Giving shape to our vision
Through and Through Nikkeikin
Editorial policy

Introduction

The aim of this CSR Report 2018 of the Nippon Light Metal (NLM) Group is to ensure that the NLM Group’s CSR-related approach and initiatives are understood by our stakeholders by reporting them in a way that is easy to understand.

The NLM Group recognizes the social issues that are based on the core subjects of ISO 26000. We are also aware of the increase in ESG investments as a recent trend and global initiatives including SDGs. We pursue CSR initiatives that help to solve these issues. We would appreciate it if you would read about the initiatives we take to address each of the issues and provide us with opinions and comments.

Reference guidelines

This report was created by referring to the Environmental Reporting Guidelines 2012 (Ministry of the Environment) and the Global Reporting Initiative (GRI) Standards.

Period covered

Data for the report were collected between April 2017 and March 2018.

Scope of the report

This report describes the activities of and facts about Nippon Light Metal Holdings Co., Ltd. and its 76 consolidated subsidiaries (a total of 77 companies) unless otherwise specified.

Period of issuance

October 2018 (Next report: To be issued in October 2019; Previous report: Issued in October 2017)

Independent assurance

A ★ symbol indicates that a third party, KPMG AZSA Sustainability Co., Ltd., has provided independent assurance regarding the reliability of the data.

Initiatives for sustainable development

In the CSR Report 2017 issued last year, the NLM Group expressed its determination to work on SDGs.

We identify and evaluate the NLM Group’s CSR activities from the viewpoint of SDGs and accelerate discussions on issues we should address and those we have already begun to address. In FY2017, we held discussions at CSR Committee meetings (two times) and carried out awareness-raising activities via our internal newsletters (three times). We also had lively discussions at monthly meetings of CSR-related segments. Our CSR initiatives in business domains are described on the Special Features pages of this report.

Reporting media of CSR information

This report describes the CSR initiatives that we took in FY2017. More details about our CSR initiatives, past initiatives, financial information, and further information are available on our official website.

Non-financial information

Website

http://www.nikkeikinholdings.com/csr/

Financial information

Website

http://www.nikkeikinholdings.co.jp/ir/ir-data/

Internal newsletter pages showing a serial article for raising awareness of SDGs (except)
A corporate group that continues to create new value for customers

Q1: How is the environment surrounding the company? How are you responding to changes?

The world today is fraught with issues. There exist political and geopolitical risks attributed to changes in the external environment that we cannot change by ourselves, such as the escalation of trade friction that was triggered by the trade policy of the Trump administration of the United States, rapid fluctuations in aluminum prices on a global level, and the rising crude oil prices attributed to the worsening situation in the Middle East. However, we never use such changes in the external environment as an excuse. At the NLM Group, we think about how to deal with the situation on our own by mobilizing the capacities of Team NLM to achieve growth, and then we put the ideas into practice. Seen from a different perspective, trade friction brings out the importance of aluminum. The importance of aluminum will never be reduced.

We will continue to execute the measures for building a firm business foundation, on which we have been working, aiming to achieve further growth as a corporate group that continues to create new value for customers. I believe that the future is not something we wait for, but something we create on our own.

Q2: What are your initiatives for SDGs? Above all, what initiatives do you take for reducing greenhouse gas emissions?

Our company survives thanks to society. We are surviving thanks to the support of our stakeholders and partners, including our employees and their families, not to mention our shareholders, customers, and people from local communities in areas where our offices and factories are located. We must never forget this. For the benefit of these people, we contribute to solving social issues, including environmental problems and issues in considerations for human rights and diversity that are included in the SDGs, from medium- and long-term perspectives, aspiring to build a sustainable society. We believe that these activities are included in important CSR activities that the NLM Group is required to implement.

SDGs cover a wide range of global and social issues. Among them, one urgent and important goal is to build a so-called low-carbon society. At the NLM Group, we have been executing a voluntary action plan to reduce greenhouse gas emissions, setting FY2020 as the target year. Because achieving this target seems likely now, we have decided to launch an initiative to further reduce greenhouse gases by setting new goals and specifying FY2025 as the target year, based primarily on the Paris Agreement that was adopted at COP21 in 2015. We will continue our efforts to help build a sustainable society that coexists in harmony with the global environment.

Q3: You always start by talking about safety when you give a speech in front of employees, such as the New Year’s greeting. Could you tell us your thoughts about safety once again, including the meaning of talking about safety at the outset?

I keep telling them again and again that safety is our top priority. A company consists of people. People are assets, or what we might call “human assets.” Our ultimate goal is to allow our employees as human assets to have job satisfaction and achieve happiness for employees and their families. This goal can never be achieved without a safe environment where employees can work with a sense of security. We aim to achieve zero accidents to enable every single employee of the group to return home uninjured. Each employee should work with a strong belief that “We can and we must definitely achieve zero accidents.” I think this is more important than anything else.

Q4: Is it the final year of the current mid-term management plan (mid-term plan)? Could you tell us about its progress? Please also tell us what lies ahead of the plan.

I believe that we made steady achievements last year as the second year of the mid-term plan, while facing increasingly fierce price competition in addition to the rising raw fuel prices. To “create new products and business models by strengthening cooperation within the Group,” which is the first basic policy under the mid-term plan, we created a large number of new products with high added value in fields where innovation is making progress, by exploring the strengths of cooperation within the Group from a customers’ perspective and making proposals by anticipating customer needs. For example, we focused on the fact that heat release, as well as weight reduction, is an important issue for electric vehicles, and began to sell a battery cooling plate that combines the Group’s technologies, including those in design, alloy development, and processing.

For “business development through strategies by region and by sector,” which is the second basic policy under the mid-term plan, we sought to maximize the profitability of investment by selecting fields as destinations of management resources investment based on a combination of region and market. A specific example in Japan is the addition of production lines for non-OFC, heat-insulating, non-flammable panels reflecting the tendency to place more emphasis on environmental considerations and the fireproof performance of structures. Overseas, we set up a marketing base in North America, thereby establishing a foothold for business expansion. In India, the joint venture that we established in the previous year began manufacturing aluminum paste for coating materials.

Moreover, as an example of our measure “strengthening of corporate culture (strengthening of business foundations),” the third basic policy under the mid-term plan, Toyo Nipakoku Kenkyusho Co., Ltd., which engages in plate processing, sought to improve the yield rate, further streamline its production system, and take other steps with support from the overall Group, which resulted in a significant increase in its earnings. In the final year of the mid-term plan, we are making group-wide efforts to achieve the targets.

Reference: P.38

The next year will be our milestone year, when Nippon Light Metal Co., Ltd. will celebrate its 80th anniversary. I expect that the business environment surrounding the Group will be increasingly difficult, with fluctuations in raw fuel prices and other events. In this environment, the NLM Group will identify its strengths based on the criterion of what customers need and cultivate fields where the Group’s strengths and customer needs intersect, even more deeply.

We will thus seek to operate new businesses with higher added value and build the foundation of our growth. It is the power of the working generation — above all, the power of the young generation including this year’s new employees — that will push forward the above initiative beyond the 80th anniversary. I believe that the sustainable growth of the NLM Group, which is unaffected by the external environment, will be achieved by combining the power of the human assets of Team NLM and the power of young human assets, who will open the door to the future.
Giving shape to our vision
Through and Through Nikkeikin

At Team NLM, we engage in businesses from upstream to downstream, manufacturing and selling products ranging from aluminum alloys to finished products in everyday use.

We believe that the CSR of the NLM Group is about giving shape to our vision of contributing to achieving a sustainable society and improving people’s lives, as well as taking responsibility for the business activities described above. The phrase “Through and Through” means “thoroughly” or “completely.” It also means “just like someone.” It reflects our vision to work for the good of our customers in all phases of manufacturing, from upstream to downstream.
A vision of delivering reliable drinking water

There are regions in the world that do not have good access to hygienic drinking water, with 2.1 billion people lacking safely managed drinking water services*. Conditions become even worse after a disaster. A disaster disrupts water supply even in Japan, where people normally have easy access to drinking water. With our aluminum products, the NLM Group will create societies where people can drink water with a sense of security at any time, anywhere in the world.

Making water cleaner with the power of chlorine

The water we drink every day is sterilized and disinfected. Nippon Light Metal Co., Ltd. manufactures and sells sodium hypochlorite aqueous solution, which is intended for the sterilization and disinfection of drinking water. Recent years have seen growing need for drinking water that is safe and that tastes better. Reducing impurities in the water is necessary in the germicides or disinfectants themselves, which are used at water purification plants, is necessary to meet these needs. Nippon Light Metal Co., Ltd. has responded by developing and establishing a method for manufacturing high-purity sodium hypochlorite and by delivering Nikkei Joso® S, which features reduced impurities.

Making water cleaner with the power of ultraviolet light

At a water purification plant, water is sterilized with ultraviolet light, in addition to being disinfected with chlorine. With ultraviolet sterilization, water flowing in a tube is irradiated with ultraviolet light to kill any bacteria. Nippon Light Metal Co., Ltd. succeeded in increasing the sterilizing effect of ultraviolet sterilizer by using an aluminum tube that has high ultraviolet light reflectivity, instead of the stainless-steel tube that is used in a conventional unit. This ultraviolet reflecting tube remains resistant to corrosion and keeps water clean. A cumulative total of 3,361 tanks from the company have been introduced in various parts of Japan, ready to provide safe water efficiently in the event of a disaster.

The water supply container is collapsible and made of aluminum. It can therefore be assembled, transported, and installed by a single person. It can be disassembled and stored in a compact space after use. In addition, the combined use of the water supply tank and the containers makes it possible to establish an efficient water supply system. Many water supply points can be created, and the quick delivery of water to a large population becomes possible by setting up water supply containers at evacuation centers to receive water from the water station, which is delivered in the water supply tank.

A vision of delivering safe water

A water purification plant is a major facility, where water goes through several devices to be purified. These devices need to be covered with lids to prevent dust, fallen leaves, and other flying objects from being mixed into the water and to counteract terrorism, such as the injection of poisonous substances. Sumikko-Nikeki Engineering Co., Ltd. manufactures, sells, and installs aluminum lids featuring both high corrosion resistance and beautiful appearance, which have been adopted in 31 of 47 prefectures in Japan.

A vision of delivering reliable water even in the event of a disaster

In the event of a natural disaster, such as an earthquake, typhoon, and torrential rain, the most urgent task is securing drinking water. A system for continuing emergency water supply until the recovery of affected water utilities must be established in all stricken areas.

Nikkei Aluminum Core Technology Co., Ltd. manufactures and sells water supply tanks and water supply containers. Made of aluminum, the water supply tank is resistant to corrosion and keeps water clean. A cumulative total of 2.361 tanks from the company have been introduced in various parts of Japan, ready to provide safe water efficiently in the event of a disaster.

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Voice of development personnel

Opening up further possibilities

The active ingredient concentration of liquid sodium hypochlorite is only about 12%, which means low production efficiency. Accordingly, it was rarely used for purposes other than sterilization. Nippon Light Metal Co., Ltd. has successfully increased the active ingredient concentration of liquid sodium hypochlorite to 42%, which is about three times higher than conventional products. In a world first, the company also succeeded in industrial production of this product and began manufacturing and marketing it in 2013.

Development of this product has expanded the applicability to a field other than water treatment agents; that is, the field of organic synthesis. Moving forward, we will strive to establish an application of this product as an oxidizing agent, which can be used for manufacturing processes in pharmaceuticals, agrochemicals, and fine chemicals.

“This product was granted the award for excellence by the Japan Society for Process Chemistry (JSPE) in 2014, a technology award from the Japan Society of Ken Ei Exchange in 2013, and the Synthetic Organic Chemistry Award, Japan for the technological achievement in 2018.”

*Source: Progress on Drinking Water, Sanitation, and Hygiene: 2017 Update and Sustainable Development Goal Baselines (UNICEF and WHO)
A vision of reducing food loss* with cold chains

One out of every nine people in the world (approx. 800 million people) suffer from poor nutrition. The global population is forecast to reach 9.8 billion in 2050, and the issue of food shortages is expected to grow more serious. On the other hand, as much as nearly 1.3 billion tons of food, or roughly one-third of all produced food, is disposed of every year.

*Food loss refers to food which is disposed of, even though it is still edible. Source: Japan Association for International Collaboration of Agriculture and Forestry, World’s Agriculture, Forestry And Fisheries (4th ed.).

How can we reduce food loss?

There are two types of food loss. One is the loss that occurs due to disposal by households (loss in households) and the other is the loss of food that is spoiled or disposed of during the phases of harvesting, transportation, and storage (loss in distribution). In Japan, the annual amount of food loss in households is 2.96 million tons and that in distribution is 3.57 million tons.

The NLM Group is involved in these processes as a manufacturer and distributor of truck bodies, warehouses, refrigerators and freezers, and other related products. Switching the means of perishable food transportation from normal-temperature distribution to chilled distribution (cold chain) prevents the food items from becoming spoiled or going bad and therefore keeps them fresh longer. We will reduce food loss by building a seamless cold chain from production area to table.

A vision of protecting food from deterioration

Convenience stores and supermarkets, which are indispensable elements of everyday life, are supported by cold chains. Above all, cold chains in Japan are highly developed, boasting rigorous temperature control. Nippon Fruehauf Co., Ltd. manufactures and sells refrigerator trucks. The company has developed a truck that can transport goods simultaneously in multiple temperatures. This truck controls the temperature to transport frozen and chilled goods together with goods kept at a normal temperature. It thus supports cold chains in Japan, where great emphasis is placed on freshness and temperature control.

Nikken Panel System Co., Ltd. manufactures, sells, and installs thermal insulation panels, which are used for food processing plants, low temperature logistics warehouses, and freezing and refrigerating warehouses in the backyards of convenience stores and other retailers.

Our thermal insulation panels have been adopted for many freezers and refrigerators, wholesale areas, and other sections of the Toyosu market instead of Tsukiji market in Tokyo, which is scheduled to open in October 2018.

A vision of expanding continually evolving cold chains to the world

In Thailand, a broader range of food items have begun to be distributed in step with the economic development of the country. As a result, demand for cold chains has been growing. Nippon Fruehauf Co., Ltd. and Nikkei Panel System Co., Ltd. own the panel business of Fruehauf Mahajak Co., Ltd. and Nikkei Sam Aluminum Ltd., respectively, and collaborate in the development of cold chains in Thailand. We will continue to contribute to the creation of cold chains in Southeast Asia and the world.

In the Toyosu market project, I was in charge of the property as the sales leader. The Tokyo Metropolitan Government has made “environmentally friendly products” a requirement in the construction of the Toyosu market. In response, we have proposed the use of Genesta Incombustible Type, a non-HFC incombustible insulation panel, as a product which conforms to that requirement.

In addition, Toyosu market has set a policy of “ensuring food safety and security,” so we paid careful attention to the hygiene of the property during installation, by taking preventive measures against mold, corrosion and condensation under the roof. Because we had never worked on such a large property before, we faced many challenges, including production, labor shortages, and logistics problems. We launched a project internally and I believe we were able to fulfill the customer’s requirements with the “cooperation of 5 divisions x 1*” (sales, design, procurement, production, and installation + logistics).

Taking advantage of this experience, we will further strengthen our expertise and engineering capability for large properties and work proactively on overseas properties, as well as those in Japan. We will thus continue to provide support for the creation of better spaces that help give shape to customers’ “visions.”

Voice of sales personnel

Manager, Sales Section,
Tokyo Branch No.2, Nikkei Panel System Co., Ltd.
Naoki Taniuchi (Flight)

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Vision of stopping global warming with a new form of recycling

The world is confronted with issues such as global warming, the destruction of nature in various parts of the world, and the depletion of fossil fuels and other natural resources. The NLM Group helps solve these problems by operating its aluminum recycling business globally.

Achieving a reduction in CO₂ emissions equivalent to the amount absorbed by a forest as large as Tokyo

In producing aluminum from bauxite, 12.7 tons of CO₂ is emitted per 1 ton of produced aluminum. This is because a large amount of electric power is consumed during a manufacturing method called electrolysis, which is part of the aluminum production process. On the other hand, where aluminum is produced from recycled materials (scrap), the amount of CO₂ emitted per 1 ton of produced aluminum is 0.35 tons.

Nikkei MC Aluminium Co., Ltd. produces 176,000 tons of recycled aluminum every year from scrap purchased from customers, the NLM Group, and other entities in 22 countries. This is equivalent to an annual reduction in CO₂ emissions of 2.1 million tons compared to the CO₂ emitted per 1 ton of produced aluminum. For example, at least 1 square meter of land must be mined to produce 1 ton of aluminum. Consequently, 4.0 million square meters of land needs to be mined to produce the amount of aluminum consumed in Japan in a year (4.0 million tons). The recycling of aluminum helps to protect nature.

A vision for a hydrogen society. An alternative to fossil fuels?

Hydrogen is attracting attention as an alternative energy source to fossil fuels. To realize a hydrogen society, however, we need to overcome a number of challenges. For example, hydrogen is heavier in transport efficiency than other fuels. It also requires robust storage and transportation facilities because of the risk of explosion. In a world first, the NLM Group has developed the Powdered SBH*, a new hydrogen carrier, by new process. Every 1 kilogram of Powdered SBH is capable of storing 2.4 cubic meters of hydrogen. It also eliminates the risk of explosion. Furthermore, the powder that remains after hydrogen is extracted from SBH (sodium metaborate) can be recycled into SBH.

The new-generation ingot

Nikkei MC Aluminium Co., Ltd. developed a new-generation ingot jointly with Denso Corporation. This new-generation ingot weighs 500 grams per piece, which is 2% the weight of a conventional ingot. With this new ingot, we have provided many benefits to Denso Corporation as the customer. For instance, it enabled an 80% reduction in the space for equipment, including buildings, partly reflecting the fact that a large melting furnace is no longer needed on the customer’s production line. Moreover, thanks to the shorter production line, the new ingot also contributed to a 50% reduction in energy costs and a 70% reduction in production costs by shortening the line.

Voice of development personnel

I was greatly attracted to the concept of the new-generation ingot, that is, “an energy-efficient, space-saving, low-noise, high-quality, low-cost ingot,” when the customer explained it to us. I remember that, after we started development, we had difficulty obtaining consent in-house because of the great burden on our company, including the need to reduce the scale of production and to make a large capital investment. However, we made patient efforts to respond to the customer’s request faithfully. As a result, both our colleagues and the customer said that they were glad it was introduced. I am very proud of that. It was fate that I was assigned to Thailand and introduced a production line for the new-generation ingot to our new factory in Thailand. We deliver the product to Denso Corporation’s base in Thailand as well as in India.

Customer voice

The new-generation ingot has provided us with many benefits, including the downsizing of equipment, cost savings, higher thermal efficiency, reduced workloads for on-site workers, and a reduction in the cost of furnace repair. At present, we have introduced 35 dedicated production lines for the new-generation ingot in Japan and 24 such lines overseas. We hope that, in the future, we can apply automated transport based on the Kanban Method to the material (new-generation ingot); just as it was applied to components, thereby achieving logistics reform. I think it is a new-generation ingot that will enable this. I am most grateful to Nikkei MC Aluminium for their cooperation. I hope we can continue to work together to expand our businesses globally.
Vision of creating safe, secure infrastructure for the future generations

In Japan, a country susceptible to disaster, architectural and construction standards have been revised each time a disaster has struck. With these revisions, technological progress has been made. However, the infrastructure that was developed rapidly in the years around the previous Tokyo Olympics (held in 1964) is now more than 50 years old, and as such requires large-scale and wide-ranging repair. The NLM Group will address these issues with its broad range of technologies and products, which take advantage of the features of aluminum.

Protecting traffic safety of people

Japan has roughly 700,000 road bridges. At present, approximately 30% of these bridges are 50 years old or older, and that percentage will exceed 50% around 2030. It is said that a bridge needs to be replaced once it is 50 years old. The proportion of river management facilities, quay walls, and similar facilities that are 50 years old or older also tops 50%. There are also numerous road bridges deemed to be too dangerous for people and vehicles to cross and whose use is therefore prohibited (source: Road Bureau, Ministry of Land, Infrastructure, and Transport).

While the rapidly increasing number of aging bridges need to be replaced, the cost is astronomical. In response, the government has developed a plan to repair bridges to extend their effective life, aiming to ensure the safety and reliability of the road network while extending the service life of bridges and cutting repair costs.

Sumikei-Nikkei Engineering Co., Ltd. manufactures, sells, and installs bridge safety barriers. Aluminium safety barriers feature corrosion resistance and light weight. If corroded steel safety barriers are replaced with aluminum ones, the service life of a bridge can be extended, because the load on the bridge will be reduced and corrosion-induced deterioration will be inhibited. Further, aluminium safety barriers also boast superior recyclability and design quality. They can be recycled easily after replacement, and they are highly acclaimed for the design flexibility that caters to diverse local needs.

Voice of designer

Road Facility Team, Design and Engineering Department, Sumikei-Nikkei Engineering Co., Ltd.
Tomohisa Kajita

Bridges are essential for our life and the economy. However, they are not only aging but also subject to increasing load due in part to the increasing traffic volume and larger size vehicles.

In 2011, Nikkei Aluminium Core Technology Co., Ltd. built the first bridge in Japan that uses aluminum plate deck in a project for repairing, and extending the service life of, an aging bridge on the prototypes of the Kambara Complex of Nippon Light Metal Co., Ltd. In 2015, the company’s aluminum plate deck for driveways was adopted for the first time for a temporary bridge of the Ministry of Land, Infrastructure, and Transport, which is used in the event of an emergency. This temporary bridge is a variable bridge with maximum length of 60 meters and is used in places where a bridge has been washed out due to an earthquake, flooding, or other disaster. It can be installed within three days, compared with the one or two months required for the installation of a conventional temporary bridge. Members of the aluminum plate deck are utilized, so they can be brought in and assembled without using large heavy equipment. Accordingly, bridges can be set up in mountainous areas or in locations with limited space.

Vision of being useful in the event of a disaster as well as in countermeasures against deterioration

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Vision of protecting infrastructure from rust with coatings

Steel structures installed along the coast deteriorate quickly due to rust. Accordingly, they are required to have structures and a quality that allow them to endure the harsh conditions. Toyo Aluminium K.K. has developed a coating containing stainless-steel flakes, inspired by the laminated structure seen in objects such as algae shells, which remain unbroken even when they are beaten with a hammer. This coating creates a hard membrane, which is enabled by the fine stainless-steel flakes it contains. The membrane makes the coated surface resistant to corrosion. It is capable of preventing infrastructure from deteriorating due to rainwater, weather, and the like. Used for the iron pipes of bridges and hydropower plants, exterior walls of buildings, and other structures, this product is helping to extend the maintenance cycle of these structures.

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Aiming to realize a sustainable society by co-existing in harmony with the global environment

Environmental management system

The NLM Group Environmental Committee deliberates and decides upon basic measures such as action plans related to the Group’s environmental management. The committee consists of officers of Nippon Light Metal Holdings Co., Ltd., presidents of NLM Group companies, and other members. Matters determined by the Environmental Committee are fleshed out by the environmental control segment, which serves as the secretariat of the committee, made known at meetings of environmental practitioners, and implemented at factories and offices (sites*) through internal coordination of the group.

Environmental protection activities

Greenhouse gas emissions (Japan)

Greenhouse gas emissions from the NLM Group’s sites in Japan in FY2017 increased 0.7% year on year to 882 thousand tons. Although we worked on energy-saving activities, the emissions increased slightly because the amount of required energy increased due to an increase in production.

We will continue striving to reduce greenhouse gas emissions through such initiatives as equipment efficiency improvement, reduction of energy loss, and productivity improvement.

Greenhouse gas emissions including those from our overseas sites

At the NLM Group, we strive to collect data on the greenhouse gas emissions from our overseas production activities. In FY2016, we started collecting data on the emissions from all our overseas sites. In FY2017, the emissions were found to have decreased 7.2% from the previous fiscal year, to 128 thousand tons.

In addition, in FY2017, we began to calculate greenhouse gas emissions by obtaining the latest CO2 emission factors that are appropriate for the conditions of each country, aiming to improve the precision of measurement of our overseas greenhouse gas emissions.

New voluntary action plan

The NLM Group developed a new voluntary action plan to reduce the greenhouse gas emission intensity per unit of sales to 1.82 tons-CO2/Million yen by FY2030. We will evaluate the effect of our energy-saving activities appropriately by setting a target greenhouse gas emission intensity. We will continue working to reduce greenhouse gas emissions.

Greenhouse gas emissions intensity per unit of sales and new target (tons-CO2/Million yen)

We will continue working to reduce greenhouse gas emissions.
Environmental protection activities in Thailand

Environmental initiatives in the Kingdom of Thailand

As a result of the overseas expansion of the NLM Group, environmental initiatives are taken locally in various countries and regions. Among them, we pursed advanced environmental initiatives in the Kingdom of Thailand. Thailand has rules related to the atmosphere, water, soil, waste, and other elements that are as strict as, or stricter than, the relevant laws and regulations of Japan. Each site in Thailand has introduced environmental management based on ISO 14001 to comply with laws and regulations and to systematically address environmental protection. In addition, we hold a meeting of environmental practitioners in Thailand each year and share information about important matters and case examples of accident and environmental improvement, so as to reconfirm and follow the environmental policy and other policies of the NLM Group.

Meeting of environmental practitioners in Thailand

In FY2017, the meeting was held in November, with participation of environmental practitioners from five sites of three companies. At the meeting, participants introduced environmental protection activities at each factory and shared information about Thailand's environmental laws and regulations. This time in particular, participants had lively Q&A and discussions about energy-saving activities, soil and groundwater contamination, and waste segregation, which are priority themes of each site, thereby sharing information about activities at each site and expanding the activities to other sites. We will continue to hold this meeting in Thailand and strive to reduce environmental risks in the country.

Environmental protection activities at Nikkei Siam Aluminum Ltd.

Nikkei Siam Aluminum Ltd. has factories in Pathumthani and Amata Nakorn, where it manufactures and sells sheets as well as foils and heat exchangers. The company also designs, manufactures, and sells panels for prefabricated refrigerators and freezers and clean rooms at these factories.

The following are part of the environmental protection activities at Nikkei Siam Aluminum Ltd. We have replaced wiping paper and tissue paper used in our factories with FSC-certified products. Moreover, to contribute to the protection of the world's forests,

"FSC certification. A certification granted to wood products which are produced in ways that are positive to social and environmental conditions and are in a way that is probable for local communities and economically sustainable.

(1) Use of FSC-certified products
We have replaced wiping paper and tissue paper used in our factories with FSC-certified products, thereby contributing to protecting the world’s forests.

(2) Use of waste wood
At our factories, we make tables and benches for cafeterias by using waste wood from wooden boxes generated after parts to be used at the factories are carried in. We donate the tables and benches to a neighborhood elementary school. In FY2017, we donated eight tables and 16 benches.

(3) Use of waste wood
At our factories, we make tables and benches for cafeterias by using waste wood from wooden boxes generated after parts to be used at the factories are carried in. We donate the tables and benches to a neighborhood elementary school. In FY2017, we donated eight tables and 16 benches.

(4) Interactions with the government and local communities
At the Pathumthani factory, we invite government officials and local residents to tours of the factory and hearings about our environmental initiatives, in an effort to communicate better with the local community and government.

(5) Coral reef planting activity
The company carries out a coral-reef planting activity given to the natural environment.

(6) Waste segregation activity
This activity began by following an example at another site, which was introduced at the meeting of environmental practitioners. This activity has raised awareness of the need for waste segregation.

Voice of a person in charge

Pairin Srirajak
Manager, Human Resources and General Affairs Division, Nikkei Siam Aluminium Ltd.
Building an inclusive society

At the NLM Group, we established Nikkeikin OhLis Co., Ltd. in October 2015 to enable more people with disabilities to work at more workplaces. Nikkeikin OhLis Co., Ltd. is actively recruiting people with disabilities and expanding the categories of jobs for disabled workers via special needs schools in Shizuoka and Tokyo, where its offices are located.

This article reports a recent discussion featuring Mr. Hiroki Watanabe, the principal of the central prefectural special needs school in Shizuoka (Shizuoka-ken-ritsu Chuo Tokubetsu Shien Gakko), President Ichikawa of Nikkeikin OhLis Co., Ltd., and Mr. Oshima, who is the vice president of operations and a founding member of Nikkeikin OhLis Co., Ltd. They talked about employment and jobs for people with disabilities and what they aim to achieve through the employment and jobs.

Employment rate of persons with disabilities (Nippon Light Metal Co., Ltd.)

<table>
<thead>
<tr>
<th>Year</th>
<th>Employment Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>1.91</td>
</tr>
<tr>
<td>2015</td>
<td>1.89</td>
</tr>
<tr>
<td>2016</td>
<td>1.91</td>
</tr>
<tr>
<td>2017</td>
<td>2.01</td>
</tr>
<tr>
<td>2018</td>
<td>2.03</td>
</tr>
</tbody>
</table>

The idea of an inclusive society that is common to education at special needs schools and corporate social responsibility (CSR)

Oshima: From the outset, could you tell us about the education provided at special needs schools?

Watanabe: The educational activities of special needs schools in Shizuoka Prefecture are based on the idea of an inclusive society. Therefore, we aim to enable students to grow into people who can participate in society voluntarily and provide them with the support needed to grow in that way. We want them to find the significance of jobs given to them and attach importance to the process of mastering those jobs. I believe that the significance of the job that you have found will be the driving force for doing the job proactively and enrich your work life and private life.

Ichikawa: I am in charge of promoting CSR for the NLM Group. In thinking about promoting CSR, I face the issue of how companies and employees should be related to society as they live. It is said that CSR originates from the problem of high youth unemployment in Europe in the 1990s. Companies cooperated with governments, which called on them to employ high-priced young people of their own countries instead of cheap skilled workers flowing in from Eastern Europe. I think the idea of CSR is identical to that of an inclusive society itself in that corporate activities are promoted without excluding diverse people but with mutual support with them.

Nikkeikin OhLis Co., Ltd. inspires us and changes our corporate climate

Oshima: What roles does Nikkeikin OhLis Co., Ltd. play from the viewpoint of an inclusive society?

Ichikawa: Employees of Nikkeikin OhLis Co., Ltd. work together with those of Nippon Light Metal Co., Ltd. I think that, in the early days, some employees wondered how to communicate with those from Nikkeikin OhLis Co., Ltd. However, they integrated with each other naturally by greeting with each other when they arrived at work, playing football and participating in internal events during break time, and otherwise interacting. And the work of the employees of Nikkeikin OhLis Co., Ltd. has earned high marks. The scope of their work and workplaces expanded gradually, and now they are essential to the company. As for myself, I am encouraged when I see them work. I think that like me, many employees are inspired by those of Nikkeikin OhLis Co., Ltd.

Watanabe: When I saw graduates of special needs schools working, I felt that they were working with initiative, and not passively.

Ichikawa: At Nippon Light Metal Co., Ltd., we ask a special needs school to accept our new employees every year for practical training, which is included in our new employee training.

A new employee who participated in the practical training found that “I didn’t know how I should interact with them and talk to them before I came to the school. When I actually interacted with them, however, I found that I don’t have to be overly careful. Rather, I could move forward by treating them normally.”

Watanabe: Those who have difficulty engaging with people with disabilities just don’t know how to do so. They simply don’t know how to talk to them and how to help them. They will gradually learn how to do it through experience. I think it is important that more people learn that in this way.

Ichikawa: Another new employee reviewed the training and said that “The boundary between people with disabilities and those without disabilities is not distinct but is rather gradational.” The practical training seems to have led the new employee to feel that there is no clear boundary between the presence and absence of a disability, but people with disabilities and those without disabilities are on a continuous scale. The employee also seems to have found the basic attitude in communication, with which one tries to understand the other person. I feel that integrating people with disabilities lead them to find the significance of demonstrating capabilities as a team of diverse people.

Let’s find the strengths and weaknesses.

Oshima: Could you tell us about your thoughts about issues surrounding employment of the disabled, including complaints of schools about compa- nies, if any?

Watanabe: The concept of “disability” has been changing recently. In the past, all dysfunctions were treated as disabilities. However, we can say that those of us who wear glasses, for example, have vision disability when not wearing glasses. But they are not disabled as long as they wear glasses. People with disabilities only need different types of support. They can demonstrate their capabilities by receiving the types of support that they need. We call them “appropriate guidance and necessary support.” If this point is applied to a company, just employing people with disabilities is not enough. The important point is how to make use of them after employing them, or how to bring out their capabilities after giving them physical and mental trust. I think it is important to discover their useful points. Everyone has his or her strengths and weaknesses. We teachers say that we should try to find these strengths and weaknesses.

Ichikawa: You mean that companies should also develop their employees and support them from this perspective, don’t you?

Watanabe: However, people with disabilities must not be passive. They must not wait until people around them find those points. They must find the points on their own. The same applies to support. They must not think that they can do nothing without the support from people around them.

Sustainability brought about by diversity

Ichikawa: A key point in corporate activities is sustainability. I think that, in sustainable business activities, the intention to make discoveries on one’s own, set targets, and think about how to achieve the targets serves as the driving force of the company and leads to sustainability.

Watanabe: It think it is a mission of us as teachers to develop students into such persons, who can work hard at such companies. We therefore value learning how to learn.

Oshima: In business activities, the homogeneity of employees tends to be required. I think it is also important to blend different people into companies to prevent homogeny from happening everywhere. This requires the idea that people who are different from us are an equal footing with us. The employment of people with disabilities involves impure motives. For example, they initially accept disabled people for a kind of welfare purpose or for the purpose of improving the rate of employment of persons with disabilities. Actually, we find that the organizational climate becomes softer when people with disabilities join our workplace.

Ichikawa: I felt that it is beneficial for us to create an environment where accepting graduates of special needs schools leads the company to make new discoveries, gives us a positive impact, and teaches us how a company should operate.

Oshima: Not only new employees but various other employees need to experience it, don’t they?

Watanabe: School education is provided in a group setting, and education is the same business in this respect. I think that an organization works effectively when each member is respected, not only that all of its members are made to face the same strength and weaknesses. We teachers say that we should try to find these strengths and weaknesses.
Voices of working mothers

We consider women to be key human assets, who support the Team NLM. We want our female members who have become mothers to be able to raise their children with a sense of security while continuing to work. For this purpose, we are improving our workplaces and establishing programs that allow mothers to work with peace of mind. We are also working to encourage male employees to participate in childcare proactively, creating relevant programs with the labor union and other entities. We recently interviewed two working mothers.

- What tips do you have for balancing childcare and work? I often have to take leave suddenly, such as when my child has developed a fever. Therefore, I try to think harder than before about when my child has developed a fever. In addition, I plan an experiment without worrying about time, even after a meeting, for example. This is impossible now because I have to leave work at a scheduled time to pick up my child. Therefore, when I plan an experiment, I try to think harder than before about what experiment conditions will allow me to obtain effective data efficiently.

- What challenges do you face as a research staff member? The work I do includes experiments. It takes about two to three hours to finish one experiment. Before I gave birth to my child, I could conduct an experiment without worrying about time, even after a meeting. In addition, the number of experiments I can conduct in a day is limited. Therefore, when I plan an experiment, I try to think harder than before about what experiment conditions will allow me to obtain effective data efficiently.

The NLM Group supports working mothers.

The first interviewer is Ms. Miki Toriumi from the Chemicals Division of Nippon Light Metal Co., Ltd. At present, Ms. Toriumi is in charge of assisting overseas sales and importing and exporting operations.

- What tips do you have for balancing childcare and work? I often have to take leave suddenly, such as when my child has developed a fever. Therefore, I try to think harder than before about when my child has developed a fever. In addition, I plan an experiment without worrying about time, even after a meeting, for example. This is impossible now because I have to leave work at a scheduled time to pick up my child. Therefore, when I plan an experiment, I try to think harder than before about what experiment conditions will allow me to obtain effective data efficiently.

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Key programs that help employees to balance work and childcare, etc. (excerpt)

<table>
<thead>
<tr>
<th>Program</th>
<th>Pre-leave status</th>
<th>Post-leave status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chilcare leave</td>
<td>Accumulated annual paid leave taken for childcare (paid)</td>
<td>Leave for nursing care (paid)</td>
</tr>
<tr>
<td></td>
<td>Leave for nursing care (paid)</td>
<td></td>
</tr>
</tbody>
</table>

The fourth mid-term course of action for safety and health

Based on the idea that safety comes before anything else, the NLM Group has developed the fourth mid-term course of action for safety and health and is taking steps that are appropriate for the conditions at each business location. Under this course of action, we have categorized tasks to do into those related to field capability, management capability, technical capability, and health capability, as well as comprehensive capability which combines the four capabilities.

We are aiming to improve each one of these capabilities to prevent workplace injuries.

Workplace injury trends

In 2017 (calendar year), the number of cases of lost time injuries increased in Japan. The number remained unchanged outside Japan.

<table>
<thead>
<tr>
<th>Year</th>
<th>Number (cases)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>Outside Japan</td>
</tr>
<tr>
<td>2017</td>
<td>10</td>
</tr>
<tr>
<td>2016</td>
<td>9</td>
</tr>
<tr>
<td>2015</td>
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<td>8</td>
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<tr>
<td>2013</td>
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</tr>
<tr>
<td>2012</td>
<td>5</td>
</tr>
<tr>
<td>2011</td>
<td>4</td>
</tr>
</tbody>
</table>

The four mid-term course of action for safety and health of the NLM Group

1. Enhance comprehensive capability
   - Actively for improving risk sensibility and uncomproising actions for not overlooking risks
   - Promoting safety activities that are centralized in the field
   - Conducting audits of business leaders and employees of Safety Management System (SMS) who need to be involved
   - Developing SMS procedures and safety managers
   - Providing internal training
   - Expansion of equipment safety standards throughout the group
   - Reducing risks by means of risk assessment (training and support for practices)
   - Conducting to take countermeasures against risks and to take a step to measure for preventing causes of accidents
   - Continuing to take mental health measures and infection control measures

2. Enhance field capability
   - Enhance on-the-job capability
   - Enhance work capability
   - Enhance safety capability
   - Enhance technical capability

3. Enhance management capability
   - Enhance effective capability
   - Enhance management capability
   - Enhance management capability
   - Enhance management capability

4. Enhance health capability
   - Enhance comprehensive capability
   - Enhance comprehensive capability
   - Enhance comprehensive capability
   - Enhance comprehensive capability

For enhancing activities for preventing accidents

At the NLM Group, we provide risk assessment training as an initiative to prevent workplace injuries. The training session, which consists of a lecture and practical training, was held every six years in 2017 with participation of 324 employees.

The training also includes case studies of workplace injuries that actually occurred. We repeat training to imagine situations where workplace injuries will soon occur and thereby identifying potential risks, in an effort to develop the sensitivity to discover risks before an injury occurs.

For raising awareness of safety

At the NLM Group, we send a Prompt Injury Report when a workplace injury has occurred or nearly occurred in a business location of the group. The Prompt Injury Report is sent to all group companies. At each business location, the contents of the received report are reported to persons in charge in the field to prevent the occurrence of a similar injury. In addition, the details of measures for preventing the recurrence of the injury are subsequently introduced throughout the group in the same way as the Prompt Injury Report.

Safety initiatives

Aiming for complete zero accidents

The fourth mid-term course of action for safety and health of the NLM Group

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   - Enhance work capability
   - Enhance safety capability
   - Enhance technical capability

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   - Enhance effective capability
   - Enhance management capability
   - Enhance management capability
   - Enhance management capability

4. Enhance health capability
   - Enhance comprehensive capability
   - Enhance comprehensive capability
   - Enhance comprehensive capability
   - Enhance comprehensive capability

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Assuring quality in the processes from product planning to delivery to customers

**Quality management system**

In recent years, Japanese manufacturers have been responsible for a spate of problems that have seriously undermined confidence in the industry.

At the NLM Group, we conducted a comprehensive check to see if any similar problem has occurred in the group, and we confirmed that none have.

It was found in January 2008 that the NLM Group had sold a product with specifications that differed from the certified specifications of fireproof materials. We reaudited all of the properties to which the product was delivered, thereby replacing the product with a new one. Deeply regretting this incident, we have thoroughly reviewed the quality assurance system of the entire group, so as not to repeat the same mistake.

The six key points of the review are as follows:

1. Ensuring the independence of quality assurance departments
   - To ensure the independence of quality assurance departments, we established the Central Product Safety & Quality Assurance Division under the direct control of the president, as an organization that oversees the quality assurance departments of all companies and segments.

2. Where a problem has occurred, report it to the relevant people promptly and deal with it
   - We have established a rule requiring that, when a quality problem has occurred, information about the problem is provided promptly to the overall group regardless of who is responsible for the problem. In FY2017, six problems were reported.

3. Screening Committee Meeting
   - Examine each product and service from multiple perspectives before selling it
   - The Screening Committee Meeting meets whenever a product is launched or there is an important change, such as a change in the material or manufacturing process of a mass-produced product. Reviews are conducted again and again until the new product, material, process, or any other subject is deemed acceptable.

4. Compliance with laws, regulations, and standards related to products and services
   - November is quality month, and each year we conduct full quality checks within the NLM Group. We also conduct special full checks of the compliance of our systems and management programs when a quality accident has occurred at a non-NLM Group company or in a similar case, taking it as a warning to us.
   - In FY2017, we conducted full quality checks based on the following three themes:
     1. The conformity of our products and services
     2. The conformity of our products and services to customers’ specifications
     3. Appropriate handling of inspection data

5. Strength of cooperation between quality assurance departments
   - To ensure the independence of quality assurance departments, we coordinate the quality assurance departments of all group companies and segments.

6. Number of quality-related matters that were reported
   - Reporting is ongoing, and in FY2017, we reported a total of 1,420 matters.

**Organizational structure for quality assurance and control activities**

- **President**
- **Central Product Safety & Quality Assurance Division**
  - **Quality Assurance Guidelines**
  - **Quality Assurance Division**
  - **Quality Assurance Guidelines**
  - **Quality Assurance Division**

**Number of Screening Committee Meeting meetings**

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**Voice of a person who was assigned to the Central Product Safety & Quality Assurance Division**

Assigned from: Nagoya Plant, Nippon Light Metal Co., Ltd.
Mikio Tanaka

**Voice of a person who was assigned to the Central Product Safety & Quality Assurance Division**

Assigned from: Nikkei Extrusions Co., Ltd.
Kenichi Kitazoe

**Fostering human assets for quality assurance**

The Central Product Safety & Quality Assurance Division provides quality training, which is aimed at improving the level of quality assurance of the overall group. In FY2018, we started an exchange of personnel in charge of quality within the group as a new initiative, in addition to continuing the existing group training and voluntary quality training.

In this program, the Central Product Safety & Quality Assurance Division accepts employees dispatched from group companies and has them engage in practical work at the division, aiming to equip them to play a role in the quality assurance of the group.

**Quality Assurance Guidelines**

The aluminum industry is not immune from the quality problems that surfaced in the Japanese manufacturing industry last year. Recognizing this, the Japan Aluminium Association has developed the Quality Assurance Guidelines. These guidelines are aimed at preventing the occurrence of inappropriate conduct and maintaining the status without such conduct. The NLM Group participated in the development of the guidelines as a working member of the association.

Currently, we have identified our issues within the group and are taking measures to conform to the guidelines.
At the NLM Group, we apply our professional knowledge, skills, and experience to support local governments, schools, and other entities in their efforts to develop the human resources needed in each local community.

Social

Initiatives we take in local communities to support human resource development

At the NLM Group, we apply our professional knowledge, skills, and experience to support local governments, schools, and other entities in their efforts to develop the human resources needed in each local community.

**Social contribution accounting**

In FY2017, we took part in 262 local programs including the above, and expenses for social contribution totaled approximately 133 million yen.

**Expenses for social contribution**

<table>
<thead>
<tr>
<th>Type</th>
<th>Amount (million yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>133</td>
</tr>
</tbody>
</table>

Support for acquisition of job skills

We contribute to the creation of employment and job acquisition in local communities through activities that we carry out using the various skills of our employees.

At the Nagoya Plant of Nippon Light Metal Co., Ltd., we dispatched lecturers to special training sessions on arc welding, which are organized by the Ichinomiya Labor Standards Association. We also offer venues for practical training and provide simulation training using the equipment of the Nagoya Plant.

At Nikkei New Business Co., Ltd., which manages the business establishments of the NLM Group, certified specialists in building cleaning, porters*), and water extinguisher. Participants compete over their operation skills of fire prevention and disaster control.]

Nippon Light Metal NLM HD Co., Ltd. (the NLM HD) is the holding company that is listed on the First Section Market of Tokyo Stock Exchange, Inc. We have formed the NLM Group, which consists of 70 consolidated subsidiaries including Nippon Light Metal Co., Ltd. and Toyo Aluminum K.K. as the core operating companies, and 15 affiliates accounted for by the equity method (as of March 31, 2018). At the NLM Group, we operate businesses with a focus on the manufacture and sales of aluminum products and related products.

The NLM Group’s basic approach to management is systematized as the Group Management Policy, which consists of three pillars and 13 basic policies.

NLM Group

**Aiming for trusted governance and cooperation within the group**

**Governance**

- **NLM Group**
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Aiming for trusted governance and cooperation within the group
Goverance, risk management, and compliance

We share issues and exchange opinions with our shareholders and investors through general meetings, earnings presentations, tours of our facilities, and other opportunities.

In addition, we disclose our CSR Report, Annual Report, and various other communication tools on our website and via other media, and share issues and exchange opinions via telephone, e-mail, and other means. We also revise our communication tools constantly. For example, we improve the accessibility of our telephone, e-mail, and other means. We also improve our communication tools constantly.

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*1: Insurance
*2: Insurance
*3: Insurance

Internal control
The Board of Directors of the NLM HD has determined the Basic Policy on the Development of the Internal Control System and is striving to apply the policy uncompromisingly. In addition, the Board of Directors receives a report about the status of internal control every two quarters and provides appropriate supervision and instructions.

Risk management
Under the risk management system of the NLM Group, risks are classified into strategic risks, operational risks, and hazard risks. Above all, we specify priority risks mainly among operational risks, and we have set up a supervisory department at the NLM HD to respond flexibly to individual risks. The supervisory department handles risks by cooperating with business departments.

The Board of Directors of the NLM HD receives a report in the overall risk management situations twice a year and evaluates the contents of the report before giving the necessary instructions.

In FY2017, we focused our efforts on such activities as strengthening the information management system of the overall group, developing group rules on personal information protection associated with changes to the law, and developing a business continuity plan.

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Internal control over financial reporting
To ensure appropriate financial reporting, we have established and operate an internal control system over financial reporting. For this purpose, we have appointed an internal control executive and an internal control promoter at each group company and segment to promote appropriate establishment and operation of internal control systems.

The evaluation is undertaken by auditing departments that have a certain level of auditing capabilities and whose independence is secured. The status of the establishment, operation, and evaluation is reported to auditors, accounting auditor, and the Board of Directors of the NLM HD, and corrections are made as needed.

Compliance Committee
The NLM Group has set up a Compliance Committee, which is chaired by the president and CEO and consists of the members of the Board of Directors of the NLM HD. The Compliance Committee prepares a compliance promotion plan every year and checks the status of implementation of the plan on a quarterly basis.

Compliance Codes
The codes of conduct of the NLM Group are summarized in the Group Compliance Codes, which require all officers and employees of the group, including those outside Japan, to comply with laws and regulations, corporate ethics, and business etiquette, act sensibly, and communicate with stakeholders proactively, for example.

To inform officers and employees thoroughly of the codes of conduct, a compliance meeting is held at each workplace twice a year for reactive learning.

At the meetings, participants discuss problems faced in the workplace, case examples of compliance violations that occurred at other departments, and other subjects. In FY2017, a total of 2,102 workplace meetings were held, with 20,237 participants in total (participation rate: 92%).

Whistleblowing system
A whistleblowing system has been introduced to major group companies. In addition, the NLM HD has set up a whistleblowing system, under which the NLM HD develops strategies and group companies execute businesses under the umbrella of governance by NLM HD, working.

Could you tell us what problems you see in our modality of governance?
While the NLM Group has a range of segments and fields as a manufacturer, I have the impression that communication between segments is somewhat insufficient. If the heads of the different companies and business departments are those who have moved up through the risks in the same field or segment, it is difficult for them to express their opinions to other segments partly because they are responsible for the earnings of each. To overcome these problems, you are making improvements through initiatives such as cross-functional collaboration. However, I don’t think they are enough. Moving forward, you will need further interactions between human assets from different fields.

Could you tell us what you keep in mind as an outside director?
We recently spoke with Mr. Masato Ono, who has been involved in the management of Nippon Light Metal Co., Ltd., as an outside director since prior to the establishment of the NLM HD. We asked him for his opinions about corporate governance of the NLM Group and other issues.

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Corporate overview

<table>
<thead>
<tr>
<th>Trade name:</th>
<th>Nippon Light Metal Holdings Company, Ltd. (Also known as “NLMK”)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of establishment:</td>
<td>October 1, 2012</td>
</tr>
<tr>
<td>Paid-in capital:</td>
<td>¥46,525 million</td>
</tr>
<tr>
<td>Sales:</td>
<td>¥481,439 million (consolidated)</td>
</tr>
<tr>
<td>Number of employees:</td>
<td>12,885 (consolidated)</td>
</tr>
</tbody>
</table>

*All data are in FY2017 or as of March 31, 2018.

Corporate overview

Global network

- **Alumina, Chemicals, and Ingots Business**
- **Sheet and Extruded Products Business**
- **Fabricated Products and Other Businesses**
- **Foils and Powders Business**
- **Total Europe**

**Nippon Light Metal Holdings**

- **High Purity Aluminum**
- **Technical R&D Center**
- **Sales and Marketing Center**
- **Nikkei MC Aluminum (Kurashiki)**
- **Nippon Light Metal Technologies**
- **Nikkei Chemicals**
- **Riken Light Metal Industries**
- **Nikkei Extrusions**
- **Nikkei Niigata**

**Sales ratio**

- **2016**
- **2015**
- **2014**

**Operating profit**

- **2016**
- **2015**
- **2014**

**Net sales**

- **2016**
- **2015**
- **2014**

**Profit attributable to owners of parent**

- **2016**
- **2015**
- **2014**

**Dividend**

- **2016**
- **2015**
- **2014**

Business summary

- **Alumina, Chemicals, and Ingots Business**
  - The alumina and chemicals segment manufactures aluminum hydroxide, alumina, and various other chemicals. These products are used in a wide range of fields, including as fire retardants, raw materials for ceramics, and industrial materials for the manufacture of paper and paper products. This segment manufactures a variety of aluminum ingots and is highly evaluated for the development of highly functional ingots that cater to customers’ needs.

- **Sheet and Extruded Products Business**
  - Aluminum sheets and extruded products are used in a wide range of fields, such as for automotive parts and railway cars in the transportation industry and for semiconductor/liquid-crystal manufacturing equipment and photovoltaic drums in the electrical and electronics industry. The NLM Group makes use of its technologies and expertise cultivated over many years to proactively develop products that meet customers’ needs and to supply highly functional sheets and extruded products.

- **Fabricated Products and Other Businesses**
  - The NLM Group has many group companies that deal with distinctive fabricated products. Among them, truck bodies from Nippon Freivald Co., Ltd. and commercial refrigerators and freezer panels from Nikkei Panel System Co., Ltd. are highly valued for their quality and thereby enjoy the top share in each industry. We also supply other aluminum fabricated products that are closely related to our everyday lives, including produced aluminum bar for aluminum extrusion, automotive parts, and other products.

- **Foils and Powders Business**
  - Toyo Aluminum K.K. plays the leading role in these businesses. We have established our position as a leading manufacturer by developing a wide range of products that incorporate aluminum’s special characteristics and that are useful in society, industry, and everyday life. They include packaging materials, feed and pharmaceuticals, products for electronics, electronics paste, and solar cell materials. We develop new fields by utilizing our own technologies and expertise and provide a range of highly functional materials and products in materials and functions.

- **Total Europe**

**Corporate Social Responsibility Report 2018**

30 | CSR Report 2018
31 | Corporate Social Responsibility Report 2018
The NLM Group has established an internal system for promoting CSR and has been proceeding with initiatives under this system. It is important that, based on these fundamental CSR activities, the group clarify its operational procedures along with specific explanations of yearly progress related to each initiative. The group will ensure that its CSR activities appeal to a wider range of stakeholders by associating them closely with SDGs. I expect the group to take initiatives for tackling global environmental issues."}

Third-party opinions

The following are opinions (from Mr. Toshihiko Fujii) about the CSR Report 2017 of the NLM Group and the responses of the group to the opinions.

<table>
<thead>
<tr>
<th>Major opinions</th>
<th>Responses of the NLM Group</th>
<th>Applicable page</th>
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<tr>
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<td>P16, 17, 34, 35</td>
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<td>P27</td>
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<td>P16</td>
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<td></td>
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<td>P3 and others</td>
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Our responses to previous third-party opinions

The NLM Group will continue its activities for labor safety and quality control with a comprehensive approach, by separating them from activities for contributing to local communities and by maintaining awareness of compliance, regarding them as responsible activities that support the group’s business foundation. With regard to governance, the Corporate Governance Code has been established and corporate governance reports should have been developed. Therefore, it is important that the overall group have a common understanding of the meaning and contents of governance. Governance means a structure for management and supervision. Therefore, even if communication with stakeholders is also included in governance, the group should emphasize initiatives that serve as risk handling, that is, initiatives related to how to face and resolve stakeholders’ concerns and issues.

Mizue Unno
Managing Director, So-Tech Consulting, Inc.
## Data

<table>
<thead>
<tr>
<th>The Environment</th>
<th>Coverage</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greenhouse gas emissions (Scope 1, Scope 2)</td>
<td>Consolidated (Japan only)</td>
<td>708</td>
<td>710</td>
<td>712</td>
<td>kilo tons CO2</td>
</tr>
</tbody>
</table>
| Greenhouse gas emission intensity per unit of sales | Consolidated (Japan only) | - | - | - | kilo tons CO2/kilowatt-hour-
| Breakdown of Scope 3 emissions | Category 7: Purchased goods and services | Consolidated (Japan only) | 1,489 | 1,903 | 1,709 | kilo tons CO2-
| Energy consumption | Electricity Consumption (Japan only) | 8.5 | 9.0 | 9.0 | GJ |
| Total amount of discharged water | Consolidated (Japan only) | 26.1 | 30.5 | 28.2 | million m3-
| Environmental accounting | Environmental conservation expenditure: Investment (Japan only) | 1,612 | 2,009 | 1,983 | million yen-
| Emissions and disposal of waste and waste byproducts | Recycled/Reduced (Japan only) | 33.2 | 33.5 | 32.4 | kilo tons-
| Number of employees by business category | Full-time directors | Consolidated (Japan only) | 170 | 187 | 190 | number-
| Number of employees who newly took childcare假 | Consolidated (Japan only) | - | - | - | million yen-
| Employment rate of people with disabilities | Consolidated (Japan only) | 2.12 | 2.05 | 2.03 | %-
| Compliance meeting | Number of times the meeting was held | Consolidated (Japan only) | 2,038 | 2,230 | 2,102 | times-
| Non-consolidated | | 18,000 | 19,801 | 20,217 | times-
| Non-consolidated | | 100 | 100 | 100 | %-
| Gender | Male | Consolidated (Japan only) | 71.6 | 71.7 | 71.6 | %-
| Gender | Female | Consolidated (Japan only) | 28.4 | 28.3 | 28.4 | %-

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**Notes:**

1. We have received independent assurance by KPMG AZSA Sustainability Co., Ltd. regarding the reliability of the data.

2. The emissions are calculated by multiplying the activity amount by the CO2 emission factor published by the Ministry of Economy, Trade and Industry and the Ministry of the Environment.

3. For calculating CO2 emissions related to electricity use, we use the CO2 emission factor of Japan. In order to relate to the above, CO2 emissions for FY2016 were corrected.


5. Percentage of employees who are still at the company as of April 1 in the year that is three years after they joined the company.

6. For calculating CO2 emissions related to electricity use, we use the CO2 emission factor of Japan.

7. In relation to the above, values for FY2016 were corrected.

8. In relation to the above, values for FY2016 were corrected.

9. For calculating CO2 emissions related to fuels, we use the CO2 emission factor of Japan.

10. In relation to the above, values for FY2016 were corrected.

11. For calculating CO2 emissions related to fuels, we use the CO2 emission factor of Japan.

12. The emissions are calculated by multiplying the activity amount by the CO2 emission factor published by the Ministry of Economy, Trade and Industry and the Ministry of the Environment.

13. The Scope 1 Category 1 emissions are calculated based on the volume of purchase of the top three items in terms of purchase volume. All of the items, the aluminum ingots are those purchased by Nippon Light Metal Co., Ltd.

14. In order to determine the number of employees, we count the number of employees who are employed at least once during the current year.

15. Changes in expenditure = expenditure incurred during the current year (FY2017) – expenditure incurred during the previous year (FY2016).

16. Number of employees who are employed at least once during the current year (FY2017) – number of employees who are employed at least once during the previous year (FY2016).

17. For calculating CO2 emissions related to electricity use, we use the CO2 emission factor of Japan.

18. Changes in expenditure = expenditure incurred during the current year (FY2017) – expenditure incurred during the previous year (FY2016).

19. Number of employees who are employed at least once during the current year (FY2017) – number of employees who are employed at least once during the previous year (FY2016).

20. The emissions are calculated by multiplying the activity amount by the CO2 emission factor published by the Ministry of Economy, Trade and Industry and the Ministry of the Environment.

21. Changes in expenditure = expenditure incurred during the current year (FY2017) – expenditure incurred during the previous year (FY2016).

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23. The Scope 1 Category 1 emissions are calculated based on the volume of purchase of the top three items in terms of purchase volume. All of the items, the aluminum ingots are those purchased by Nippon Light Metal Co., Ltd.