



PACIFIC METALS CO., LTD.



PACIFIC METALS CO., LTD.

Sustainability report

2020

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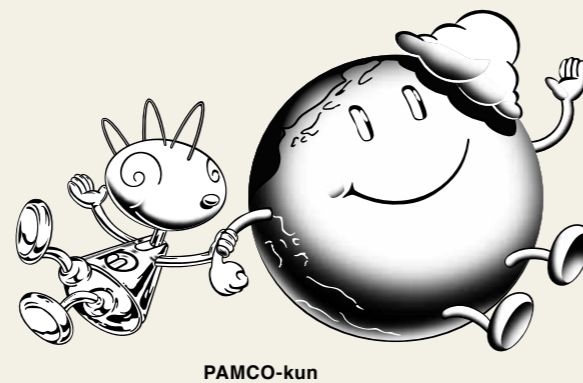
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Editing of the Sustainability Report 2020

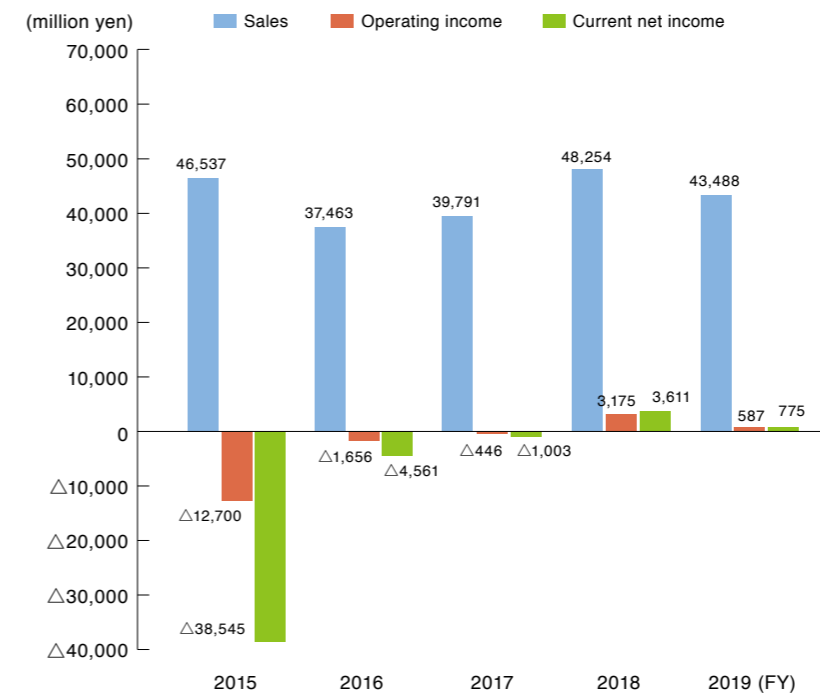
Editing policy	This report introduces the business activities and integrated management system initiatives of Pacific Metals Co.,Ltd. for the fiscal year (FY) 2019. It also describes our medium-term management plan, investor relations (IR) activities, and response to COVID-19 infections with a focus on our environmental, quality, and occupational health and safety initiatives for the purpose of disclosing more information to all stakeholders, including shareholders and investors.
Scope of report	Pacific Metals Co., Ltd. (offices in Japan) *Some group companies are included in the activity details.
Reporting period	FY2019 (April 1, 2019 to March 31, 2020) *Includes reporting of some activities outside the reporting period.Month of issue: November 2020
Reference guidelines	“Environmental Reporting Guidelines (Fiscal Year 2018 Version)” by Ministry of the Environment “Sustainability Reporting Guidelines Version 4” by the Global Reporting Initiative (GRI)
Publication medium	[Company website] https://www.pacific-metals.co.jp/environment/report.php
Disclaimer	The contents of this report refer not only to past events, but also cover future plans and forecasts at the time

Overview of the Company

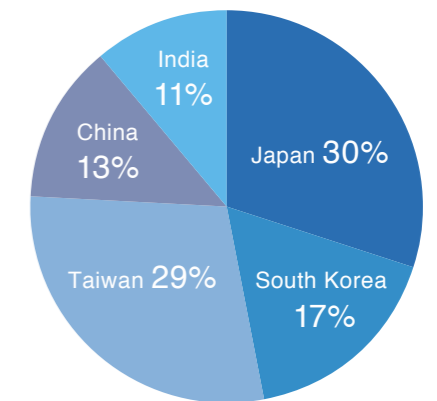
(As of March 31, 2020)

Name	PACIFIC METALS CO.,LTD.
Representative	President and Representative Director Masayuki Aoyama (Took office on June 25, 2020)
Date of establishment	December 1, 1949
Annual sales	43,488 million yen (nonconsolidated)
Number of employees	417 employees (nonconsolidated)
Capital	13.9 billion yen
Business offices and works	Tokyo Head Office / Hachinohe Head Office (Manufacturing Works) / Philippines Office / Jakarta Office
Business items	Ferronickel, Ferronickel slag
Affiliated companies	Taiheiyō Kosan Co., Ltd. / Pacific Gas Center Co., Ltd. / Pacific Sowa Corporation / Pacific Steel Mfg. Co., Ltd. / Pacific Special Alloy Castings Co., Ltd. / Yonago Steel Co., Ltd. / Pacific Rundum Co., Ltd. / Pacific Machinery & Engineering Co., Ltd.
Affiliated companies	Rio Tuba Nickel Mining Corporation / Taganito Mining Corporation

Financial indicators



Sales volume ratio by region (ferronickel)



SDGs Sustainable Development Goals

Sustainable Development Goals (SDGs) are 17 goals adopted by the United Nations in 2015 to achieve a society where no one is left behind - sustainable, diverse and inclusive - by 2030. The Company's medium-term management plan itself is related to the concept of SDGs, which are the global standard, and through our day-to-day business activities we are actively promoting SDGs and contributing to the development of a sustainable society.



Message from the President



It was my honor to take office as the new President and Representative Director of Pacific Metals Co., Ltd. on June 25, 2020. I will work on resolving various management issues toward achieving the medium-term management plan PAMCO-2021 (hereinafter, PAMCO-2021) to realize continuous growth and development, and to enhance our corporate value.

Toward sustainable development

Pacific Metals has chosen a long-term vision of “Becoming a ferronickel manufacturer of world-class comprehensive strength.” As the first stage in achieving this long-term vision, we formulated our previous medium-term management plan PAMCO-30, and then “solidified the platform in response to rapid changes in the environment.” As the second stage beginning in FY2019 until FY2021, we formulated PAMCO-2021 and engaged in activities for “refining strategies toward continuous growth” and “growing into a company that takes sustainability of society into consideration.” We will realize our long-term vision in the third stage beyond FY2022 by evolving the growth strategies up to that point.

When formulating PAMCO-2021, we identified the

risks in business environment, and opportunities we assumed we would face in the targeted period. The risks in business environment, include “expanded impacts of global risks on commodities markets,” “the expansion of resource nationalism,” and “changes in the electric power environment,” while opportunities include “the expectation that demand for stainless steel will grow steadily” and “increased demand for nickel in conjunction with the expansion of the electric vehicle (EV) and other markets” To respond to rapid changes in world affairs, we must predict circumstances in advance and navigate through those circumstances quickly.

The basic policies under PAMCO-2021 are “strengthening and redeveloping the management platform, and refining strategies toward continuous growth” and “creating social and economic value.” We believe we can overcome

expected risks by embodying those policies in seven items, and establishing priority policies for each item. We are also implementing organizational restructuring to realize the key measures.

That said, new risks of the global COVID-19 epidemic have been added and become our top priority. There are also concerns that the number of people infected in Japan will increase. We have worked to grasp infection conditions domestically and overseas, have temporarily brought expatriates and their families back to Japan, temporarily closed our Tokyo Head Office, restricted movement across prefectures. We have also created behavioral guidelines based on national and local government responses, and are making appropriate business continuation efforts while implementing various infection prevention measures, such as using remote meetings, working from home, and limiting the number of people in waiting areas.

COVID-19 infections are expected to spread over the long term and so, to minimize the impact on our business, we will continue to take rapid measures in response to conditions.

Business activities and initiatives for ESG

Ferronickel, which is our main product, is used as a raw material for stainless steel, and stainless steel containing nickel is used broadly to support our lives.

Since stainless steel containing nickel is very strong, has superior corrosion resistance, can easily be processed into a variety of shapes, and is beautiful, it is often used as a building material for skyscrapers in large cities, inside subway stations, and in train cars. It is also very useful to society as it is used in various applications for everyday families in kitchen sinks, cookware, and bathtubs, and for medical care in surgical instruments and medical implants.

In recent years, emphasis has been placed on initiatives designed to achieve the Sustainable Development Goals (SDGs) adopted by the General Assembly of the United Nations, and we believe our initiatives for sustainable development are also very important in terms of enhancing our corporate value and strengthening our relationships with stakeholders. As initiatives for environmental, social, and governance (ESG), we have a history of engaging in a variety of activities such as contributing to the creation of a recycling society through our work toward full recycling of ferronickel slag, which is a by-product, preventing water pollution via wastewater treatment facilities, and sponsoring local soccer club

teams. Of particular note, we have collaborated with neighboring companies in the prefecture to effectively use ferronickel slag as a roadbed material on freeways. We also recognize that the effective use of resources and the reduction of waste are the areas we can contribute to by, for example, recycling incineration ash from waste generated in prefectural municipalities and scallop shells into aggregates for secondary concrete products. Going forward, we will look for specific ways we can contribute to and actively engage in initiatives targeting sustainable development goals for the planet, which is the foundation of our economy and society.

Aiming to improve corporate value and become a more meaningful company

We created a long-term vision and are actively formulating PAMCO-2021 so we can achieve that long-term vision. To honor the trust placed in us by all of our stakeholders, we aim to create new value and realize a sustainable society as we do our part to resolve social and global issues through our business activities.

We will actively use this report as information dissemination material on our website and in financial results briefings to help our stakeholders understand, and express their opinions about, our initiatives. We will also gradually migrate it to a corporate social responsibility (CSR) report and continue using it as a further information dissemination method.

We have also implemented a new human resource system that will help all of our employees feel that their jobs are rewarding. Since the system provides ample opportunities to interface with evaluators and ensures transparent and fair evaluations, we hope all our employees use it so they can grow. Having young people send their own messages can help revitalize workplaces. We expect that all of our employees will do their jobs with an awareness of their goals and thus work hard to achieve the goals they set themselves.

Finally, we will contribute to sustaining a healthy social environment by continuing stable delivery of the stainless steel raw materials essential to maintaining a modern social infrastructure. I hope this report helps you to understand our activities, and I invite your frank opinions and look forward to your continued support.

Masayuki Aoyama,
President and Representative Director

The Long-Term Vision

Setting our Long-Term Vision

Since our company was founded as "Nisso Steel Co., Ltd." in December 1949, we have overcome various crises and have been operating until today, supported by the efforts of many seniors.

In May 2016, we set a long-term vision of "Aiming to be a world-class ferronickel manufacturer with comprehensive power," and set four pillar themes based on our strengths. To achieve this long-term vision, we set specific goals and policies for each theme and promote activities.

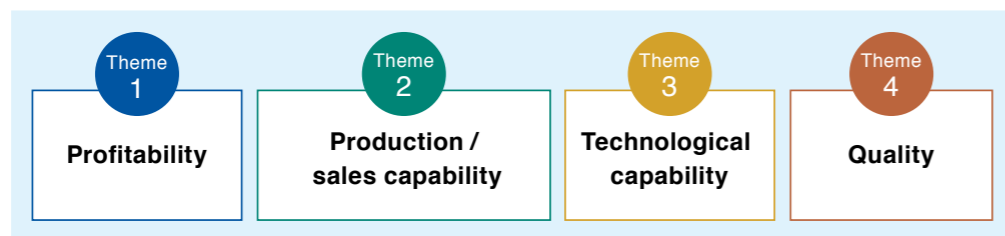
Company philosophy

Utilizing human power, providing the resources of the earth as more useful, contributing to the well-being of human society

Our strengths



Key themes



The long-term vision

Aiming to be a world-class ferronickel manufacturer with comprehensive power*

* "Comprehensive power" means having world-class superiority in all themes.

Company Policy

1. Integrate the management strategies of the entire Group to maximize the synergy effects of each Group company.
2. Focus on the development and quality improvement of world-class smelting technology, and establish the world-leading platform for management efficiency and competitiveness.
3. Promote compliance.
4. Secure appropriate profits through fair, transparent and free competition.
5. Actively tackle all environmental problems to protect the irreplaceable earth.
6. To develop the individuality of employees and fully demonstrate their creativity, pursue a sense of comfort and affluence both physically and mentally, and realize a rewarding workplace.
7. Promote wide-ranging exchanges with society and actively disclose fair corporate information.

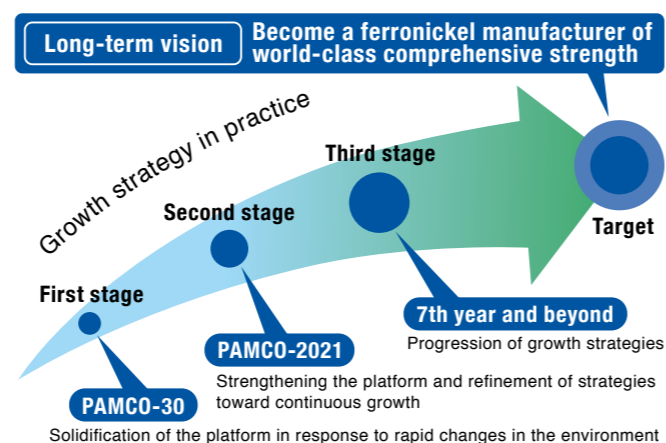
Corporate Code of Ethics

1. **Compliance with rules, laws, and social norms**
 - Conduct corporate activities based on compliance, social norms, and social decency.
 - Insulate the company from antisocial forces that threaten social order and safety, and carry out sound corporate activities.
 - In international business activities, comply with international rules and local laws, respect local culture and customs, and carry out corporate activities that contribute to the development of the country.
2. **Conservation of the global environment**
 - Recognizing that tackling environmental problems is an essential requirement for corporate survival, so proactively engage in corporate activities that contribute to environmental improvement.
3. **Coexistence with local communities**
 - Engage in corporate activities that contribute to the development of local communities by coordinating and cooperating with local communities.
4. **Ensuring customer trust**
 - Provide good quality, safe products that meet consumer needs.
5. **Maintaining good relationships with stakeholders**
 - Meet shareholder and creditor expectations and engage in corporate activities that earn their trust and support by ensuring fair and transparent management.
 - Strive to maintain good, sound relationships with a wide range of societal entities, including consumers, business partners, employees, and shareholders.
6. **Creating a work environment where employees can work together and express themselves**
 - Foster a corporate culture that values employee independence and creativity.
 - Create equal opportunities with no discrimination in employment.
 - Ensure workplace safety and employee health.
 - Respect basic human rights and create a fair work environment with no discrimination.
7. **Communicating with society**
 - Gather social demands required of corporate activities and disclose corporate information as positively and fairly as necessary.

Activities Performance for PAMCO-2021

PAMCO-2021 is a medium-term management plan we formulated in FY2018 as the second step toward achieving our long-term vision. We are engaging in corporate activities that strengthen the platform developed in the first stage, refine strategies toward continuous growth, and that will help us grow into a company that takes sustainability of society into consideration.

Although we responded to national and local government policies designed to prevent the spread of COVID-19 by closing some of our places of business in FY2019, we were able to achieve the goals we set at the beginning of the fiscal year because our employees came together to advance them ahead of schedule.



Response to COVID-19

To combat COVID-19, the impacts of which are being felt in Japan and abroad, we formulated “Behavioral Guidelines for Preventing the Spread of Infections” with the safety of our partners and employees foremost in our minds, and under those guidelines have worked to prevent infections by curtailing business trips, working from home, utilizing web meetings, and thoroughly taking the temperatures of and disinfecting visitors. We are also working to reduce the impact of infectious diseases on our business activities, etc., while keeping in close communication with the countries where our sales and procurement sources reside. In addition, we are taking other measures such as dispersing employees by moving seats in business offices and limiting the number of people in work waiting areas.

Interviews conducted with employees who are working from home and holding web meetings as infection prevention measures reveal that they have an appropriate understanding of infectious diseases, and that most of them do not feel inconvenienced in their work and communications despite the changes in workstyle. On the other hand, they have raised issues relating to networks and voucher processing. Our employees will come together in responding to COVID-19 by, for example, promoting the consideration of proposals for improving our current infection prevention measures.

Item	Basic policies	Priority policies	State of completion	Activities performance for FY2019	Policies for future activities
◇Refinement of the strategies toward strengthening and redeveloping the management platform, and toward growth					
①	Strengthening of facilities and stable procurement of ore to develop the optimal production system	◇Optimal production of ferronickel and development of sales system ●Production system: Development of an optimal production system for the company as a whole, including expansion of overseas smelting, and further strengthening of the management platform ●Sales system: Strengthening of stable sales for existing customers, and in addition, acquisition of new customers	○	◇Optimal production of ferronickel and development of sales system ●Planned renovation on aging equipment ●To promote commercialization and feasibility studies by accelerating discussions with candidate overseas partners ●Maintained a long-term agreement ratio with domestic and overseas customers	◇Optimal production of ferronickel and development of sales system ●Promote capital investments that contribute to energy savings ●Form plans for renewing aging equipment ●Implement business feasibility evaluations of overseas business
②	Initiatives with view to expanding overseas business	◇Long-term stabilization in the procurement of nickel resources ●Long-term stable procurement, with view to expansion of the source based on renewal of existing agreements ●Initiatives toward resource interest acquisition, overseas smelting, etc.	○	◇Long-term stabilization in the procurement of nickel resources ●Launched initiatives for developing new mines and acquiring mine interests	◇Long-term stabilization in the procurement of nickel resources ●Dispatch engineers with the aim of developing new mines and acquiring mine interests
③	Diversification of business in Japan	●Aim for diversification of businesses that contribute to reducing fluctuation in revenue and strengthening the future revenue base	○	●Began studying the manufacture of products other than Fe-Ni using hydrometallurgical technology ●Accelerated multiple-perspective investigations into expanding the recycling business	●Continue studying the manufacture of products other than Fe-Ni using hydrometallurgical technology ●Launch specific initiatives for expanding the recycling business
④	Strengthening profitability	●Press forward with cost reductions, and pursue an optimal production system with high profitability	○	●Responded to the risk of fluctuations in London Metal Exchange (LME) nickel prices ●Continued reducing all costs (reduction effect: approximately 400 million yen) ●Launched business reform initiatives by building processes based on various issues and promoting enterprise resource planning (ERP) introduction ●To make efforts to improve profitability in recycling business by expanding sales activities and making the process more efficient	●Continue responding to the risk of fluctuations in LME nickel prices ●Continue reducing all costs ●Continue business reform initiatives for building processes based on various issues ●Improve recycling business profits/losses
⑤	Strengthening of organization and human resources in anticipation of changes in the business environment	●Building a flexible and optimal organization toward achieving the objectives ●Strengthening of human resources to raise the standard	◎	●Restructured organizations to achieve goals ●Created a hierarchical, company-wide common training program	●Implement various training programs
⑥	Management focused on cash flow	●Stability of management is improved by maintaining the appropriate asset status and ascertaining efficient cash flow	◎	●To reduce risk by anticipated asset management	●To reduce risk by appropriate asset management
◇Creation of social and economic value					
⑦	Contribution toward achieving a sustainable society	●Pursue measures to help prevent global warming, and contribute to the development of Hachinohe and Tohoku Region also resource-rich countries ●All employees working as one toward zero accidents ●Strengthening of the compliance and governance systems	◎	●Contributed to a recycling-oriented society through full recycling of ferronickel slag ●All employees worked as one toward zero accidents ●Complied with laws and regulations through the use of an Integrated Management System (IMS)	●Continue full recycling of ferronickel slag ●All employees continue working as one toward zero accidents ●Strengthen compliance and governance systems

State of completion ◎: Achieved ○: Mostly achieved △: Not achieved

Environmentally Friendly Manufacturing Process

—Ferronickel Manufacturing Process—

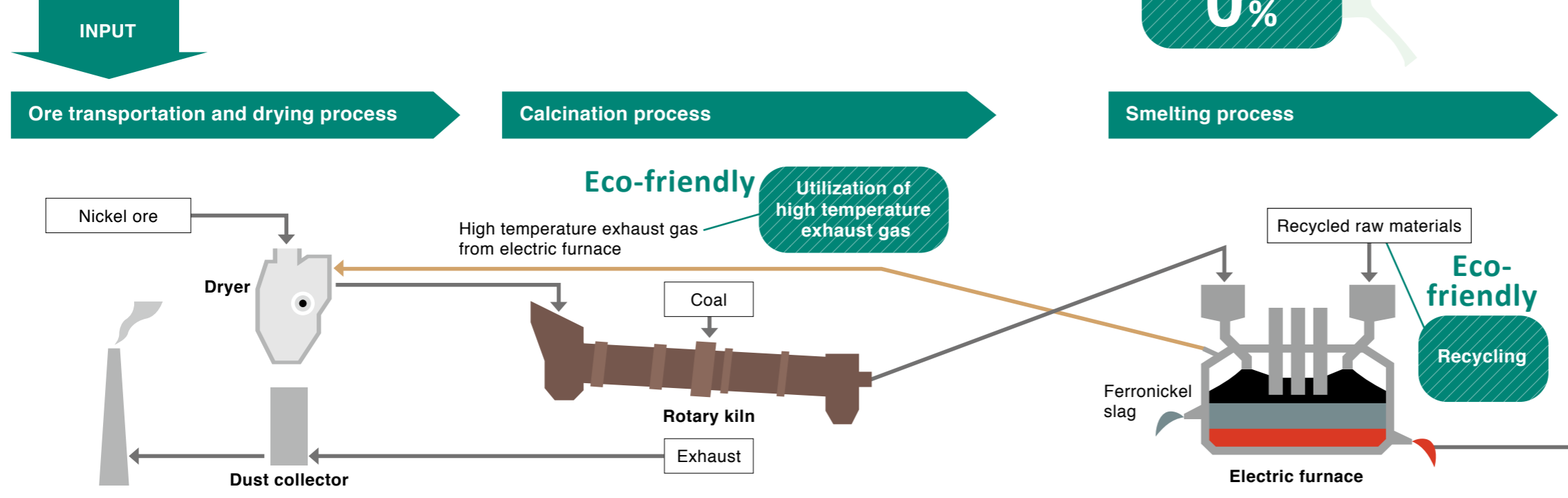


Ferronickel, which is the main raw material for stainless steel, and we are the number one domestic producer of ferronickel. Utilizing the world's top level smelting technology, we carry out efficient manufacturing with the world's largest electric furnace.

Ingenuity to reduce environmental impact, we apply many technologies such as reducing energy consumption by using high-temperature exhaust gas from electric furnaces into the ore drying process, and recycling by smelting recycled resources containing nickel together with nickel ore.

Ferronickel manufacturing process

Main raw materials		Total energy	Industrial water	
Nickel ore (wet)	2,550,000 t	Secondary ingredients 310,000 t	18,420,000 GJ	6,470,000 m ³

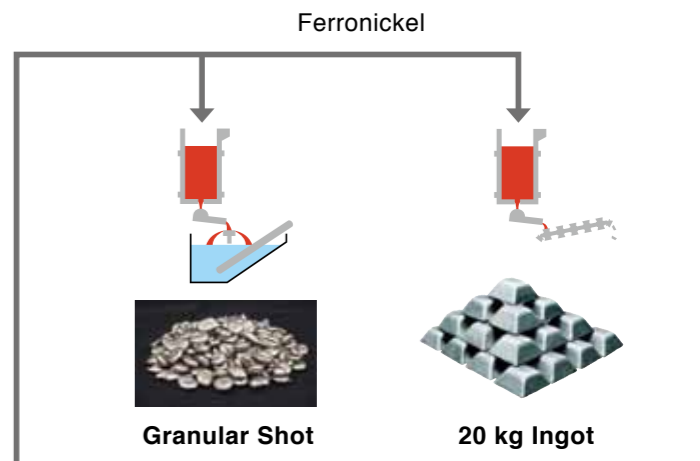


Recycling rate
100%

Final waste disposal rate
0%

Products	Quantity	Atmospheric release
Ferronickel (gross)	225,000 t	CO ₂ 1,390,000 t
Resource recycling		SO _x 1,389 t
Ferronickel slag	1,390,000 t	NO _x 2,384 t
Drain water		Soot and dust 38 t
Discharged water	4,520,000 m ³	

Casting process



Smelted ferronickel (molten metal) is molded into 20kg ingots and granular shots.

Imported nickel ore and coal will be initially stocked at off-site stock yard, and then transported to an on-site stockpile by a conveyor. The conveyed nickel ore is brought into an impact dryer or rotary dryer.



Raw material conveyor: Raw material conveyor is total around 2.4km length.

The preliminary dried ore will be heated in a rotary kiln to remove almost all the remaining and crystallization water.

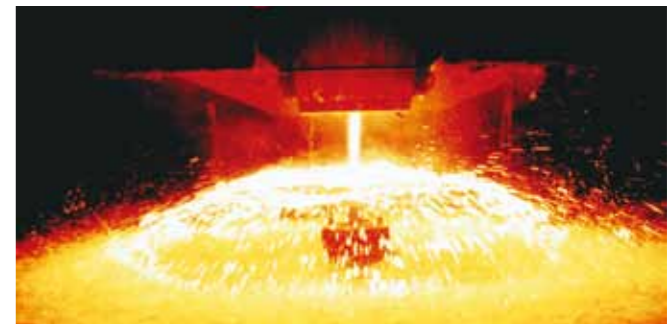


Rotary kiln: A calcining equipment, over 100m in total length that thermally processes dried ore by heating it to approximately 1,000 degrees Celsius.

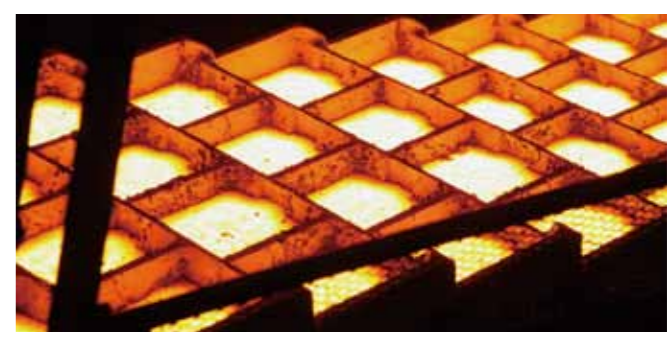
The calcined ore is heated further in an electric furnace. The high temperature exhaust gases from the electric furnaces are used as a heat source in the drying process of nickel ore to reduce energy consumption.



Electric furnace: These are the world's largest electric furnaces that is heated by using electric resistance, and used for smelting ferronickel from ore.



Shot casting: Molten metal is rapidly cooled with water in a water tank and finished into small particles.



Ingot casting: Molten metal is poured into molds and finished into 20 kg ingots.

Eco Products That Contribute to Reduced Environmental Impact



Effective use of by-products

Ferronickel slag obtained as a by-product of the ferronickel manufacturing process is cooled by the slow cooling method, and then the entire product is recycled according to the intended use and sold as an attractive product that can be used in a wide range of applications.

The slag's constituent components are stable, environmentally friendly, and have the same quality as natural resources and thus contribute to energy saving by conserving natural resources, and to the formation of a recycling-oriented society.



Used as a civil engineering material in earthquake disaster reconstruction areas

Ferronickel slag (Product name: PAMCO Crushed Stone)

After cooling, ferronickel slag is crushed by crushing equipment to particle sizes of 5 mm or less, 5 to 20 mm, or 20 to 40 mm, which thus allows for a wide range of particle size adjustments when combined according to customer requests.

The slag is characterized by the fact that it is environmentally friendly, highly safe, and does not contain harmful substances, and because it has high roadbed bearing capacity after compaction, it is easy to install, and has excellent frost heaving suppression. In the Tohoku area, it is used mainly as a substitute civil engineering material for mountain sand and crushed stone (for roads, embankments, and land development).



Ferronickel slag of 5 mm or less

Ferronickel slag of 0 to 40 mm

LCA for ferronickel slag products

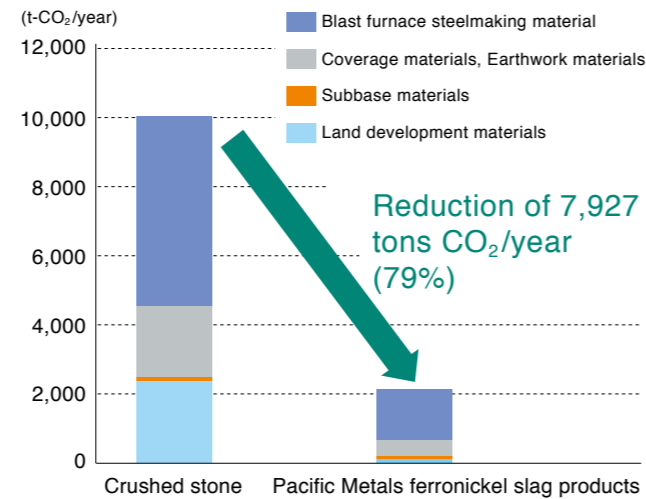
Our ferronickel slag products meet all the elution amount and content standards notified by the Ministry of the Environment, are free from harmful substances, are environmentally friendly and boast high safety, and crushed stones the reduction of environmental load.

The figure below is an LCA (*1) evaluation comparing ferronickel slag products and quarry products (*2), confirming a reduction in CO₂ emissions (*3).

*1: Abbreviation for Life Cycle Assessment. A method of quantifying the environmental impact of a product during its lifetime (resource extraction, manufacturing, use, disposal). *2: Products manufactured by collecting and mining natural stones *3: Evaluation results for ferronickel slag products manufactured in FY2018

Environmental contribution of ferronickel slag products

Applications of ferronickel slag products	CO ₂ emissions (t-CO ₂ /year)		CO ₂ reduction rate
	Crushed stone	Pacific Metals ferronickel slag products	
Slow cooling - Land development materials	2,360	44	98%
Slow cooling - Subbase materials	115	32	72%
Slow cooling - Coverage materials, Earthwork materials	2,059	571	72%
Slow cooling - Blast furnace steelmaking materials	5,518	1,477	73%
Total	10,052	2,124	79%



[Click here for product information](https://www.pacific-metals.co.jp/products/kras.html) https://www.pacific-metals.co.jp/products/kras.html

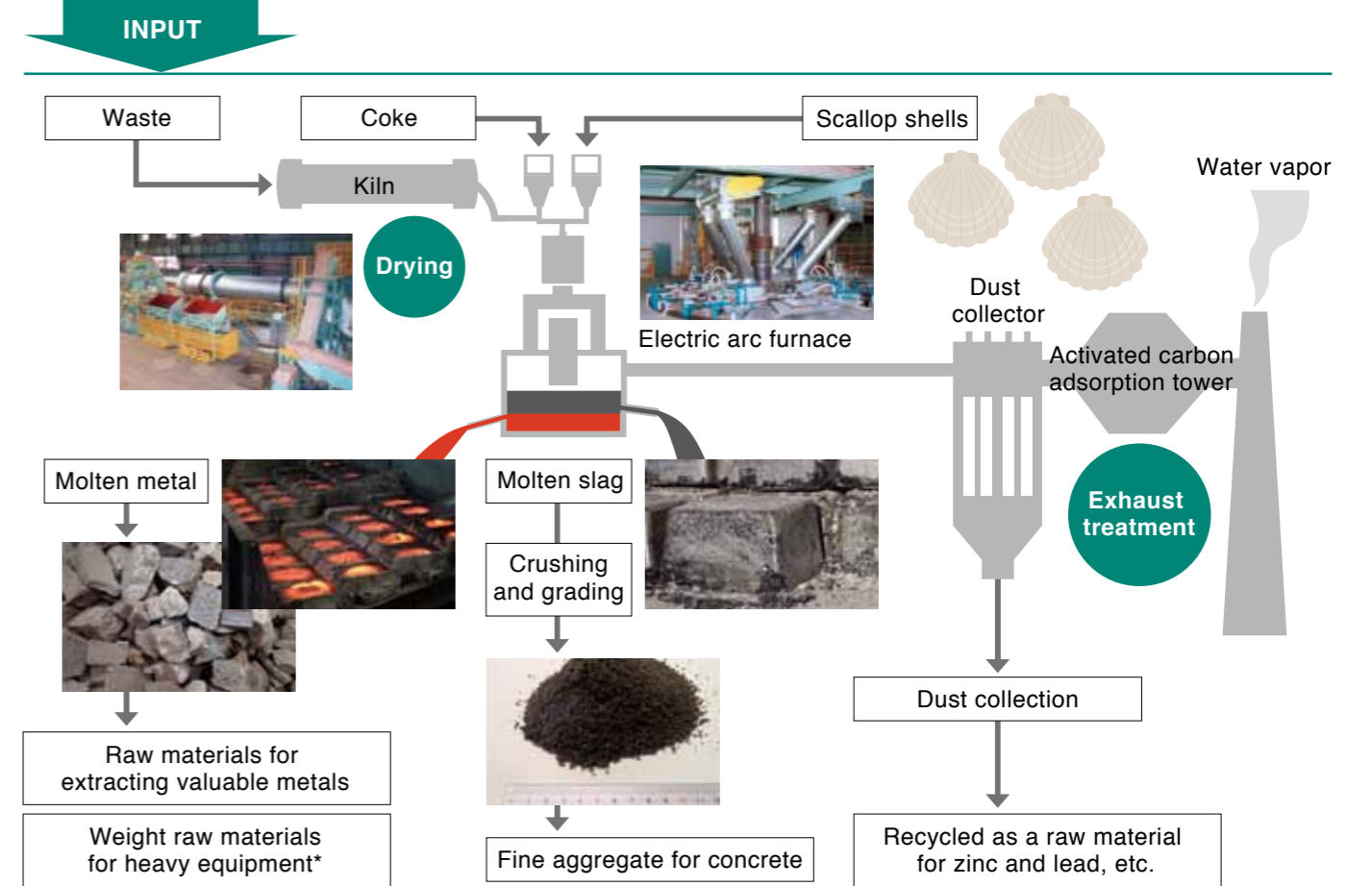
Services That Contribute to the Environment –Waste Recycling Business–



We are engaged in the waste recycling business by utilizing the advanced technology cultivated in ferronickel smelting. At the incineration ash / scallop shell recycling facility, incineration ash from general waste and industrial waste together with scallop shells in Aomori Prefecture are melted in a DC electric furnace and recycled into metal raw materials and fine aggregate for concrete (artificial aggregate).

Incineration ash/scallop shell recycling process

Main raw materials		Total energy		Industrial water	
Waste	2,040 t	Waste generated in-house	1,750 t	70,000 GJ	1,329 m ³
Scallop shells	512 t	Collateral raw materials	1,150 t		



*: Used for weight in vehicles such as excavators and forklifts

Product	Drain water	Atmospheric release			
Molten metal	138 t	Discharged water	0 m ³	CO ₂	1,093 t
Molten slag	4,595 t			SOx	0.03 t
Waste				NOx	0.57 t
Soot and dust, etc.		186 t		Soot and dust	0.047 t

As a waste disposal company, we comply with laws and regulations and we properly recycle. We sell the molten metal produced after processing to metal refining companies for use as weight raw material for heavy equipment and as raw material for valuable metal extraction. We also collect the soot and dust discharged in the processing process and recycle it as raw material for zinc and lead, etc.

We sell the molten slag produced in the same way as fine aggregate for concrete, etc. Secondary concrete products using molten slag and asphalt mixtures have been certified by Aomori Prefecture as recycled products. We are also actively promoting consideration of expanded uses for molten slag products, such as in gabion products for revetment and landscaping material, or in fishing reefs for breeding marine biological resources.

[Click here for information on industrial waste disposal](https://www.pacific-metals.co.jp/environment/waste.html) https://www.pacific-metals.co.jp/environment/waste.html

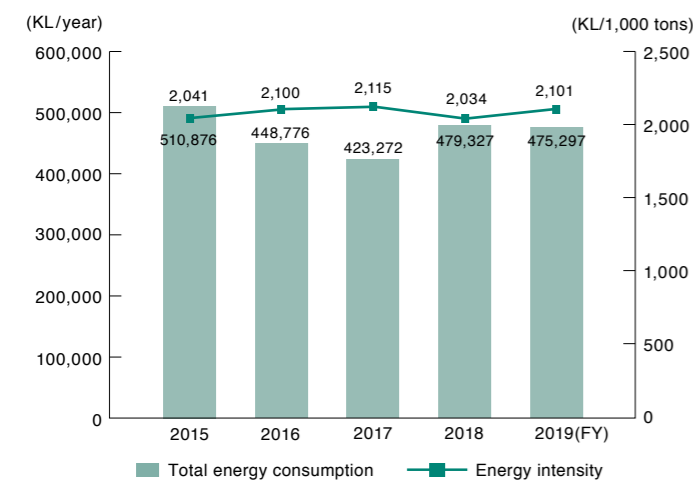
We use significant amounts of electricity and fossil fuels in the manufacturing process and emit soot and smoke. For this reason, we are actively working on energy-saving measures and to reduce the environmental impact on the atmosphere and water.

Curbing global warming and energy conservation measures

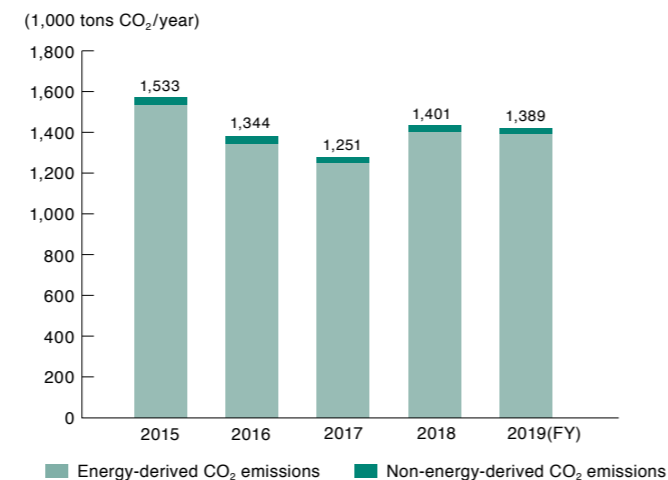
In the manufacturing process, we are working on the efficient use of energy, such as using high temperature exhaust gas from the electric furnace for the drying process of nickel ore and reducing the amount of fuel oil and liquefied natural gas (LNG) used.

Although we were able to reduce both total energy consumption and CO₂ emissions in FY2019 compared to FY2018, our energy consumption per unit of production (energy intensity) increased by 3.3%. We will continue to work on using energy more efficiently.

Total energy consumption



CO₂ emissions



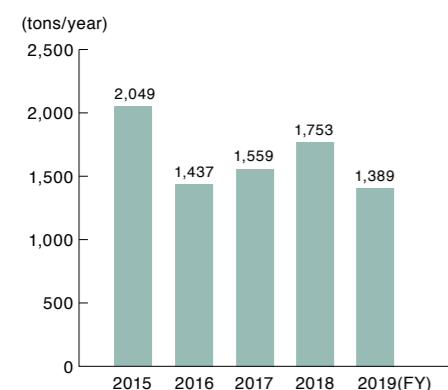
Air pollution control measures

In order to control the soot and smoke generated from the manufacturing process and our own power generation facilities, we have implemented measures such as continuous monitoring with telemeters and updating of gas emission measuring devices, as well as raising employee awareness through communication of management conditions for the value of voluntary controls and education on regulatory compliance. In addition, we combat the dispersion of dust through 24-hour water spraying of the storage yards and on-site road surfaces and continuous surveillance with dust monitors. In FY2019, we decreased SO_x and NO_x emissions over the previous year.

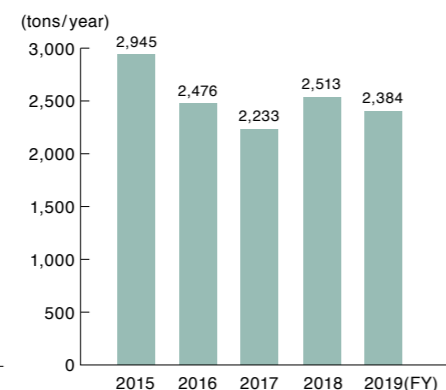


Exhaust gas measurement

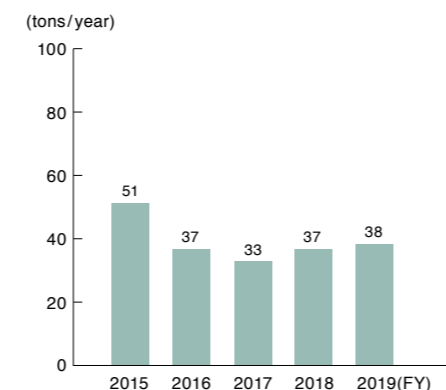
SO_x emissions



NO_x emissions



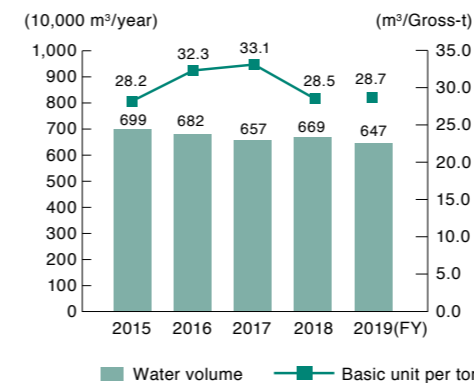
Dust emission



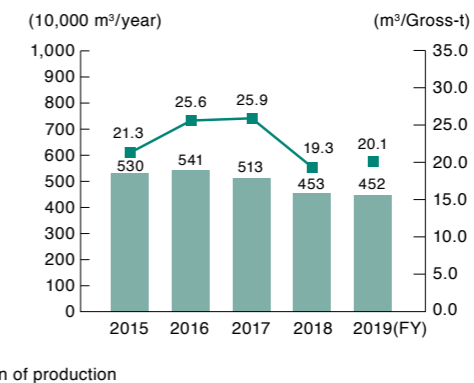
Water pollution control measures

We are working to reduce water consumption by using re-circulating water to cool electric furnaces and ferronickel slag. Regarding drainage, in addition to periodic inspections, we carry out thorough day-to-day management via real-time monitoring, using continuous monitoring systems, and employee patrols. In addition, wastewater treatment facilities are appropriately managed, such as by adjusting the amount of treated water when the turbidity concentration rises during rainfalls, and by changing the filtering material in the facility's two filters. In FY2019, drainage did not exceed agreed levels.

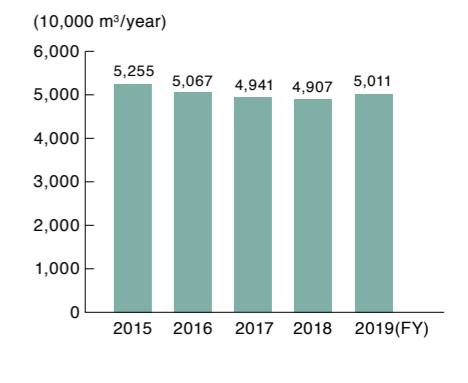
Water supply amount



Total drain water volume



Recycled water volume



Proper management of chemical substances

In accordance with the Pollutant Release and Transfer Register (PRTR) system, emissions and transfers of substances subject to notification are recorded and reports are sent to the government every year. In FY2019, there were four substances subject to PRTR notification as shown in the table. For chemical substances, we manage the purchase, use, and storage volume, and are working to reduce the use of hazardous substances. We introduced a chemical management system in FY2019, and are using inspections to manage chemicals more thoroughly than ever before.



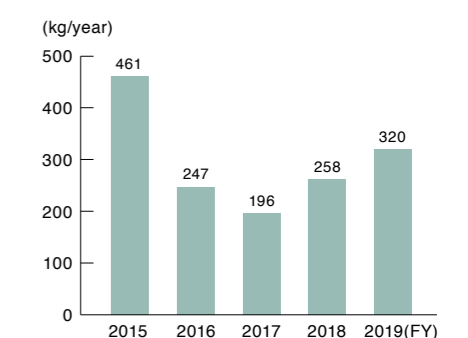
Implemented chemical management system

Nickel compounds discharged from the ferronickel manufacturing process are one of our most important management items, and we have put in place measures such as the installation of dust monitors, 24-hour watering, and use of a motorized sweeper for cleaning.

Substances subject to PRTR notification in FY2019

		Nickel compounds (kg/year)	Chromium and trivalent chromium compounds (kg/year)	Manganese and compounds thereof (kg/year)	Dioxins class compounds (mg/year)
Emission volumes	Atmospheric	261	84	54	0
	Waterways	59	0	4	0
	Soil	0	0	0	0
	Landfill	0	0	0	0
Transfer volumes	External waste	0	0	0	0.80

Nickel compound emissions



Observance of environmental laws and regulations

Based on the Act on Rational Use and Appropriate Management of Fluorocarbons, we regularly inspect industrial air conditioners and refrigeration equipment, etc. owned by our company. No leaks that required reporting were found in the inspections. For waste incinerators, which are classified as mercury discharge facilities under the Air Pollution Control Act, we measure the total mercury content in exhaust gases in accordance with the Act.

We also contract out for appropriate disposal of mercury-containing product waste (fluorescent lamps, etc.) designated by the Waste Management and Public Cleansing Act. In addition, for machines that contain polychlorinated biphenyls (PCBs), we are working to eliminate treatment with oil containing trace amounts of PCB for large transformers.



Three management systems - Quality Management, Environmental Management, and Occupational Health and Safety Management - are operated as an Integrated Management System (IMS). This system is maximally utilized, with management policies positioned with IMS policies as goal attainment tools in PAMCO-2021.

ISO certification registration

We are ISO 9001, ISO 14001, and OHSAS 18001 certified. In October 2019, the three systems were inspected at the same time as an integrated inspection. Although one minor point was identified, the correction was completed within 30 days of the issuance of the corrective action request form. No major defects were found in the management system, and so the certification registration was maintained.

■ Certification registration information

Certification standard	Registration scope	Registration No.	Expiry date	Initial registration
ISO9001: 2015	Hachinohe Head Office (Hachinohe Works) Tokyo Main Office	0314	February 15, 2021	April 9, 1998
ISO14001: 2015		E1998		March 19, 2009
OHSAS 18001: 2007		H063		February 16, 2012



ISO 9001 registration certificate



ISO 14001 registration certificate



OHSAS 18001 registration certificate

Environmental accounting and safety accounting

The aggregated results for environmental accounting and safety accounting for FY2019 are shown below. We spent approximately 600 million yen for environmental accounting. Most of them are pollution prevention costs and resource recycling costs, followed by the pollution load levy*1.

We spent approximately 100 million yen for safety accounting, mainly in the form of costs for capital investments in, for example, safety measures construction and health and safety protective equipment.

*1: We installed a soot and smoke generator as of April 1, 1987, and it is a levy required to be paid by businesses that emit sulfur oxides and have a certain level of exhaust gas. We have fulfilled our obligations since the start of the system.

■ Environment accounting aggregated results (environmental preservation costs)

Classification	Main content	Cost (10,000 yen)
(1) Business area costs	Pollution prevention costs	23,964
	Global environmental protection costs	4
	Resource recycling costs	24,281
(2) Management activity costs	International Organization for Standardization (ISO) inspection costs	2,238
	On-site tree planting and management costs	
	Sustainability report publishing costs	
	Various monitoring equipment maintenance and management costs	
(3) Social activity costs	General road cleaning costs for the vicinity	20
(4) Costs of dealing with any environmental damage	Pollution load levy	13,115
Total		63,622

■ Safety accounting aggregated results

Classification	Amount (10,000 yen)
(1) Capital investment (constructions for safety measures, etc.)	7,089
(2) Safety, health, and disaster prevention education costs	388
(3) Legal inspection costs (boilers, cranes, firefighting related)	735
(4) Health checkup fees	1,016
(5) Safety and health protective equipment costs	2,371
Total	11,599

Initiatives to comply with regulations

We position regulatory compliance as one of the most important business activities, regularly monitoring and inspecting sites and documents based on the compliance-related procedure. In FY2019, there were no significant violations of regulations or standards.

Additionally, in FY2019, an occupational accident occurred for our partner company's worker that his hand got caught while he performing maintenance on a belt conveyor cleaner cover. As a recurrence prevention measure, the work method for removing the cover was reviewed, and the equipment was improved with the provision of a structure designed to prevent hands from getting caught.

To prevent work accidents, we established a "Plan - Do - Check - Act" process that forms the basis on the management system, and we call on our employees to promote health and safety management voluntarily in their workplace in order to form safer work environment.

We are aiming for each and every employee to be aware of their responsibilities and improve their safety awareness through acting voluntarily, and to work as one with affiliated companies to achieve zero accidents.

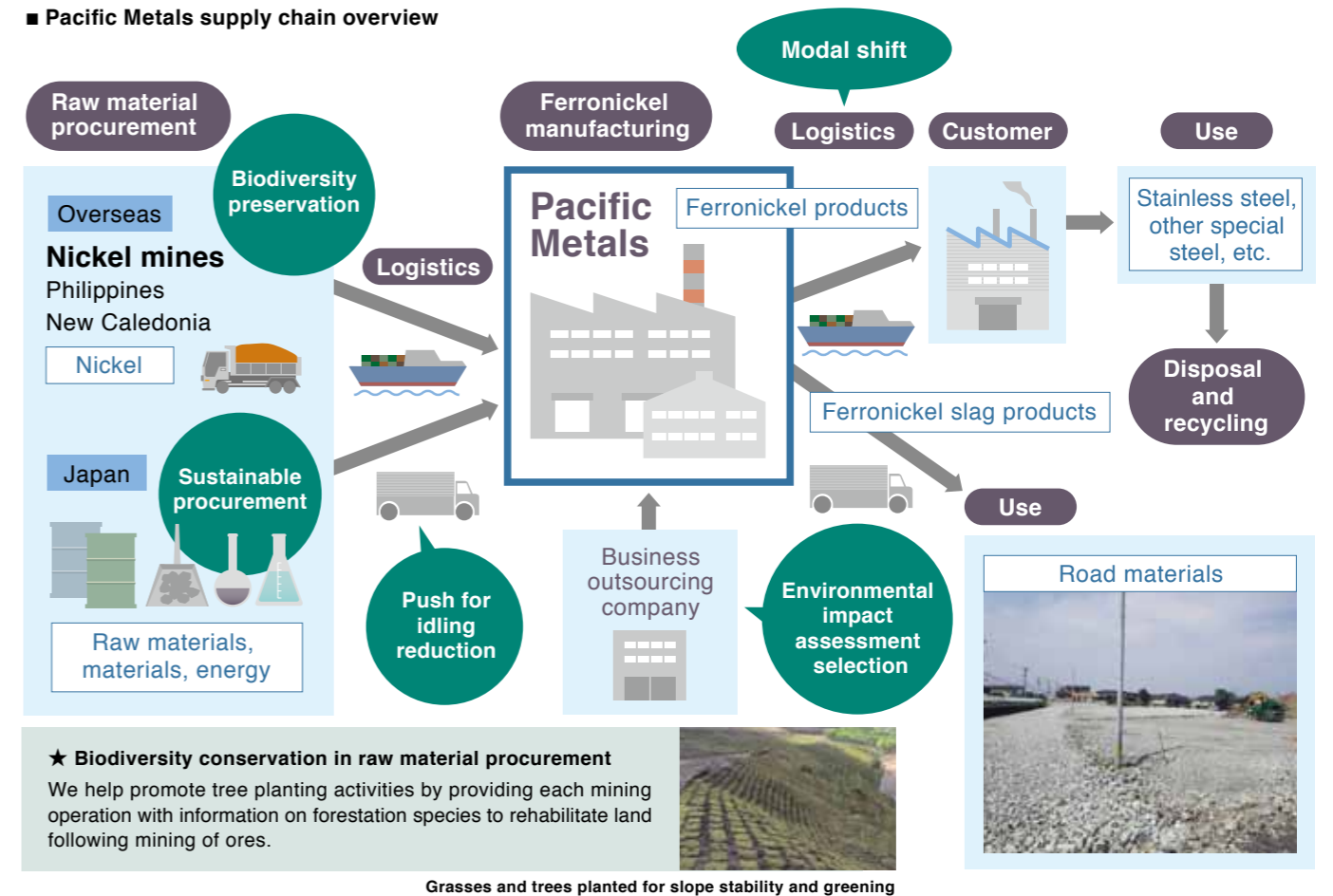
Supply chain management

We carry out various activities that take into consideration harmony with the environment, not only at production sites, but at each step in the supply chain.

The nickel ore that is the raw material for ferronickel is imported from the Philippines and New Caledonia. In the local mines, they have an obligation to plant trees for rehabilitation purposes where possible after mining ore. Up to now, we have engaged in activities where we provide information on tree planting from each mine after obtaining approval to disclose the information to other mines. Although we did not engage in those activities in FY2019, going forward, we will provide such information when necessary.

In addition, internationally standardized safety regulations are in place for sea shipping of solid cargo such as ores. We actively comply with the international regulations, and we consider the environment and have safety measures in place to prevent shipping accidents.

■ Pacific Metals supply chain overview





Based on our Quality Management System (QMS) and the Industrial Standardization Act, the entire company is working together to promote quality control activities in order to reliably provide products trusted by all stakeholders.

Quality control

We have established a quality management system in accordance with the “Guidelines for Enhancing Quality Assurance Systems” of the Japan Iron and Steel Federation and the “Guidelines for Manufacturing and Sales of Nonferrous Slag Products” of the Japan Mining Industry Association. In addition to meeting product quality standards, we conduct quality control activities to meet customer demands and always provide safe and high-quality products that are free from environmental pollution.

Main initiatives	Specific results
Measures to improve customer satisfaction	<p>Our customers give our ferronickel products high marks in various aspects such as stable quality, stable supply, and careful delivery.</p> <p>We confirm customer needs through daily communication and regularly-implemented customer satisfaction (CS) surveys, which are useful for enhancing our product production and services.</p> <p>We don't just listen to customer feedback, we strive to offer proposal-based sales so that we can deliver better services and products.</p> <p>We supply most of our ferronickel slag products to Aomori and Iwate Prefectures. These products have been evaluated as being easy to use because we strive daily to ensure they meet the particle size and composition (quality) required by our customers based on a high level of quality that does not exceed any of the standard values for elution volumes (No. 18) and contained volumes (No. 19) in the Ministry of the Environment's Ministerial Notification Pertaining to the Soil Contamination Countermeasures Act.</p> <p>We also manage our systems appropriately in accordance with the “Guidelines for Manufacturing and Sales of Nonferrous Slag Products” (Japan Mining Industry Association), and strive to clean up the roads we regularly use for transport so that there are no environmental impacts on our customers.</p>
Brush up of our analytical techniques to improve product quality reliability	<p>Transferring analytical and testing techniques, which contribute to product quality reliability, from veteran employees has become an issue. So we engage in activities for extracting tacit knowledge, such as intuitive techniques and knowhow, from our veteran employees, and then document that knowledge in skill tables that include figures and photos. And thus we promote technique transfer via on-the-job training (OJT) based on these skill tables. We are also working to expand the scope of work for, and improve the competence of, individual analysts, and to improve the base of their analytical techniques.</p>
Laboratory accreditation of certification standards for testing and calibration laboratories (ISO/IEC 17025)	<p>The prices of ferronickel products and nickel ore vary based on their nickel content, and thus it is important to ensure the reliability of nickel analysis values. We are ISO/IEC 17025 certified in “chemical analysis of components in ferronickel,” “fluorescence X-ray analysis of components in ferronickel,” and “chemical analysis of nickel in nickel ore,” and are focused on ensuring the international and objective reliability of product inspections and raw material acceptance inspection results.</p> <p>We transitioned to the 2017 version of ISO/IEC 17025 in the FY2019 transition audit, and plan to update the audit in FY2020.</p>



We strive to disclose appropriate and easy-to-understand information for our shareholders and investors. Briefing sessions are held mainly in conjunction with the publication of various IR information on the website.

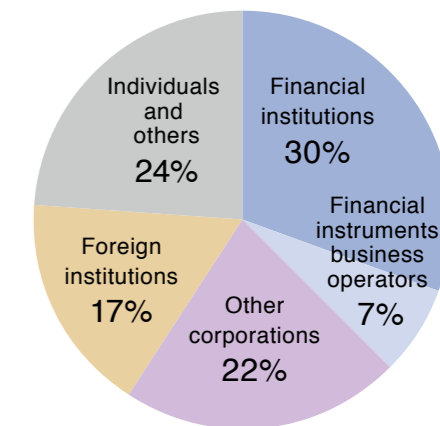
IR activities

We have an IR Committee centered on directors responsible for investor relations and have established a system to promote constructive dialogue with all shareholders and investors.

An annual general meeting of shareholders is held in June every year, and a financial results briefing is held during the second quarter and term-end settlements, to explain business results, plans, and strategies of our business.

In addition, we work to return profits to shareholders through dividends while enhancing and strengthening our corporate structure.

Shareholder composition



Communications with shareholders and investors

Briefing sessions for IR analysts and institutional investors are held twice a year.

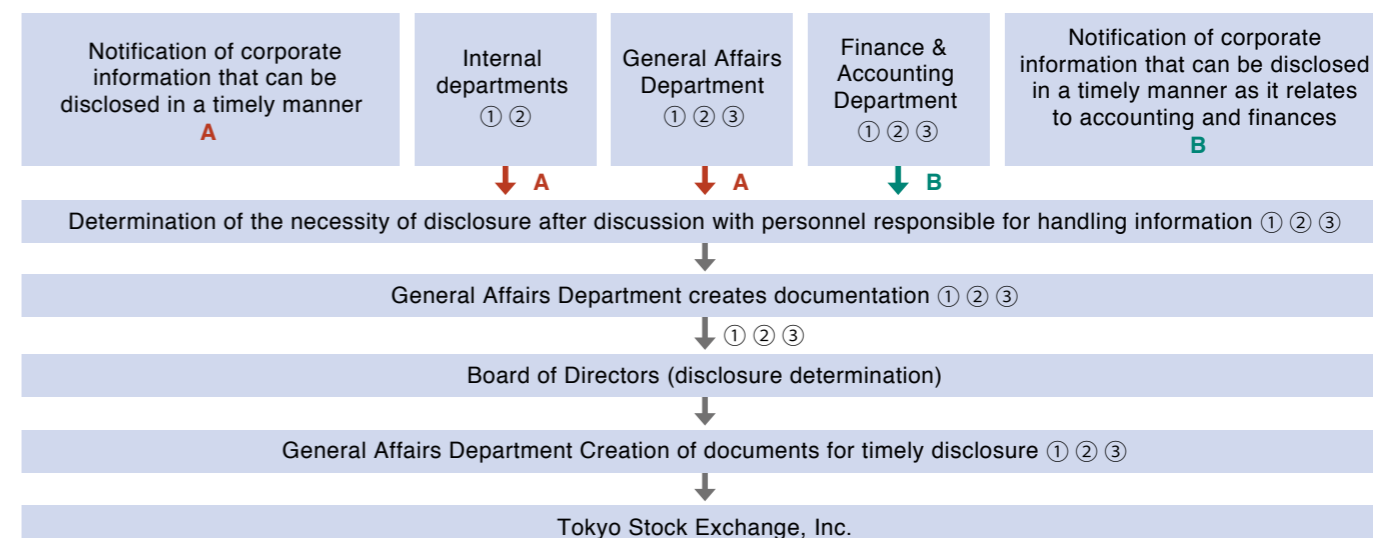
We endeavor to ensure that the opinions of shareholders are shared among the Board of Directors, centered on the Chairman of the Board of Directors. In addition, when conducting dialogue with shareholders, we carefully manage insider information and take great care not to create information gaps among shareholders.

Information disclosure

Based on our information disclosure policy stipulated in the “Basic Policy on Corporate Governance,” information is disclosed in a timely and appropriate manner, primarily through our website.

We have established a disclosure system for information related to management decisions, facts about events that may affect investors' investment decisions, and information related to financial results. When important facts arise, our relevant departments consider whether disclosure is necessary, the Board of Directors makes determination as to disclosure, and if disclosure is to occur, it is made to the Tokyo Stock Exchange.

Information disclosure system



We send out the notice of the general meeting of shareholders at an early date so that shareholders can carefully examine the contents of the proposals and exercise their rights appropriately. In addition, disclosure is made to the Stock Exchange and on our website prior to the date on which the convocation notice is sent.

[Click here for IR materials](https://www.pacific-metals.co.jp/ir/index.html) https://www.pacific-metals.co.jp/ir/index.html



We value the connection with the local community, carry out clean-up activities, and endeavor to revitalize the community by sponsoring local organizations and participating in local events. We strive to communicate with all of our stakeholders through local initiatives.

Factory tours

13 students of Lapérouse High School in New Caledonia, who had been visiting Hachinohe City as part of the Hachinohe City Youth Overseas Exchange Program, toured our Hachinohe Works in July 2019. The tour allowed the students to actually see our rotary kiln, electric furnaces, and ferronickel slag, and to gain a deeper understanding of the steel industry and of manufacturing. We will continue to make people learn about our company.



Students during the tour

Cleanup activities around the plant and in the surrounding area

It has been 11 years since we started cleanup activities along the coastal roads around the plant with the aim of beautifying the local environment and contributing to society. In November 2019's clean up, 34 employees, including employees of affiliated companies and partners, performed cleaning activities across a four-block area. They collected six bags (12 kg) of combustible and seven bags (21 kg) of non-combustible garbage. This cleanup was carried out by registering it with the "Hachinohe Clean Partnership" through which Hachinohe City supports environment beautification activities.



Local cleanup activities

Illegal dumping patrols

Businesses from the Sampachi region (Hachinohe, Sannohe, Gonohe, Takko, Nambu, Hashikami, and Shingo) gathered to carry out "monitoring patrols to prevent illegal dumping."



Illegal dumping patrol

Lifesaving

The Hachinohe Fire Department presented a letter of appreciation to the employees of the Recycling Business Department for their achievements responding to emergency cases that occurred on company premises. The head of the Hachinohe Fire Department indicated that such coordinated and systematic lifesaving activities are rare, that they were the result of accumulated daily training, and that he was impressed by our company-wide attitude toward engaging in such training.



Presentation of letter of appreciation

Sponsoring a local soccer club team

We created the "PAMCO Field" artificial turf soccer field on a final disposal site formerly used to bury ferronickel slag, and began renting it out to the local "Vanraure Hachinohe" soccer club in July 2019. In this way, we hope to contribute to the success of Vanraure Hachinohe, and to promote local sports.



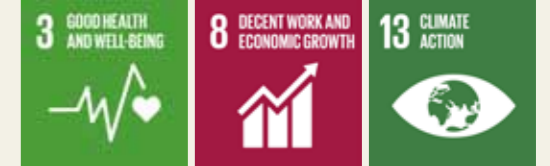
PAMCO Field

Donating disinfectant solution

In the hope that it will prevent COVID-19 infections, we donated 150 cases (1,155 L) of alcohol disinfectant solution to Hachinohe City in July 2020 for which Hachinohe City awarded us a letter of appreciation.



Donation of disinfectant solution



We have been promoting voluntary work accident prevention activities under the slogan "Be Safety!" and working to prevent workplace accidents by raising safety awareness. We are also promoting health management activities so that employees can maintain a safe and healthy work environment.

Occupational safety activities

Since 2018, we have divided accidents that are very serious when they occur into "pinching and entanglement accidents," "burn and electrocution accidents," and "explosions and fires," and have made efforts to set aside every fourth month as an accident prevention strengthening month.

During strengthening months, we conduct danger experience training based on past accidents and re-inspect safety devices. Simulating accidents that occurred in the past allows us to train employees to think about the background of accidents and what to do if they are ever involved in such accidents themselves. We also engage in small group activities led by group leaders in an effort to help groups identify new risks in the workplace and improve unsafe equipment. Going forward, we will strive to continue our safety efforts to prevent accidents and disasters.



Experience training to protect against pinching accidents

Hygiene activities

In July 2019, with the goal of improving employee health, we invited a lecturer from medical examination institutions to host a nutritional guidance class based on the results of medical examinations. Furthermore, all employees are encouraged to set personal goals to walk or run or take alcohol-free days with the goal of improving their physical health. In October, we invited a lecturer from the Aomori Occupational Health Support Center to give a mental health seminar entitled "Lessons for Living a More Fulfilling Life." We will continue to make similar efforts to ensure our employees can work in good physical and mental health.



A nutrition counseling class

Disaster prevention activities

During our comprehensive disaster prevention training, we provide training in evacuation, communication, reporting, rescuing, and providing aid in rehearsal for large-scale earthquakes. During firefighting training by our self-defense fire brigade in rehearsal for fires, we also provide training on how to extinguish the fire by using fire extinguishing water from sprinkler trucks that patrol company premises in rehearsal for cases where firefighting water supplies (firefighting water supply facilities) are not available.

To help prevent the spread of COVID-19, we changed our tsunami evacuation drills to desktop drills. This new training involves each employee writing down the actions they will personally take in the event of a tsunami in response to questions broadcast over PA equipment on company premises. Thanks to the results of training we've conducted in the past, employee responses about what they should do have steadily gotten better. To protect employee safety, we will continue to engage in training that includes infection prevention measures.



Firefighting training

Improvement proposal activities

We engage in improvement proposal activities with the goal of creating employee habits that enhance their awareness of quality, the environment, and safety, and of making cost improvements. 1,257 improvements were proposed in FY2019 with the best being deployed across the company via improvement case collections and in-house seminars. A total of 28 improvements were nominated for presentation to the President's Improvement Proposal Awards Committee, which convenes twice a year, with 24 receiving the President's Improvement Proposal Award and 4 receiving the Integrated Management System (IMS) Manager's Award, the most awards ever given. Managers at sites being aware of current conditions and engaged in solving problems resulted in reductions in energy usage, production man hours, and the risk of occupational accident occurrence. These improvement proposal activities have greatly contributed to improving our profitability and achieving a disaster-free record.



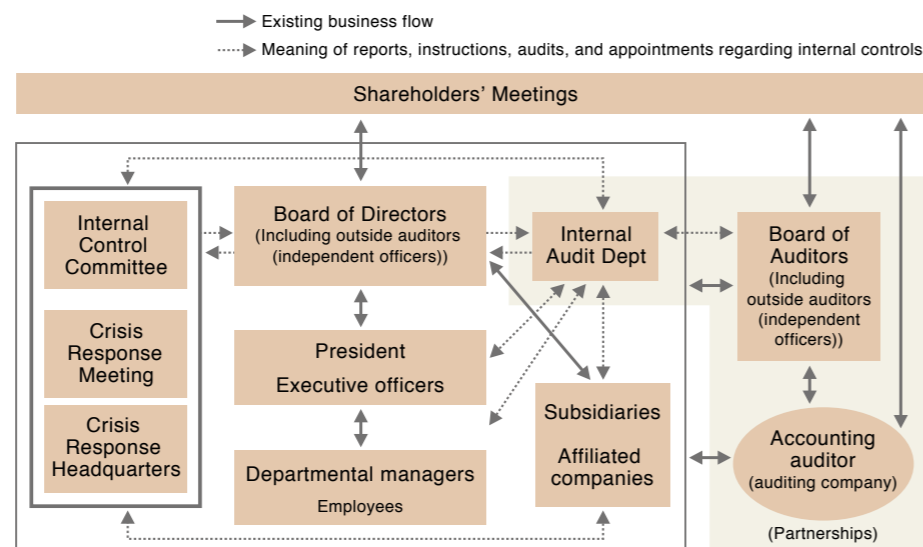
Case presentations by recipients of the President's Improvement Proposal Award



Aiming to improve corporate value, we strive to strengthen and enhance corporate governance through rapid decision making and management efficiency, and through ensuring transparency and soundness of management by strengthening supervisory functions. In doing so, we are also taking appropriate measures related to risk management and compliance.

Corporate governance system

Our basic principle is to enhance corporate governance centered on the director/auditor system and to build a fair and transparent management structure. Since June 2019, our management structure has been composed of nine directors, including two outside directors, and four auditors, including three outside auditors.



Risk management

In response to large-scale accidents, disasters, and scandals, "Crisis Management Rules" have been established. During normal times, we hold "Crisis Response Meetings" to take countermeasures for accidents and disasters. In order to take emergency measures, we have established a "Crisis Response Headquarters" and designated that the president be the head of this headquarters.

With regard to business management risks, the Board of Directors takes action and decides how to respond. In addition, we manage risk in daily business by developing management rules and business manuals.

Compliance

Our Board of Directors has established the "Management Policy," "Corporate Code of Ethics," and "Corporate Code of Conduct" to ensure compliance with laws and regulations. In order to ensure the execution of operations based on these policies and norms, we have established an Internal Control Committee to manage compliance.

We have set forth the following regarding compliance with and adherence to social norms, and all officers and employees, including directors, are aware of this in the performance of their duties.

1. Conduct corporate activities based on compliance, social norms, and common sense.
2. Insulate us from anti-social forces that threaten the social order and safety, and conduct sound corporate activities.
3. In international business activities, comply with international rules and local laws, respect local cultures and customs, and conduct corporate activities that contribute to the development of that country.

Efforts to eliminate anti-social forces

We stipulate that we have no relationships with anti-social forces or similar organizations, that threaten the order and safety of civil society, and that we firmly reject requests from them.

We cooperate with the police, the Association of Special Violence Prevention Measures, and external bureaus by setting up points of contact and managing information centrally.

Our basic policies on corporate governance and our Corporate Governance Report are posted on the "Corporate Governance" page of our website.

[Click here for information on Corporate Governance https://www.pacific-metals.co.jp/ir/governance.php](https://www.pacific-metals.co.jp/ir/governance.php)

1949	Separated from Nippon Soda Co., Ltd.'s steel department and established as Nisso Steel Co., Ltd.
1952	Listed on the Tokyo Stock Exchange and Osaka Stock Exchange.
1954	Converted the pig iron smelting facilities facility at the Shibata Plant to a ferronickel smelting facility.
1957	Completed construction of the Hachinohe Plant, production of pig iron from iron sand started.
1959	Divested the Shibata Plant with the establishment of Pacific Nickel Co., Ltd., which specializes in ferronickel smelting.
1965	Converted part of the Hachinohe Plant's pig iron production facility to alloy iron and ferronickel smelting. Following production start ferromanganese, production of ferronickel began in 1966 and stainless steel in 1968. Installed two large electric furnaces, one 25,000 KVA in 1969 and one 40,000 KVA in 1970 to increase production of ferronickel.
1970	Absorbed Pacific Nickel Co., Ltd. and changed company name to Pacific Metals Co., Ltd. Established the foundation as a top ferronickel manufacturer. Opens Philippines Office
1972	Signed technical assistance contract for construction of ferronickel smelting plant of Aneka Tambang, Indonesia (Antam Project).
1973	Invested in the Rio Tuba Nickel Mining Corporation in the Philippines and developed nickel mine.
1974	Concluded a telemeter system agreement.
1978	Concluded a pollution control agreement.
1980	Acquired industrial waste disposal business permit.
1983	Divested the Iwase Plant, and transferred the grinding material department to Pacific Rundum Co., Ltd.
1984	Spun off the Naoetsu, Toyama, and Narashino Plants, and the cast steel, forged steel, and machinery departments were transferred to Pacific Special Alloy Castings Co., Ltd., Pacific Steel Mfg. Co., Ltd., and Pacific Machinery & Engineering Co., Ltd., respectively.
1985	Renamed Hachinohe Plant to Hachinohe Works.
1988	Developed a nickel mine by taking an equity stake in Taganito Mining Corporation in the Philippines.
1995	Installed 60,000 KVA ferronickel smelting electric furnace at Hachinohe Works and established 3 furnaces.
1996	Completed Hachinohe Port Kawaragi No. 2 Pier (public).
1997	Completed raw material transport conveyor line equipment (Kawaragi).
1998	Acquired ISO 9002 certification.
1999	Moved the head office organization to Hachinohe to become a specialized manufacturer of ferronickel.
2003	Completed the "Incineration Ash and Scallop Shell Recycling Facility" for the recycling business. Transited to ISO 9001:2000.
2005	Achieved 1 million tons of ferronickel production. Conducted environmental assessment in accordance with the Aomori Prefecture Environmental Impact Assessment Ordinance. Acquired special management industrial waste disposal business permit.
2006	Completed ferronickel production line expansion work. Installed the second power plant denitration equipment.
2007	Installed drainage monitors in all drains. Installed a small-scale wastewater treatment device at a part of the drainage port.
2008	Opened Jakarta Office.
2009	Acquired ISO 14001:2004. Completed ferronickel production line expansion work.
2010	Installed a dust monitor in the ore yard.
2011	Launched webpage for waste disposal status. Installed drainage port and chimney monitoring cameras.
2012	Acquired OHSAS 18001:2007.
2013	Started operations of wastewater treatment facility.
2014	Started integrated management system operation.
2015	Established basic policy on corporate governance code.
2016	Formulated new "Long-term Vision."
2017	Awarded "Excellent Workplace" from the Aomori Industrial Waste Association. Participated in Hachinohe Kojyo Daigaku Art Project.
2018	Received the "Mottainai Aomori Award" on the 10th Anniversary of the Mottainai Aomori Prefectural Movement Promotion Council.
2019	Acquired naming rights for "PAMCO Field," a soccer field exclusively for Vanraure Hachinohe.

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