

SHOWA DENKO Web site Sustainability Information (As of July 2021)

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Message from CEO

We will pursue sustainable growth as a “KOSEIHA Company,” without being afraid of facing changes

President and CEO
Kohei Morikawa

The market will change, customers will change, but the importance of technologies will never change

I like the words “change,” “make a change” and “evolution” and want to put these words into action in the management of our business. Chemical companies belong to the manufacturing industry, and what we manufacture as a chemical company changes according to the times. Our customers and market are also changing constantly. We provide corporate customers with the materials that are necessary for them to produce what they want to deliver at any given time, and for us to survive as a chemical company we absolutely must have technological capabilities.

The market is changing at a higher speed, market needs are becoming more complex, and the entire industry sometimes faces a decline while also witnessing the creation of a new market. Amid these changes, what chemical companies manufacture will change, but the roles to be played by these companies will never change. In this sustainable industry, if we have enough technological capabilities, we can surely change ourselves in response to changes in the market.

Then how should the Showa Denko Group change itself with a view to the future?

An easy-to-understand answer to this question is this: it should transform itself into a chemical group that is not only good at “making” but also good at “mixing,” thereby enhancing its ability to make proposals to help customers solve their problems.

“Making” here means to manufacture ammonia, ethylene and other chemical substances that can be clearly represented by chemical formulae. “Mixing” means to manufacture paints, cosmetics and others that cannot be clearly represented by chemical formulae because they are made by mixing multiple materials.

In recent years, it has been becoming more important to supply products that provide sufficient functions to meet the needs of individual customers, while there is still a market need for chemicals with clear chemical formulae.

The Showa Denko Group has a strength in that it can supply materials in a range of fields, including organic chemistry, aluminum and inorganic chemistry, and is good at “making.” However, in order to further evolve going forward, we need to keep a good balance between “making” and “mixing.”

To this end, we made a decision to integrate Hitachi Chemical Co., Ltd. (“Hitachi Chemical”), as it conducts operations in a business area that is downstream to our business area and is good at “mixing.” At the end of April 2020, we thus made Hitachi Chemical a consolidated subsidiary of Showa Denko K.K. through a tender offer. (Accordingly, Hitachi Chemical changed its corporate name to “Showa Denko Materials Co., Ltd.” in October 2020.)

Through this business integration between the two companies, we will become able to do what we cannot do by “making” or “mixing” alone, that is, we will be able to make the substances to be mixed and then mix them to deliver functions and solutions that are useful for society.

Future corporate vision built on the integration of Hitachi Chemical: “Global top-level functional chemical manufacturer”

In order to fulfill our corporate mission, which is to satisfy all stakeholders, we uphold the vision “KOSEIHA Company.” This term refers to an aggregate of KOSEIHA Businesses^{*1} that can maintain high levels of profitability and stability.

^{*1} KOSEIHA Businesses specifically mean those that meet the following three conditions: operating margin ratio of 10% or more; operating income of billions of yen or more; and stable profitability tolerant to environmental change.

To achieve this vision, we are making and implementing plans to develop KOSEIHA Businesses in each of our business segments. Moreover, through the integration of Hitachi Chemical, we have clarified our next corporate vision, which is to become a global top-level functional chemical manufacturer by expanding our operational scale based on KOSEIHA Businesses.

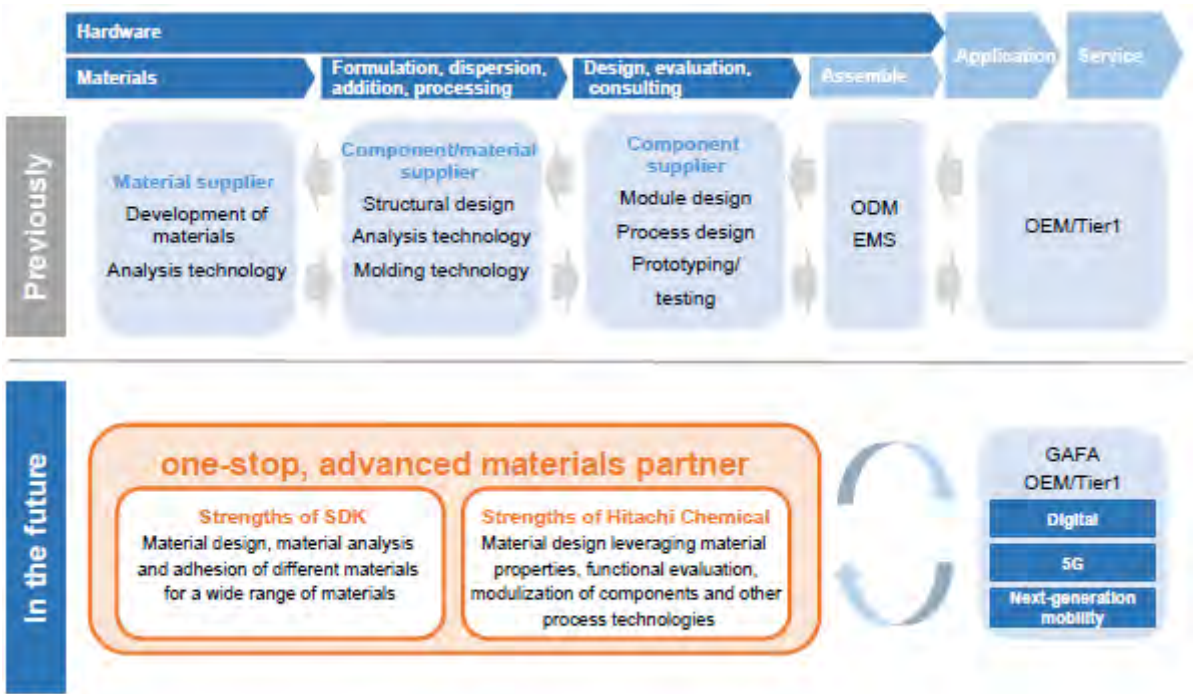


We decided to integrate Hitachi Chemical for the following two main reasons.

First, intensified competition triggered by the restructuring and integration of global manufacturers of materials. In Western countries, the Middle East and China, chemical giants are emerging and growing their presence in the world market and there is a risk that they might push Japanese companies, which are relatively small in size, into a corner. By integrating Hitachi Chemical, Showa Denko will have net sales exceeding 1 trillion yen and will be able to respond to environmental changes in an even more straightforward fashion.

As for the second reason, we are facing changes in the industrial structure. Although manufacturers used to supply their products to end users in the supply chains for the automobile and electronic device markets, these products are now increasingly supplied to the markets through the Internet as “XaaS.”^{*2} Tech giants such as GAFA^{*3} are essentially service providers, although they also sell automobiles, smartphones and other hardware products. For these companies to further increase their

service quality, they need semiconductors with higher performance. Accordingly, the semiconductor industry will continue to undergo great changes and make great progress. For tech companies, semiconductors are not “materials” but a “means” to improve their services, and they will unquestionably prefer more convenient semiconductors.



By integrating Hitachi Chemical, Showa Denko will gain a wide range of semiconductor-related product technologies and be able to combine the technologies in various ways to provide GAFA and other tech companies with highly functional products and solutions as a single entity. We will also be able to generate synergies with Hitachi Chemical in other markets besides the semiconductor market. For successful integration, it is of utmost importance that the two companies are heading in the same direction. Showa Denko and Hitachi Chemical target the semiconductor, mobility, energy and other similar markets but have different product lineups. We can therefore increase our “immunity” through the integration and also extend our supply chain to deal with both materials and a range of functional products. The integration will help us expand our business size in terms of both breadth and depth. I believe that the integration of the two companies will enhance our ability to propose total solutions, covering from the material level to design and evaluation, and help us to become a “one-stop advanced materials partner.”

*2 XaaS stands for “X as a Service” and means to provide a range of resources through the Internet.
*3 GAFA stands for Google, Apple, Facebook and Amazon, which are US companies that have dominated the IT industry.

Contributing to a sustainable society

The Showa Denko Group commits to contributing to the achievement of the Sustainable Development Goals (SDGs) through its business operations in its CSR Policy, and we regard contribution to the SDGs as part of our corporate social responsibility and the basis for our corporate activities in “The Top 2021.”

As a chemical company that manufactures materials that do not exist in nature, the Group will take responsibility for safety and the environment in each life cycle stage of its products, from manufacture and use through to disposal.

We will foster management that focuses on the environment, society and governance (ESG) and take advantage of the Showa Denko Group's strength to offer products, technologies and services that contribute to a sustainable society, such as plastic chemical recycling and the supply of graphite electrodes to be used for the recycling of iron scrap.

Making progress without being afraid of changes

I very much want to make the Showa Denko Group a sustainable enterprise. Chemistry plays an indispensable role in helping people lead their daily lives, which makes the chemical industry a sustainable industry and enables us to flexibly make changes in response to changes in the market.

We aim to become a KOSEIHA Company and then become a global top-level functional chemical manufacturer through the integration of Hitachi Chemical. We can be a first-class company by changing ourselves in the integration process to become a company that is always needed by society. Our market will change with the times and our customers will also change. We will unrelentingly respond to these changes.



August 2020

A handwritten signature in black ink, appearing to read 'Mori'.

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Sustainability management

CSR Policy

For the Showa Denko Group, “sustainability” means to be a sustainable company that can give satisfaction to its stakeholders by providing them with products and services that are useful for society and unique to the Group with a focus on the environment, society and governance (ESG), thereby creating both economic and social value, and also to make contributions to the sustainability of international society. In order to make contributions to the sustainability of international society, we set the Showa Denko Group’s CSR Policy, based on which we conduct our activities.

Showa Denko Group's CSR Policy

We at the Showa Denko Group will aim to make ourselves a social contribution company that satisfies all stakeholders by contributing to solving issues concerning SDGs through its business activities, and ensuring all employees' conduct conforming to "Our Code of Conduct."

Main Theme

"Creation of economic and social value through deepening of risk management on the basis of safety and compliance, and through creation of business opportunities on the basis of CSR communication"

Contribution to creation of society where affluence and sustainability are harmonized through effective use of technologies, products and services

Tackling environmental issues in order to realize sustainable society and as a mission of manufacturer

Development of human resources that contribute to sustainable growth of international society and the Showa Denko Group

(Revised in May 2019)

For the Group, CSR means to make social contributions through business operations, with all employees taking actions sincerely in line with Our Vision and Our Code of Conduct. In Our Vision, we are committed to contributing to the sound growth of international society as the Group's basic approach, and we believe that working for the achievement of the SDGs through our business activities will help us give satisfaction to all stakeholders, which the Group upholds as its mission.

As the main theme for the Policy, we have upheld, "Creation of economic and social value through deepening of risk management on the basis of safety and compliance, and through creation of business opportunities on the basis of CSR communication." We need to ensure safety to be "qualified as a manufacturer," and ensure compliance to be "qualified to participate in competition." The Showa Denko Group, having such "qualifications," will contribute to reducing risks for society and increasing associated value through risk management and communication with stakeholders. At the same time, we will enhance our corporate governance (corporate soundness) and conduct activities to create KOSEIHA Businesses, thereby creating economic and social value to become a sustainable "social contribution company."

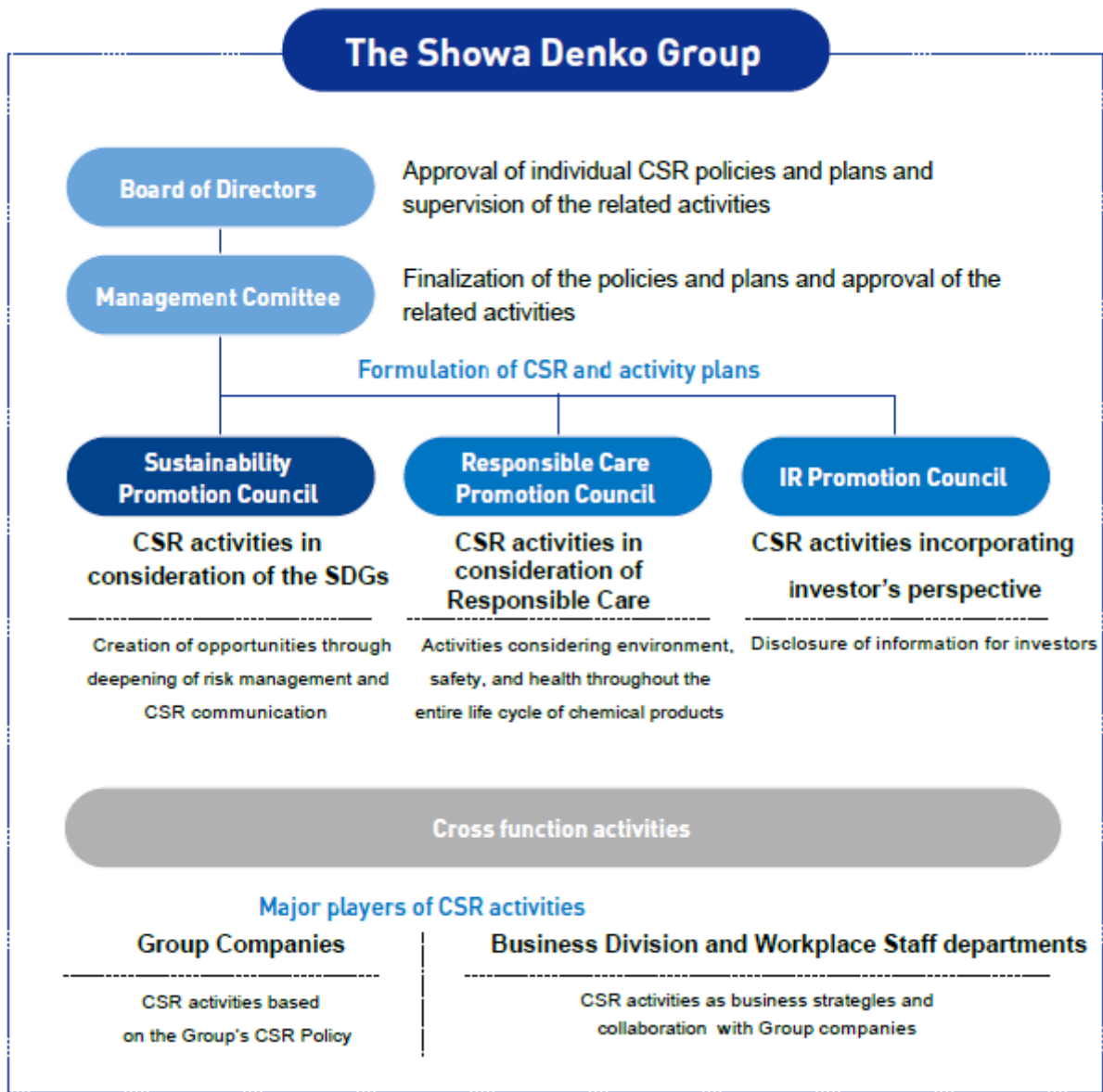


CSR Promotion Framework

CSR activity-related policies and plans are deliberated by the Management Committee composed of the president, corporate officers, and Audit & Supervisory Board members and are then finalized by the Board of Directors.

For CSR-related issues, we have the Sustainability Promotion Council, Responsible Care Promotion Council and IR Promotion Council as advisory bodies to the Management Committee. Through these organizations, we discuss individual issues related to CSR, such as risk management, compliance, progress in contributing to the achievement of the SDGs, and measures against climate change and other environmental issues. We then incorporate the results of the discussions in our CSR plans and activities.

Moreover, our divisions and plants conduct Responsible Care, risk management, human rights and compliance activities by receiving support from Responsible Care, CSR & General Affairs, Human Resources, and other staff departments. For contribution to SDGs, the disclosure of climate-change-related information in response to the activities of the TCFD, and other issues to be tackled across the organization, we are conducting cross-functional activities.



Materiality and core tasks

Aiming to contribute to realization of sustainable society, the Showa Denko Group analyzed materiality of impacts of its business activities on stakeholders, economy, society and environment, and selected 14 material issues in 2015.

In 2019, in order to clarify, both internally and externally, the social tasks to be prioritized by the Group, we have classified the 14 material issues into three core task groups, and then set the medium to long-term policy for each of the tasks. We will also set specific KPIs for each of the material issues and disclose the indicators when they are decided. By implementing initiatives based on the policies and KPIs, we aim to make achievements in a steady manner.

■ Core tasks and materiality

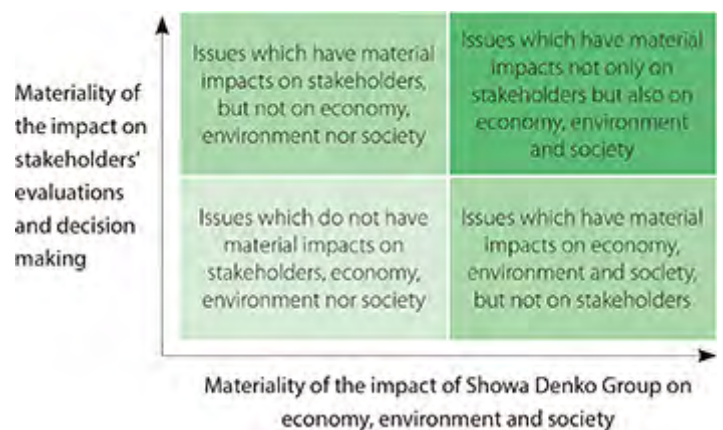
Core tasks	Medium- to long-term policy	Materiality
Contribution to achievement of SDGs through business activities	<p>By making effective use of the Group's products, technologies, and services, we will contribute to the creation of a society where affluence and sustainability are harmonized.</p> <ul style="list-style-type: none"> · Promote R&D in consideration of the SDGs · Monitor contribution to the SDGs made through business activities and announce the results 	<ul style="list-style-type: none"> ◦ Provision of products, technologies and services ◦ Access to Essential Services ◦ Consumer Safety and Health Protection ◦ Participation in Community Activities
Tackling environmental issues	<p>We will conduct Responsible Care activities with a strong focus on "responsibilities as a manufacturer and as a user," thereby contributing to the solution of global environmental problems.</p> <ul style="list-style-type: none"> · Reduce GHG emissions · Foster 3Rs to reduce waste generation · Reduce the discharge of chemical substances 	<ul style="list-style-type: none"> ◦ Prevention of Pollution ◦ Use of sustainable resources ◦ Measures against climate change

Core tasks	Medium- to long-term policy	Materiality
Establishment of sustainable methods for human resource development and improvement in working environment	<p>We will develop diverse human resources made up of people who can achieve growth with their company and contribute to a sustainable society, while also providing individual employees with workplaces where they can work with peace of mind and in good health.</p> <ul style="list-style-type: none"> · Develop employees and support their growth · Promote diversity 	<ul style="list-style-type: none"> ◦ Development of Human Resources ◦ Creating a comfortable workplace ◦ Equipment safety ◦ Occupational Health and Safety ◦ Thorough corporate ethics ◦ Protection of intellectual property ◦ Decision-making process and structure

■ How to select material issues

Step.1 Conduct a survey and identify the issues to be examined.

Identify the issues that stakeholders want the Group to deal with in reference to the core subjects of ISO 26000 and the GRI guidelines. List the important items and issues to be examined by Showa Denko as a manufacturer and a chemical company.



Step.2 Select particularly important items.

Select particularly important items based on the Showa Denko Group's Vision, Medium-Term Business Plan, annual plans, business execution system, Our Code of Conduct and other guidelines. Check whether the themes of past activities align with the core subjects of ISO 26000.

Step.3 Prioritize the items and focus on the priorities.

Analyze materiality from the viewpoints of stakeholders and the company to prioritize the items. Evaluate the materiality of impacts on stakeholders in reference to the results of surveys conducted for them.

Evaluate the materiality of impacts of the company's business activities in consideration of their influence on society and on financial information.

Step.4 Check appropriateness.

Interview internal related departments, make decisions at meetings of the former CSR Committee chaired by the president, and report the results to the Board of Directors.

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The Showa Denko Group's activities and the SDGs

The Showa Denko Group deems it one of its social responsibilities to contribute to the achievement of the SDGs through its business. To this end, we have started selecting products that can contribute to solutions for the issues described in the SDGs. Also, The Showa Denko Group's Our Code of Conduct and material issues are aligned with SDGs.

Provision of Products, Technologies and Services (products and services contributing to the SDGs)

From among many of our products and services that are related to the SDGs, we select those that contribute to innovation and help us make social contributions (according to our own criteria) as "products and services contributing to the SDGs," and we will sequentially disclose information about our activities pertaining to these products and services. ◦

We also manage a system to widely collect ideas from employees on new development themes that will contribute to the SDGs and are thus promoting R&D from an SDG viewpoint.

Relationship between SDGs and both Our Code of Conduct and materiality

The Showa Denko Group's Our Code of Conduct and 14 material issues are aligned with the Sustainable Development Goals (SDGs), which aim to end poverty in all its forms, reduce inequality, combat climate change and ensure that no one will be left behind. By linking Our Code of Conduct and materiality (material issues) with the SDGs, we will help Group employees understand how Showa Denko is related to the SDGs and will promote business with strong awareness of the need to make contributions to achieve them.



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Responsible Care activity

Let us explain about our action guidelines, promotion structure, PDCA cycle and auditing structure of Responsible Care which is a management policy related to “the environment, safety and health.”

Responsible Care Action Guidelines

Showa Denko established the “Responsible Care Action Guidelines” in March 1995. These guidelines stipulate management policies related to the environment, safety, and health. Our Group promotes activities based on these action guidelines.

In addition, we also signed the Responsible Care Global Charter in 2005, pledging our support for and implementation of the charter. When the RC Charter was amended in 2014, we re-signed, making clear our willingness to promote RC activities through global collaboration.



Responsible Care Global Charter Signatory Certificate

Responsible Care Action Guidelines (Showa Denko Group Action Guidelines)

1. Throughout the entire life cycle of products, we shall make our best efforts to review and improve business activities continuously from the view points of ensuring safety & health and

protecting the environment.

2. We shall make our best efforts towards sustainable development by harmonizing our production activities with the global environment, not only through conventional approaches to environmental preservation, but also through promotion of changing raw materials, energy conservation, waste reduction and recycling, reductions in the release of chemical substances, etc.
3. In the development of new products and businesses and in the establishment, enlargement, and renovation of facilities, we shall undertake our best efforts to ensure safety and health and to protect the environment.
4. We shall promote R&D and develop technologies that will contribute to the improvement of safety and health and to the protection of the environment. We shall also promote the marketing of alternative or new products.
5. We shall enrich risk assessments and risk management concerning the effects of the products and materials we handle on safety, health, and the environment, and we shall provide information on the safe use and handling of our products to our stakeholders as well.
6. In overseas business activities, technology transfer, and international trading of chemical products, we shall give full consideration to ensuring safety and health, and protecting the environment.
7. We shall comply with international rules, domestic laws and regulations, and make our best efforts to cooperate with the relevant international organizations, domestic and foreign administrative bodies, etc.
8. We shall participate proactively in various activities related to the ensuring of safety & health and environmental protection, and make our best efforts to communicate with society to achieve better understanding and trust.

Responsible Care promotion system

At Showa Denko, the Responsible Care (RC) Promotion Council is placed under the Management Committee, which is chaired by the chairman of the company and composed of the president, corporate officers in charge, and other corporate officers and heads of the administrative departments whose presence on the committee is deemed necessary by the president. The RC Promotion Council undertakes preliminary deliberations on important issues concerning RC, such as environmental management, global warming, industrial waste, discharge of chemical substances, water resource-related risks, equipment safety, occupational health and safety, health management, safety of chemicals, and quality assurance. Deliberation results are reported to the Management Committee for discussion, and the results of that discussion are then reported to the Board of Directors.

As of June 2020, we are promoting Responsible Care at our headquarters, 13 business divisions, 15 workplaces, 3 branches, the Institute for Integrated Product Development and 16 major Group companies.

At overseas Group companies (manufacturing) as well, we have identified achievements relating to Responsible Care and provided local guidance to expand the target scope.

* Group Companies

Tsurusaki Kyodo Doryoku K.K. Showa Denko Ceramics Co., Ltd., Showa Denko Packaging Co., Ltd., Showa Denko Sakai

refer to the pages for each of the items.) Participants in the training make use of what they have learned in the training in the activities conducted at their sites.

■ Number of participants in the Responsible Care (RC) training seminars held by the head office in 2019

Date	Name of training	Target	No. of participants
February	RC training for new environment & safety managers	Those who are new to the post	7
March	Training for internal auditors for ISO14001	Applicants from the sites	23
April	RC training for new employees	New employees	62
November	RC training for new manufacturing section managers, etc.	Those who are new to the post	27

Auditing structure

Showa Denko and its major Group companies conduct audits as described below for their worksites to assess and improve their Responsible Care activities.

Self-audit

Workplaces of Showa Denko and its major Group companies evaluate their own Responsible Care systems and implementation statuses based on a checklist, so as to reflect the results in the following year's targets and action plans in order to move forward with continuous improvement.

Worksite auditing

The Environment & Safety Office of the RC Department audits worksites to both, make evaluations and improvements regarding Responsible Care at Showa Denko and its major group companies. The Management Committee deliberates these results to reflect them in the policies, goals and plans of the entire company and Group companies. In 2019, we audited 36 workplaces (including our headquarters, branch offices and business divisions). Also, personnel from the Head Office's Quality Assurance Office visit and carry out annual quality diagnoses at the Group's sites, including the Divisions, Plants, and Group companies, to clarify their strengths and weaknesses and share the findings.

Management system

The Showa Denko Group continues improving its management system through receiving and maintaining certification of conformity to management system standards including those for environment, quality, and industrial safety and hygiene.

[List of Declarations and Certifications](#)

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Stakeholder communications

The Showa Denko Group aims to be a company that is trusted and rated highly by all stakeholders by fulfilling its social responsibilities. Having dialogue with stakeholders is essential for the Group to identify society's needs in an appropriate manner and prevent becoming trapped in dogmatic ideas. We therefore attribute importance to communication with our stakeholders and will expand opportunities to conduct dialogue with them.



Relationships with shareholders and institutional investors

The Showa Denko Group regards IR activities as those that help shareholders and investors deepen their understanding of the Group's corporate management, business activities and strategies, so that they can evaluate the Group's corporate value in a fair manner. Based on this idea, we are committed to:

- (1) Fostering communication with shareholders and investors and increasing our management transparency, and

(2) Disclosing corporate information about the Group in an easy-to-understand, fair, timely and accurate manner to help shareholders and investors deepen their understanding of and trust in the Group.

Major means of communication (frequency: mainly results for 2019)

Ordinary shareholders' meeting (once a year)
Briefings on financial results (quarterly) and business details (once a year)
Small meetings (about 10 times a year)
Individual meetings (about 420 times a year)
Briefings for individual investors (about 10 times a year)
Plant tours (twice a year)
Field-specific briefings and dialogue (on ESG, etc.)
Publication of the Integrated Report and the Annual Report in English, and newsletters for shareholders (once a year for each)
IR website (updated from time to time), and others

[For Investors](#)

Relationships with local communities and authorities

In order to become a “social contribution company” as stated in the Showa Denko Group’s CSR Policy, we will proactively participate in local community activities and conduct dialogue sincerely with local residents to deepen mutual understanding, and will collaborate with them to solve local issues for the sustainable development of their communities. We are also making efforts to earn trust from local communities and authorities through the Group’s safe and stable operations.

Major means of communication

Tours of the Group’s facilities
CSR Site Report (once a year)
Publication of a local PR newsletter
Dialogue with local communities
Employees’ participation in local activities
Provision of special classes at school
Donation of proceeds from aluminum can recycling activity, and others

[Participation in Community Activities](#)

Relationships with customers

By providing customers with unique products and services that are useful and safe and exceed our customers’ expectations, we are giving satisfaction to our customers and encouraging them to buy our products and services repeatedly.

Major means of communication

- Information dispatch through news releases
- Participation in exhibitions
- Publication of product brochures
- Information dispatch through the website
- Plant tours, and others

Relationships with business partners

As a matter of course, we are working to earn trust from our business partners when dealing with them and to comply with the Showa Denko Group's CSR Procurement Guidelines together with them, with an eye to solving environmental and social issues across the supply chain, thereby increasing mutual corporate value.

Major means of communication

CSR evaluation of partners and support for their improvement activities (CSR self-assessment, CSR visits and follow-ups)

[CSR procurement](#)

Relationships with employees and their families

As a precondition for the Showa Denko Group's growth, we think it is necessary to ensure that employees who are "core players for value creation" can work with vigor to meet society's needs. Accordingly, we are working to communicate extensively with employees, providing them with workplaces where they can work with satisfaction, and to become an enterprise that they can be proud of. We are also conducting activities to help employees' families deepen their understanding of the Group, including inviting them on a tour of our facilities.

Major means of communication

- Publication of the in-house magazine, "Group SHOWA" (six times a year)
- Publication of the in-house magazine global version, "Global Group SHOWA" (quarterly)
- Information dispatch through the intranet (updated from time to time)
- Employee awareness survey (once every three to four years)
- Provision of various training opportunities
- Labor-management discussions (Labor-Management Committee, face-to-face discussion called "commu-cussion" on Responsible Care, and others)
- Invitation of families on a tour of the facilities, and others

Major initiatives that we support, and the organizations to which we belong as a member

■ Task Force on Climate-related Financial Disclosure (TCFD)

In May 2019, Showa Denko announced its support of the recommendations made by the TCFD, which had been established by the Financial Stability Board. Based on the TCFD's recommendations, we will proactively disclose information about the impact of climate change on our business operations.



[Measures against climate change](#)

■ Japan Business and Biodiversity Partnership

Showa Denko gives due consideration to biodiversity. It is participating in the Japan Business and Biodiversity Partnership* and assessing the influence exerted over biodiversity by its business activities.

* Japan Business and Biodiversity Partnership: A multi-stakeholder biodiversity initiative that consists of business entities which endorse "Action Policies of Japan Business and Biodiversity Partnership" and are implementing or planning to implement one or more actions among them, and economic organizations, NGOs, researchers, local/national governments and other public organizations which support those business entities' biodiversity initiatives.

[Preservation of biodiversity](#)

■ "White Logistics" movement: Voluntary action declaration

In May 2019, Showa Denko became one of the first companies in the chemical industry to make a declaration to take actions for sustainable logistics, in support of the "White Logistics" movement fostered by the Japanese Ministry of Land, Infrastructure, Transport and Tourism, Ministry of Economy, Trade and Industry, and Ministry of Agriculture, Forestry and Fisheries. Joint delivery, modal shift and other measures to increase the efficiency of transportation will directly contribute to reducing our environmental impact, in addition to helping improve the work environment in the logistics industry.

["White Logistics" movement](#)

■ Japan Chemical Industry Association, Keidanren (Japan Business Federation) and Japan Petrochemical Industry Association

As a member of the Japan Chemical Industry Association (JCIA), Showa Denko contributes to investigations and research concerning the production, distribution and usage of chemical products and about a range of issues faced by the chemical industry regarding technologies, labor, the environment and safety. The JCIA is working for the fulfillment of Keidanren's Commitment to a Low Carbon Society and has set the CO2 emission reduction targets for the chemical industry. Showa Denko is also striving to reduce its CO2 emissions in cooperation with the JCIA. Kohei Morikawa, Representative Director and President of Showa Denko K.K., presently serves as chairman of the JCIA (as of August 2020). Showa Denko, as a member of Keidanren, the Japan Petrochemical Industry Association and other trade associations, is working toward solutions to environmental issues, including climate change and ocean plastic waste, in collaboration with other corporate groups.

For other organizations to which Showa Denko belongs, please refer to the collection of links.

[Links](#)

Measures against Climate Change

Basic ideas and policies

The Showa Denko Group uses air, water and energy in its product manufacturing processes and regards dealing with climate change as both a management priority and a precondition to ensure its business continuity.



In May 2019, we took part in the Task Force on Climate-related Financial Disclosures (TCFD) Consortium to evaluate the risks and opportunities provided by climate change to the Group, enhance our resilience through climate change scenario analysis and promote sound dialogue with our stakeholders.

In January 2020, we also introduced the internal carbon pricing (ICP) system to add “greenhouse gas (GHG) emissions” reduction to our investment decision criteria and track anti-climate change measures.

Materiality KPI

For 2030, reduce GHG emissions from the Group’s sites in Japan by 11% relative to the 2013 level

In order to achieve the KPI target, we are reviewing the production processes, fostering energy conservation activities and remodeling equipment to reduce our GHG emissions on a continuous basis. In addition, we are working to reduce our CO2 emissions throughout the life cycles of our products, including at the stages of procurement of materials, use, disposal and reuse, as well as across our supply chain. We also own hydroelectric power stations, which generate about 29% of the electricity used by Showa Denko and thus contribute to reducing our GHG emissions.

Governance and risk management

For the Showa Denko Group, its Sustainability Promotion Council, which is under the direct control of the Management Committee, makes assumptions about climate change-related risks and opportunities, and the Management Committee makes final decisions on those risks and opportunities. Details of the decisions are regularly reported to the Board of Directors for its oversight and the Board gives relevant instructions as necessary.

Climate change-related risks and opportunities and responses to them

For impacts (risks and opportunities) of climate change on the Showa Denko Group's businesses, we assumed the following risks for 2040 based on the framework set by the TCFD: (1) risks related to a shift to a low-carbon economy under the two-degree scenario and (2) risks related to the physical impact of climate change caused by the failure to achieve the world's CO₂ emission reduction targets under the four-degree scenario. In the examination process, we referred to the Sustainable Development Scenario (SDS) and Stated Policies Scenario (STEPS) announced by the International Energy Agency (IEA) among others.

	Major risks and opportunities	Major measures for risks and opportunities
Risks and opportunities related to the shift to a low-carbon economy (Two-degree scenario)	<p>[Risks]</p> <p>Increase in tax and manufacturing cost due to the introduction of carbon pricing</p> <p>Loss of sales opportunities due to delayed technological development for low-carbon products/services</p> <p>Changes in investor and consumer evaluations of climate change initiatives</p> <p>[Opportunity]</p> <p>Increase in sales due to expanded supply of low-carbon products/services</p>	<p>Sales promotion and new development of products that meet the needs of a low-carbon economy, and enhancement of product competitiveness</p> <p>Energy conservation and equipment renewal at manufacturing sites</p> <p>Proactive information disclosure and communication in response to the concerns of investors and the market</p> <p>Regular risk identification and reduction activities, and enhancement of business continuity planning (BCP)</p>

	Major risks and opportunities	Major measures for risks and opportunities
Physical risks and opportunities (Four-degree scenario)	<p>[Risks]</p> <p>Decrease in electricity generated by the hydroelectric power stations due to water shortage</p> <p>Suspended operation of manufacturing bases due to serious flooding, and decrease in profit caused by an increase in the equipment repair cost</p>	

Risks and opportunities, and measures for them in the transportation domain

In the Showa Denko Group's current medium-term business plan, "The TOP 2021," we assume that climate change will have a tremendous impact on the following business domains: transportation, energy and construction/infrastructure. For this fiscal year, we made a particular analysis of the aforementioned two scenarios for the transportation domain. We will further examine the impact of climate change on our businesses, including the businesses of Showa Denko Materials (former Hitachi Chemical), which has joined the Showa Denko Group.

In the transportation domain, operating cost will increase due to the introduction of ICP under the two-degree scenario. However, business opportunities will also expand, driven by the need for energy conservation and the spread of electric vehicles (EVs), which will boost demand for the related components. As a result, we have concluded that Showa Denko has sufficient resilience against the climate change-related risks.

	Business environment in the transportation domain
Two-degree scenario	<p>Expanded demand for EV batteries with larger capacity and for lighter vehicles, which will foster the development of aluminum-based composite materials for automobiles</p> <p>Expansion of government support measures to promote the spread of EVs, and expansion of demand for EVs due to an increase in the number of customers who prefer low-carbon products</p> <p>Demand for recyclable plastic/aluminum parts due to the enhancement of environmental regulations</p> <p>Demand for more environmental measures from investors</p> <p>Expanded introduction of carbon pricing due to the enhancement of environmental policies and regulations</p>

	Business environment in the transportation domain
Four-degree scenario	<p>Demand for lighter vehicles (and for the development of aluminum-based composite materials for automobiles) will mildly increase.</p> <p>Gasoline-powered vehicles will retain dominance, with the fuel efficiency regulations and support measures for the spread of EVs remaining at the present level.</p> <p>Damage caused by serious flooding to production bases and its impact on supply chains will become apparent.</p>

Research and development to make use of the opportunities offered in the transportation domain

As the sales volume of automobiles increases across the world, demand for composite materials and batteries to be used in EVs will also increase. According to the R&D policy set in the medium-term business plan, “The TOP 2021,” for 2019 to 2021, Showa Denko plans to invest its R&D resources intensively in ten technical fields corresponding to seven business domains with a view to setting up pipelines to create new businesses in an accelerated manner. The ten technical fields include those related to xEVs as well as the use of multiple materials and the bonding of heterogeneous materials, and we are promoting the setting of specific research themes for these fields. As for lithium-ion batteries used in EV batteries, they need to be installed at a high density to prolong the running distance and must also be kept at a low temperature to ensure their product life and output. Showa Denko is developing light and compact battery cooling devices that provide the efficiency and safety required of automotive battery cooling systems. For the development we are applying our aluminum laminate film, which has a proven record as a packaging material for automotive batteries, as well as our heat exchanger technology.

Indicators and targets

In order to attain the long-term targets set for Responsible Care, including climate change-related targets, the Showa Denko Group has been setting and implementing a medium-term Responsible Care action plan every two or three years as well as an annual action plan. In line with the action plan for 2020, we will review the medium-to long-term plans made for each of our sites toward the creation of a low-carbon economy and set the medium-term targets for our overseas Group companies. In order to achieve our GHG emission reduction

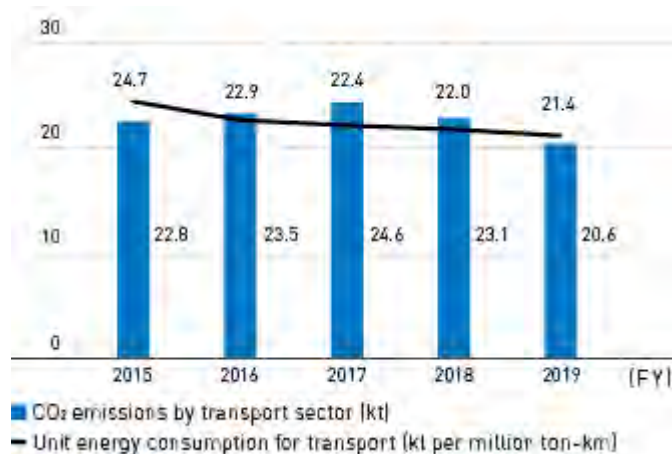
■ GHG emissions (Group companies in Japan)
[Results of the KPI] GHG emissions in fiscal 2019:
Down 6.9% relative to fiscal 2013



* Emission amounts were calculated in line with the GHG Protocol.

targets for 2030, we will further reduce our GHG emissions and promote energy conservation. For logistics operations, we are working to reduce our per-unit energy consumption. We will review the reduction plan and analyze change factors to make further improvements.

■ Transportation sector's CO₂ emissions and energy consumption rate (Showa Denko)



■ Scope 3 GHG emissions (FY2019)

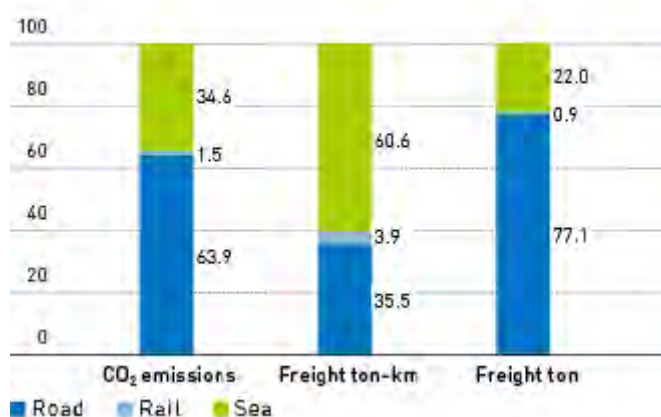
Scope3		(kt/YEAR)
	Category	The amount of emission
1	Purchased goods and services	3,539
2	Capital goods	251
3	Fuel- and energy-related activities not include in Scope1 and 2	585
4	Upstream transportation and distribution	35
5	Waste generated in operations	18
6	Business travel	5
7	Employee commuting	2
	Other (down stream)	41,200

■ Freight ton-km (Showa Denko)

(million ton-km)



■ Ratios for use of various modes of transport (FY2019, Showa Denko)



In order to reduce the environmental impact associated with logistics, we are promoting a modal shift from truck to rail and ship transportation as well as making efficient use of large trucks and increasing their loading efficiency to reduce our CO₂ emissions. In fiscal 2019, in addition to promoting a modal shift, we also strove to reduce energy consumed for transportation by increasing the shipment amount to minimize the frequency of transportation and by increasing the number of storage sites to reduce long-distance transportation. As a result, we succeeded in reducing the transportation volume and thereby CO₂ emissions. We also improved per-unit energy use for transportation year on year, mainly by increasing the ratio of marine transportation, which is more energy efficient, to truck transportation (on a ton-kilo basis).

Reducing Environmental Load

Environmental Considerations ; Atmosphere and Water

[Use of Sustainable Resources](#)

[Prevention of Pollution](#)

Environmental Considerations ; Atmosphere and Water

Basic ideas and policies

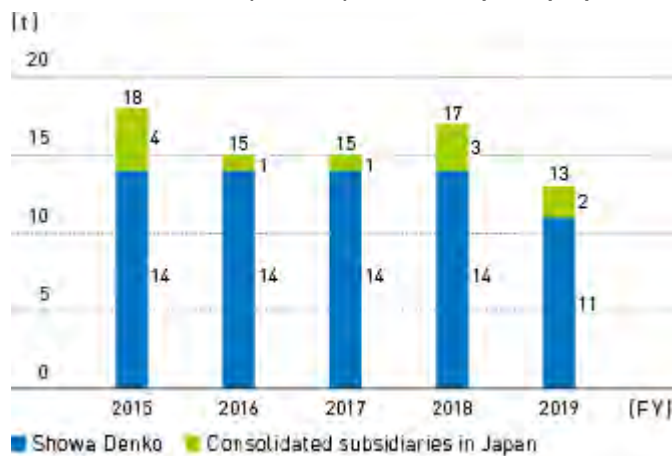
The Showa Denko Group has been conducting “Active Safety” activities* to achieve zero environmental incidents. Specifically, we analyze our past accidents and problems to prevent the reoccurrence of similar incidents. In order to prevent air, water, and soil pollution, we also foster fuel conversion and the improvement of our manufacturing processes. Through these measures we are reducing the amount of chemical substances discharged from our sites to reduce their environmental impact. We set the discharge criteria for each of our plants to prevent pollution.

* Active Safety activities: Activities in which we analyze past incidents and disasters and summarize the lessons learned from them in the “Active Safety checklist,” and then make use of the list to identify related risks and as an educational material to prevent the reoccurrence of similar incidents

Reducing emissions of hazardous air pollutants

Of the 12 substances designated by the Japan Chemical Industry Association (JCIA) as hazardous air pollutants, the Showa Denko Group handles eight. We continued our efforts toward reducing the emissions of these substances by promoting a shift to alternative substances and collection and recycling of the substances.

■ Total amounts released of harmful atmospheric pollutants(VOC) (Showa Denko)



Reducing our environmental impact on the air

To reduce emissions of SOx, NOx, dust and soot, and other substances having adverse effects on the air, the Group continued advancing a variety of measures including fuel switching, improvement of combustion methods, proper operational management of desulfurization and denitrification devices, and reduced fuel consumption through waste heat recovery.



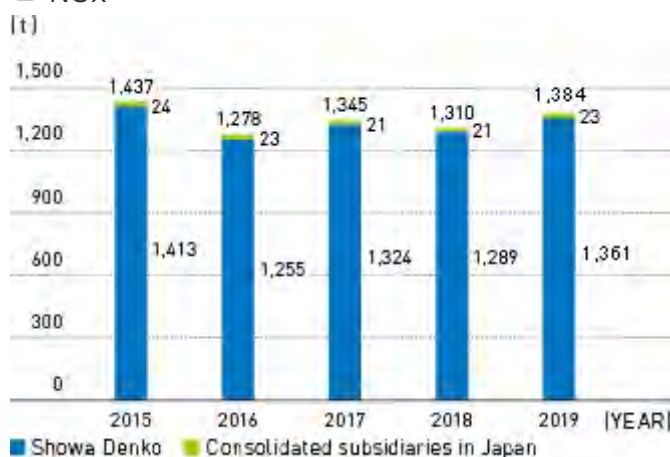
Exhaust gas treatment facility
(Isesaki Plant Showa Denko K.K.)

Change in discharged amounts of substances with atmospheric impact (Showa Denko)

■ SOx

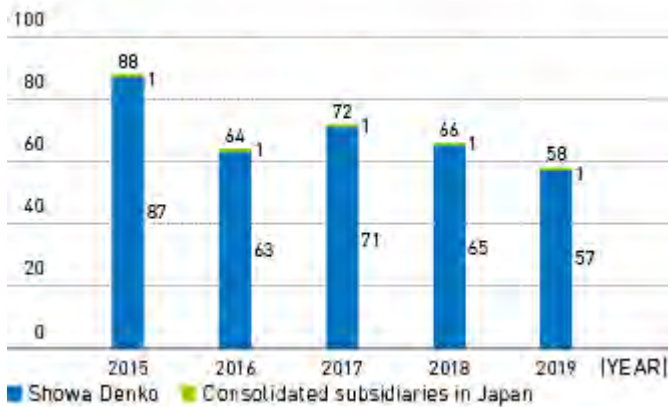


■ NOx



■ Dust

[t]



* In October 2020, we corrected the discharged amounts of Sox and Nox disclosed in August.

Reducing our environmental impact on water

To reduce chemical oxygen demand (COD), total nitrogen, total phosphorus, and other water pollution indexes, the Group continued implementing various measures including improvement of production processes, upgrading and proper operational management of wastewater treatment facilities, and recycling of water.

Moreover, we installed equipment to prevent high concentration wastewater from leaking outside via drainage pipes.



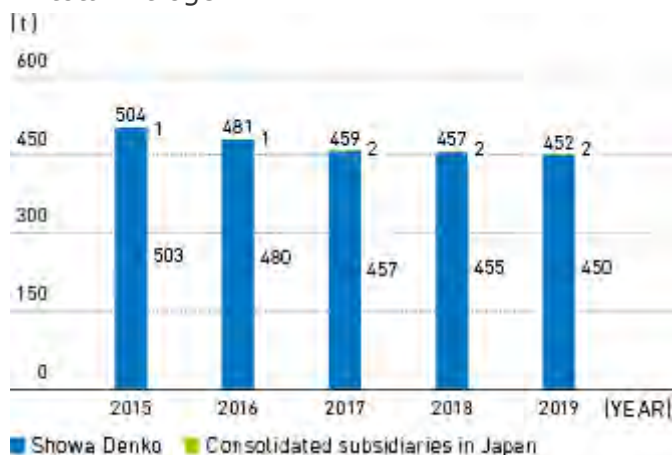
Water quality monitoring system
(Oyama Plant Showa Denko k.k.)

Discharged amounts of substances with water quality impact (Showa Denko)

■ COD



■ total nitrogen



■ total phosphorus



Minamata disease in Niigata Prefecture

More than half a century has passed since the outbreak of Niigata Minamata disease was officially recognized.

Maintaining an awareness of the significant scale at which we have caused damage to the victims and residents of neighboring areas through contamination of the Agano River, Showa Denko is committed to collaborating with the Japanese Government as well as local governments in order to cope with this issue with sincerity, and provide solutions in accordance with the Act on Compensation, etc. for Pollution-related Health Damage and other relevant laws and regulations.

Measures to prevent soil and groundwater pollution

On occasions such as changes in the uses of plant sites or soil removal, the Showa Denko Group undertakes surveys and other measures in line with the Soil Contamination Countermeasures Law and

local government regulations. None of the Group's sites exceeded the regulatory environmental standards also in 2019.

Reducing Environmental Load

[Environmental Considerations ; Atmosphere and Water](#)

[Use of Sustainable Resources](#)

[Prevention of Pollution](#)

Use of Sustainable Resources

Basic ideas and policies

The Showa Denko Group promotes the 3Rs (Reduce, Reuse and Recycle) through its aluminum can recycling activity and others, and enhances the businesses that contribute to a recycling-based sustainable society, such as turning plastic waste into a material for ammonia and manufacturing graphite electrodes that are necessary for the recycling of iron scrap. We also recognize water shortage as a global issue and are working to make effective use of water and reduce water use across the Group.

Aluminum can recycling activity



The Showa Denko Group's aluminum can collection activity started in 1972, when the former Showa Aluminum Corp. (SAK) asked employees to recycle aluminum cans. Subsequently, Showa Aluminum Can Corp. (SAC) founded Showa Aluminum Can Recycling Center Co., Ltd. in 1995 to foster the recycling of aluminum cans as a business. In 2013, we were commended by the Japanese Minister of Economy, Trade and Industry for our contribution to the promotion of the 3Rs.

Collected aluminum cans are purchased by the Group, and used mainly by Showa Aluminum Can Corporation to produce aluminum cans to contain beverages.

Recycling of aluminum cans not only contributes to the promotion of efficient use of resources, but also reduces electricity consumed to produce aluminum by 97%, compared to the process in which we produce aluminum from bauxite ore. The Group donates the money resulting from the recycling activity to regional councils of social welfare, welfare facilities, and volunteer groups that aid people with special needs. Thus, this activity has been firmly established as a social action of the Showa Denko Group.

►History of aluminum recycling by the Showa Denko Group

year	
1971	SAC became the first manufacturer of aluminum beer cans in Japan.
1972	SAK asked its employees to recycle aluminum cans.
1973	The first president of SAC led the establishment of an association to collect aluminum cans (presently Japan Aluminum Can Recycling Association).
1981	SAKのSAK's two sites in Sakai and Oyama began collecting empty aluminum cans from local residents who volunteered to participate in the activity.
1990	SSAK began to conduct the aluminum can recycling activity on a company-wide basis.
1995	SAC established Showa Aluminum Can Recycling Center Co., Ltd. for "CAN to CAN" recycling.
2001	SAK was merged with Showa Denko K.K. and SAK's aluminum can recycling activity was expanded to the sites and affiliates of the former Showa Denko K.K.
2013	Received commendation from the Japanese Minister of Economy, Trade and Industry for contribution to the promotion of the 3Rs.



In fiscal 2019, 97.6% of Group employees in Japan participated in this activity, collecting a total of 4.5 million aluminum cans. Of the proceeds from the activity, about 1.6 million yen was donated to local facilities and councils. We will maintain and increase the number of cans collected through the activity by conducting PR and awareness-raising activities targeting employees while also asking for cooperation from partner companies and other external organizations.

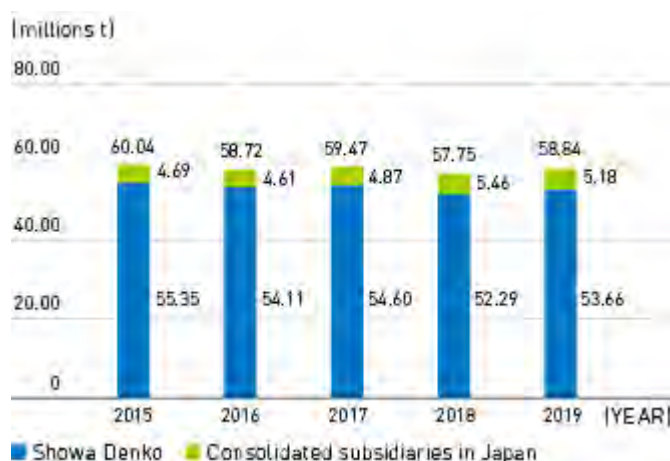
Initiatives for water resources

The Showa Denko Group has made a plan for water resources as part of its Responsible Care Action Plan. We are fostering the effective use of water and reduction of its use at each of our sites in consideration of their individual business features. We are also working to maintain and increase the quality of water discharged from the sites.

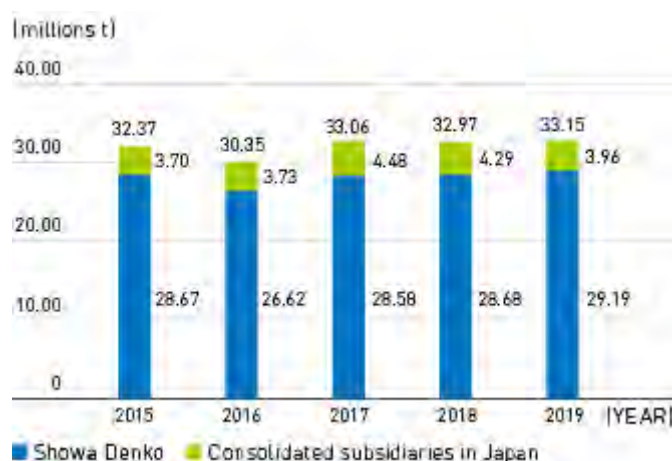
In particular, at our sites located in areas prone to water shortages (water stress), we proactively engage in dialogue with local stakeholders to make efficient use of water for water conservation. For example, communities neighboring the Higashinagahara Plant are exposed to water stress, making it difficult to secure water sources for firefighting. In response, we have had dialogues with officials of the prefectural government to obtain the prefecture's approval for those communities to use water from the plant's Toishigawa Kyu-suiso water tank for firefighting purposes.

We plan to set medium- to long-term targets for water use and disclose the results against the numerical targets to the public.

■ The amount of water used



■ Wastewater volume



TOPICS

Efforts made by the Tokuyama Plant for water saving: Collaborating with other organizations to reduce water

The Tokuyama Plant of Showa Denko K.K. has been working to reduce water consumption in collaboration with other companies, in response to the annual request for voluntary water conservation made by the council of industrial water users in the Shunan district. Regardless of the request, the plant is committed to saving more water and monitoring seasonal changes in water temperature and the operational status of plant equipment. The amount of water saved differs by year, but in 2019 the plant achieved a roughly 38% reduction in water use (relative to the volume of water contracted to be



Tree thinning

supplied).

Moreover, on October 26, employees of the Tokuyama Plant participated in a local volunteer activity conducted for forest and water management. The activity is designed to help participants deepen their understanding of the water source protection and global warming prevention functions provided by forests and to foster forestation and the appropriate management of forests as a voluntary initiative. It is conducted twice in fall by employees of companies located in the Shunan district and their families.

Employees of the Tokuyama Plant used to participate in this activity every year as the Plant is a member of the council of industrial water users in the Shunan district, but the activity had been suspended for a few years due to heavy rains and typhoons. In 2019, it was held for the first time in two years since 2016. A total of 350 people participated in the activity from 16 companies. Divided into groups, they thinned short broad-leaved trees to adjust the density of trees in the forest areas assigned to them.

Reducing Environmental Load

[Environmental Considerations ; Atmosphere and Water](#)
[Prevention of Pollution](#)

[Use of Sustainable Resources](#)

Prevention of Pollution

The Showa Denko Group deals with a range of chemical substances that impact the global environment in its businesses. For various environmental risks posed by waste, water/air/soil pollution, and noise and vibrations, we should take responsibility by building and maintaining a strict monitoring system and an effective environmental risk management system across our supply chain. By minimizing and continuously reducing the release of hazardous substances, waste and pollutants to the environment, we will contribute to the creation of a society where affluence and sustainability are harmonized.

Materiality KPI

By 2030 achieve the following across Group companies in Japan:

- (1) Maintain the final landfill rate of industrial waste at 0.5% or lower
- (2) Increase the plastic waste effective utilization rate to 75% or higher
- (3) Reduce the discharge of chemical substances to 360 tons or below

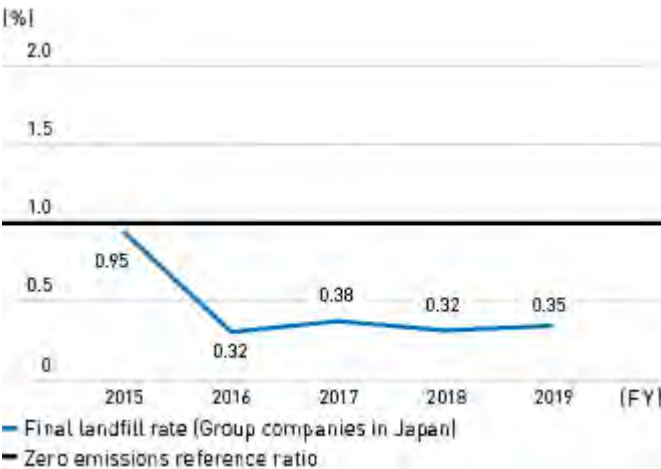
1. Zero emissions

The Showa Denko Group defines “zero emissions” as follows: the proportion of waste sent to final landfill is 1.0% or less of total waste generated. Aiming to achieve zero emissions as the entire Group, we made efforts and were able to achieve the target in 2015. Subsequently, the entire Group’s final landfill rate was reduced to 0.3% by 2019. The Group then set a stricter target in 2020: maintain the final landfill rate at 0.5% or less. By fostering the effective use and recycling of materials, we will achieve this new target. We will also continue to inspect our contractors for intermediate treatment and

final disposal of waste to confirm that they treat and dispose of our waste properly.

Results of KPI

■ Final landfill rate of industrial waste at Group companies in Japan (32 sites)

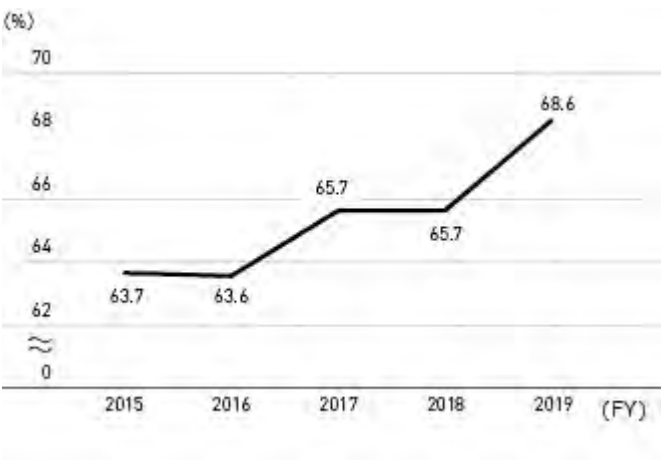


2. Effective use of plastic waste

In order to contribute to solving the problem of ocean plastic waste, which is emerging as a new global issue, and the creation of a low-carbon economy, we will foster the effective use of plastic waste (as an alternative to simple incineration or landfilling). By promoting sorting as well as by fostering material/chemical/thermal recycling, we will increase our plastic waste effective utilization rate from the present 68.6% (result for Group companies in Japan in fiscal 2019) to 75% by fiscal 2030.

Results of KPI

■ The plastic waste effective utilization rate at Group companies in Japan (32 sites)

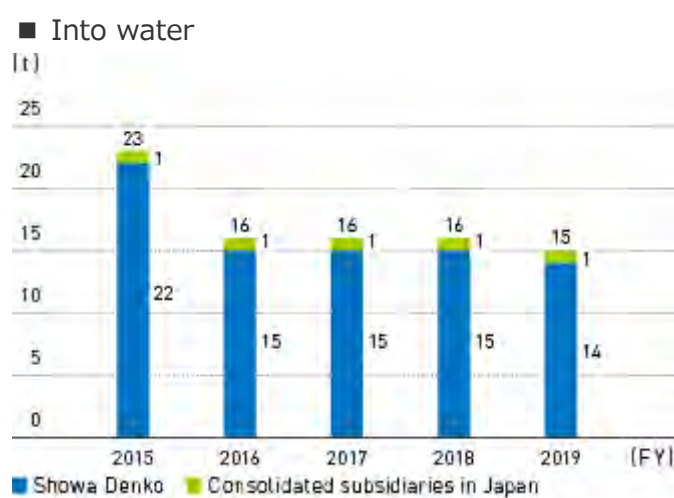
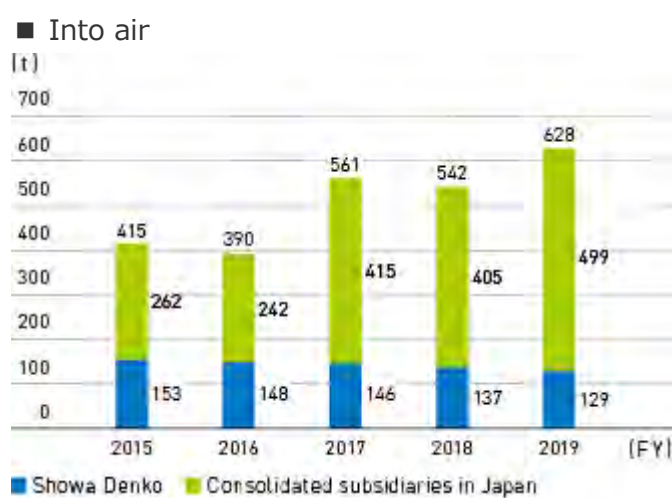


3. Reduction of the release of chemical substances

As a chemical manufacturer, the Showa Denko Group is striving to reduce the release of chemical substances to the environment, including the substances regulated by the Japanese Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (“PRTR law”), substances included in the target of voluntary surveys by the Japan Chemical Industry Association and volatile organic compounds (VOCs). By improving the related processes and equipment and installing devices such as equipment to incinerate exhaust gas, we plan to reduce the release of these substances by about 280 tons from 643 tons in fiscal 2019 to 360 tons by fiscal 2030, excluding an increase in the release amount due to an increase in the number of chemical substances regulated under the PRTR law following its revision.

Results of KPI

The discharge of chemical substances at Group companies in Japan (32 sites)



We discharged no such substances to soil.

As for PCB waste, we regularly check the status of stored PCB waste for appropriate management by using our PCB control checklist. We are also replacing equipment containing PCBs with alternatives that do not contain the substances and commission the disposal to professional companies in a planned manner.

Toward the future

The entire Group will work to achieve the following targets set for 2020:

- (1) Zero emissions: Achieve and maintain the final landfill rate of 0.5% or less as the Group
We will foster the effective use and recycling of industrial waste across the Showa Denko Group.
- (2) Effective use of plastic waste: Increase the plastic waste effective utilization rate to 69.6% (Up 1 point relative to 2019)
We will further promote the 3Rs (Reduce, Reuse and Recycle) for plastic waste.
- (3) Reduction of the discharge of chemical substances: Reduce the discharge of chemical substances by 2% relative to 2018 as the Showa Denko Group

We plan to install exhaust gas incineration equipment in 2020.

For PRTR law-regulated substances and substances that are discharged in large annual amounts, we will continue to make reduction plans for each of our sites and implement intensive measures for the reduction. We will also check and evaluate the impact that the substances have on areas around our sites and work to reduce the discharge while engaging in risk communication with local residents and government bodies to deepen mutual understanding.

Products and Services Contributing to the SDGs

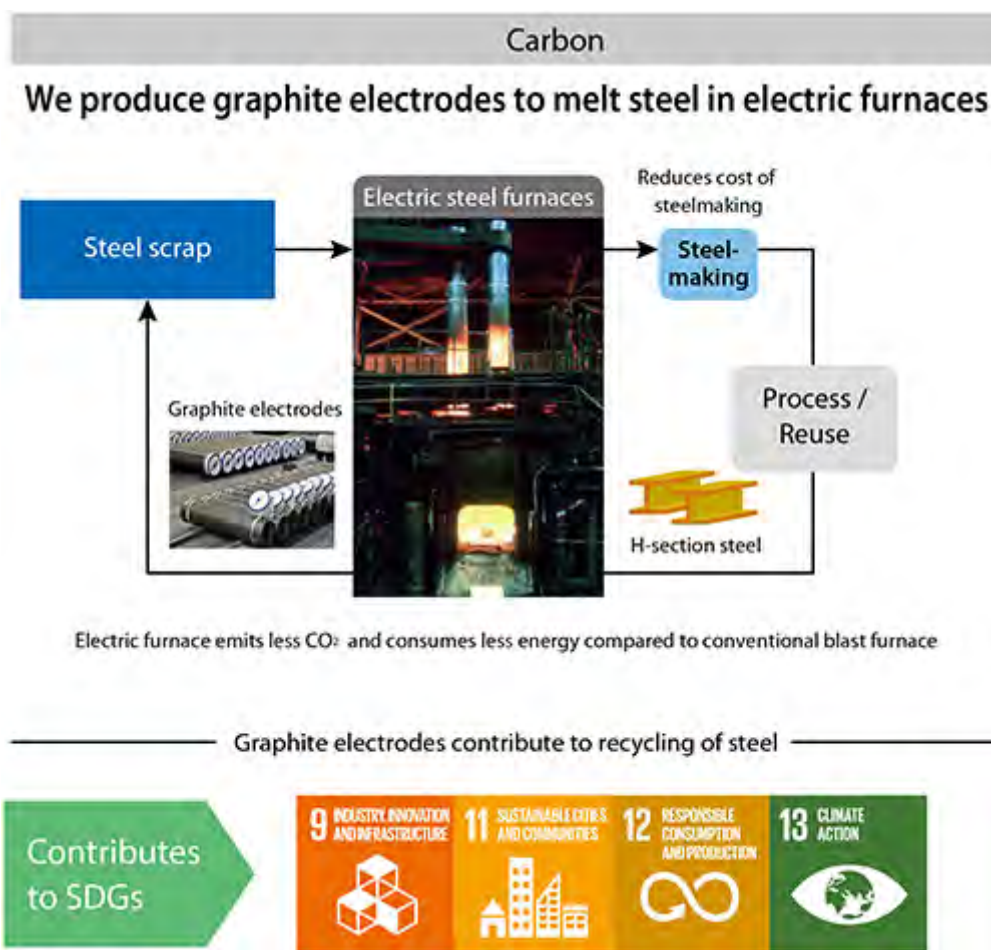
Contributing to Environmental Issues

The Showa Denko Group deems it one of its social responsibilities to contribute to the achievement of the SDGs through its business. To this end, we have started selecting products that can contribute to solutions for the issues described in the SDGs.

In 2019, we selected Graphite electrodes and Chemical recycling of used plastics.

Graphite electrodes

The Showa Denko Group integrated the graphite electrode business of SGL GE of Germany in 2017, thereby becoming the world's top graphite electrode manufacturer. Graphite electrodes represent an indispensable component of electric furnaces in which iron scrap is recycled into steel. Compared to making steel from iron ore and coke using a blast furnace, melting iron scrap and recycling it into steel using an electric furnace is more energy efficient and also helps to reduce CO2 emissions.



Target

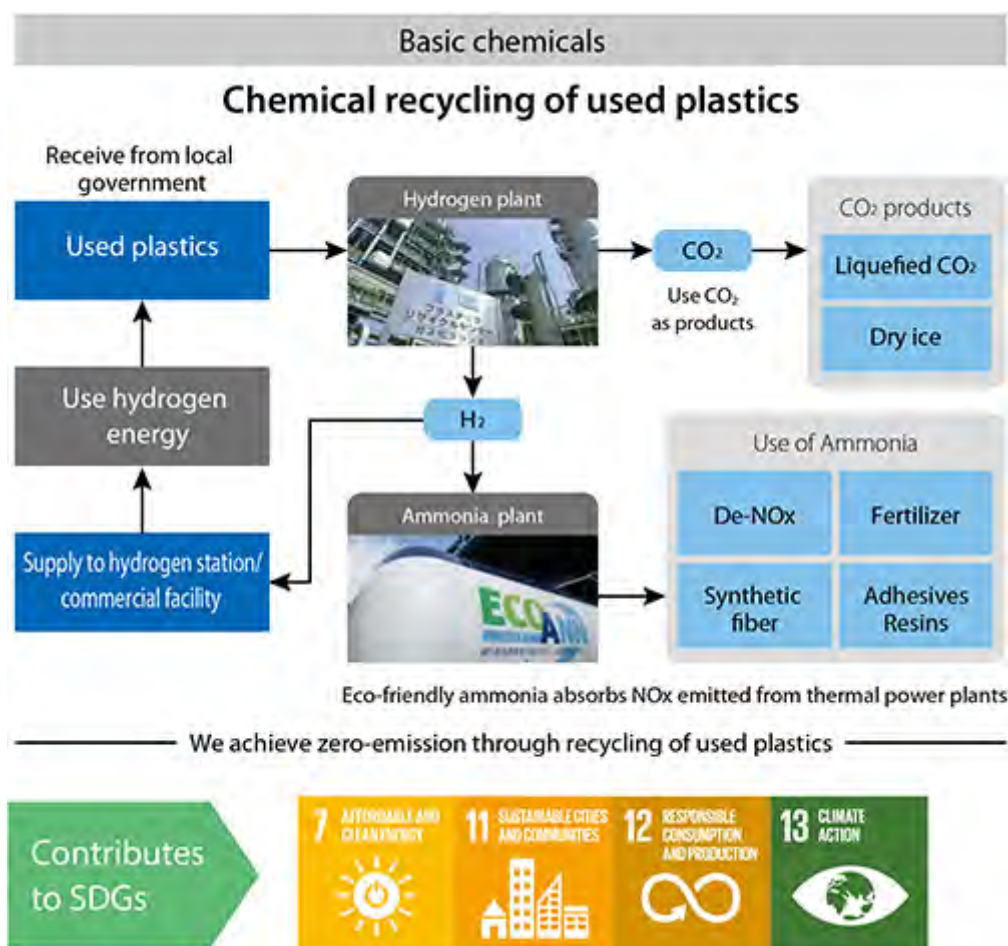
- 9.4)** By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities
- 11.6)** By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management
- 12.2)** By 2030, achieve the sustainable management and efficient use of natural resources
- 13.3)** Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

Activities in 2019: In order to improve and stabilize the quality of the final product (steel) made using electric furnaces, we decided to improve the relevant equipment toward a stable global supply of products with uniform quality.

Chemical recycling of used plastics

Showa Denko has been chemically recycling plastic waste into hydrogen since 2003. By manufacturing ammonia by using this hydrogen as a material, we minimize the use of fossil fuels in the manufacturing process. We also recycle by-products such as carbon dioxide, thereby substantially reducing environmental impact compared to the conventional manufacturing method. For this initiative, we

became the first recipient of EcoMark certification for a manufacturing process. Moreover, for the creation of a low-carbon society, we supply hydrogen to hydrogen stations for fuel cell vehicles and also deliver low-carbon hydrogen derived from plastic waste to Kawasaki King Skyfront Tokyo REI Hotel, which uses the supplied hydrogen for power generation via its pure hydrogen fuel cell system. In February 2020, in recognition of these achievements and contribution to the environment, we received an award from the Chairman of the Japan Business Federation at the 29th Global Environment Awards held by Fujisankei Communications Group.



Target

- 7.1)** By 2030, ensure universal access to affordable, reliable and modern energy services
- 11.6)** By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management
- 12.4)** By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment
- 12.5)** By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse
- 13.3)** Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

Activities in 2019: Showa Denko, JGC Holdings Corporation, Ebara Environmental Plant Co., Ltd. and Ube Industries, Ltd. began to conduct examinations to foster collaboration on the Ebara Ube Process (EUP)* to increase the recycling rate substantially. The four companies will conclude a license agreement for the EUP and proactively conduct sales activities for plastic waste gasification equipment both in Japan and abroad.

* EUP (Ebara Ube Process) : The EUP is a process developed jointly by Ebara Corporation (business transferred to Ebara Environmental Plant in 2009) and Ube Industries, Ltd. to gasify plastic waste through partial oxidation with oxygen and steam to turn it into synthesis gas usable for the synthesis of chemical products. The gasification facility (capable of processing approx. 70,000 tons of plastic waste a year) at Showa Denko's Kawasaki Plant has been operating since 2003, using the EUP. This is the only technology for gasification chemical recycling in the world with a long-term track record of commercial operation.

Efforts for Preservation of Biodiversity

Basic ideas and policies

In order to pass down to the next generation the beautiful scenery and rich natural resources provided by ecosystems, the Showa Denko Group will make efforts for biodiversity conservation based on the following policies.

- Evaluate and reduce the impact of the Showa Denko Group's business activities on biodiversity
- Work to restore threatened biodiversity
- Implement measures through conservation and cooperation with stakeholders

We will work for biodiversity conservation in collaboration with stakeholders, including governmental agencies and regulatory authorities, giving our support to the Initiative based on the Declaration of Biodiversity by Keidanren and joining the Japan Business and Biodiversity Partnership* .

We also regard the issue of ocean plastic waste as one that we must address with leadership as a chemical manufacturer. Accordingly, we joined the Japan Initiative for Marine Environment (JaIME), which was launched in 2018, and have been discussing the measures to be taken, compiling and sharing information, and conducting awareness-raising activities for developing countries in Asia in cooperation with other business associations.

* Japan Business and Biodiversity Partnership: A multi-stakeholder biodiversity initiative that consists of business entities which endorse "Action Policies of Japan Business and Biodiversity Partnership" and are implementing or planning to implement one or more actions among them, and economic organizations, NGOs, researchers, local/national governments and other public organizations which support those business entities' biodiversity initiatives.

Activities in 2019

We have included firm-wide biodiversity conservation activities in the target of the RC action plan. Specifically, we have set a three-year plan for 2019 to 2021, under which we aim to make measurable achievements by conducting business activities in consideration of biodiversity and implementing initiatives that show our commitment to environmental conservation. In fiscal 2019 we undertook investigations and examinations mainly for the following purposes: to make a plan to secure and manage green spaces; to proactively reduce the environmental impact of wastewater; and to foster environmental conservation activities according to the individual features of our sites. Based on the results, we implemented localized measures at each of the sites.



The Omachi Plant, Carbon Division of Showa Denko K.K., uses local water resources in its business activities. Plant personnel conducted a cleanup activity in cooperation with members of the local fishing cooperative association, which kindly supports the operations of the plant's hydroelectric power station. They clean Lake Kizaki and Lake Aoki and Lake Nakatsuna every year.



Wastewater from the Isesaki Plant of Showa Denko K.K. is discharged via the Nira River to the Tone River, meaning the plant is somewhat reliant on the Nira River. Accordingly, plant personnel have been participating in the local Nira River cleanup group since 2013.

SHOWA DENKO K.K.

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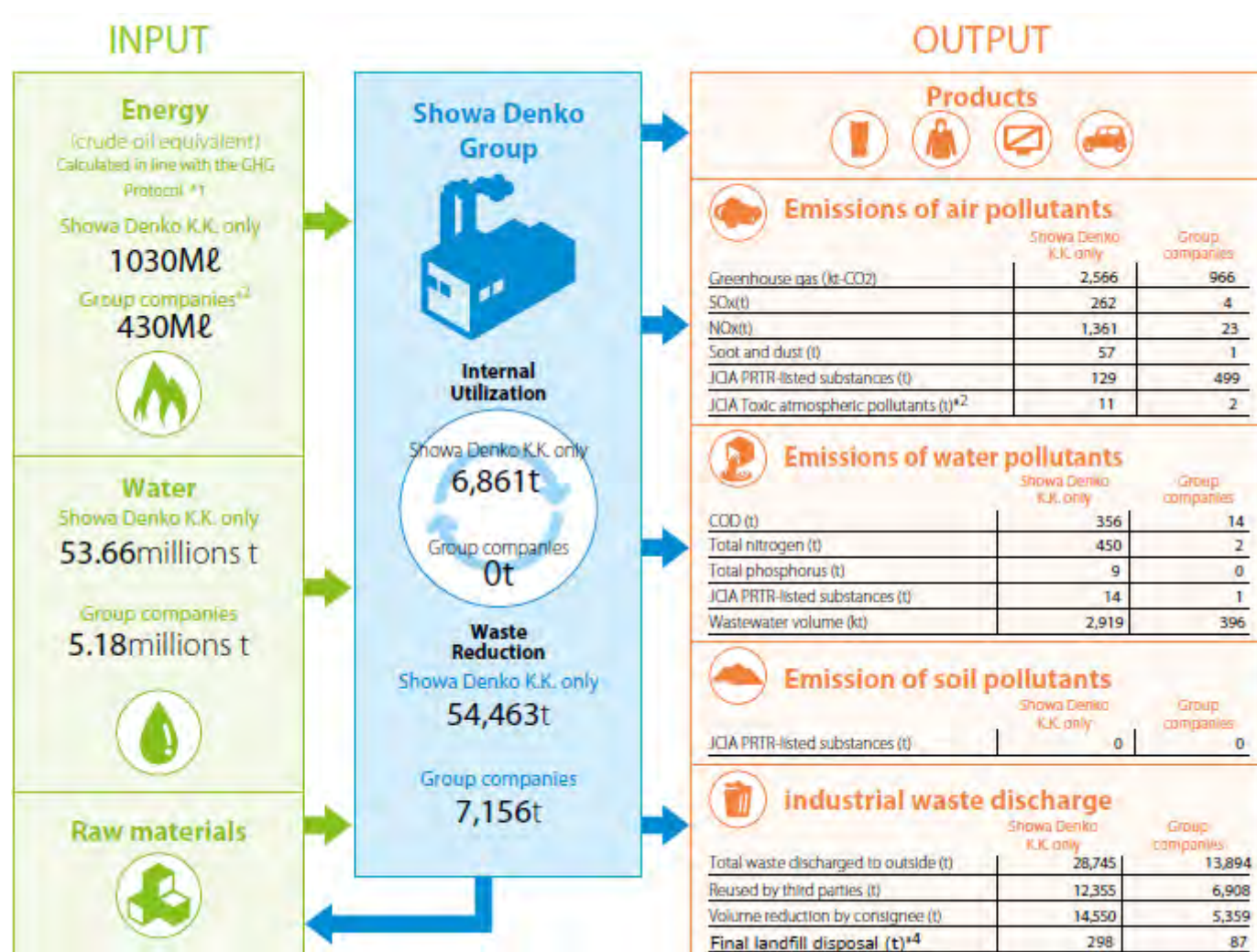
Environmental Management Data

[Environmental load data](#)
[Environmental accounting](#)

Environmental load data

Actual values of environmental loads for 2019 are as follows:

Group companies in Japan



- *1 Emission amounts were calculated in line with the GHG Protocol.
- *2 Scope of the Showa Denko Group (As of June 2020) : Total for the 9 consolidated manufacturing subsidiaries in Japan; SunAllomer Co., Ltd., Showa Denko Gas Products Co., Ltd., Showa Denko Ceramics Co., Ltd. (Toyama), Showa Aluminum Can Corp., Showa Denko Packaging Co., Ltd., Niigata Showa K.K., Showa Denko Kenso Co., Ltd., Showa Denko HD Yamagata K.K. and Showa Fine Ceramics Co., Ltd., GHG emissions include those for Showa Denko Electronics K.K. and Tsurusaki Kyodo Doryoku Co., Ltd., and exclude those Niigata Showa K.K., Showa Denko Kenso Co., Ltd., Showa Fine Ceramics Co., Ltd., which are not required to report emissions as emitters designated under the Act on Promotion of Global Warming Countermeasures.
- *3 Emissions of toxic atmospheric pollutants are included in emissions of PRTR-listed substances.
- *4 Final landfill disposal: Including only waste generated from production activities during the year.

For detail [Performance Data Collection](#)

Showa Denko Group Companies outside Japan

Actual values of environmental loads of Showa Denko Group companies in Japan for 2019 are as follows:

		2015	2016	2017	2018	2019
Discharged amounts of greenhouse gases	kt	445	402	416	735	636
The amount of water used	million m ³	336	330	358	525	473
Wastewater volume	kt	2,188	2,162	2,093	3,583	3,111
Final landfill volumes of industrial waste	t	3,864	4,748	5,813	11,374	12,217

- * Discharged amounts of greenhouse gases outside Japan: Including the sites which emitted 3 kt or more.
- * The scope of data includes SHOWA DENKO CARBON ProductsGermany GmbH & Co.KG, SHOWA DENKO CARBON Austria GmbH, SHOWA DENKO CARBON Spain S.A., SHOWA DENKO CARBON Malaysia Sdn.Bhd for 2018 and subsequent years.
- * The scope of data includes Hanacans JSC for 2019.

Environmental Management Data

[Environmental load data](#)
[Environmental accounting](#)

Environmental accounting

Environmental accounting for 2019

(million yen)

			Capital investment	Expenses
Cost within business site	Pollution prevention	Capital investments and expenses associated with prevention of atmospheric/water/soil pollution, noise, vibration, odor, etc.	679	2,360
	Global environmental protection	Capital investments and expenses associated with energy conservation and combating global warming and ozone-layer depletion	1,135	835
	Resource recycling	Capital investments and expenses associated with resource conservation and waste treatment	282	1,121
Upstream and downstream costs		Costs associated with reducing environmental impact in business operations upstream and downstream, including green purchasing and recycling of products and packaging	0	56

		Capital investment	Expenses
Administrative costs	Administrative costs relating to environmental conservation, including environmental issues training, introduction of environmental management systems, and environmental impact evaluations	38	657
R&D costs	Costs associated with research and development of environment friendly products and technologies	1,255	290
Community outreach costs	Environmental conservation costs for local community outreach activities not directly linked to business operations, such as environmental conservation projects in communities, dialogue with residents, and plant tours	0	9
Other	Compensation for health damages resulting from environmental pollution, etc.	3	261
Total		3,392	5,590

(Showa Denko K.K. only)

Reducing environmental impact

Economic benefits

(t)

(million yen)

	2018	2019
SOx	372	262
NOx	1,289	1,368
Soot and dust	65	57
COD	349	366
Total nitrogen	455	450
Total phosphorus	8	9

Energy conservation	170
Resource recycling	349
Waste reduction	4
Other	1
Total	524

(Showa Denko K.K. only)

	2018	2019
Landfill disposal	312	298

(Showa Denko K.K. only)

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Employees' Safety and Health

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Safety and health management

Basic ideas and policies

The Showa Denko Group gives first priority to safety, and we deem it essential to ensure safety as a precondition to remain “qualified as a manufacturer,” regarding safety as the basis for our business continuity. In order to eliminate occupational accidents at our sites for the sake of all who work there, we are urging all related parties, including employees of the Showa Denko Group as well as employees of our partner companies and suppliers, to adopt our ideas about occupational safety and health as expressed in Our Code of Conduct. We are also promoting Active Safety activities* and executing a PDCA cycle to achieve zero incidents and disasters through a concerted effort of all. Also, we are preventing equipment-related incidents by appropriately managing equipment-related risks. For employees to work vigorously with peace of mind, they need to attribute importance to their own and their families' health. Accordingly, we will build appropriate systems and implement various measures to raise their health awareness and help them maintain and promote their health.

* Active Safety activities: Activities in which we analyze past incidents and disasters and summarize the lessons learned from them in the “Active Safety checklist,” and then make use of the list to identify related risks and as an educational material to prevent the recurrence of similar incidents

Promotion system

The president of Showa Denko K.K. assumes ultimate responsibility for the Group's occupational safety and health. Under the leadership of the president, each of the divisions and sites conduct safety and health management activities, receiving support from the administrative departments of the head office. At weekly safety meetings, the Management Committee is briefed on safety-related activities of the Group and gives relevant instructions, which will be conveyed to the divisions and sites for implementation.

The Labor-Management Committee, which is composed of the president and other executives as well as representatives of the labor union, meets annually to discuss issues related to occupational health and safety. Also, in line with the Industrial Safety and Health Act of Japan, each of our sites has a safety and health committee and other organizations in place to conduct safety and health activities for employees through a concerted effort by labor and management, such as discussing the related issues and conducting workplace patrols.

We have also acquired certification for occupational health and safety management systems at each of our sites.

Occupational health and safety management systems

Educational system

We deem it urgently necessary to increase the safety sensitivity of managers, supervisors and workers to eliminate industrial accidents and to prevent the retirement of experienced employees and replacement of staff from resulting in any degradation in safety and environmental management at our sites. Accordingly, we make and implement annual safety education plans for each of our sites and check their learning levels. We also give support for the educational curriculum of our partner companies in a planned manner toward the elimination of industrial accidents at those companies. The following shows the details of the safety-related collective training held by the head office. Participants from each of the sites make use of what they have learned in the training for the safety activities conducted at their own workplaces.

■ Number of participants in the occupational health and safety training held by the head office in 2019

Date	Name of training	Target	No. of participants
February	ISO 45001 (Occupational health and safety management system) Internal auditor training	Applicants from the sites	24
April	RC training for new employees	New employees	62
July	Labor-management safety training seminar	Manufacturing department managers of the sites and head of the labor union's branches	60
November	RC training for new manufacturing section managers and others	New manufacturing section managers and other managers	27

Date	Name of training	Target	No. of participants
November	Seminar to improve physical functioning to prevent falls	Those in charge of environment and safety at the sites and other employees	16
December	Exchange meeting on safety for engineering departments	Engineering (maintenance) section managers of the sites	21

Occupational health and safety education—Example (1)

Labor-management safety training seminar

For two days on July 24 and 25, 2019, a total of 60 people, including representatives of both labor and management from various sites of Group companies in Japan, gathered at the Oyama Plant of Showa Denko K.K. to participate in the labor-management safety training seminar. Since 2003, this seminar has been held annually at one of the sites to build workplaces where safety is given first priority based on labor-management cooperation. In 2019, the 16th round of the seminar was held as detailed below, with substantial changes being made to the details and the target.



Briefing on risk simulation education held at the Oyama Plant

- (1) Managers of the manufacturing departments of each site and executives of the labor union's branches participated in the seminar and exchanged opinions with a view to implementing safety measures across their workplaces in reference to the good examples introduced at the seminar.
- (2) The training seminar used to be held mainly as a risk assessment program with a focus on the improvement of equipment and operations, but in 2019 it was held largely as a program focused on human factors behind industrial accidents in response to an increase in the frequency of accidents caused by employee behavior. In the seminar, participants shared information, including good examples as well as concerns, to learn how to analyze the human factors responsible for industrial accidents and increase employees' safety sensitivity.
- (3) The training seminar provided management and labor with an opportunity to discuss issues faced by their sites before, on and after the day of the seminar to reach an agreement about the direction of the safety measures to be taken at the sites.

Occupational health and safety education—Example (2)

Seminar to improve physical functioning to prevent falls

On November 25, 2019, we held a seminar to prevent falls for those in charge of the environment and safety at our sites, inviting a guest speaker from the Japan Industrial Safety & Health Association. We decided to hold this seminar in light of the fact that industrial accidents involving elderly employees had been showing a tendency to increase and that injuries caused by falls had been accounting for a large proportion of the total number of injuries. In the seminar, participants deepened their understanding about how to prevent the loss of physical functions due to aging from causing industrial accidents and learned how to check the level of their own physical functions through an easy physical test. We conducted this seminar again in 2020.



Physical test conducted at the seminar

Occupational health and safety education—Example (3)

Mental health line care training seminar

At the Shiojiri Plant of Showa Denko Ceramics Co., Ltd. on September 18, 2019, we held a line care training seminar for managers in the Shiojiri district by inviting a guest speaker from Cube Integration Co., Ltd. A total of 27 managers participated in the training. First, they learned about the basics of line care, and then how to respond to employees having mental problems and about different types of harassment. Subsequently, regarding the two cases introduced by the speaker, each participant considered the issues of the two cases and how to respond as a manager, shared their ideas with one another in discussion groups and proactively exchanged opinions.



Seminar held at the plant

Employees' Safety and Health

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Occupational health and safety

Materiality KPI

(1) Elimination of industrial accidents: Materiality KPI and results

Materiality KPI

Achieve and maintain zero lost-time incidents across Group companies in Japan

For the achievement of this target, we have set the following milestone: attain and maintain the frequency rate of lost-time incidents at 0.1 or below.

We will achieve the KPI target by implementing the following measures:

Pursue the causes of accidents by adopting an engineering analysis method and promote inherent safety to reduce industrial accidents.

Identify potential risks and work to reduce them to prevent disasters from occurring.

In order to nurture a culture of safety and build a safety foundation, substantialize the Active Safety checklist and foster the related activities. Also, share information about past incidents and best practices within the Group.

To develop human resources with high safety awareness, review the safety education system and enhance the support system.

Results of the KPI

Lost-time and non-lost-time incidents involving employees of Group companies in Japan (including those of partner companies)*¹ 2018 Lost-time incidents: 4 Non-lost-time incidents: 5

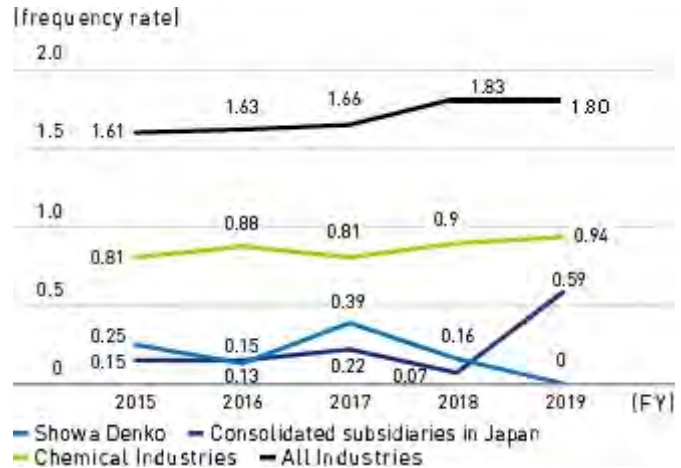
2019 Lost-time incidents: 15 Non-lost-time incidents: 4

***1 Scope of Group companies (As of December 2019)**

Tsurusaki Kyodo Doryoku K.K., Showa Denko Gas Products Co., Ltd., Clean-S Showa K.K., Union Showa K.K., Showa Denko Ceramics Co.,Ltd. , Shinshu Showa K.K. , Showa Denko Packaging Co., Ltd. , Showa Denko Sakai Aluminum K.K., Showa Denko Kitakata Aluminum, Showa Aluminum Can Corp., Showa Aluminum Can Recycling Center, Showa Denko Electronics K.K., Chichibu Showa Denko, Niigata Showa K.K., HIPACK Co., Ltd. , SunAllomer Ltd. Nippon Polytech Corp., Showa Denko Kenso K.K., Showa Fine Ceramics Co., Ltd. , Fuyo Perlite Co., Ltd. , Showa Denko HD Yamagata K.K., and Shoko Electronics Co., Ltd. ,

In 2019, there were 15 lost-time incidents involving employees of the Showa Denko Group and its partner companies. By type, getting caught in equipment, collisions and falls showed a tendency to increase. In response to a sharp rise in the number of industrial accidents from the previous year, we are urgently implementing the following measures to prevent the occurrence and reoccurrence of such accidents.

■ Trends in frequency rate*2 of lost-time injuries



***2** Frequency rate of lost-time injuries =

(Number of deaths and injuries)/(total working hours) × 1,000,000

Review safety activities and foster activities to uncover unidentified risks

In consideration of the fact that incidents involving elderly workers, such as falls, show a tendency to increase, hold seminars on preventing falls, including physical tests and exercise, provided by invited guest speakers

Incorporate other viewpoints into risk identification and improvement activities by carrying out mutual audits between our sites and holding meetings to exchange safety information for each segment

Share information across the company about past incidents in the form of a “Safety Calendar” and promote safety sensitivity and awareness by making better use of past examples

Collect information about non-lost-time incidents and analyze the incident occurrence tendency

Enhance safety education by using risk simulation facilities and provide non-technical skills*3 education

***3** Non-technical skills means general skills that workers (and their instructors) need to have to prevent human error and ensure safety, including the skills to understand the situation, communicate effectively, and provide leadership.

(2) Materiality KPI for employees’ health and the results

Materiality KPI

Continue to be named among the 500 Certified Health & Productivity Outstanding Organizations under the Ministry of Economy, Trade and Industry’s program to recognize companies with outstanding health and productivity management

We will achieve the KPI target by implementing the following measures:

Encourage employees to change their behavior to maintain and promote their health under an AI-based health management system

Employ a physician for the enhancement of the Group's industrial health promotion activities and build a system to help all employees maintain their health (and feel fine) regardless of whether a medical practitioner is stationed at their workplace or not.

Results of the KPI

In 2019, we established a health and productivity management group as a new organization to foster and supervise health and productivity management across the company. In order to enhance the industrial health activities for the maintenance and promotion of employees' health and to shift from "medical treatment" to "prevention of diseases," we are implementing the Showa Denko Group Vivid Health Promotion Plan 2021 with a focus on nurturing the habit of doing physical exercise, improving mental healthcare and improving employees' eating habits. We are also fostering measures to urge employees to receive health guidance from and be interviewed by doctors as necessary. By taking this two-pronged approach, we are increasing the number of employees with high health awareness.



As for the government's program to recognize companies with outstanding health and productivity management, Showa Denko has been certified as such since 2017. In 2020, however, we were not named among the 500 Certified Health & Productivity Outstanding Organizations.

Results of the employees' health survey and checkups conducted in 2019

Rate of employees with BMI between 18.5 and less than 25.0: 64.1% (Target for 2021: 70% or more)
Conducted a survey on Group employees' vibrancy*4 to understand the present situation and set a benchmark

*4 Survey on Group employees' vibrancy: Sompo Health Support Inc. developed the Work Limitations Questionnaire Japanese Version (WLQ-J) based on the questionnaire form developed by Tufts University of the United States. We used this questionnaire form to survey the impact of health problems on productivity, such as restrictions on employees' work and decrease in their productivity.

Toward the future

- (1) In order to reduce the frequency of industrial accidents, we will promote risk reduction activities, the inherent safety of equipment and the establishment of a foundation for education.
- (2) We will introduce a health management and productivity platform ("Well Go") as early as possible, encourage employees to change their behavior to improve their lifestyle, and work to increase the number of "vibrant employees" by holding health events and enhancing health guidance. We will also introduce a system to manage employees who return to work after taking leave ("H-ARM-ONLY"), grasp the number of employees who take days off and leave due to non-occupational

injuries/(mental) illnesses, enhance measures to support the return to work of these employees, and improve workplace environments. Through these measures we aim to be named among the 500 Certified Health & Productivity Outstanding Organizations again.

Measures against the novel coronavirus

The Showa Denko Group established emergency response headquarters in order to respond to the global novel coronavirus (COVID-19) pandemic, and through the headquarters collects relevant information from both within and outside Japan and provides necessary cautions and infection prevention instructions to employees on a regular basis.

As of February 2021, the Group encourages employees to work from home. In the head office district, the proportion of employees commuting to their workplaces has been restricted to around 20% of the total, regardless of whether the district is under a state of emergency or not. Also, employees who need to commute to their workplaces are asked to wear masks, use hand sanitizers and engage in staggered commuting and work flextime to avoid peak commuting times. Meanwhile, in April 2020, to support local communities, we donated medical masks and protective gowns for medical practitioners through Keidanren (the Japan Business Federation).

The Showa Denko Group will continue to make proactive contributions to the solution of global health issues and work to protect the safety and health of its employees, the employees of partner companies and their families.

Asbestos

The Group neither manufactures nor sells any products incorporating asbestos. For employees who have directly or indirectly handled asbestos, we perform periodic health checkups as required by relevant laws. No incidents of health impairment have occurred in employees. We are continuing to respond to various consultations from those who have retired from our Group.

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Equipment safety

Materiality KPI

By 2030, achieve and maintain zero equipment-related accidents across Group companies in Japan
We will achieve the KPI target by implementing the following measures:

Foster inherent safety design to prevent equipment-related incidents and perform risk assessments without fail as part of “change management”

Analyze the fundamental cause of internal incidents and implement measures to prevent the reoccurrence of similar incidents

Implement measures to prevent incidents across the board, in reference to both internal and external cases of incidents

Results of KPI

Equipment-related incidents that happened at Group companies in Japan*

2018: 11 cases (4 fires, 6 leakages, 1 deformation/breakage)

2019: 10 cases (3 fires, 5 leakages, 1 deformation/breakage, 1 explosion)

All were minor incidents in which no people were harmed.

* Scope of Group companies (As of December 2019) Tsurusaki Kyodo Doryoku K.K., Showa Denko Gas Products Co., Ltd., Clean-S Showa K.K., Union Showa K.K., Showa Denko Ceramics Co.,Ltd. , Shinshu Showa K.K. , Showa Denko Packaging Co., Ltd. , Showa Denko Sakai Aluminum K.K., Showa Denko Kitakata Aluminum, Showa Aluminum Can Corp., Showa Aluminum Can Recycling Center,Showa Denko Electronics K.K., Chichibu Showa Denko, Niigata Showa

Response to the industrial safety action plan drawn up by the Japan Petrochemical Industry Association (JPCA)

We placed particular focus on risk assessment of unusual conditions and operations, while implementing educational training sessions and various improvement activities to enhance our safety culture and strengthen our safety foundation.

Measures against disasters

We have continued to take measures against disasters, giving first priority to lifesaving. Particularly for earthquakes, we are fostering effective anti-seismic measures by identifying the equipment and buildings that need to be reinforced and made more earthquake-resistant to protect the lives of their users. Meanwhile, we have confirmed what impact the supply of our products has on society and the importance of fulfilling our responsibility as a supplier as a result of experiencing actual natural disasters, such as earthquakes and typhoons. In order to become a “social contribution company” that contributes to the creation of a society where affluence and sustainability are harmonized, we will continue to build disaster-resistant business systems both within and outside Japan in line with the expansion of our business domains. We will formulate specific business continuity plans (BCPs) in consideration of the features of our individual products and businesses. We will also identify and rectify problems through education and training. We will thereby steadily manage our business continuity.

Toward the future

We are working to improve our current equipment management system to increase the effectiveness of risk-based management throughout the planning, implementation, evaluation and improvement stages, in reference to the results of risk assessments made when investing in new equipment and when operating, maintaining, altering and discontinuing the use of existing equipment. In addition, we will analyze fundamental causes of accidents, implement measures to prevent similar accidents, share information about preventive measures based on lessons from past accidents, and strengthen training based on assumption of natural disasters, nurture a culture of safety, such as providing level-specific education, thereby making continuous improvements and increasing our ability to ensure equipment safety.

On October 21, 2019, the Yokohama Plant of Showa Denko K.K. conducted a disaster control drill jointly with other facilities in the Yokohama district*. For the drill, it was assumed that a large inland earthquake with the seismic intensity of upper 6 occurred in the metropolitan area. In the drill, in addition to the training conducted in the previous fiscal year, the functions fulfilled by the local volunteer firefighting group and details of the emergency contact network were confirmed. Also, training for evacuation guidance and rescue operations was conducted. Specifically, on the day it was assumed that three manufacturing sites in the district experienced multiple disasters, including a fire, leakage of kerosene, injuries (caused by squashing and cutting), workers going missing, and the confinement of people in elevators. Adopting a calm yet serious manner, a total of 381 people participated in the drill. The drill, in which it was assumed that various disasters occurred concurrently across a wide area, reminded participants that unexpected incidents could in fact happen at their own workplaces.

※ Yokohama Plant of Showa Denko K.K., Process Solution Center, Advanced Battery Materials Division, Yokohama Group of the Institute for Integrated Product Development, Marketing Department 1 of the Ceramics Division, Yokohama Plant of SDC, General Management Department of SDC, SDC CF Project, Showa Denko Kenzai K.K., SDS Biotech K.K., G-E TECHNOS Corporation, partner companies operating on the premises, and the local safety council (Taisei Corporation)



Disaster control drill

TOPICS Employees of the Higashinagahara Plant participated in the Aga River flood control drill

On May 30, 2019, the Aga River flood control liaison group held an Aga River flood control drill on the right bank of the river in the area upstream from the Miyako Bridge. The drill, which was conducted in an area located deep inside Yugawa Village in Fukushima Prefecture, is intended to help participants enhance their knowledge and skills around flood control and recognize its importance, thereby developing them into leaders for flood control and strengthening the local flood control system. This drill is conducted before the flood season begins, and employees of the Higashinagahara Plant of Showa Denko K.K. participate each year as a team using water from the local dam. In the 2019 drill, a total of four members (the head of the plant and those in charge of power generation and engineering) participated and received flood fighting training. Specifically, they piled up sandbags so as to make a semicircular space between the sandbags and the embankment to confine water spilling out from the swollen river through the embankment within the semicircular space to generate sufficient water pressure and reduce the water level difference between the river and the opening through which water was spilling, thereby preventing further water from coming through the embankment. They piled up seven sandbags (on the inside) and six sandbags (on the outside), filled the gaps between the sandbags with soil and



Flood fighting training

packed them down with their feet. It was hard work, but they performed it successfully by cooperating with one another to be able to prevent water from overflowing in the event of flooding.

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List of safety-related awards

List of safety-related awards received by the Showa Denko Group (for 2019 to 2020)

2019

Name of award	Recipient site and individual	Date (Month)
Award for Grand Prix, the 43rd JCIA Safety Awards	Oyama Plant of Showa Denko K.K. (Photo 3)	May
First Prize (Special Award), 43rd JCIA Safety Awards	Showa Fine Ceramics Co., Ltd.	
Special Award for Excellence, 2018 Japan Aluminum Association Occupational Safety Awards	Oyama Plant of Showa Denko K.K.	
	Omuta Plant of Showa Aluminum Can Corp.	
Award for Excellence, 2018 Japan Aluminum Association Occupational Safety Awards	Showa Denko Sakai Aluminum K.K.	

2020

Name of award	Recipient site and individual	Date (Month)
Award for Grand Prix, the 44th JCIA Safety Awards	Oita Complex of Showa Denko K.K.	May
Special Award for Excellence, 2019 Japan Aluminum Association Occupational Safety Awards	Oyama Plant of Showa Denko K.K.	
	Omuta Plant of Showa Aluminum Can Corporation	

Consumer Safety and Health

[Consumer Safety and Health Protection](#)[Quality assurance \(Activities in 2019\)](#)[Chemical substances safety \(Activities in 2019\)](#)

Consumer Safety and Health Protection

Basic ideas and policies

The Showa Denko Group works to ensure the safety of chemicals and chemical products by using a risk-based method, not only by checking the safety of its products during the stages of design, development, marketing, manufacture, sales and after-sale service, but also by monitoring how customers use and dispose of the products. By this method we identify and reduce risks for various product-related items. We conduct these risk assessments with a focus on (1) ensuring compliance and (2) promoting product stewardship.

(1) Ensuring compliance

The Showa Denko Group constantly monitors regulatory trends for chemical substances in Japan and abroad to ensure compliance with the laws and regulations of each country in a proactive manner. The head office and each of the sites cooperate with one another in a close manner and share information to prevent noncompliance.

Also, as the basic rules for product safety activities, we set the Quality Assurance and Quality Control Rules ("Rules") within the company. We review the Rules annually to revise them according to changes in the environment and society and thereby keep them effective to ensure product safety.

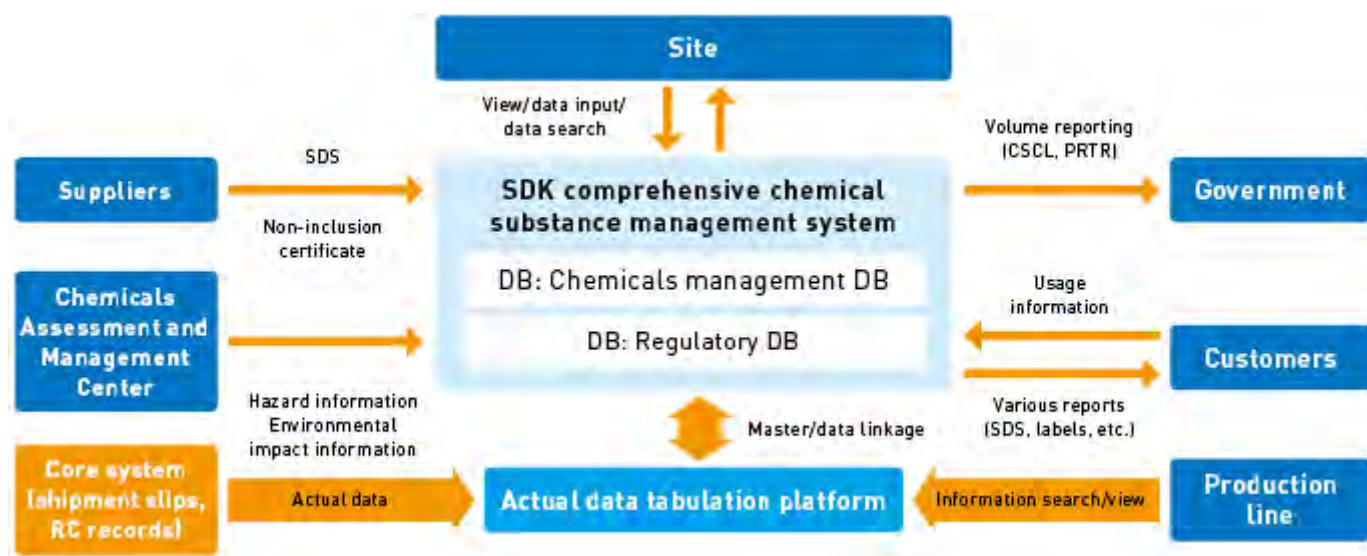


(2) Promotion of product stewardship

For the Showa Denko Group, “product stewardship” means to make product safety-related risk assessments in the manufacturing, sale, use and consumption stages of its products and disclose the assessment results to stakeholders as part of its effort for safety, health and the environment. Based on this idea, we assess the risks related to our chemical products and manage the products in an appropriate manner.

Management system for product safety and regulatory information

As the basic infrastructure for the management of chemicals, we have built a comprehensive chemical substance management system for use within the Showa Denko Group. This system is composed of a database (DB) of information about chemical substances to be managed and another database of information about legal regulations on chemicals enforced in each country, and is equipped with functions that help employees to make effective use of the DB-stored information to perform their duties.



As for chemical substances, we manage information about raw materials and our products in an exhaustive manner under the system. For each chemical substance, our Chemicals Assessment and Management Center collects extensive hazard and regulatory information and evaluates the collected information in a professional manner to ensure high information quality. Also, by updating the regulatory database in a timely manner and regularly reviewing the information stored in the database, we ensure the availability of the latest information. By making use of the functions of this system, which stores high-quality information in an exhaustive manner and provides the latest regulatory information, we efficiently and effectively deal with legal issues to ensure compliance.

For example, by making use of the search function to easily identify and list specific substances and products, we make appropriate responses to the revision of laws in each country. Further, we manage production/import volume and provide necessary notifications in Japan and abroad by linking the tabulation function of the system with another in-house core system. We also make use of the function to create safety data sheets (SDSs) to create and submit SDSs in line with domestic laws and regulations.

As chemical substance-related laws and regulations are now being enacted and revised in an accelerated manner across the world, we will enhance and expand the management system to ensure our own compliance and also fulfill our responsibility as a member of the supply chain.

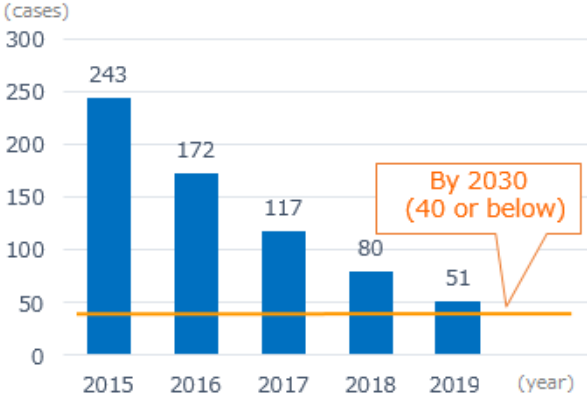
Materiality KPI and results

Reduce the number of complaints about quality (calculated based on Showa Denko's criteria) to 40 or below for Group companies in Japan by 2030

In 2018, we conducted activities to attain the target of halving the number of complaints about the quality of our products relative to 2015. Over the course of the year, the number of complaints dropped to one-third of that in 2015 as a result of implementing measures to prevent the recurrence

■ Trends in annual numbers of complaints
(Group companies in Japan)

of similar complaints based on the analysis of the fundamental causes of complaints and by learning and sharing lessons from the complaints made to the Showa Denko Group. In 2019, the number decreased by 36% from that in 2018. We will continue our efforts to further reduce the number of complaints.



Consumer Safety and Health

[Consumer safety and health protection](#)[Quality assurance \(Activities in 2019\)](#)[Chemical substances safety \(Activities in 2019\)](#)

Quality assurance

Activities in 2019

To raise our quality assurance and management level, we conducted the following activities:

1. Product safety management

Product safety management To help customers use the Showa Denko Group's products safely and with peace of mind, we centrally manage information about the safety of chemicals and related legal regulations by establishing a comprehensive chemical substance management system. Specifically, we use our Safety Data Sheets (SDSs)*¹, product labels and yellow cards*² to provide customers with the latest and appropriate information on product safety. We also have a risk-based screening system to decide whether or not to ship a sample new product to a customer or release a new product into the market, in addition to conducting risk assessments targeting all our products.

In 2019, we worked to optimize the workflow from collecting safety information through to the provision of the collected information and continued to operate a system built to provide our customers with necessary information without fail.

As for product information and labeling, we conduct checks in line with the labeling guidelines and have never been subjected to punitive action or warnings for violation of product labeling-related laws.

*¹ SDS (Safety Data Sheet): This is a document provided by the supplier to the user (customer) of a chemical substance, covering such matters as its name, toxicity, and physical/chemical properties; cautions concerning its handling and storage; and emergency measures.

*² Yellow card: This refers to an emergency contact card, which is recommended by JCIA, to briefly describe appropriate response by transportation company personnel, police, and firefighters in the event of accidents involving hazardous or toxic substances.

2. Quality management system (Quality control scheme)

The Showa Denko Group has established quality management systems suitable for each product and organization, and has acquired certification for ISO 9001, IATF 16949, and other international standards. In response to the revision of these international standards, we worked to comply with the revised standards and completed the process by the end of the transition period in 2018. Moreover, taking this opportunity, we are enhancing our quality management system to provide customers with products and services with even higher quality.

3. Enhancement of on-site capabilities

In order to raise our quality assurance and management level, we set the target of enhancing the capabilities and quality awareness of onsite workers and clarified the level to be attained by the departments in charge of quality assurance. We then checked the current level of the Divisions, Plants, and Group companies and made a specific plan to raise their levels. Furthermore, we are taking the measures to automate the quality checking system, not only to increase our operational efficiency but also to prevent quality fraud and human error.

4. Quality diagnoses

Personnel from the Head Office's Quality Assurance Office visit and carry out annual quality diagnoses at the Group's sites, including the Divisions, Plants, and Group companies, to clarify their strengths and weaknesses and share the findings. In 2019, we worked to increase on-site capabilities at our sites, including the ability to manufacture products with uniform quality (process ability) and the ability to identify and reduce quality risks, by identifying any related problems and making improvements. In 2020, we changed the name of our "quality diagnoses" to "quality risk diagnoses" to focus more on the risk-based prevention of problems.

Toward the future

We are now in the process of fully revising the Quality Assurance and Quality Control Rules based on the 2025 vision, which we have set for quality assurance and management and for product safety in consideration of the need to maximize CUSTOMER Experience (CX). We aim to provide our customers with even safer products and services as well as solutions that exceed the framework of manufacturing.

Consumer Safety and Health

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Chemical substances safety

Activities in 2019

In order to ensure chemicals safety and raise our chemicals management level, we conducted the following activities:

1. Establishment of a new chemicals management system

We have set the 2025 vision for chemicals management as follows: Continually minimize the risks posed by chemicals handled by the Showa Denko Group and maintain the relationship of trust with stakeholders. Based on this vision, we have also set the following policies: Ensure compliance and promote product stewardship.

In order to achieve the targets, we integrated the chemicals management functions dispersed across multiple organizations within the Group into one organization that supervises the management of chemicals (Chemicals Assessment and Management Center) in January 2020.

2. Management and communication of information about products and chemical substances used in products

The Showa Denko Group creates SDSs for its products based on the information stored in the comprehensive chemical substance management system. We provide customers with SDSs that have been examined and approved under the internal SDS examination system.

In 2019, we held an internal briefing seminar on JIS Z 7252/7253 (Japanese industrial standards on GHS-based classification methods for chemicals and communication methods [SDS, labeling, etc.] for

information about chemical hazards), following revision of the standards on May 25.

We also updated our comprehensive chemical substance management system in response to the revision of the JIS standards. We are working to revise the SDSs before the end of the three-year grace period set for the revised JIS standards. Moreover, we are making preparations to create SDSs in foreign languages by using the management system.

3. Compliance with chemical substance-related laws and regulations in Japan and abroad

For the management of production/export volume as required by the laws enforced in each country, we are utilizing the tabulation function of the system to conduct the required annual reporting to the administrative agencies in a highly reliable and transparent manner both within and outside Japan.

In Japan: We are utilizing the comprehensive chemical substance management system to systematically ensure compliance with the related laws, including those related to the control of chemical substances, occupational health and safety, poisonous and deleterious substances, and PRTR. Outside Japan: We are making use of various information resources and databases to monitor the trends concerning the revision of laws and sharing information with related local stakeholders to ensure compliance in each country.

Also, as mentioned above, we consolidated the functions to evaluate the hazardousness of chemical substances and ensure compliance with the related laws and regulations in Japan and abroad into one organization, thereby making it possible to complete all related operations within one single organization in a steady and efficient manner.

4. Risk management for nano-materials

The Showa Denko Group handles a range of nano-materials. We make risk assessments of all nano-materials that we handle as raw materials and products for the safety and health of our workers and customers. We do this in line with the safety management rules that we set in 2017 for nano-materials and based on the management system built and operated for the materials. We also set the guidelines for the safety management of nano-materials based on the rules and handle all nano-materials according to the guidelines.

Moreover, we regularly check whether nano-materials are managed appropriately or not at the meetings of the council set for the safety management of the materials. This council is chaired by the Chief Risk Officer (CRO). The decisions made by the council on whether or not to continue the projects/development activities for nano-materials are reported to the Management Committee for its final decision. Again in 2019, we made risk assessments of all nano-materials used in products and checked how they were managed. As a result, we decided to continue the projects/development activities for the materials.

5. Education

For the management of chemicals, it is important to provide internal education to enable each of our employees to acquire necessary knowledge to ensure compliance and handle chemical products in an appropriate manner. In 2019 we held a briefing seminar at our sites as part of the education. We plan to build a systematic educational system in the future.

Toward the future

The newly established Chemicals Assessment and Management Center will supervise the entirety of the Showa Denko Group's chemicals management. We will enhance its checking functions, foster its cooperation with the business divisions and promote related education and human resource development.

Labor Practice and Diversity

Development of human resources

Creating a comfortable workplace

Promotion of diversity and inclusion

Development of Human Resources

Basic ideas and policies

The Showa Denko Group deems it important to globally employ human resources and develop them into individuals who can demonstrate their abilities for the entire Group, so that it can globally expand its business and innovate each of its businesses and technologies.

Training system

Showa Denko annually provides individual employees with the training that is suitable for their current roles and expected careers based on a level-specific training system that focuses on business literacy and career development. We also offer correspondence courses and e-learning programs to support employees' self-development. In addition, we have a program to develop business and corporate reform leaders, in which candidates for the Showa Denko Group's future top management receive training in a step-by-step manner. Specifically, we have been offering the Management Leader Course (MLC) as a selective training course for assistant departmental managers and section managers since 2001, and the Rising Stars Initiatives (RSI) as a selective training course for acting section managers since 2015. Moreover, in 2019, we launched the Showa Denko Global Executive Development Program (SGED) for the globalization of human resources, in which excellent human resources selected from Group companies in Japan and abroad receive education as the next generation of business executives. We are also proactively globalizing Japanese human resources. Specifically, we provide them with opportunities to conduct research or acquire an MBA at overseas universities, receive practical training at overseas subsidiaries to become facilitators for the globalization of our organizations in Japan, receive training before being transferred to our bases outside Japan, and obtain language training with financial support.

Personnel system

Personnel system Showa Denko is operating a personnel system that values growth and development. Known as the “MB-OJT system,” it incorporates OJT elements into the conventional management-by-objectives (MBO) framework. In the face-to-face discussion between employees and their supervisors called “commu-cussion,” employees and supervisors develop a shared understanding of the employee’s targets and performance appraisals and discuss what has and what has not been achieved as well as what lessons were learned for the future. This helps individual employees to achieve self-growth and development.

Materiality KPIs and results

By 2030:

- (1) Increase the number of participants in MLC and RSI training for the next generation of leaders in Japan to at least 20 annually (*MLC and RSI training will be provided alternately each year)
- (2) Increase the percentage of non-Japanese participants in the Group’s managerial human resource development program to that equivalent to the Group’s overseas sales ratio (at least 200 people over a decade from 2020 to 2029)
- (3) Achieve a proportion of female managers that is 10% of the total number of managers (section managers and those in higher positions) in Japan (on an unconsolidated basis)

1. Human resource development (in Japan)

In 2019, a total of 612 employees (of Group companies in Japan) participated in the level-specific training on business literacy and career development and SGED, RSI and other collective training. The average number of hours spent by each participant in the training amounted to 30.3 hours.

TOPICS **Launching the fourth round of RSI training in September 2019**

We launched the fourth round of RSI training in September 2019, in which 20 employees selected from acting section managers and those in equivalent positions participated. As the first (kickoff) session of the training, which lasted about eight months, participants went to a two-night, three-day team-building camp on an uninhabited island located in Suo-Oshima Town in Yamaguchi Prefecture. Subsequent sessions comprise an MBA program in which the participants learn about management strategies and marketing research, work on specific themes in four teams, and finally make presentations to the management team.



Camping on an uninhabited island for RSI training

2. Development of excellent non-Japanese human resources

We will introduce a global and fair personnel system and disclose the number of employees promoted under it. We will also continue implementing the newly launched SGED. Among 13 members selected as participants in the first round of the training (from March 2019), four were national staff from overseas Showa Denko Group companies.

TOPICS Launching SGED from March 2019

SGED is a training program that was newly launched in March 2019. The program is implemented by selecting participants, assessing their past achievements, giving them feedback about the results, having them make self-development plans, providing them with training, and encouraging them to implement the self-development plans at their workplaces. Led by divisional managers and others in charge of human resource development, selected participants receive training and acquire broad knowledge, beyond the scope of their career experiences, one-to-one from their mentors, who serve as directors or in equivalent positions from business divisions other than those to which the respective participants belong. On the first day of the training, President Morikawa gave instructions to the participants.

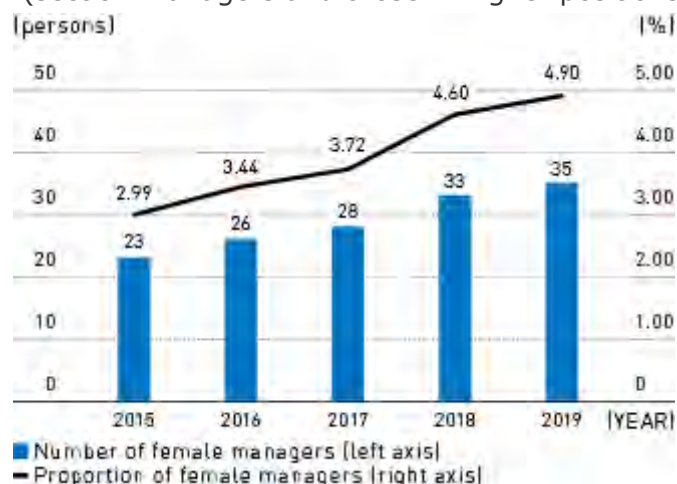


President Morikawa giving instructions to participants

3. Empowerment of female employees

We aim to increase the proportion of women to 30% or more of the total number of career-track employees, and continuously hold career support seminars for mid-level career-track female employees. Moreover, we are improving the work environment to enable female employees to achieve compatibility between their work and life events, such as marriage, childbirth and childcare.

■ Number and proportion of female managers (section managers and those in higher positions)



Toward the future

We will establish pre-SGED measures at each Group company to increase the proportion of non-Japanese employees selected to be participants in SGED.

We will build a system to efficiently grasp information concerning the Group's human resources for systematic human resource development.

We will further empower female employees to acquire "Eruboshi" certification as a company that promotes women's empowerment.

Labor Practice and Diversity

Development of human resources

Creating a comfortable workplace

Promotion of diversity and inclusion

Creating a comfortable workplace

Basic ideas and policies

As a precondition for the Showa Denko Group's growth, we think it is necessary to ensure that employees who are "core players for value creation" can work with vigor and in harmony with society. Accordingly, we are striving to provide employees with workplaces where they can work with satisfaction, and improve working conditions to help them maintain their work-life balance.

In addition, the Group provides e-learning and holds workplace discussions to raise the awareness of employees about the importance of preventing child labor, forced labor and all forms of harassment, thereby helping employees deepen their understanding of labor-related issues.

Materiality KPIs

- (1) Renovate aged welfare facilities in Japan in a sequential manner to provide employees with safe and clean workplaces
- (2) Continue to maintain employees' annual paid leave utilization rate at more than 70% (on an unconsolidated basis)
- (3) Increase the percentage of "vibrant employees" in the employee satisfaction survey* by 5% per survey in and after 2020

* Employee awareness survey to quantify situations concerning employees and their organizations conducted targeting Showa Denko Group employees, including some working outside Japan. "Vibrant employees" is used as a major indicator in the survey and refers to those who have positive views on "employee engagement" (commitment to the organization and voluntary efforts) as well as on the working environment (assignment of the right people to the right places and comfortable workplaces) The survey was conducted twice (in 2014 and 2017) and will be conducted again in 2020.

Results of the KPIs

1. Provision of safe and clean workplaces

We will provide employees with safe and clean workplaces where they can demonstrate their abilities. By making office space, where employees spend much of their time each day, as well as rest rooms, changing rooms and other facilities for employees even more comfortable, we hope that they will be able to work more proactively, increasing their engagement within the workplaces. We will refurbish facilities that have aged over the years to provide employees with workplaces where they can work with pride and ambition.

2. Encouraging employees to take annual paid days off and reducing their working hours

In compliance with the Labor Standards Act of Japan, we are working to reduce overtime work and encouraging employees to take their annual paid leave. We also ensure that employees who work overtime exceeding the predefined threshold are interviewed by an industrial doctor to help them maintain their health.

■ Average number of paid days off taken by members of the labor union (for Showa Denko on an unconsolidated basis)

	Number of annual paid days off granted per year	Number of annual paid days off granted per year	Percentage of annual paid days off taken
2015	19.5 days	13.6 days	69.7%
2016	19.4 days	13.6 days	70.1%
2017	19.4 days	13.8 days	71.1%
2018	19.4 days	13.6 days	70.1%
2019	19.3 days	14.3 days	74.1%

For 2019, the average number of annual working hours was 1,963.4 hours for members of the labor union, and the average number of monthly overtime work hours was 16.8 hours. In order to prevent working to excess, we are implementing the following measures at each of our sites and Group companies: • Share information about current problems and measures for improvement through labor-management activities • Set a target for the number of annual paid days off for employees and encourage them to actually take the days off • Designate a day on which employees will be asked to

end their work on time For 2019, the average number of annual working hours was 1,963.4 hours for members of the labor union, and the average number of monthly overtime work hours was 16.8 hours. In order to prevent working to excess, we are implementing the following measures at each of our sites and Group companies:

Share information about current problems and measures for improvement through labor-management activities

Set a target for the number of annual paid days off for employees and encourage them to actually take the days off

Designate a day on which employees will be asked to end their work on time

3. Increasing employees' work satisfaction

In the previous employee satisfaction survey conducted in 2017, the number of respondents who gave positive answers about employee engagement and the working environment (where employees could demonstrate their abilities) slightly increased compared with the results of the same survey conducted in 2014. While the number of respondents that gave positive answers about the Showa Denko Group's and its organizations' strategies and direction substantially increased, the existence of a number of problems was implied from their answers regarding workplace communication and other issues. An

analysis of the survey results for each Group organization revealed problems regarding communication between managers and their subordinates in particular at our manufacturing sites. Accordingly, in 2019, we held a workshop at 10 sites in Japan for managers responsible for face-to-face discussions with subordinates under the MB-OJT system to enhance mutual communication.



Communication workshop held for this purpose

Toward the future

We will implement the following measures in consideration of the on-site situation at each of our sites.

Allocate a budget for the renovation of welfare facilities and make renovations

Encourage employees to take their annual paid leave in a planned manner

Encourage employees to take their annual paid leave through labor-management activities

Urge employees who have taken only a few annual days off to take more

Continue to hold the communication workshop

*About the system

Showa Denko has long built relations of trust with the labor union based on the following three points as the core of the labor agreement: (1) Solutions through discussions; (2) Stable employment and enhancement of work satisfaction; (3) Improvement of working conditions through the growth of the company and enhancement of its earning power. For a review of the compensation system and various rules, the company and the labor union proactively discuss to reach an agreement. Showa Denko also complies with the statutory wage standards set in each country and region where it conducts business. In Japan, we are setting the amounts of salaries in consideration of the social trends and standards generally adopted in society, exchanging opinions with the labor union.

System to support employees in maintaining their work-life balance

System to support employees in maintaining their work-life balance Showa Denko employs systems to support employees in maintaining their work-life balance at each life stage. We are continuously implementing measures to encourage employees to use these systems, including carrying out a campaign to encourage male employees to take childcare leave. In order to provide employees with more options for flexible work styles, in 2018, we introduced a telecommuting system for employees who need to take care of their children or other family members so that they could effectively use the time that would otherwise have been wasted on commuting. In April 2020, we temporarily expanded the target for this system as a means to prevent further spread of the novel coronavirus infection and encouraged all employees to work from home under the system.

■ Major work-life balance support systems

	General employees	The reemployed	Fixed-term employees
Number of days off (for full-time day workers)	122 days	122 days	122 days
Number of days off (for full-time shift workers) *Three-shift system by four groups	101 days	101 days	101 days
Flexible working time system	○	○	○
Shortened working hours for childcare/family care	○	○	○
Telecommuting system *Temporary expansion of the target (as of July 2020)	○ * For limited job types		
Use of annual paid days off in units of half a day	○	○	○
Cumulative leave system	○		

	General employees	The reemployed	Fixed-term employees
Special leave system (for marriage, childbirth, bereavement, official duties, disaster damage and transfer)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leave system for employees working apart from their families to return home	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Refreshment leave	<input type="radio"/>		
Summer vacation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Absence for child nursing care (partially paid)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Absence for long-term nursing care (partially paid)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Absence for the treatment of non-occupational illness/injury (partially paid)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
“Life support” absence (unpaid) (for long-term nursing care, specified infertility treatment, volunteer activities)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Long-term absence for the treatment of non-occupational illness/injury	<input type="radio"/>		
Childcare leave	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nursing care leave	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

【Outline of the major support systems】

Childcare leave: Can be taken by employees with one or more years of continuous service who live with children younger than two years until the day before the child’s second birthday,

Shortened working hours for childcare/family care: Can be taken by employees with one or more years of continuous service who have children of preschool age or who are taking care of family members in need of long-term nursing. These employees may choose to reduce standard working hours by up to two hours per day.

Cumulative leave: Can be taken by employees who have carried over their annual paid days off from one year to another year to participate in their child's school event, or when the school attended by the child temporarily closes, or when they need to take care of their sick children or other family members.

Long-term nursing care leave: Can be taken by employees with one or more years of continuous service who have family members in need of long-term nursing care. Depending upon the relationship between the employee and the family member in need of long-term nursing care, a total of 93 days off, or a total of 12-month leave during the two-year period from the start of the leave, can be taken.

Labor Practice and Diversity

[Development of human resources](#)[Creating a comfortable workplace](#)[Promotion of diversity and inclusion](#)

Promotion of diversity and inclusion

Basic ideas and policies

The Showa Denko Group is striving to promote diversity and inclusion (D&I) so that diverse* human resources can make use of their unique features, value and ideas and collaborate to make the Group and its employees an organization and individuals, respectively, that can continue making profit and creating new value.

* diverse:Diversity in nationality, race, gender, age, disability, religion, background, sexual orientation and others

We are continuously implementing a range of measures to realize four changes: “change management,” “change communication,” “change work styles” and “change ourselves,” with an eye to transforming our corporate culture into one that helps all Group employees continue working by making use of their individual strengths.

Related information [Group CEO’s message to encourage all employees to promote D&I \(Brochure for D&I education\)](#) (269kB)

Reform of corporate culture



Promotion system

Upholding the promotion of diversity and inclusion in its management policy, the Showa Denko Group is implementing various measures with commitment by the management team, establishing the Diversity Group within the Human Resources Department. In cooperation with the D&I facilitators at each of our sites and Group companies, the Diversity Group is working to reform the corporate culture, make effective use of diverse human resources and support employees in keeping their life-work balance.



Education for the promotion of D&I

The Showa Denko Group provides training and distributes educational materials on various D&I themes, aiming to help all employees understand the essential elements of D&I and incorporate those elements into their daily activities.

TOPICS Providing managers with anti-harassment training

In November 2020, the Showa Denko Group held an online training seminar for managers of Group companies in Japan to help them learn about methods of promoting D&I and preventing harassment, with training provided by guest lecturer Ms. Inao from Cuore C3 Co., Ltd. At the beginning of this webinar, CRO Keiichi Kamiguchi from the Group's Chief Risk Management Office briefed participants on the purpose of the training and on the management activities that they were expected to conduct. Then Ms. Inao gave a lecture on various types of harassment, including abuse of power, sexual harassment and harassment related to sexual orientation and gender identity (SOGI), as well as on diversity-oriented management, thereby helping participants acquire basic knowledge about the issues. Comments made by participants after the event include: "I would like to keep conducting management activities to prevent harassment and help all members of the workplace demonstrate their abilities to the fullest."

We will continue to work to prevent harassment, which is an obstacle for D&I, and to have zero cases of harassment at our facilities.



CRO Kamiguchi (left) and Ms. Inao from Cuore C3 (right)

Activities for reforming the corporate culture

1. Commendations by the CEO for outstanding D&I promotion activities

Since 2014, we have been annually holding a program in which the CEO directly gives commendations to outstanding D&I promotion activities conducted at our sites and Group companies. Through this program, we have nurtured a culture of mutual praise and fostered sharing of the best practices within the company, thereby enhancing our organizational competitiveness. As a result of fostering diversity over many years, the number of initiatives intended to enhance organizational competitiveness beyond simply making effective use of diverse human resources increased among entries for the 2019 program.



Ceremony for the CEO's D&I commendations

2. Imagine SDK 2025

In order to nurture a corporate culture that encourages employees to be committed to fostering growth and changes, since 2015, we have been holding the "Imagine SDK2025" dialogue, in which middle-rank managers participate to articulate the Group's future vision. Each participant in the dialogue subsequently promotes reforms at their respective workplace and expands the activity to achieve their own vision for the Group.



"Imagine 2020" dialogue

3. Diversity☆Café

We have been holding Diversity☆Café monthly at the head office since 2017 in order to provide many employees with an opportunity to exchange with each other over a cup of coffee, thereby getting to know each other, improving mutual relationships at the workplace and across the company, and working in a better manner by making use of their unique features and ideas. This event also provides



Making exchanges at Diversity☆Café

members from the head office, other sites and Group companies with opportunities to make various presentations and share information and contribute to nurturing a corporate culture that accepts diverse personal characteristics/values and makes effective use of diversity.

Empowerment of women

The Showa Denko Group works to empower female employees in Japan. We aim to increase the percentage of women among section managers and those in higher positions to 5% in 2020 in our action plan made in line with the Act on Advancement of Measures to Support Raising Next-Generation Children. We also uphold the target of increasing the percentage of female managers to 10% of the total number of managers by 2030 on an unconsolidated basis in Japan as one of our medium- to long-term targets (materiality KPIs). Based on this plan, we have been continuously holding career support seminars and other events for mid-level career-track female employees since 2016.



Career support seminar for female employees

Supporting employees in maintaining their work-life balance

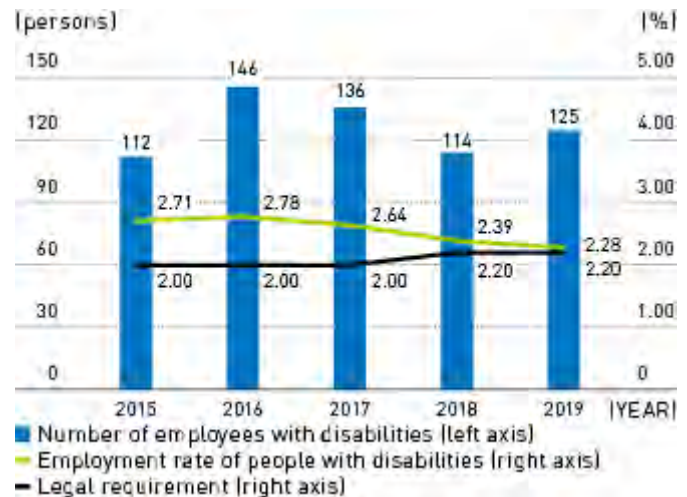
For employees with diverse backgrounds and lifestyles to continue demonstrating their abilities, we have established systems including the following: systems that are better than those mandated under the Act on Childcare Leave, Caregiver Leave, and Other Measures for the Welfare of Workers Caring for Children or Other Family Members of Japan; flexible working time and telecommuting systems that contribute to flexible work styles; and the “cumulative leave” system for employees to take days off for the treatment of non-occupational injury or illness, long-term nursing care, participation in children’s school events and childcare when schools are temporarily closed, and for infertility treatment. We also hold a campaign to encourage male employees to take childcare leave, provide babysitter support service, and implement a program to help employees return to work (interview program that lasts from pregnancy to return to work). Moreover, we are implementing a reemployment (“welcome back”) system for those who stopped working at Showa Denko according to their respective life/career plans but wish to join the company again.

Employment of people with disabilities

We are proactively employing people with physical, intellectual, mental and developmental disorders toward the goal of disability inclusion. In 2014, we established a model workplace for the employment of people with disabilities within the head office of Showa Denko K.K. Since then, we have continuously been working to provide each disabled employee with an environment, workplace and career development opportunities suitable for their individual character. By sharing the know-how across the Group, people with intellectual, mental and developmental disorders are now accepted as interns and employed at our sites and Group companies. We have also

established a contact for consultation through which employees serving as “job coaches” support Showa Denko Group’s employees with disabilities and those working with them.

- Showa Denko’s employment rate of people with disabilities (on an unconsolidated basis)



TOPICS Joins “The Valuable 500”

On September 1, 2020, Showa Denko signed a document to declare joining “The Valuable 500* ” and set up commitments as follows:



The Showa Denko Group will promote diversity and inclusion, aiming to let all employees shine in the company as a stage, regardless of whether each employee has been disabled or not. We will act to move people’s heart and society, and provide the world with surprises and excitements.

1. Under the slogan that “We change unique personality into power” which aims to promote inclusion of persons with disabilities, the Showa Denko Group will promote establishment of inclusive workplaces where each employee, whether with or without disabilities or medical conditions, can feel peace of mind and show what everybody can do. (D&I: Diversity and Inclusion)
2. We will provide differently abled employees with environment and opportunities that enable them to show what they can do, career vision that fit to their personalities, and support to realize these.

3. We will promote employment of persons with disabilities (inclusion of persons with disabilities) with specific targets.

In addition, with this signing as motivation, the Showa Denko Group will start an in-house campaign named “Uniqueness Supporter 500.” In this campaign, we will call for 500 or more employees who voluntarily support the idea to establish inclusive workplaces, and, in the future, we will aim to create a community in the Group to give support to persons with disabilities.

* The Valuable 500 was launched at the World Economic Forum Annual Meeting in Davos held in January 2019. This international initiative was launched to promote inclusion of persons with disabilities under an idea that “inclusive business creates inclusive society.” The Valuable 500 aims to encourage business leaders to make their own companies’ businesses inclusive ones in order to let persons with disabilities demonstrate their potential to add value to businesses, society and economy.

TOPICS **Receiving a prize from the Director General of the Bureau of Industrial and Labor Affairs for recognition as an excellent company for the employment of people with disabilities**

In 2019, Showa Denko received a prize from the Director General of the Tokyo Metropolitan Government Bureau of Industrial and Labor Affairs, having been recognized by the metropolitan government as an excellent company for the employment of people with disabilities. We provide all employees, with or without disabilities, capacity-building and career development opportunities, and work to further improve their treatment. We are also implementing a personnel system (“core partner” system) built for employees who require special considerations. In recognition of these efforts, we were granted this prize.



Members of the Human Resources Department at the head office

Empowerment of non-Japanese employees

We provide non-Japanese employees with opportunities and systems to demonstrate their abilities at our bases in Japan and abroad as part of our efforts to add more diverse value to the management of our business. The Showa Denko Group as a whole employs its uniform mobility policy to foster the selective education of candidates for next executives and enable employees to display their abilities across national borders, regardless of where they come from and which Group companies they belong to. Moreover, as a precedent case, the Carbon Division is managing the organization with members from

various countries, regarding itself as a “global company.” The division is implementing measures to share value and is working to establish a globally uniform personnel system. In Japan, we are fostering globalization by proactively employing foreign nationals, providing training for globalization of the head office, and creating internal documents in multiple languages.

Employment of the elderly and support for employees’ career management

We provide employees belonging to Risshi-juku (those in their 50s) and working in the head office district with training in life planning as an opportunity to think about their own career and life plans, before extending support to them at the time of their retirement.

Participation in Community Activities

Basic ideas and policies

The Showa Denko Group will proactively participate in community activities with an eye to becoming a “social contribution company,” as stated in the Group’s CSR Policy. We will also deepen mutual understanding with local residents through sincere dialogue and will collaborate with them to solve local issues for the sustainable development of their communities.

Results of our local and social contribution activities

■ 2019 Results of our local and social contribution activities (SHOWA DENKO and the group companies in Japan)

※():Showa Denko only

Details of the activities		Results
Education (Developing Human Resources to Lead the Next Generation)	Dispatched employees as instructors	59 cases; Dispatched 1,612man-hours (46 cases; 1,574man-hours)
	Accepted interns	37 events implemented; Accepted 120 interns. (29 cases; 97 persons)
	Offering guided plant tours (For students)	1,926 persons (1,628 persons)

Details of the activities		Results
Improvement of the environment around the worksites	Cleaning activities	339 cases; Conducted for 6,657 man-hours in total (111cases; 5,389man-hours)
Promotion of arts, culture and sports	Cooperation for and granting subsidies to arts, culture and sports: spend	Spent 26,953,000 yen (25,486,000 yen)
Exchange with local communities	Events	9,631residents participated (9,172 persons)
	Facilities rented	Rented for 14,070 hours in total (14,063 hours)
	Offering guided plant tours (For Local communities and authorities, and the families of employees)	2,695 residents visited plants (2,420 residents人)
Community development and social welfare	Harmonizing with local economy: spend	Spent 2,820,000 yen (1,723,000 yen)
	Aluminum can recycling: proceeds *Donated to a range of facilities and organizations, including local social welfare councils	1,600,000 yen
	Collaborating with NPOs and local organizations	Spent 679,000 yen (286,000 yen)
Social Contribution Expenditures ※non-personnel costs		321,916,000 yen

Please also read our CSR news posted on our website. [CSR news](#)

Toward the future

We will collect information about social issues recognized by local stakeholders by communicating with them and implementing measures to solve these issues. Specifically, based on past activities conducted by our sites and affiliated companies, we have started to implement the following measures according to the situation of each local community:

- (1) Identify the issues through communication with local communities
- (2) Set the medium- to long-term vision and priority themes (toward 2025)
- (3) Formulate and implement annual action plans

We plan to disclose the themes to be addressed by each of our sites and Group companies as well as related details from time to time.

CSR investment example (1) **Providing support to the Sakuranbo Marathon**

In order to promote local culture and sports, Showa Denko HD Yamagata K.K. annually provides special support to the Sakuranbo Marathon. This event is held in Higashine City, which is famous for its fruit production, as the largest marathon event in Tohoku. Moreover, individual employees support management of the event, including providing runners with towels cooled by ice water. In 2019, a total of 48 employees from the company worked with employees from neighboring companies as volunteers for the event, and many employees also participated in the event as runners themselves.



Volunteers working for the Sakuranbo Marathon

CSR investment example (2) **Acquiring the right to name the stadium in Oita Sports Park**

The multi-purpose stadium in Oita Sports Park is one of the representative facilities of Oita Prefecture, where Showa Denko houses its Oita Complex as a central base for one of its core businesses. The stadium is used for a range of sports events, such as J. LEAGUE football matches. Showa Denko acquired the naming rights for the stadium from Oita Prefecture. As



<p>a result, the stadium was named “Showa Denko Dome Oita” in 2019, and will continued to be called by this name for five years until 2024. The fees for the naming rights will partially be used for the prefecture’s “partnership project,” through which we can make local contributions, promote local sports, and revitalize local communities.</p> <p>Moreover, we decided to become a uniform sponsor for Oita Trinita from 2020, believing that the football club is making great contributions to local revitalization and sports promotion as an Oita-based football team belonging to the Japan Professional Football League (J.LEAGUE). We believe that providing support to the team will in turn help us to improve our CSR activities.</p>	<p>Multi-purpose stadium in the center of Oita Sport Park named “Showa Denko Dome Oita</p>
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Social Supply Chain

[CSR procurement](#)[“White Logistics” movement](#)[Access to essential services](#)

CSR procurement

Basic ideas and policies

We are currently facing a range of social issues, including environmental problems such as the depletion of resources and energy issues as well as problems related to human rights, corporate ethics and compliance. Through its business activities and the provision of products and services, the Showa Denko Group has been striving to contribute to the solution of these social problems and to the creation of a society where affluence and sustainability are harmonized. On the other hand, our business activities cover many fields, and our supply chains extend into various industries. Accordingly, in order to promote our social contribution activities, we need to gain the understanding and support of all stakeholders of the Group. Based on this recognition, we established the Showa Denko Group’s CSR Procurement Guidelines, which we share with our business suppliers within and outside Japan (including contractors or agents) so that we can increase each other’s corporate value through compliance with the guidelines.

[About Us; Promotion of CSR procurement](#)[Showa Denko's CSR procurement guidelines](#) (170 kB)

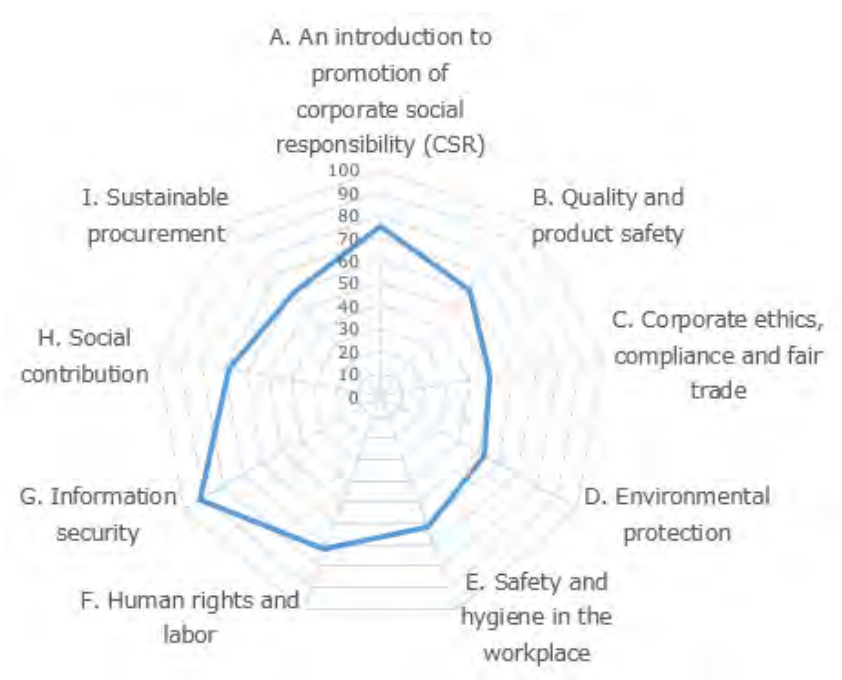
Activities in 2019

Self-assessments

Each year we ask about 400 business suppliers to fill out the self-assessment questionnaires regarding the Showa Denko Group’s CSR Procurement Guidelines and thereby self-check their CSR activities. We ask major business suppliers to do it once every three years and all new suppliers to do it when starting business with us.

In 2019, the total response rate came to 91%. We changed the self-assessment questionnaire items in 2018, and now our business suppliers perform a self-assessment regarding the following 9 items both within and outside Japan: promotion of corporate social responsibility (CSR) as a whole; quality & product safety; corporate ethics, compliance and fair trade; environmental preservation; safety & health of worksites; human rights & labor; information security; social contributions; and sustainable procurement.

■ results of CSR self-assessments made in 2018 (average score by item)



CSR visits

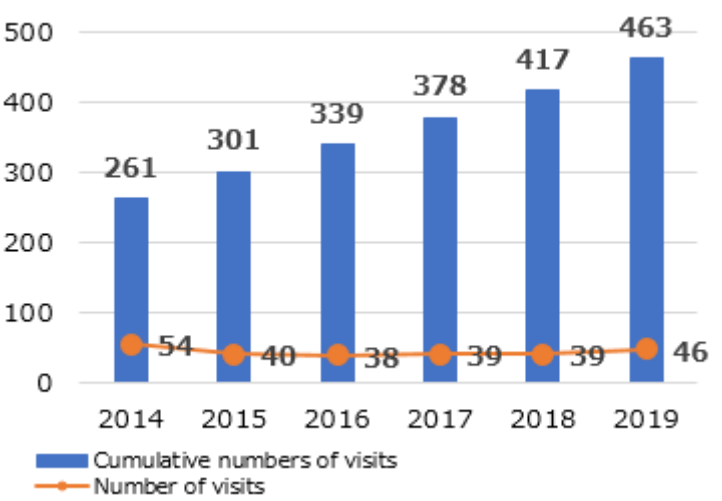
Each year we make CSR visits to about 40 companies. In 2019 we visited 46. Since we launched this initiative in 2010, we have visited a total of 463 suppliers. In 2019, we visited 46 suppliers and found no serious cases of human rights infringement or noncompliance for these companies.

If a noncompliance is detected concerning a supplier, we will discuss with the supplier and implement necessary measures for early improvement. We will also review our business relations with suppliers who we think do have a serious negative impact on our business continuity. According to the level of negative impact that might be caused by a supplier, we will stop requesting quotes from and placing orders with the supplier for a certain period, reduce the trade volume, or cancel the sales contracts concluded with the supplier. We will decide whether to resume transactions with the supplier or not after our purchasing personnel check how the supplier has made improvements by interviewing the supplier and confirm that our concerns about the negative impact have been mitigated or eliminated.

Follow up

We scored the CSR measures taken by the suppliers who conducted CSR self-assessments and those to whom we made CSR visits. We clearly indicated to each their CSR level against the total average and

■ Number of CSR visits



industry average. We also sent feedback reports to all the suppliers who performed CSR self-assessments to give them advice for improvements.

■ Total average score for the 2019 CSR self-assessments and measures taken for improvements

		No. of cases	Rate	Measures for improvements
Total average score	59.0			Sent a feedback report (including a comparison with the total average score and industry average score, and requests for improvements) to each of the respondent companies.
50 and higher		247	72%	Requested improvements for the items for which problems were identified while working to further increase the scores for the items with high scores.
From 30 to below 50		78	22%	Requested improvements for the items for which problems were identified and proposed improvement measures. *Made visits as required to exchange views about each other's measures. Will check the status of improvements in the next round of self-assessments.
Below 30		20	6%	Requested improvements for the items for which problems were identified and proposed improvement measures. *Made visits as required to discuss measures for early improvements. Will check the status of improvements in the next round of self-assessments.

Training of purchasing personnel

For CSR procurement, we deem it important to increase the awareness and improve the skills of our staff in charge of purchasing. Accordingly, we provide them with a range of training and study opportunities. For the educational activities, we provide learning on various themes, including the concept of compliance; laws such as those related to antimonopoly, subcontractors, customs and foreign exchange; the civil code and other regulations; and also our internal purchasing procedures and rules on approval authority. We thus help the purchasing personnel at our plants and divisions to improve their performance. In 2019, a total of 1,051 Group employees received training on purchasing.

Toward the future

In corporate procurement activities, it is necessary to respond flexibly to changes in the economic environment, and it is also important to meet a range of social challenges in such activities. Based on

this recognition, Showa Denko will work for CSR procurement, with a view to making social contributions its corporate mission.

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Social Supply Chain

[CSR procurement](#)[“White Logistics” movement](#)[Access to essential services](#)

“White Logistics” movement

Basic ideas and policies

“White Logistics” is a movement launched in March 2019 by the Japanese Ministry of Land, Infrastructure, Transport and Tourism, Ministry of Economy, Trade and Industry, and Ministry of Agriculture, Forestry and Fisheries to improve the work environment of the logistics industry. The purpose of this movement is to:

- 1 Increase the productivity of truck transportation and enhance the efficiency of logistics operations
- 2 Create better workplaces where women and people aged 60 and older can also work in comfort

“White Logistics” can be said to be a work style reform movement in the logistics industry, and it is important for shippers to ensure compliance to contribute to the reform. In support of this movement, Showa Denko became one of the first companies in the chemical industry to make a declaration to voluntarily take actions for sustainable logistics in May 2019 and has since been acting in accordance with the declaration.

Social Supply Chain

[CSR procurement](#)[“White Logistics” movement](#)[Access to essential services](#)

Access to Essential Services

Basic ideas and policies

Showa Denko does not directly provide the public with essential public services such as the supply of electricity, gas and water, treatment of wastewater and sewage, or communication services. However, we do manufacture sodium hypochlorite* used for sterilizing tap water, and deem it important to supply this product on a continuous basis to customers.

Materiality KPI

Ensure stable supply in response to customers’ needs

Sodium hypochlorite cannot be stored for very long, and it is therefore important to deliver the product in a timely manner to customers in response to their needs. We have a system for such delivery. We also regularly conduct drills against earthquakes and other emergencies in line with our BCP and review the system based on the results of the drills.

Results of the KPI

In response to requests from customers, we began delivering sodium hypochlorite by trailer truck. Compared with transportation by tanker truck, we can effectively reduce CO2 emissions per unit of the weight of our products to be transported.

In 2019, there was no suspension of water supply caused by factors related to our supply of sodium hypochlorite.



Shift from transportation by tanker truck (left) to that by trailer truck (right)

Toward the future

The amount of sodium hypochlorite used by customers changes depending upon the season, weather and others. Based on our recognition of this fact, we will maintain and enhance our system to supply the product in a stable manner to meet the needs of customers.

* Sodium hypochlorite: Colorless and transparent liquid made by using chlorine, which is a high-pressure gas. It is made alkaline for easy use and is widely used by the beverage, food and other industries as well as by water supply facilities.

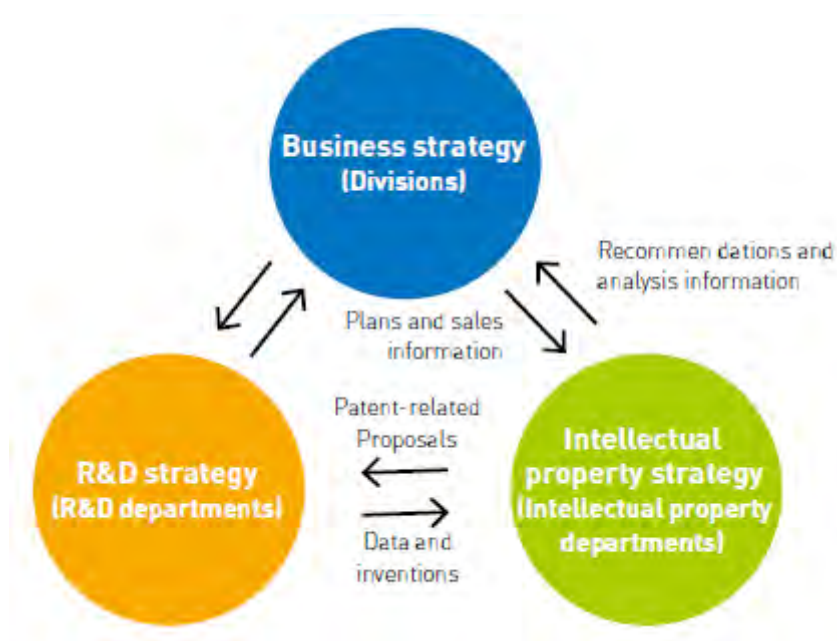
[sodium hypochlorite](#)

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Protection of intellectual property

The Showa Denko Group regards its intellectual property strategies as one of its important managerial strategies, and formulates and implements the business, R&D and intellectual property strategies in an integrated manner. We also constantly work to build a robust and broad network of patents for our major business segments and important products developed by the Group, thereby maintaining our competitive edge.



Business, R&D and intellectual property strategies are mutually inseparable like the two sides of a coin.

Showa Denko shares information about the three types of strategies it employs closely and seamlessly between the three parties to ensure that they are aligned with each other.

Medium- to long-term target (Materiality KPI)

New applications: From 342 in 2018 to 405 in 2022, and to 460 in 2025

We will implement the following measures to attain the KPI.

Find the seeds for inventions

Intensive patent applications for strategic development projects

Multifaceted patent applications with a focus on parameter patents

Downstream patent applications for materials with a focus on patents for the invention of use

✕ Showa Denko regards the protection of intellectual property as one of its material issues.

Results of KPI

In 2019, we achieved more than 350 new patent applications (342 in 2018).

We operate many of our businesses globally, and in order to support these businesses, we proactively file applications for intellectual property rights outside Japan as well. The global application rate (percentage of applications made outside Japan based on applications in Japan) has been at least 50% on average for the past seven years.

We also respect the intellectual property rights of other companies. We have built a patent monitoring system that also includes foreign patents in the target, to check the trends of other companies concerning their intellectual property rights. We also proactively protect our trade secrets and copyrights.

In 2020, amid the novel coronavirus crisis, the number of inventions the Group creates may decrease due to the slowdown of its R&D activities and time lag may increase regarding applications. We will work to reduce such adverse impact in collaboration with the R&D departments and by diversifying the means of communication.

Toward the future

We will further expand our intellectual property portfolio to increase our competitiveness both quantitatively and qualitatively. In addition, we will make careful assessments regarding cost-effectiveness while fostering the acquisition of intellectual property rights outside Japan in the globalization of our businesses.

Other measures

Use of AI

Showa Denko has been proactively making use of artificial intelligence (AI) in the intellectual property field as part of its efforts to spread the use of AI across the company.

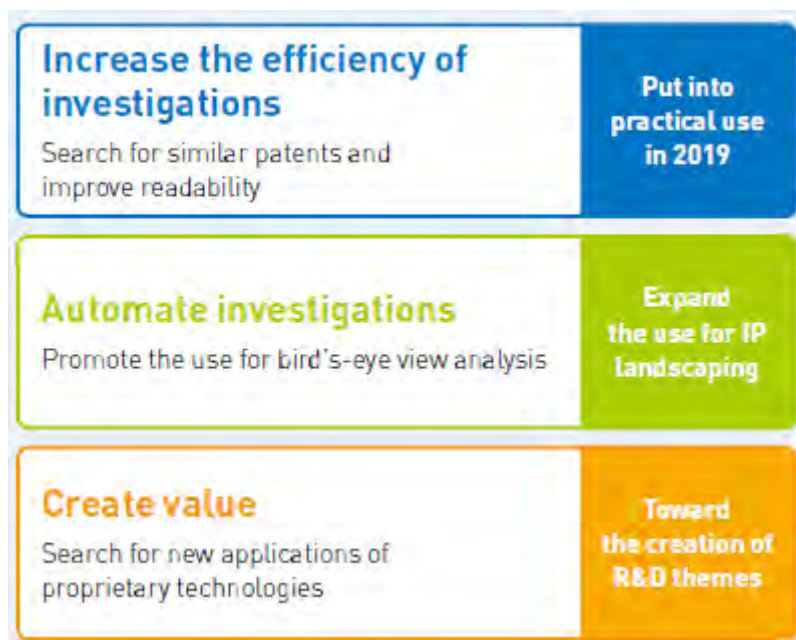
By making effective use of AI, we will increase our research efficiency, reduce the risk of infringing upon the intellectual property rights of other companies, and more strategically conduct intellectual property-related operations to enhance the competitiveness of our company.

In 2019, we started to implement the following two measures to increase the efficiency of our intellectual property-related operations: (1) application of AI for the sorting of data in order of similarity

for SDI* in Japan; and (2) operation of the patent interpretation support system in which the AI developed in partnership with IBM Japan, Ltd. is used. In 2020, we will further advance the system to one that can deal with patents in foreign languages, thereby making it possible to conduct surveys in a more efficient manner.

*Selective dissemination of information (SDI): System for the regular sharing of information about patent applications related to the company

We are also conducting examinations to make more effective use of AI for the creation of new intellectual property. AI-based web-wide data search, compilation and analysis and the formulation of strategies are proving to be very useful to find new customers, search for new product applications and examine M&As. We expect that the technology will greatly help us conduct R&D and business operations in the near future.



System to reward internal inventors

Showa Denko has an incentive system for internal inventors. Under the system, inventors are given rewards for their inventions when a patent application is filed for the invention, the patent is registered, the patent is implemented and profit is made, and also when license fees are paid by other companies for the patent. In 2019, we revised the rules for this incentive system to further expand it. In order to promote the filing of more valuable patent applications, we also commend our top three employees in terms of the number of patent applications filed and patents registered in the previous year.



Ceremony held to commend the internal inventors ranked in the top three (2019)

Shift from “defense” to “offense” in intellectual property activities

The voluntary activity conducted mainly by members of the Intellectual Property Department to create R&D themes from the viewpoint of intellectual property won first prize from the CEO in 2020 under the program in which the CEO gives commendations for diversity.

Patent applications are made basically for substances and manufacturing methods invented by researchers and developers, but in the voluntary activity, employees worked to acquire a basic patent to foster business strategies for the promotion of business and development activities. They set a research theme by predicting future technologies, thereby creating new value (new patent application). As for diversity, members with different expertise cooperated together while making use of their

individual abilities, and in recognition of this, they were awarded the CEO's commendation for diversity.

Toward the future, in addition to these measures, we will add functions that were not implemented by our conventional patent handling departments, such as proactive building of an intellectual property network and the formulation of business strategies by making full use of IP landscaping, thereby shifting from "defense" to "offense" in our intellectual property activities and advancing our intelligence functions.

Decision-making process and structure

Basic ideas and policies

Showa Denko aims to achieve sustainable corporate growth and to increase its mid- to long-term corporate value. To this end, as its responsibility and role, the Board of Directors is expected to build a system to make decisions in a transparent, fair, prompt and fearless manner and to supervise the management of the system. At Showa Denko, directors evaluate the effectiveness of the Board of Directors as a whole, and the outline of the evaluation results is disclosed to the public.

Materiality KPI

Evaluation of the effectiveness of the Board of Directors and the continued disclosure of information about improvements made based on the results

Results of KPI

Evaluation method

Regarding the effectiveness of the Board of Directors in 2019, we conducted a survey in January 2020, in which the directors and Audit & Supervisory Board members answered questions and made free comments. Then, based on the results, the Board of Directors conducted discussions at its meeting held in March 2020. In order to ensure the objectivity of the survey and further increase the effectiveness of the Board of Directors, the survey is conducted and the results are tabulated by an external organization.

Evaluation results

Based on the survey results and discussions conducted at its meetings, the Board of Directors has confirmed as follows: members who have diverse experience and expertise make the Board highly

effective by taking broad views and having diverse values, and proactive and constructive discussions have been conducted, with the Board taking sufficient time to deliberate the items, for which reference materials are distributed and explanations are made in advance of the meetings.

(1) Evaluation of the FY2019 plan implementation results in consideration of the results for the previous year

As for priority items, such as progress with the medium-term business plan and review of the management strategies, establishment and improvement of the CSR and compliance systems in response to business globalization, and others, Board members have been continuing the discussions in order to share ideas about the changes made to the business environment, etc. For even more efficient management of the Board meetings, use of IT systems, such as a paperless conference system, and the enhancement of the secretariat's functions have been promoted.

Deeper discussions are needed on the management strategies, governance system and group management, toward the full integration of Showa Denko Materials Co., Ltd. (former Hitachi Chemical Co., Ltd.).

(Free comments)

Discussion opportunities have increased as more time is now spent on discussions at the biannual opinion exchange meetings.

The rules on the Board of Directors are reviewed as needed.

In 2019, for the implementation of the new medium-term business plan, "The TOP 2021," we discussed the issues proactively at the Board meetings and opinion exchange meetings.

(2) Action plan for 2020

According to the action plan for FY2020, participants in the Board meetings and the opinion exchange meetings held with the participation of all directors will further deepen the discussions about the management strategies, governance system and group management, while continuing to implement measures to enhance the management of the meetings.

Risk management and Compliance

[Risk Management](#)[Compliance](#)[Anti-corruption](#)

Risk Management

Basic ideas and policies

The Showa Denko Group upholds “Deepening of risk management on the basis of safety and compliance” as the main theme for its CSR Policy. Accordingly, we are striving to improve our risk control for both ordinary times and emergencies and to reduce the detected risks.

Promotion system

We have working groups specializing in important issues related to compliance and risk management, specifically, the working group on risk management and the working group on human rights and compliance. At the meetings of the Sustainability Promotion Council chaired by the director in charge of CSR, relevant issues are deliberated and examined, and the issues of importance in terms of business management are presented to the Management Committee and the Board of Directors as the agenda for their meetings. In ordinary times, each of the divisions, plants and subsidiaries implement their risk management systems and risk reduction measures under the leadership of their respective risk managers, thereby promoting the sectoral control of risks.

In the event that an existential risk to the company is identified or an unexpected crisis occurs, we will establish headquarters to deal with the crisis headed by the President so that we can promptly respond to it. We have also set the rules to be followed by the administrative departments of the head office regarding risks related to personnel, PR and safety. Issues regarding the risk management situation are deliberated by the Management Committee twice a year and the results are reported to the Board of Directors for continuous improvement. We thereby ensure that our risk management process functions effectively.

“Risk inventory” activity

The Showa Denko Group conducts the “risk inventory” activity as its standard risk management scheme, and all 96 of the Group’s sites, including non-consolidated subsidiaries, are targeted for the activity. In this activity, specific risks are identified at the sites by department and according to our risk classification criteria. Through the ISO 31000-compliant risk assessment, response and review process, we are executing a PDCA cycle for risk management, thereby making all employees well aware of the importance of risk management and ensuring that the management team can constantly monitor and grasp information about the risks that could have serious impacts on the Group’s management. As for serious risks for which adjustments need to be made to implement company-wide measures, such as anti-earthquake measures for equipment and information security measures, the head office’s administrative departments in charge provide needed advice. They also offer risk-related education and training, carry out on-site inspections and give instructions, as required, under the leadership of the management team.

■ Cycle of the risk inventory activity



Risk classification

- | | | | |
|--|---|--|--|
| ① Accidents and disasters
Facility accidents
Fires and explosions
Injuries or deaths
Environmental accidents
Natural disasters and climate change
Infrastructural accidents
Traffic and distribution accidents
Chemical handling accidents
Accidents involving products | ② Risks related to violation of laws, antisocial acts
Violation of industrial property rights
Violation of antitrust laws
Insider trading
Violation of Foreign Exchange Law
Violation of Subcontract Law
Violation of laws concerning environment, chemical substances, security and safety
Defamation, violation of privacy
Crimes committed by employees
Bribery | ③ Risks related to human resources and labor
Human rights
Outflow and security of human resources
Evaluation, rewards and assignment
Infectious diseases
Work hours
Diversity of employment patterns
Involvement as victim of crimes and terrorist acts | ④ Information management
Information leaks
System failures
Problems involving media, rumors, whistle blowing
Commercial software
Management of login ID |
| ⑤ Risks related to management and business
Stocks and corporate bonds
Investments
Finance and accounting | ⑥ Risks related to supply chains
Inventory, assets
Procurement
Business | ⑦ Risks related to external environment
Nation, region community
Industry | |

Loss classification

Loss of social credibility

Damage to corporate reputation
Loss of brand values
Damage to relationship of trust with concerned governmental agencies
Damage to relationship of trust with local communities

Loss of human resources

Business-related Death, Permanent disorders
Non-permanent disorders, injuries and illnesses
Damage to mental health
Outflow of human resources
Failure in human resource security
Additional workloads
Lower productivity

Loss of financial assets

Damage to facilities
Suspension of operations
Loss of business opportunities
Damage compensation
Lawsuit costs
Costs of environmental measures
Increase in production costs
Surcharges

Enhancement of business continuity plans (BCPs)

We at the Showa Denko Group are aware of the importance of fulfilling our responsibility as a supplier, recognizing the fact that the availability of our products has an impact on society at large. While expanding our business domain, we have been making BCPs based on the idea that we need to build a business system that is highly resistant to disasters and other crises both in Japan and overseas. We make specific BCPs in consideration of the features of each of our businesses and products, implement natural disaster countermeasures for our equipment, stockpile masks and other goods in preparation against pandemics and clarify and work on problems through educational training. We are thereby managing our business in a manner that enables us to continue it while giving first priority to people's lives. Moreover, we regularly conduct drills to foster collaboration for BCPs between the divisions, plants and affiliated companies, through which participants can share the lessons learned, problems and best practices.

As one of the initiatives implemented in 2019, we revised the BCP made for the head office's administrative departments. In the event of an inland earthquake hitting the Tokyo metropolitan area, we might not be able to continue using the head office building in Tokyo. Based on this scenario, we revised the plan to include the relocation of the emergency response headquarters functions and the adoption of a teleworking system as the basic countermeasures.

As for the outbreak of the novel coronavirus disease (COVID-19), the secretariat of the emergency response headquarters collect related information from both within and outside Japan to provide regular cautionary advice to employees and instruct them on infection control measures. Moreover, the Group CEO shared a message promising employees that the Group will: (1) give first priority to protecting the health of all Group employees and employees of partner companies; (2) continue to supply the products that are indispensable for society and daily life as its social responsibility; and (3) make preparations to achieve further growth for the Group after the pandemic ends. We are dealing with the coronavirus crisis also in line with the BCPs.

Information security measures

The Showa Denko Group has established rules on information security and the management of personal information in order to make appropriate responses to information-related risks. The Group is continuously working to increase employees' awareness of the rules through e-learning and training against targeted email attacks. We also make information security assessments at all our sites in Japan and abroad as part of our activity to increase our information security.

Recently, in our effort to deal with cyberattacks, we have participated in the activities conducted by the Japan Chemical Industry Association and the Japan Petrochemical Industry Association to collect the latest information. Since 2018, we have also been engaging in the Computer Security Incident Response Team (CSIRT) activity to enhance the information security systems of our sites in Japan and across the world, cooperating with external organizations specializing in information security for information collection.

Risk management and Compliance

[Risk Management](#)[Compliance](#)[Anti-corruption](#)

Compliance

Basic ideas and policies

The Showa Denko Group believes that compliance provides the basis of its business continuity and is essential for the achievement of its vision. Accordingly, we comply with social norms of each country and region, and corporate ethics as well as laws and regulations. In addition, we are implementing the system and conducting a range of activities to spread ethical values based on honesty, impartiality, and integrity.

* For employee education on corporate ethics, please refer to the “Thorough corporate ethics”.

In 2019, we had no cases of serious compliance violations and received no sanctions, including fines, for compliance-related issues.

Corporate Ethics Hotline

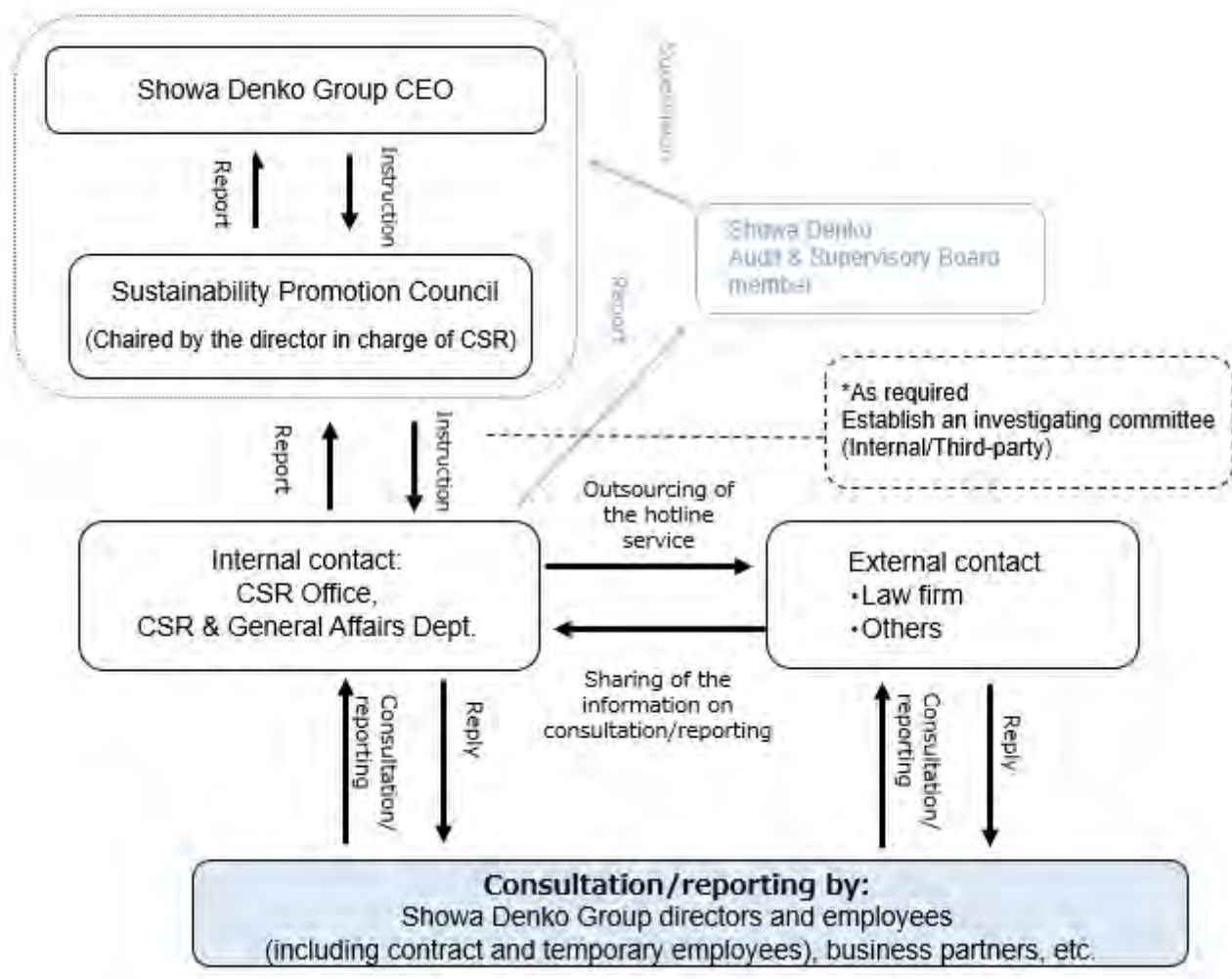
Corporate Ethics Hotline We operate the Corporate Ethics Hotline so as to be able to detect from across the Showa Denko Group any incidents of noncompliance or unfair and other behaviors that contravene corporate ethical standards at an early stage in order to resolve them.

Employees can make a report via Showa Denko’s website and intranet as well as through the external law firm designated by the company. Not only Group employees but also all other stakeholders, including suppliers and local residents, can make reports to the Group through the hotline. For national staff of Group companies outside Japan, we have also been providing a multilingual hotline service (external service in 12 languages) since April 2018. The hotline service can be used anonymously both within and outside Japan, and we clearly state that we respect the privacy of service users and prohibit any disadvantageous treatment of users by their companies. For each of the reports made to the hotline internally and via the external contact, we talk to the company/site in question, and the department in charge conducts a survey on the issue to confirm the facts. If noncompliance with laws,

regulations and others is confirmed as a result of the survey, we promptly take corrective actions. For serious issues, reports are made to the Sustainability Promotion Council chaired by the director in charge of CSR and to the Board of Directors, including details of the internal report made to the hotline, the survey, corrective actions, and measures to be taken to prevent the reoccurrence of similar problems.

The secretariat of the Corporate Ethics Hotline received 52 reports and requests for consultation in 2019. After prompt and careful investigation of the details, we took corrective measures as necessary. Regarding the cases of harassment, including those involving sexual harassment and abuse of power, which account for about 50% of the cases for which requests for consultation were made, we conduct relevant training for managers of Group companies toward the reduction of such cases.

■ System for the Corporate Ethics Hotline



Corporate Ethics Hotline

Tax compliance

The Showa Denko Group set the tax code of conduct based on the recognition that it is one of the social responsibilities of an enterprise to contribute to society’s growth through tax payment in all countries and regions where it conducts business activities. We will make appropriate and prompt responses to

the taxation system and regulations of each country and region, while continuing to provide employees with training to maintain and raise their tax compliance awareness.

[Showa Denko Group's Tax Code of Conduct](#)

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Risk management and Compliance

[Risk Management](#)[Compliance](#)[Anti-corruption](#)

Anti-corruption

Basic ideas and policies

The Showa Denko Group takes the expectations of all stakeholders seriously and is committed to fulfilling its promises to them in a sincere manner. In all countries and regions, we will eliminate acts of corruption, such as breach of loyalty, abuse of authority, forcible transactions using undue influence, bribery, embezzlement, concealment, obstruction of justice, and money laundering as well as other unfair and anti-social actions.

We clearly state our policies on “Anti-corruption” and “Compliance with competition laws” in the respective sections of Our Code of Conduct, which sets out the basic behavioral rules that all Group employees are expected to follow when performing their day-to-day duties. Moreover, we work to ensure the implementation of the policies by all employees.

Compliance with anti-bribery laws and regulations, and prevention of corruption

Bribery of public servants and the compulsion, offer, and inducement to bribe are acts that cause corruption in national economy and politics, and prevent the sustainable growth of the international community. The Showa Denko Group has formulated the Showa Denko Group’s Global Anti-Bribery Policy, and we are implementing drastic measures to comply with anti-bribery laws and regulations enforced in each country.

The Showa Denko Group has also been holding an e-learning seminar to provide basic knowledge on bribery to its employees in Japan and abroad, and a total of over 800 employees have participated so far. Through this e-learning seminar, we clearly explain that it is a violation of the bribery regulations enforced in each country and of the Group’s internal rules to provide government officials or executives/employees of companies in the private sector with excessive entertainment or gifts, either directly or through third parties, for the purpose of unfairly obtaining sales orders or to receive entertainment or gifts, engage in collusion or make facilitation payments for such purpose. The Group

also educates employees on how to avoid bribery-related risks.

Also, for the provision of benefits and exchange/entertainment opportunities that do not constitute bribery, we conduct sufficient examinations as to the reason why we need to provide them, recognizing that providing them for the purpose of making profit unfairly may lead to corruption. Moreover, we prohibit, in principle, individual employees and workplaces from accepting any money or gifts from suppliers and other related parties.

Specifically, we prohibit in our in-house rules the provision and receipt of benefits, exchange/entertainment opportunities, and gifts that could be suspected as being intended to produce unfair profit. We also set an upper limit on the amount of money that can be spent for the purpose of socializing, thereby preventing the provision of excessive benefits. We have also set an approval process for the provision of such benefits. Furthermore, we are enhancing anti-corruption measures targeting businesses and transactions with high corruption-related risks. In particular, for transactions with governmental agencies, we ensure through internal audits that no form of bribery—including the provision and receipt of entertainment or gifts—collusion or embezzlement has occurred.

In addition, through the CSR Procurement Guidelines, we raise the awareness of all our suppliers, agents, consultants, distributors and other intermediaries about Showa Denko's anti-corruption policy, which prohibits the entertaining of government officials and giving/receiving of inappropriate benefits. Also, in the self-check questionnaire on CSR that we ask suppliers to fill out, we include questions about corruption risks to evaluate the suppliers in regard to such risks and prevent their materialization.

[Showa Denko Group's Global Anti-Bribery Policy](#) (108kB)

[Promotion of CSR procurement](#)

[Showa Denko Group's CSR Procurement Guidelines](#) (166kB)

Compliance with competition laws

For complying with competition laws, which are designed to ensure fair and open competition, in each country, we formulated our own anti-cartel rules in 2010 and have been implementing the rules to control cartel risks appropriately in our daily business operations.

Also, since 1999, we have been carrying out internal audits every year to check for illegal sales activities to ensure compliance with competition laws and reported the results to top management. We also published a range of guidelines, including the handbook on antimonopoly laws for sales personnel, the Antitrust Compliance Guideline, and the Compliance Program of EU Competition Laws, with an eye to raising employees' compliance awareness regarding competition laws across the Group.

Furthermore, we have been holding an annual seminar on competition laws for the Group's sales personnel (including national staff of Group companies outside Japan), inviting external experts in competition law to serve as lecturers. In 2019, a total of 318 employees participated in the event, held at five of our sites in Japan and overseas.

Respect for Human Rights

Basic ideas and policies

The Showa Denko Group respects human rights based on the International Bill of Human Rights, the ILO Declaration on Fundamental Principles and Rights at Work, the United Nations Guiding Principles on Business and Human Rights (Ruggie Principles) and other international norms on human rights as the basis of its business management, and works to ensure that individual employees behave in line with these principles.

Specifically, we show our basic approach to human rights in Our Code of Conduct, ask all employees, including those working outside Japan, to abide by the rules, and are promoting measures to respect human rights in line with the Ruggie Principles. Moreover, we ask all our business partners including suppliers to incorporate the ideas expressed in Our Code of Conduct into their own measures related to respecting human rights.

"Our code of conduct" Chapter 2: Management that respects human rights (excerpted)

2.1 Understanding the international covenants on human rights

Under the rule of law, we will endeavor to realize the "right to be happy," which everyone possesses from birth.

2.2 Prohibition of unfair discrimination

We will not tolerate unfair discrimination based on bias or prejudice that diminishes human dignity.

2.3 Elimination of forced labor and child labor

We will contribute to the creation of an inclusive society by supporting volunteer activities and promoting inclusive business.

2.4 Elimination of forced labor and child labor

We will conduct supply chain management in a responsible manner so that we will not be involved in any form of infringement of human rights.

2.5 Establishment of human rights due diligence

We will establish appropriate procedures and systems to deal with human rights risks related to our business activities.

Human rights education

The Showa Denko Group works to help employees deepen their understanding of the importance of respecting human rights. Specifically, in order to raise the awareness of employees about its basic approach to human rights as described in Our Code of Conduct as well as about its human rights-related policies and priority issues, the Group provides e-learning and holds workplace discussions while giving due consideration to differences in employee work styles.

Moreover, the Showa Denko Group aims to provide each employee with education on human rights and corporate ethics totaling 1.5 hours annually as a KPI for “Thorough corporate ethics.” For details about this education, please see the pages on “Thorough corporate ethics.”

Human rights throughout the supply chain

In order to conduct business that takes human rights throughout the supply chain into consideration, we ask our business partners to respect basic human rights, prohibit discrimination, ensure proper work conditions, and protect the rights of the workers through our CSR procurement program. We work together with our partners to comply with these matters.

Toward the future

We are conducting examinations to implement a series of due diligence processes for human rights across the Group, both within and outside Japan, based on the Guiding Principles on Business and Human Rights approved by the United Nations Human Rights Council in 2011.

Thorough Corporate Ethics

Basic ideas and policies

In order to foster environment, society and governance (ESG)-oriented management, it is important for individual employees of the Showa Denko Group to take actions based on the recognition of their respective responsibilities. Accordingly, we regularly provide employees with an opportunity to learn more deeply about corporate ethics and human rights and measure the results to promote the dissemination of ethical values throughout the Group.

Materiality KPI

Materiality KPI Provide Group employees in Japan and abroad with a total of 1.5 hours of training on corporate ethics and human rights per employee per year on an ongoing basis

Results for the KPI

In 2019 we achieved the KPI at Group companies in Japan:

1. As a Corporate Ethics Month activity that is conducted annually in May, all employees including those outside Japan checked for any issues in their own daily actions by once again reading through Our Code of Conduct and Its Practical Guide. Moreover, they viewed a video on compliance (provided as a training material) and discussed it at their respective workplaces.
2. During Human Rights Week in December, the sites of Showa Denko K.K. and other Group companies in Japan held training sessions on human rights-related themes familiar to their workplaces, such as those related to harassment prevention and communication, as well as on the human right issues pointed out by the Japanese Ministry of Justice (so-called “Dowa issue,” human rights of foreign nationals, human trafficking, etc.).

Example **Holding a joint seminar on human rights in the Keihin district**

In addition to training provided by each site, the head office, Kawasaki Plant and Yokohama Plant of Showa Denko K.K. have been holding an annual joint seminar on human rights in the Keihin district

since 1995. For the seminar held in 2019, more than 250 people from three bases participated in total. We invited Sayaka Murata, co-representative of an NPO called the “Kamonohashi Project,” to give a lecture for the seminar. In her lecture, Ms. Murata detailed the situation regarding child prostitution in Cambodia and India from the viewpoint of a person actually working to solve the problem. She also explained why she began conducting the activity and what she did in the past to address the issue.

Participants listened earnestly to the lecturer, who first became aware of the issue and felt compelled to tackle it due to a small incident, and then continued taking actions to solve it in the face of difficulties. After the lecture, participants made various comments, such as “I was surprised to learn that such a problem still exists,” “I was impressed with the lecturer’s ability to take actions” and “I would like to find something I can do, even if it is something small.”



Joint seminar held in the district

Toward the future

We will continue to identify issues related to corporate ethics and human rights within the Group, make prompt and appropriate responses to the identified issues and foster the adoption and practice of ethical values among employees. In particular, for training conducted by Group companies outside Japan, we will enhance it under the same system as that adopted inside Japan.

Editorial Policies/ Report Scope

Editorial policies

In this CSR section of Showa Denko's official website, we are committed to posting information about the Showa Denko Group's initiatives including those for the environment, society and governance (ESG) and showcasing the Group's ideas, policies, systems, activity details and numerical data in an exhaustive manner. We will continue to update this CSR section from time to time in and after August 2020 so that we can provide stakeholders with the latest information.

In our integrated report (Showa Denko Report), we publish both financial and nonfinancial information to help our stakeholders understand the Showa Denko Group's value creation story.

We invite you to read this report along with the CSR section of the website.

Report scope

Period covered by this report

This report covers information for the period from January 1 to December 31, 2019, with some information also provided for 2020.

Organizations covered by this report

"Showa Denko" as used in the text of this report refers to Showa Denko K.K., while "Showa Denko Group" or "the Group" refers to Showa Denko and its consolidated subsidiaries in Japan and abroad. "Group companies in Japan" refer to Showa Denko and its consolidated subsidiaries in Japan. This report does not include data for Showa Denko Materials Co., Ltd. (former Hitachi Chemical Co., Ltd.).

Publication date

August 2020

Guidelines/guidance referenced

ISO26000 : 2010

GRI Sustainability Reporting Standards 2016

Environmental Reporting Guidelines 2018 from the Ministry of the Environment of Japan

Task Force on Climate-related Financial Disclosures (TCFD)

Prepared by

CSR & Corporate Communication Office, Showa Denko K.K.

13-9, Shiba Daimon 1-chome, Minato-ku, Tokyo 105-8518, Japan

TEL : +81-3-5470-3235

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List of Data Collection Boundaries (As of December 2019)

Showa Denko" as used in the text of this report refers to Showa Denko K.K., while "Showa Denko Group" or "the Group" refers to Showa Denko and its consolidated subsidiaries in Japan and abroad. "Group companies in Japan" refer to Showa Denko and its consolidated subsidiaries in Japan. For details of organizations covered for each data item;

	a) CO ₂ (energy source origin)/Scope1,2	b) CO ₂ and six greenhouse gas emissions (not from energy use)/Scope1	c-1) Water consumption	c-2) Water drainage (environmentally hazardous substance emissions are included in only the data of Japan)	d) Amount of industrial waste generated (landfill disposal amount)	e) VOC emissions	f) PRTR substance emissions	g) Amounts of substances with atmosphere (SOx, NOx, Soot and dust)	h) Transportation sector(CO ₂ emissions and energy consumption rate, Freight ton-km, Ratios for use of various modes of transport)	j) Environmental accounting
Number of sites in Japan and abroad (Total)	45	45	53	51	53	32	32	33	16	16
Showa Denko K.K. Only	(17)	(17)	(17)	(17)	(17)	(16)	(16)	(17)	(16)	(16)
1 Oita Complex	○	○	○	○	○	○	○	○	○	○
2 Tokuyama Plant	○	○	○	○	○	○	○	○	○	○
3 Kawasaki Plant	○	○	○	○	○	○	○	○	○	○
4 Higashinagahara Plant	○	○	○	○	○	○	○	○	○	○
5 Yokohama Plant	○	○	○	○	○	○	○	○	○	○
6 Shiojiri Plant	○	○	○	○	○	○	○	○	○	○
7 Omachi Plant	○	○	○	○	○	○	○	○	○	○
8 Oyama Plant	○	○	○	○	○	○	○	○	○	○
9 Oyama Plant (Nasu)	○	○	○	○				○	○	
10 Hikone Plant	○	○	○	○	○	○	○	○		○
11 Sakai Plant	○	○	○	○	○	○	○	○	○	○
12 Kitakata Plant	○	○	○	○	○	○	○	○	○	○
13 Ichihara Site	(※)	(※)	○	○	○	○	○	○	○	○
14 Chichibu Plant	○	○	○	○	○	○	○	○	○	○
15 Tatsuno Plant	○	○	○	○	○	○	○	○	○	○
16 Isesaki Plant	○	○	○	○	○	○	○	○	○	○
17 Institute for Integrated Product Development (Toke)	○	○	○	○	○	○	○	○		○
18 Process Solutions Center	○	○			○					
1 Head Office (Aluminum Specialty Components Division, Metal Group)									○	

(※) included in the affiliates company

Consolidated subsidiaries in Japan	(15)	(15)	(16)	(14)	(16)	(16)	(16)	(16)		
1 Tsurusaki Kyodo Doryoku Co., Ltd.	○	○	(included in Oita Complex)	(included in Oita Complex)	(included in Oita Complex)	(included in Oita Complex)	(included in Oita Complex)	(included in Oita Complex)		
2 Showa Denko Gas Products Co. Ltd. (Kawasaki)	○	○	○	(excluded because there is no specific facility)	○	○	○	○		
3 Showa Denko Gas Products Co. Ltd. (Yokkaichi)	○	○	○	(excluded because there is no specific facility)	○	○	○	○		
4 Showa Denko Gas Products Co. Ltd. (Oita)	○	○	○	○	○	○	○	○		
5 Showa Denko Ceramics Co., Ltd.,(Toyama)	○	○	○	○	○	○	○	○		
6 Showa Fine Ceramics Co., Ltd.			○	○	○	○	○	○		
7 Showa Denko Kenso Co., Ltd.			○	○	○	○	○	○		
8 Showa Aluminum Can Corp. (Oyama)	○	○	○	○	○	○	○	○		
9 Showa Aluminum Can Corp. (Hikone)	○	○	○	○	○	○	○	○		
10 Showa Aluminum Can Corp. (Omuta)	○	○	○	○	○	○	○	○		
11 Showa Denko Electronics K.K. (Ichihara)	○	○	(included in Ichihara site)	(included in Ichihara site)	(included in Ichihara site)	(included in Ichihara site)	(included in Ichihara site)	(included in Ichihara site)		
12 Showa Denko HD Yamagata K.K. (Including Oyama Plant)	○	○	○	○	○	○	○	○		
13 Showa Denko Packaging Co., Ltd. (Hikone)	○	○	○	○	○	○	○	○		
14 Showa Denko Packaging Co., Ltd. (Isehara)	○	○	○	○	○	○	○	○		
15 Niigata Showa K.K.			○	○	○	○	○	○		
16 SunAllomer Co., Ltd. (Kawasaki)	○	○	○	○	○	○	○	○		
17 SunAllomer Co., Ltd. (Oita)	○	○	○	○	○	○	○	○		
18 SunAllomer Co., Ltd. Research and Development Division	○	○	○	○	○	○	○	○		
19 Union Showa K.K. (Yokkaichi)										
20 Union Showa K.K. (Aizu)										
21 Fuyo Perlite Co., Ltd.										
22 HIPACK Co.,LTD.										
23 Nippon Polytech Corp.										

Overseas Group companies	(13)	(13)	(20)	(20)	(20)					
1 Taiwan Showa ChemicalsManufacturing.co., Ltd. (including ShowaSpecialty Gas (Taiwan.) Co., Ltd.)	○	○	○	○	○	★About overseas Group companies: targeting the consolidated subsidiaries, but the scope of discharged amounts of greenhouse gases includes only sites which emitted 3kt or more.				
2 Zhejiang Quzhou Juhua Showa ElectronicChemical Materials Co., Ltd.			○	○	○					
3 Shanghai Showa Highpolymer Co., Ltd.			○	○	○					
4 Showa Denko New Material (Zhejiang) Co.,Ltd.			○	○	○					
5 Showa Denko Carbon Inc.	○	○	○	○	○					
6 Showa Denko Sichuan Carbon Inc.	○	○	○	○	○					
7 SHOWA DENKO CARBON ProductsGermany GmbH & Co.KG	○	○	○	○	○					
8 SHOWA DENKO CARBON Austria GmbH	○	○	○	○	○					
9 SHOWA DENKO CARBON Spain S.A.	○	○	○	○	○					
10 SHOWA DENKO CARBON Malaysia Sdn.Bhd	○	○	○	○	○					
11 SHOTIC Europa Industria de Aluminio Lda.			○	○	○					
12 SHOTIC MALAYSIA Sdn. Bhd.	○	○	○	○	○					
13 Showa Denko (Dalian) Co., Ltd.			○	○	○					
14 Showa Aluminum ManufacturingPhilippines Corporation			○	○	○					
15 Showa Denko Aluminum (Nantong) Co.,Ltd.			○	○	○					
16 Showa Denko HD Singapore Pte Ltd.	○	○	○	○	○					
17 Showa Denko HD (Malaysia) Sdn. Bhd.	○	○	○	○	○					
18 Showa Denko HD Trace corp.	○	○	○	○	○					
19 Hanacans JSC (Bac Ninh)	○	○	○	○	○					
20 Hanacans JSC (Quang Nam)	○	○	○	○	○					

List of Data Collection Boundaries of Social data (As of December 2019)

i) Employment loss rate

45 sites in Japan and abroad (Showa Denko only:14 sites, consolidated subsidiaries:31 sites)

1	Showa Denko K.K.	Oita Complex
2	Showa Denko K.K.	Kawasaki site
3	Showa Denko K.K.	Higashinagahara Plant
4	Showa Denko K.K.	Tokuyama Plant
5	Showa Denko K.K.	Isesaki Plant
6	Showa Denko K.K.	Tatsuno Plant
7	Showa Denko K.K.	Chichibu Plant
8	Showa Denko K.K.	Omachi Plant
9	Showa Denko K.K.	Oyama Plant
10	Showa Denko K.K.	Institute for Integrated Product Development (Toke)
11	Showa Denko K.K.	Chiba Plant
12	Showa Denko K.K.	Hikone Plant
13	Showa Denko K.K.	Advanced Battery Materials Division (Yokohama)
14	Showa Denko K.K.	Process Solutions Center
15	(Consolidated subsidiaries in Japan)	Tsurusaki Kyodo Doryoku Co., Ltd.
16	(Consolidated subsidiaries in Japan)	Union Showa K.K. (Yokkaichi)
17	(Consolidated subsidiaries in Japan)	Union Showa K.K. (Aizu)
18	(Consolidated subsidiaries in Japan)	Showa Denko Gas Products Co. Ltd. (Kawasaki)
19	(Consolidated subsidiaries in Japan)	Showa Denko Gas Products Co. Ltd. (Yokkaichi)
20	(Consolidated subsidiaries in Japan)	Showa Denko Gas Products Co. Ltd. (Oita)
21	(Consolidated subsidiaries in Japan)	HIPACK Co.,LTD.
22	(Consolidated subsidiaries in Japan)	Showa Denko Ceramics Co., Ltd.,(Toyama)
23	(Consolidated subsidiaries in Japan)	Showa Denko Ceramics Co., Ltd.,(Shiojiri)
24	(Consolidated subsidiaries in Japan)	Showa Denko Ceramics Co., Ltd.,(Yokohama)
25	(Consolidated subsidiaries in Japan)	Shinshu Showa K.K.
26	(Consolidated subsidiaries in Japan)	Showa Denko Sakai Aluminum K.K.,
27	(Consolidated subsidiaries in Japan)	Showa Denko Kitakata Aluminum
28	(Consolidated subsidiaries in Japan)	Showa Aluminum Can Corp. (Oyama)
29	(Consolidated subsidiaries in Japan)	Showa Aluminum Can Corp. (Hikone)
30	(Consolidated subsidiaries in Japan)	Showa Aluminum Can Corp. (Omuta)
31	(Consolidated subsidiaries in Japan)	Chichibu Showa Denko
32	(Consolidated subsidiaries in Japan)	Showa Denko Electronics K.K.,
33	(Consolidated subsidiaries in Japan)	Showa Denko Packaging Co., Ltd. (Hikone)
34	(Consolidated subsidiaries in Japan)	Niigata Showa K.K.
35	(Consolidated subsidiaries in Japan)	SunAllomer Co., Ltd. (Kawasaki)
36	(Consolidated subsidiaries in Japan)	SunAllomer Co., Ltd. (Oita)
37	(Consolidated subsidiaries in Japan)	SunAllomer Co., Ltd. Research and Development Division (Kawasaki)
38	(Consolidated subsidiaries in Japan)	Nippon Polytech Corp.
39	(Consolidated subsidiaries in Japan)	Showa Denko Kenso Co., Ltd.
40	(Consolidated subsidiaries in Japan)	Showa Fine Ceramics Co., Ltd.
41	(Consolidated subsidiaries in Japan)	Showa Denko HD Yamagata K.K. (Head Office)
42	(Consolidated subsidiaries in Japan)	Showa Denko HD Yamagata K.K. (Oyama Plant)
43	(Consolidated subsidiaries in Japan)	Showa Denko Packaging Co., Ltd. (Isehara)
44	(Consolidated subsidiaries in Japan)	Fuyo Perlite Co., Ltd.
45	(Consolidated subsidiaries in Japan)	Shoko Electronics Co., Ltd.

Third-party Verification

We received the third-party verification about the quantitative data posted in this CSR section of our website and included in the integrated report (SHOWA DENKO REPORT 2020) from SGS Japan Inc. in October 2020.



[Third-party Verification Report](#) (540kB)