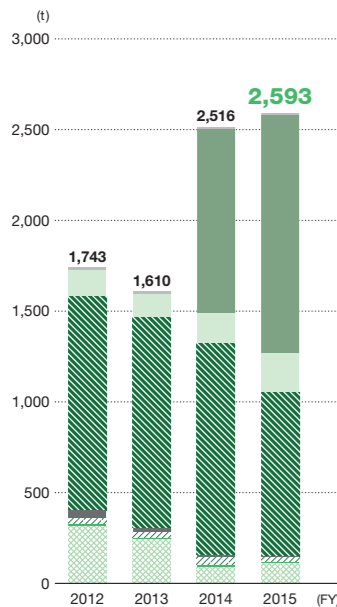
● Soot and Smoke Emissions

The volume of FY2015 SOx emissions increased 3% year on year. While THPAL increased 29% and CBNC was up 31%, Hyuga Smelting saw a decrease of 22% due to new dryer bag filters and the installation of electric dust collectors. NOx emissions increased by about 6% from FY2014. The volume of soot and dust emissions decreased 29% year on year. The decrease was 53% at Hyuga Smelting Co., Ltd. due to higher collection

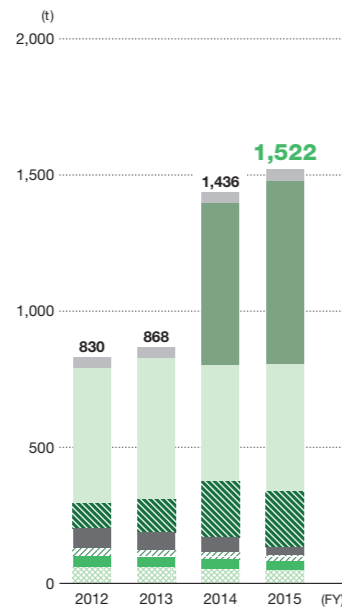
efficiency for electric dust collectors resulting from controlling exhaust gas temperatures in kilns, in addition to suppressed dust generation thanks to the removal of lifters (scoops) for mixing feed inside the kilns. Ending zinc production at Harima Refinery in September 2015 brought a 47% emissions decrease.

Emissions excluding THPAL showed a 14% year-on-year decrease for SOx, an approximate 1% year-on-year increase for NOx, and a 30% decrease for soot and dust.

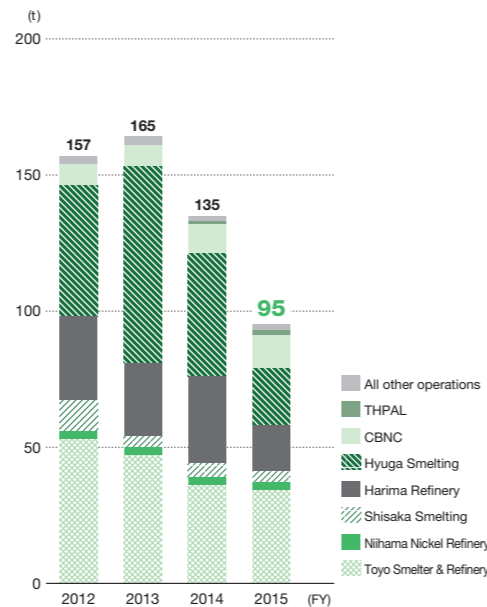
Volume of SOx Emissions



Volume of NOx Emissions



Volume of Soot and Dust Emissions



● Chemical Substance Releases and Transfers

The following is an overview of FY2015 releases and transfers of chemical substances in Japan managed in line with the Pollutant Release and Transfer Register (PRTR) system. The SMM Group had 27 data-submitting sites (28 in FY2014) and 41 substances requiring registration (38 in FY2014).

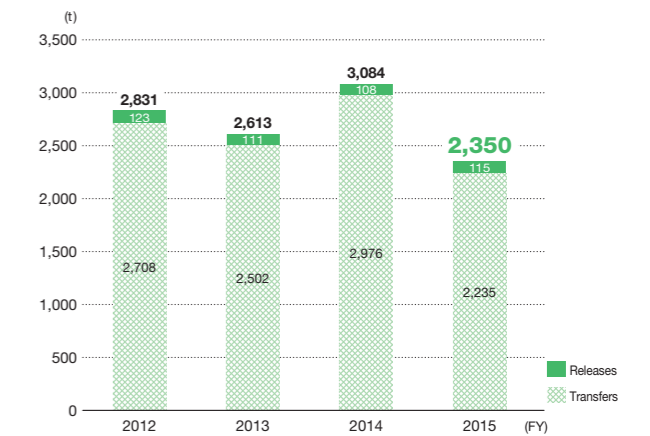
The total release and transfer volume (releases + transfers) decreased by about 24% from FY2014 to 2,350 tons due to a decrease in transfers. The decrease in transfers was due to a decrease in manganese in iron clinkers,¹ which undergo final disposal as an industrial waste, at Shisaka Smelting Co., Ltd.

In terms of release volumes, discharges into water and soil increased. This was mainly caused by an increase in boron released in wastewater at the Hishikari Mine and an increase in arsenic in wastewater treatment precipitate taking the form of mining waste. The volume of releases into the atmosphere was basically unchanged.

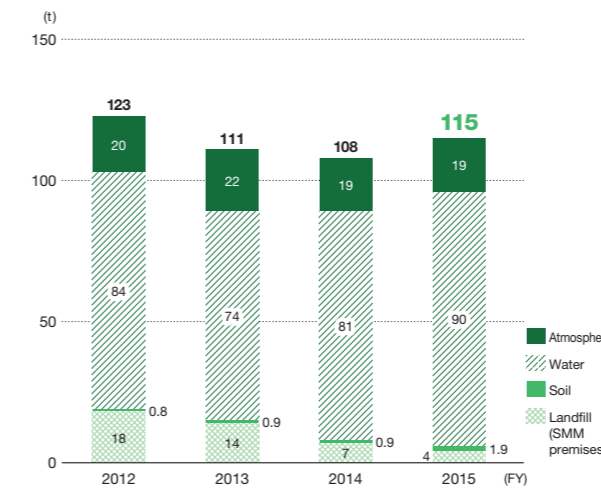
The SMM Group's production processes released no ozone depleting substances.

1. Iron clinker: The residue remaining during the processing of electric arc furnace dust after recovering zinc. The residue able to be sold is called "iron pellets," and the residue included in final disposal is called "iron clinkers."

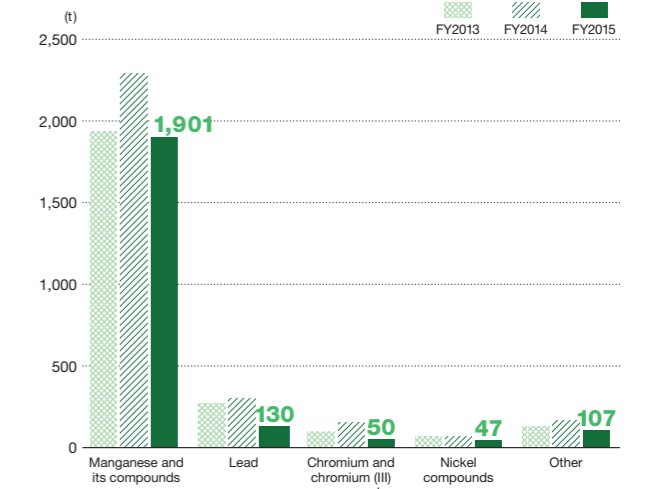
Release and Transfer Volume of PRTR Substances



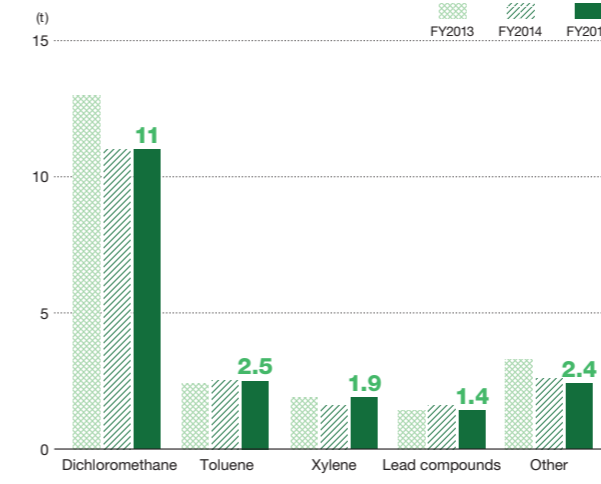
Breakdown of Releases



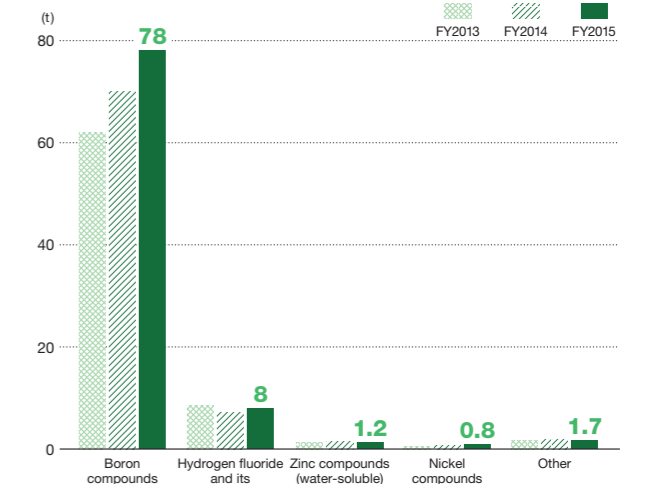
Breakdown of Transfers



Breakdown of Releases into the Atmosphere



Breakdown of Releases into Water

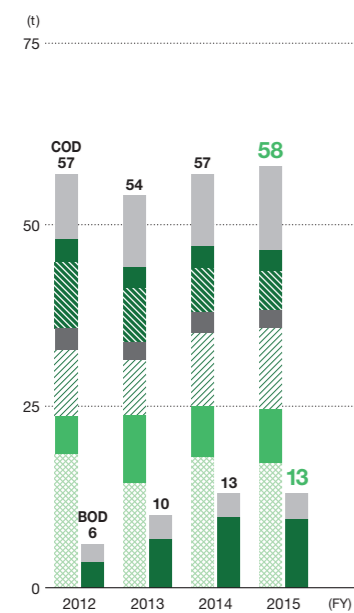


● COD and BOD Pollutant Loads

The COD¹ pollutant load in FY2015 increased by about 2% from FY2014, while the BOD² pollutant load was unchanged. Many SMM Group business sites face onto Japan's Seto Inland Sea and are subject to controls on the total amounts of COD, nitrogen and phosphorous emissions under the Act on Special Measures Concerning Conservation of the Environment of the Seto Inland Sea.

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

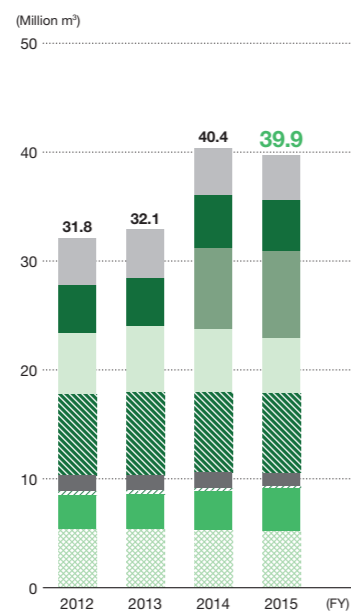
COD and BOD Pollutant Loads



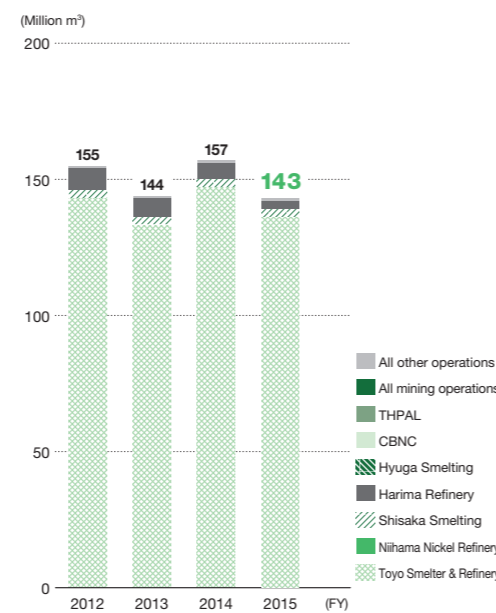
● Water Usage

At 40 million m³, freshwater used by the Group was nearly unchanged year on year. Seawater usage was 91% of the amount from the previous fiscal year. The reason was lower usage at Toyo Smelter & Refinery due to large scale, planned construction, and the transition in September 2015 from smelting zinc to producing nickel sulfate at Harima Refinery.

Water Usage (Freshwater)



Water Usage (Seawater)



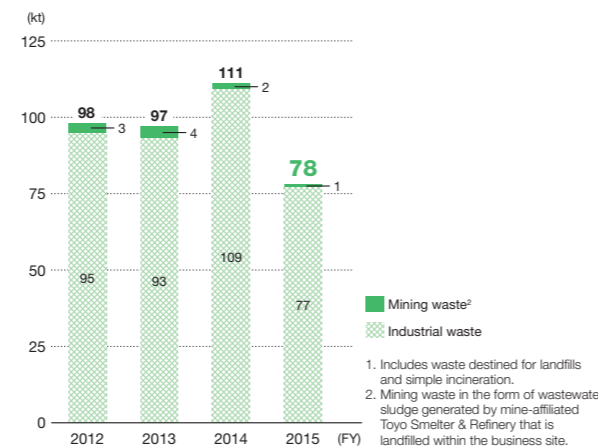
● Final Disposal Volumes of Industrial and Mining Waste

The SMM Group has long been making efforts to reduce industrial waste in Japan and the amount of wastewater sludge (mining waste) that undergoes final disposal from the mine-affiliated Toyo Smelter & Refinery.

The total final disposal volume in FY2015 was 78 kilotons, which was a decrease of about 33 kilotons from FY2014. The main contributing factor was a decrease in slag from ending zinc production at Harima Refinery and an increase in shipments of iron clinkers for recycling at Shisaka Smelting Co., Ltd.

The total volume of waste generated from all sites, classified according to processing method, direct or contracted disposal, and hazardous or non-hazardous, is shown on page 77.

Final Disposal Volumes¹ of Industrial and Mining Waste in Japan



1. Includes waste destined for landfills and simple incineration.
2. Mining waste in the form of wastewater sludge generated by mine-affiliated Toyo Smelter & Refinery that is landfilled within the business site.

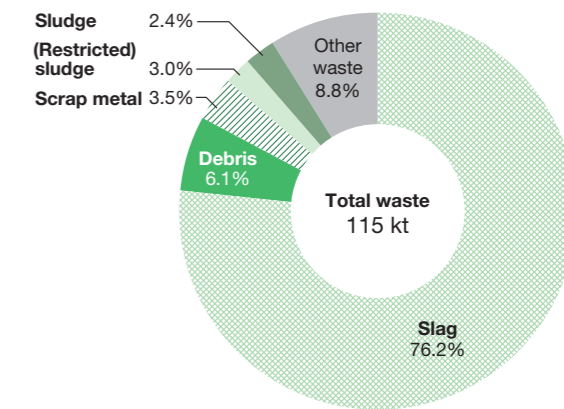
Volume of Waste (Hazardous³/Non-hazardous^{4,5}) (kt)

Processing method	Total		
	Total	Hazardous	Non-hazardous
Recycling	47	11	36
Landfill	8,536	72	8,464
Incineration	2	1	1
Volume reduction, etc.	2	1	1
Total	8,587	85	8,502

Direct/contracted	Total	
	Total	Contracted disposal
Direct disposal	8,461	
Contracted disposal		126

3. In general, this depends upon definitions in the countries concerned. Since Japan does not have such laws or regulations, SMM applies the following definition: "Specially controlled industrial waste and waste delivered to controlled landfill sites (excluding designated inert waste that should have been delivered to landfill sites for inert industrial waste, but was disposed of at controlled landfill sites due to the distance limitation)."
4. Waste other than hazardous waste.
5. We re-thought the method to calculate the weight of the CBNC tailing slurry to be buried in a landfill.

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



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

Example of Biodiversity Considerations in the Mineral Resources Business

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

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

We have also tried to minimize the impact of mine access



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

road construction on moose habitats by circumventing breeding grounds and not allowing traffic other than mine-related vehicles.

Example of Biodiversity Considerations in the Smelting and Refining Business

CBNC and THPAL in the Philippines produce electrolytic nickel intermediates.

To construct a refinery in the Philippines, we first had to obtain an Environmental Compliance Certificate (ECC) from the Department of Environment and Natural Resources (DENR). This required submitting an Environmental Impact Assessment (EIA). When constructing the refinery, we sought adequate dialogue with the Philippine government, local authorities and local citizens right from the planning stage. Efforts were made to construct a plant that would have a minimal impact on the environment. For example, a pier used to deliver sulfuric acid and methanol to the plant was made to circle around the coral reef, and wastewater outlets were also positioned to ensure the reef's protection.

CBNC began operations of the refinery in April 2005 based on a certified environmentally responsible design and was followed by THPAL in October 2013. The refineries have set up Environmental Management Offices (EMO) as bodies to promote environmental initiatives in operations. Besides environmental surveys by the EMO, the environment is monitored by a team of representatives from organizations such as the DENR, local authorities and NGOs which carry out regular sampling of the air, water, flora and fauna.

We check that the construction and operation of plants do not have serious impacts on the ecosystem, while keeping environmental impacts from wastewater and other factors to a minimum.



Water quality monitoring in rivers around CNBC

Contribution to Society and Local Communities

Basic Approach

The SMM Group has long been providing a secure foundation for living for its employees and their families as part of its business, and building a social infrastructure open to the public in many fields including culture, education and medicine. For our businesses, we have established the SMM Group

Corporate Philosophy and CSR Policy. Based on these, we execute business after ample deliberation at meetings at all levels and after taking into consideration the regional environment and society.

Impact on Local Economies

Local Procurement

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

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

The proportion of payments made to local suppliers in FY2015 was 57% (¥15.4 billion) for the Niihama District. The Pogo Gold Mine procures materials and equipment from some 256 suppliers in Alaska, accounting for 44% (approximately US\$95 million) of payments.

Local Hiring

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

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

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

At the Pogo Gold Mine, we strive to hire people locally and 67% of the approx. 300 employees are Alaska residents. At Coral Bay Nickel Corporation (CBNC) in the Philippines, efforts have been made to employ locals from Bataraza, achieving a ratio of 59%. At Taganito HPAL Nickel Corporation (THPAL), also in the Philippines, 45% are from Claver.

Number of Locally-Hired Senior Managers

(General Managers and above) at Overseas Affiliates (March 31, 2016)

Company (Country/Region)	No.	
	Male	Female
Sumitomo Metal Mining Pogo LLC (USA)	1	1
Sumitomo Metal Mining Chile Ltda. (Chile)	2	0
Sumitomo Metal Mining do Brasil Ltda. (Brazil)	1	1
Sumitomo Metal Mining Peru S.A. (Peru)	2	1
Sumitomo Metal Mining Philippine Holdings Corporation (Philippines)	5	1
Sumitomo Metal Mining Management (Shanghai) Co., Ltd. (China)	1	0
SH Asia Pacific Pte. Ltd. (Singapore)	3	0
Malaysian SH Electronics Sdn. Bhd. (Malaysia)	2	0
Malaysian SH Precision Sdn. Bhd. (Malaysia)	3	2
SH Electronics Taiwan Co., Ltd. (Taiwan)	1	2
Dongguan Sumiko Electronic Paste Co., Ltd. (China)	0	1
SH Electronics Chengdu Co., Ltd. (China)	1	1
SH Electronics Suzhou Co., Ltd. (China)	1	3
Suzhou SH Precision Co., Ltd. (China)	1	1
SH Precision Chengdu Co., Ltd. (China)	1	0
SMM KOREA Co., Ltd. (South Korea)	1	0
Shanghai Sumiko Electronic Paste Co., Ltd. (China)	3	0
Total	29	14

Mine Closure Plans

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

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

parameters to be monitored, and the costs required for remedial work and revegetation.

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

Closure Plan for Smelting Plants

In the Philippines, we are required to submit a closure and cleanup plan, not only for closure of the mine, but also for the refinery and mineral processing plant at CBNC. We are also required to put aside funds needed for the closure of any related 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 are being set aside every year for an eight-year period that started in 2012.

We are also providing assistance via SDMP* to help local residents make a living (such as in the farming and fishing industries) even after closure of a facility. For THPAL, a total of approx. 120 million pesos will be necessary for the closure plan, and funds will be set aside each month for an eleven-year period starting in 2016.

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

Reserves for Mine Closures

Mine	Reserve name	Reserves (2015)
Hishikari Mine	Mine pollution control reserve	¥21.54 million
Pogo Gold Mine	Reclamation Bond	US\$57.10 million*

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

Social Contribution Activities

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

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

Major Social Contribution Activities in FY2015

Social infrastructure building activities at operating areas

- Infrastructure building and construction of schools, hospitals, etc. with operational support in the Philippines
- Scholarships bestowed at overseas operating areas
- Support for hospital construction in Niihama City, Ehime Prefecture

Cultural and academic support

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

Nature conservation

- Contribution to the Keidanren Nature Conservation Fund

Disaster area support

- Contribution to storm damage relief for Typhoon No. 18
- Continuous food aid for victims of the Great East Japan Earthquake (Purchase and donation of specialty rice produced in operating areas)
- Donations to scholarship foundation for children orphaned by the Great East Japan Earthquake
- Creation of employment and setting up of a new production site for battery materials in Naraha Town, Fukushima Prefecture

Respect for People and Human Rights

Human Resources Development

Basic Approach

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

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

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

Human Resources Development Program

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



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

Specific Human Resources Development Initiatives

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

(1) Global human resources development

(2) Development of the next generation of management

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

(1) Global human resources 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 business division in mineral resources, smelting and refining, and materials, and in corporate divisions. Acknowledging that the development of globally-minded 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 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.

In order to improve various business skills, which can be considered a common language in global business, we have introduced opportunities for employees to take e-learning and also actively incorporate it into the different types of management training and training for employees who have been promoted. Global human resource development is thus approached from a number of angles, not simply from the language aspect.

(2) Development of the next generation of management

In addition to bottom-up training of the entire workforce, since FY2008 we have implemented a specialized program for training the next generation of management. Section manager-level and general manager-level personnel with the potential for a future senior management role at the company are selected for the program, which is designed to help them develop a senior manager's perspective. Moreover, practical training has been carried out since FY2011 for newly promoted general manager-level personnel which 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. The training also involves participants themselves playing a leading role in actually addressing managerial issues faced by the company and observing the results. Furthermore, we started an Officers' coaching school in FY2014 to show that officers themselves are studying as well as cultivating an atmosphere more conducive to human resources development.



Middle Management Program (MMP)

Diversity and Equal Opportunity

Basic Approach

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

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

Establishment of Workplace Environments Favorable to Diverse Human Resources

Working Environments Favorable to Diverse Human Resources including Women

1) Promotion of awareness

Based on the training we provided up until FY2014, in FY2015 we held training for female employees and their managers and supervisors. Our objective in this training was to make female employees think of their careers with an eye to the future and have them learn about the importance of expressing themselves and the communication skills required to convey their thoughts.

In FY2016, we are rolling out new training drawing on the insights gained from this training.

2) Review of systems

As a result of reviews of systems conducted from 2013, it is now possible to choose a variety of working styles. These systems are being disseminated via the office organization, the in-house magazine and bulletin boards and utilization of them is being tracked. As a result, it has been confirmed that the use of systems needed in order to create a good balance between home and work have progressed.

3) Infrastructure placement

Infrastructure placement is also advancing because the working areas of women are being extended and women are being assigned to previously male-only workplaces. Consequently, even more in-depth developments in the environment are beginning to come about in the respective workplaces.

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.



Women's career support seminar

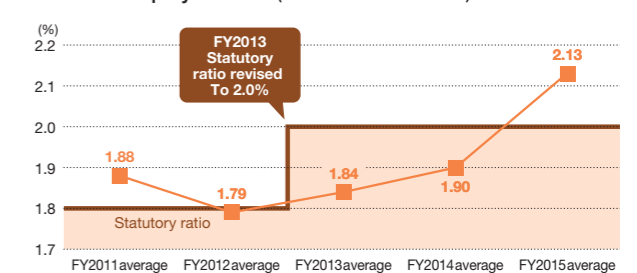
Working with the Disabled

Recognizing that human rights issues are a common global challenge, and that their resolution and improvement is a corporate social responsibility, SMM has operated the Committee for the Promotion of Respect for Human Rights to promote SMM Group-wide activities aimed at resolving human rights issues. In July 2014, the organization and functions of the committee were revamped to include promoting employment of people with disabilities and improving the disabled employee ratio. This was done through such means as developing new workplaces for people with disabilities, expanding the scope of the degree of disability eligible for employment, and collaborating with special schools aimed at regular hiring of new graduates. As a result, we

met the statutory ratio for disabled employees (2.0%) at the end of FY2014, and we further improved this in FY2015.

Furthermore, the Head Office area, which is leading the employment of people with intellectual disabilities, is also striving to ensure that there are projects to capitalize on the individuality and skills of people with disabilities, as well as offering training aimed at protecting the human rights of people with disabilities.

Disabled Employee Ratio (SMM non-consolidated)



Support for Elderly Employees

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

Initiatives for Enhancing Work-Life Balance

A satisfying lifestyle leads to satisfaction at work, too. Based on this belief, SMM is making efforts to improve 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 expanded the short-time work system available during child care, and established a job return system, which is applied in case of resignation because of marriage, child care, etc.

We are also directing energy into enhancing the childcare leave system, elderly and nursing care systems, and our response to the Japanese Law for Measures to Support the Development of the Next Generation. In advancing these efforts, we make full use of labor-management councils for surveying current conditions and drafting specific provisions, and we incorporate council results in system revisions.

Respect for Human Rights

Basic Approach

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

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

SMM Group Policy on Human Rights

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

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

Enhancing Management of Human Rights

The SMM Group is constructing a Group-wide human rights management program that incorporates a human rights due diligence framework based on the UN's Guiding Principles on Business and Human Rights. We aim to build a structured system to prevent and avoid complicity in either direct or indirect violations of human rights, and to make possible more appropriate responses, including relief, to concerns that arise. The system will apply to Group employees both inside and outside Japan, persons in the supply chain who may be affected by the Group's activities, and local residents in the areas in which the Group conducts its business activities.

A human rights management program for employees began full-scale operation in FY2014, and a simultaneous survey was conducted at all facilities including group companies. The results of the survey were deliberated on by the Committee for the Promotion of Respect for Human Rights, which includes the General Managers of the Personnel Department, the Legal & General Affairs Department, the Safety & Environmental Control Department, and the Internal Audit Department as well as an outside attorney-at-law in an advisory capacity. As a result of these deliberations, improvements have been promoted at sites where problems with activities were identified. In addition, the human rights management program will continue to be promoted Group-wide. With regard to the human rights management program for the supply chain, we carried out questionnaires for suppliers in Japan and overseas and conducted on-site

inspections at four suppliers.

In FY2015, there were no human rights-related discrimination incidents and no human rights-related complaints.

Human Rights Seminars

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

Preventing Harassment

In order to prevent every kind of harassment, each workplace runs human rights training. Each business facility has established a contact person for sexual harassment and other incidents concerning human rights as well as appointing a harassment prevention officer. In FY2015, there was one incident of sexual harassment and three incidents of workplace bullying, and appropriate actions were taken.

Mental Health Care

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

In FY2015, we implemented guidance to workplaces and

provided training on mental health for managers and supervisors as well as regular employees based on the results of self-checks. A "trial return to work" system and other measures were implemented to help employees who have been on long-term leave due to a mental disorder settle back into work.

We have also focused efforts on training in-house mental health care specialists, and 28 people had obtained industrial counselor qualifications as of March 31, 2015.

In FY2016, we will continue to enhance mental health care initiatives and strive to maintain and improve the mental health of employees.

Respect for the Human Rights of Indigenous People and Local Citizens

Starting/Ceasing Operations

When making investments or equity contributions, the SMM Group uses a project risk check sheet for committees, primarily the Management Committee, to investigate risks that include not only human rights issues such as discrimination, forced labor, and child labor, but also the political system, economy, law and order, locally-specific diseases, labor issues, religious restrictions, and the impact on the local community. In FY2015, seven investment projects were proposed to the Management Committee, none of them fell under the scope of human rights issues. Continued monitoring of human rights issues is conducted after the investment or equity contribution, for example through board meetings of the company invested in. If any issues should arise, prompt action is taken after clarification of the cause.

Relocation of Local Citizens for Development

There are occasions when we inevitably have to ask local citizens to relocate to make way for development of the mine or the construction of associated facilities. On such occasions, we seek the approval and understanding of local citizens and

offer alternative land. For the Hishikari Mine, three households in total relocated from 1983 to 1989. No relocations took place for development of the Pogo Gold Mine. For THPAL, we asked 41 households in areas to be affected by the plant's construction to relocate. A relocation plan was formulated in line with the World Bank's Operational Directive on Involuntary Resettlement. With the agreement of all citizens, the relocation was completed by December 2010.

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 FY2015.

Artisanal and Small-Scale Mining

As of July 2016, 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.

Initiatives Relating to Conflict Minerals

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

Congo or any of nine surrounding countries.

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

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

Occupational Health and Safety

Basic Approach

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

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

We promote safety-related activities under a basic policy to nurture a safety culture and ensure thorough safety management through the line of command.

Moreover, providing comfortable working environments includes ascertaining levels of dust, noise, specified chemicals and organic solvents, making necessary improvements to those environments, and enhancing occupational health management.

Ensure safety

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

Provide comfortable working environments

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

1. Changed in 2016 from “Achieve zero Control Class 3 workplaces (excluding locations stipulated in guidelines, etc.) (Japan)”

Occupational Health and Safety Management Framework

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

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

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



One of the annual Occupational Health and Safety Committee meetings



Holding improvement case study presentations, lectures, and training intended to be implemented at each workplace

Assuring Health and Safety

Health and Safety Activities in Business Sites

Safety-related activities in CY2015 were conducted with a focus on the following measures:

- (1) Priority-oriented accident risk identification
- (2) Strengthening residual risk² management
- (3) Strengthening education for less-experienced employees³
- (4) Further strengthening and enhancement of group education
- (5) Enhancement of safety management of contractors

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

Health-related activities during 2015 were pursued under the following themes:

- (1) Steady implementation and continuation of work environment improvements
- (2) Protective equipment usage management and maintenance
- (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) Providing care as part of health management (e.g. health guidance for employees diagnosed with an illness)

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

Chemical substance regulations have been strengthened, and refractory ceramic fibers were designated as Specified Chemical Substances in 2015. We held briefings about these fibers for engineering sections on legal compliance and informed departments involved. Going forward, we will obtain information on revisions of laws and regulations that will continue to toughen, including adding risk assessment obligations and expansion of chemicals subject to the risk assessment.

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

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

The SMM Group's practical training facility, the Oji-kan, commenced a range of hazard simulation courses in January 2010. By December 30, 2015, a period of roughly six years, a total of 7,000 Japan-based SMM Group employees and 3,600 contractor employees had undergone training there.

To make it possible for all employees at each of our business sites, including top management, to take part in training at the same time, the facility has been conducting on-site practical hazard simulations since July 2013. In 2015, 1,200 people took part in on-site courses. Workplaces also use the Oji-kan's facilities for their own independent safety training courses.

Even overseas workplaces make good use of the Oji-kan. Every year, around 15 employees from Coral Bay Nickel Corporation (CBNC) and THPAL in the Philippines visit the facility to take part in hazard simulation courses. The Pogo Gold Mine in Alaska, the United States also sends a number of officers each year to tour the facility and apply what they learn to safety activities at the mine.

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



On-site hazard simulation—Chain entanglement hazard simulation

SMM Anzen Dojo

Our Safety & Environment Control Department has held the SMM *Anzen Dojo* (lit. safety training center) since 2013 to enhance the risk sensibility of all SMM Group employees, provide hazard simulations, and to bring up the level of safety activities at each workplace. The *Anzen Dojo* trains personnel to become safety experts and leaders at their respective workplaces. These safety leaders, with knowledge and sensibility, return to their workplaces to take part in planning, and running education and activities about safety for all workers, in small groups. This makes it possible for workplace safety activities to be implemented more effectively and efficiently.

In 2015, the *Anzen Dojo* was held twice, and safety leaders learned about intrinsic safety for equipment, how to prepare an Ikisatsu Diagram,⁴ basic communication skills, and decline in physical functions due to aging and countermeasures. This completed the six-session *Anzen Dojo* program, and 60 safety leaders from 49 workplaces completed the whole course.

In 2016, we will run seven-hour courses in spring and fall to upgrade and maintain the level of current safety leaders in addition to holding a short *Anzen Dojo* program with three sessions aimed at supplementing and increasing the number of safety leaders.



Anzen Dojo training (seven-hour spring course)

4. Ikisatsu Diagram: A technique for investigating the underlying causes of an accident

Incidence of Occupational Accidents

The total number of occupational injury accidents occurring at workplaces in Japan was an all-time best of eight (frequency rate: 0.62) in 2015, and there two lost-time accidents, which was also lower than in 2014.

There were seven injury accidents (frequency rate: 0.96) at overseas workplaces. The frequency rate for Japan and overseas was 0.74, and no fatal accidents occurred. There were no new instances of occupational illnesses at workplaces either in Japan or overseas. Note that this data was collected during the calendar year, January to December 2015.

Data on Occupational Accidents in Japan

Year	Item	SMM non-consolidated	Group companies	Total
2015	All accidents	3	5	8
	Fatalities	0	0	0
	Lost time accidents	1	1	2
	Working days lost	2	76	78
2014	All accidents	5	8	13
	Fatalities	0	0	0
	Lost time accidents	1	3	4
	Working days lost	50	118	168
2013	All accidents	5	11	16
	Fatalities	0	0	0
	Lost time accidents	0	1	1
	Working days lost	204	97	301
2012	All accidents	3	8	11
	Fatalities	0	0	0
	Lost time accidents	0	3	3
	Working days lost	9	172	181
2011	All accidents	5	11	16
	Fatalities	0	0	0
	Lost time accidents	1	4	5
	Working days lost	313	60	373

• Scope: SMM, subsidiaries in Japan, Nippon Ketjen Co., Ltd., N.E. Chemcat Corporation, and the Mie District Div. of Mitsui Sumitomo Metal Mining Brass & Copper Co., Ltd.
• No fatal accidents have occurred at SMM or any group companies since 2004.
• Working days lost: The number of working days lost from the day after the occurrence of an accident. However, for accidents resulting in physical disability, the working days lost are considered labor days lost.

Initiatives to Fortify Accident Countermeasures

Although the number of accidents in the SMM Group has been falling over the long term as a result of various safety-related activities, accidents are being repeated due to similar unsafe activities and unsafe situations, thus requiring initiatives to be improved if we are to achieve our goal of halving the 2015 number.

In 2016, in addition to taking even stronger leadership on safety and health by the general manager of each workplace and effective utilization of safety leaders, we will continue to implement safety-related activities in line with the role of each level of our organization to nurture a culture of safety.

Stakeholder Communication

Engagement with Employees

Basic Approach

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

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

Establishment of a Workplace Environment to Enable Working Dynamically

Employee Awareness Survey

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

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

As with the previous survey, all of the roughly 3,000 employees of business locations directly controlled by SMM were surveyed. There were a total of 118 questions, comprising the same 113 questions asked in the previous survey, and five additional questions relating to women's careers, which we are currently focusing on. The response rate was 97.0%, higher than the previous survey, which suggests a high level of interest in the survey among employees.

Survey results were reported to top management, general managers of Head Office divisions, general managers of business divisions, and workers' unions over eight feedback briefing sessions. Additionally, feedback seminars were held at seven directly-controlled business locations. Targeting management at each facility, these seminars were used to disclose data for each location, ascertain outstanding issues for the location, and think about measures for creating better workplaces. For employees, survey results and an explanatory article appeared in the in-house bulletin, *Ibuki*, in November 2013.

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

Labor-Management Relations

Workers' unions formed at SMM branch offices and facilities of SMM Group companies in Japan carry out activity under the umbrella of the Federation of Sumitomo Metal Mining Workers Union (Sumikoren). All regular employees join workers' unions in accordance with union shop agreements. Overseas, three consolidated subsidiaries have workers' unions (excluding Chinese labor unions). As of March 31, 2016, around 23% of employees belonged to workers' unions at overseas consolidated subsidiaries. In order to build up healthy labor-management relations based on mutual trust, in which the company and workers' union mutually respect the other party's position, labor-management council meetings, or labor-management discussions, are held at least once a month with workers' unions at each branch office or group company. The Central Labor-Management Conference, a meeting between SMM management and executives of Sumikoren workers' unions, is held once a year around March.

We also implement questionnaires to ascertain conditions relating to the establishment of workers' unions overseas and actually visit overseas business 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, or the formulation of new systems. In the case of business reforms expected to have a significant impact on employees, considerations include providing sufficient advance notice. As a result of these efforts, no plant closures due to strikes or other action were reported during FY2015 within the entire SMM Group—both in Japan and overseas—and there were no serious infringements upon freedom of association.

Matters discussed with Sumikoren* (during FY2015) include:

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

* Sumikoren: The SMM workers' union

Engagement with Local Communities

Basic Approach

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

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

Promotion of Mutual Understanding and Contribution to Local Development

Involvement with Local Communities

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

At the Hishikari Mine, the Pollution Prevention Council meets twice a year. In FY2015, budget briefings were held in April and September.

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

CBNC also set up the COMREL Information Center within the town site in August 2014. By having COMREL for both CBNC and RTN in the same building, access for local residents was made easier, making interchange with them, such as dialog and explanatory meetings, more efficient.

Similarly, THPAL communicates with 14 barangays, including impact barangays in four nearby locations, as part of IEC activities. In addition to this, it also carries out diverse activities such as the construction of local healthcare, school and other facilities and activities for children through SDMP and CSR. It also provides support for and builds positive relations with indigenous people through focused efforts. In 2014, a project to provide indigenous people with a supply of potable water was launched.

During the approval process for operations at the Pogo Gold Mine, the Alaskan government provided explanations about the project to 13 villages inhabited by indigenous people in an area with a radius of more than 200 kilometers around the Pogo Gold Mine, particularly in the Tanana River basin, and G2G Consultation was held to collect opinions. In addition, since operations began, there has been regular communication with local people. In 2015, four sessions were held to disclose information to stakeholders,

including local residents, and the status of operations was explained. There have been no pending issues resulting from complaints from indigenous people in the areas surrounding the mines, smelters and refineries in which SMM has more than a 50% interest.

There was one complaint ongoing from FY2014 and two new complaints, making a total of three complaints² to the SMM Group about community impacts, and appropriate actions were taken.



Distribution of emergency packs to local children for use in the event of accidents



Project to supply potable water to an elementary school

1. RTN (Rio Tuba Nickel Mining Corp.): A CBNC supplier mining company that mines nickel oxide ore that is a raw material in refining.
2. Three complaints: The number of complaints received by the SMM Group, regardless of which party was responsible.

Communication with Shareholders and Investors

Basic Approach

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

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

Ongoing Dialogue with Shareholders and Investors

Investor Relations

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

In addition, a total of around 390 individual meetings with institutional investors and securities analysts were held in Japan and overseas in FY2015 to provide a direct communication channel.

SMM participated in a conference organized by Japanese securities firms, and the president explained the 3-Year Business Plan and SMM's strategy to approximately 80 institutional investors from Japan and overseas. The president also pays visits to overseas institutional investors to explain the management policies and governance of SMM and receive feedback.

Communication with Individual Investors

SMM has established a section for individual investors in the company website and works to disclose IR information. 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.



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

We also respond to a variety of telephone and email inquiries from individual shareholders, which is a valuable opportunity for communication. In addition, we asked individual investors to complete a questionnaire in *The Report for Shareholders* issued in December 2015 and received a large number of responses. The opinions received will serve as a reference for SMM's future IR activities.

Framework to Utilize Feedback from Shareholders and Investors

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



Business Strategy Progress Briefing Session

General Meeting of Shareholders

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

Communication with Other Stakeholders

Basic Approach

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

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

Promotion of Mutual Understanding with Other Stakeholders

Communication with NGOs

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

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

SMM explains these local activities in detail and continues to

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



Revegetation at CBNC tailings dam

Involvement with the International Community

ICMM Membership

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

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

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

Declaration of Support for the EITI

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

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

SMM agrees with the objectives of the EITI and supports its activities. As of May 2015, among countries in which SMM conducts business, Indonesia and Peru were compliant, and the United States, the Philippines and the Solomon Islands are EITI candidate countries.

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