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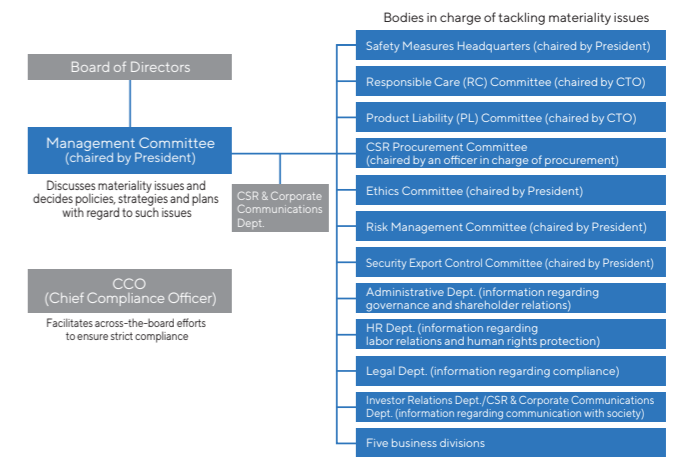
CSR Management

By adhering to The Denka Value, our corporate philosophy, we will fulfill our social responsibilities and thereby contribute to the sustainable development of society.

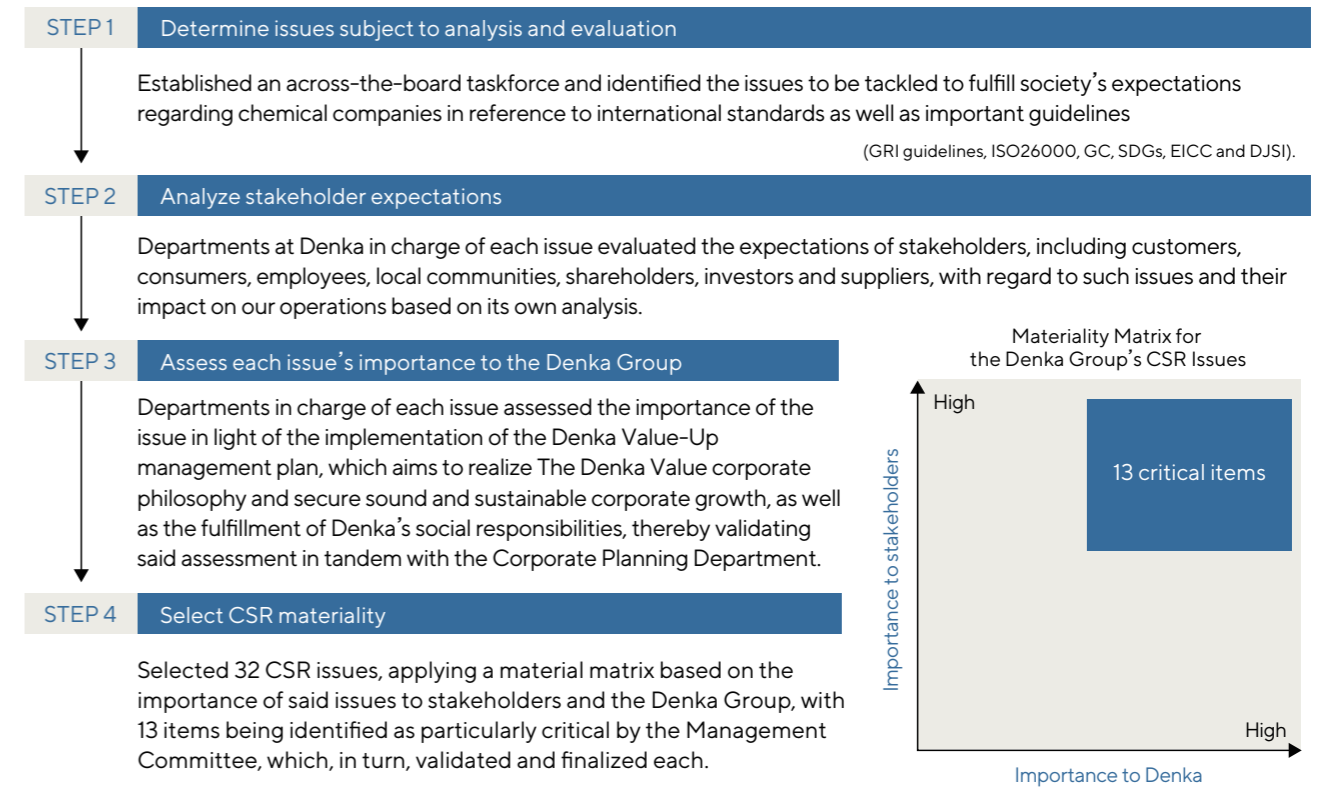


CSR Promotion Structure

Denka has established a CSR promotion structure in which the CSR & Corporate Communications Department and other specialized bodies act in collaboration to spearhead CSR activities undertaken by all Group members. In addition, each body and department supervises initiatives in such areas as worksite safety and Responsible Care and is striving to achieve systematic improvements in its area of responsibility. Meanwhile, the Management Committee, chaired by the president, is in charge of discussing CSR materiality issues as well as deliberating plans for and reviewing the results of each activity associated with CSR. Conclusions reached by the committee are reported to the Board of Directors.



Material Issue Selection Process



CSR Promotion Challenges, Targets and Performance (fiscal 2017)

A: Achieved significant results B: Observed some results C: No results were observed D: The level of activity deteriorated

Category	CSR Materiality Issues	Relevant SDGs		Fiscal 2017					Major challenges and goals in fiscal 2018 and beyond
		Fulfill manufacturers' responsibilities	Provide solutions	Relevant dept(s)	Targets	Results	Pages	Rating	
Prioritization of safety	<ul style="list-style-type: none"> Reinforce security and disaster prevention measures Maintain occupational safety and health while creating a vibrant and comfortable workplace environment 			Environment and Safety Dept.	<ul style="list-style-type: none"> Reduce the number of major accidents and disasters to zero Continually improve the occupational safety record (Step up hazard prediction systems; steadily execute facility improvement projects related to safety countermeasures; and create a lively and sound workplace) 	<ul style="list-style-type: none"> Experienced one major occupational accident (Omuta Plant); investigated its causes and implemented measures to prevent recurrences Reorganized issues the Company is now confronting in terms of process safety, occupational safety and risk assessments Implemented facility improvement aimed at mitigating intrinsic danger, with the number of machining-related occupational accidents decreasing 	pp. 23-24 pp. 65-66	D Experienced a major accident	<ul style="list-style-type: none"> Reduce the number of major accidents and disasters to zero Continually improve the occupational safety record (Conduct risk identification aimed at preventing major accidents; mitigate the intrinsic danger of our operations; promote ongoing initiatives to prevent accidents attributable to unsafe behaviors; and create a lively and sound workplace)
Products and technologies	Create new products and technologies that contribute to sound social development			Research & Development Dept. New Business Planning & Development Dept.	<ul style="list-style-type: none"> Promote R&D process reforms Develop a global R&D network 	<ul style="list-style-type: none"> Promoted open innovation Stepped up life innovation research Created new businesses involving external collaboration Augmented the function of the New Business Creation Team while stepping up scenario planning 	pp. 37-38 p. 68	B Developed a structure for promoting the new management plan	<ul style="list-style-type: none"> Research process reforms on three fronts (themes, information and human resources) Obtain "missing parts" while raising employee awareness of the Group's new business creation efforts Enhance the efficiency of our open innovation initiatives
				Corporate Planning Dept. Each Business Div.	<ul style="list-style-type: none"> Develop next-generation technologies, create new businesses and cultivate markets for new products Step up the development and marketing of eco-friendly products 	<ul style="list-style-type: none"> Obtained U.S. FDA 510k clearance for a reagent for measuring sd LDL-C Engaged in marketing aimed at meeting growing needs associated with car electronics and autonomous driving systems Introduced a new grade of acetylene black for high-capacity batteries 	p. 5-8 p. 16 p. 34 pp. 39-52 pp. 67-68	B Developed a structure for promoting the new management plan	<ul style="list-style-type: none"> Help popularize the use of the reagent for measuring sd LDL-C in health checkups Cultivate new markets for automotive-related products Expand our resource recycling capacities to accept waste as raw materials and fuels
				Production & Process Technology Dept.	<ul style="list-style-type: none"> Maintain sustained growth by significantly enhancing productivity through innovative processes 	<ul style="list-style-type: none"> Formulated an action plan for production process reforms, with the aim of improving labor productivity by a factor of two or more 	p. 34 p. 37	A Formulated an action plan and put in place concrete measures	<ul style="list-style-type: none"> Employ big data to detect signs of facility failure and control product quality while introducing robotics Nurture human resources; pass down technological heritage to future generations; and overhaul in-house educational systems
	Ensure product safety			Quality Assurance Dept.	<ul style="list-style-type: none"> Enhance our quality management and assurance level 	<ul style="list-style-type: none"> Enhanced our quality assurance level, with the number of complaints decreasing 8% year on year (359 in fiscal 2015; 326 in fiscal 2016; 298 in fiscal 2017) Secured conformity with the latest version of ISO 9001 and 14001 Developed a management system in conformity with the IATF 16949 standard for the automotive industry Strengthened the design review process in the course of R&D 	p. 49 p. 69	B The number of complaints decreased	<ul style="list-style-type: none"> Promote ongoing efforts to acquire the IATF 16949 standard certification Review in-house rules related to quality Provide employee education using job level-based training programs
Ensure transportation safety			Logistics Dept.	<ul style="list-style-type: none"> Achieve continuous improvement through collaboration between departments in charge of logistics management as well as Environment and Safety departments at Head Office and each business base Secure safety of loading and unloading operations Enhance our ability to handle transportation accidents 	<ul style="list-style-type: none"> Staff from the Logistics Dept. visited the Omi, Omuta, Shibukawa plants and the Bibai Subplant as well as Denka Azumin and Kyusyu Plastic Industry and conducted safety inspection patrols 	p. 66	B Made progress in efforts to secure logistics safety as planned	<ul style="list-style-type: none"> Hold meetings in which representatives from each Denka plant, transportation subcontractors and other chemical manufacturers exchange insights while organizing tours of their facilities Proactively incorporate external perspectives to raise safety awareness 	
Corporate governance / Corporate conduct deserving stakeholder trust	Ensure that our corporate philosophy is embraced by every employee and transform our corporate culture			Corporate Planning Dept.	<ul style="list-style-type: none"> Establish the Denka Value-Up management plan 	<ul style="list-style-type: none"> Established the Denka Value-Up management plan while ensuring that the plan's goals are shared by all employees 	pp. 9-14 pp. 33-34	A Developed a structure for promoting the new management plan and put in place concrete measures	<ul style="list-style-type: none"> Help business divisions specialize their businesses Promote production, R&D and operational process reforms (Launch working groups serving the aforementioned goals)
	Improve corporate governance			Administrative Dept.	<ul style="list-style-type: none"> Improve corporate governance 	<ul style="list-style-type: none"> Established the Management Advisory Committee, with all outside directors and all outside members of the Audit & Supervisory Board as well as the Chairman and President serving as committee members Introduced share-based compensation for internal directors Analyzed and assessed the effectiveness of the Board of Directors' operations, with assessment results being externally disclosed 	pp. 27-32 pp. 71-72	A Made progress in efforts to improve governance	<ul style="list-style-type: none"> Discuss and implement measures to ensure even more robust corporate governance and thus secure the transparency and soundness of management
	Maintain strict compliance with laws, regulations and corporate ethics			Legal Dept.	<ul style="list-style-type: none"> Maintain strict compliance while stepping up compliance education Conduct more robust operational audits 	<ul style="list-style-type: none"> Upgraded the existing hotline system Conducted operational audits of cement-related subsidiaries Implemented employee education associated with internal control (risk management, etc.) 	pp. 72-73	A Made progress in efforts to enhance internal control via the review of compliance-related systems	<ul style="list-style-type: none"> Step up risk management associated with internal control Enhance the effectiveness of the hotline system Apply IT to improve internal auditing methods
Employee happiness	Nurture human resources			HR Dept.	<ul style="list-style-type: none"> Secure more foreign student recruits and step up long-term training programs in Japan Provide ongoing workplace experience programs for young people while engaging in community contribution activities 	<ul style="list-style-type: none"> Implemented special educational programs for trainers Hired seven foreign nationals as specialists (15% of all specialists hired in April 2017) New recruits participated in volunteer activities as part of training curriculums 	pp. 21-22 p. 34 p. 74	B Steadily carried out various initiatives as planned	<ul style="list-style-type: none"> Create an even more transparent employee evaluation system to augment our foundation for human resource development Formulate and implement human resource development programs to nurture those equipped with specialized skills Step up training for managers to help enhance their management and leadership skills
	Embrace diversity and offer equal opportunities			HR Dept.	<ul style="list-style-type: none"> Achieve our target for the proportion of women among newly hired specialists (20% or more in fiscal 2017) as well as our target for the proportion of female managers across all managerial positions (5% by fiscal 2025) Provide female workers with training programs, such as those aimed at assisting in their career development 	<ul style="list-style-type: none"> Hired 12 women as specialists (28% of all specialists hired in April 2017) Held workshops for female employees on a total of 16 occasions Conducted diversity management training for general managers on three occasions Planned and organized training sessions in which employees are provided with career development assistance 	pp. 21-22 p. 74	B Steadily carried out various initiatives as planned	<ul style="list-style-type: none"> Revise the classification of job categories Consider establishing an in-house job posting system and a free agent (FA) system to encourage employees to take on more challenging missions Implement training sessions in which employees are provided with career development assistance
	Help strike a work-life balance and promote employee health			HR Dept.	<ul style="list-style-type: none"> Facilitate the utilization of annual paid leave Implement comprehensive countermeasures to address mental health issues 	<ul style="list-style-type: none"> Designated two dates on which employees are encouraged to take annual paid leave, with the average number of days of annual paid leave utilized per employee totaling 10.5 Implemented stress checks in accordance with government-sponsored standards (the number of respondents: 2,087 employees via web-based surveys and 2,367 employees via paper-based questionnaires), with industrial physicians conducting face-to-face interviews with employees in excessively stressful situations 	p. 34 p. 38 p. 74	B The number of days of annual paid leave utilized increased	<ul style="list-style-type: none"> Facilitate the utilization of annual paid leave and, to this end, designate dates on which employees are encouraged to take annual paid leave while entitling each employee to anniversary leave
Environmental preservation	Prevent air, water, soil and other environmental pollution			Environment and Safety Dept.	<ul style="list-style-type: none"> Achieve the goals of the Sixth Medium-Term Environmental Plan (the continuous reduction of industrial waste) Sell recycling waste and promote waste utilization in ways that complement the exhaustive scrutiny of every cost element Systematically operate wastewater treatment facilities while assessing water usage status Reduce emissions of chlorofluorocarbons (step up the management and renewal of air conditioning, refrigeration and freezing equipment) 	<ul style="list-style-type: none"> Implemented the Sixth Medium-Term Environmental Plan (setting the final year at fiscal 2018) Received an "A-" rating in the CDP Climate Change Report 2017 Promoted the construction of new hydroelectric power plants 	pp. 17-20 pp. 79-88	C Failed to meet the targets associated with PRTR substances	<ul style="list-style-type: none"> Formulate the Seventh Medium-Term Environmental Plan spanning fiscal 2019 to 2021 Establish SBTs (Science-Based Targets), including those focused on total GHG emissions Secure responsiveness to the CDP (Water) disclosure scheme Establish an in-house certification system for eco-products
	Promote climate change countermeasures (curb global warming, reduce GHG emissions and adapt to climate changes)			Electric Power Dept.	<ul style="list-style-type: none"> Achieve the goals of the Sixth Medium-Term Environmental Plan (global warming countermeasures) Promote global warming countermeasures through the provision of energy-saving and other technological solutions while exploring new themes 	<ul style="list-style-type: none"> Implemented the Sixth Medium-Term Environmental Plan (fiscal 2017 results) 1) Energy consumption intensity: 0.96 compared with the fiscal 2015 level (target: 0.97) 2) CO₂ emissions intensity: 0.95 compared with the fiscal 2015 level (target: 0.97) Achieved targets thanks to the effect of an increase in hydroelectric power generation capacities and improved processes in place at each plant Promoted the construction of new hydroelectric power plants (New Omigawa and New Himekawa No. 6) 	pp. 17-20 p. 79 p. 81 pp. 85-86	A Achieved the targets	<ul style="list-style-type: none"> Achieve the goals of the Sixth Medium-Term Environmental Plan (global warming countermeasures) Promote global warming countermeasures through the provision of energy-saving and other technological solutions while exploring new themes
Dialogue with society / Partnership	Maintain appropriate and timely disclosure of corporate information and establish bidirectional communications			CSR & Corporate Communications Dept. Investor Relations Dept. Administrative Dept.	<ul style="list-style-type: none"> Maintain robust communications with communities around business sites while contributing to the revitalization of local society Implement volunteer activities to meet needs in disaster-stricken areas 	<ul style="list-style-type: none"> Promoted the disclosure of ESG-related corporate information Implemented volunteer activities to assist those living in disaster-stricken areas Prepared an integrated report 	p. 2 pp. 15-16 pp. 25-26 p. 62 p. 89	A Issued the integrated report	<ul style="list-style-type: none"> Promote disclosure of ESG-related corporate information based on KPIs Formulate basic policies on CSR activities and policies regarding social contribution Continue issuing the integrated report

Prioritization of Safety

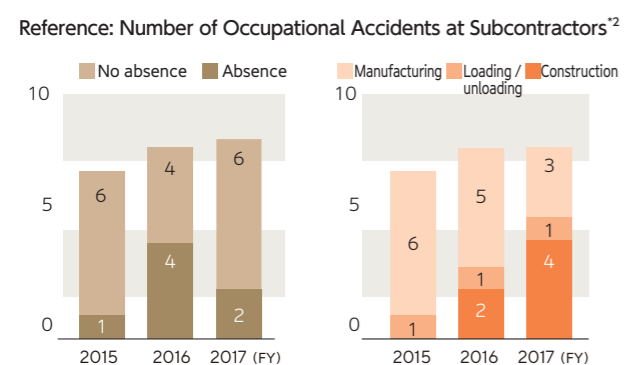
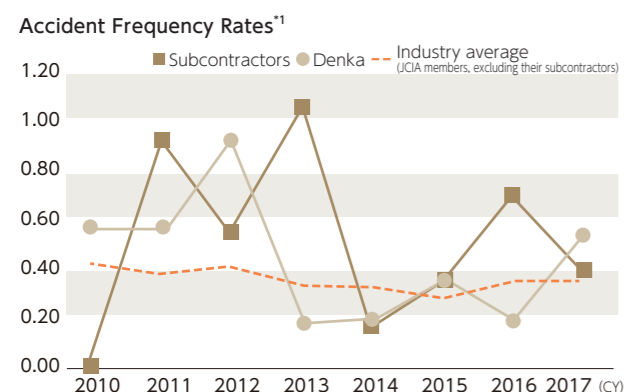


Basic Policy for Workplace Safety, Health, Security and Disaster Prevention

We put the utmost priority on worksite safety and health, facility security and disaster prevention in all aspects of our business activities.

To fulfill our social responsibilities as a chemical company, we put the utmost priority on safety as our basic stance for operations, thereby working together to create a lively and sound workplace and becoming a company capable of eliminating accidents and disasters and worthy of society's trust.

Chair of the Safety Measures Headquarters (President & CEO)



*1 Calculated on a calendar year basis in accordance with the instruction of the Labour Standards Inspection Office and JCIA guidelines.
*2 Number is calculated on a fiscal year basis.

Safety Assurance Activities Undertaken at Each Business Site

1 Chiba Plant: A Comprehensive Emergency Drill (September 26, 2017)

Held a comprehensive emergency drill on the plant's premises in tandem with the local municipal fire department as well as a joint fire brigade put together by companies based in the same industrial complex



2 Tianjin: A Tag for Safety Assurance Advocate

Each week a member of staff is passed the tag, that is, they take their turn serving as that week's advocate for safety assurance activities, helping to raise the awareness of colleagues of the importance of maintaining the zero-accident status and fostering a sense of responsibility.



3 Vietnam: Fire Drills

Annual fire drills are carried out under the guidance of the municipal fire department



4 Dalian: An In-House Award Program for Employee Proposals via the Near-Miss Reporting Scheme

Taking a bottom-up approach to risk assessment



Maintain Occupational Safety and Health while Creating a Vibrant and Comfortable Workplace Environment

Occupational Safety and Health Management System

Denka conducts risk assessments to monitor the degree of risk at each plant. Based on assessment results, we comprehensively manage risks and implement improvements.

The status of certification acquisition from external institutions is as in the following table. Although the plants and affiliates that are not listed below may have not acquired certification for their occupational safety and health management systems, said business sites nevertheless implement safety management and promotion activities equivalent to those prescribed by a certified system.

Occupational Safety and Health Management System

Plant Name	Certification System	Certification Number	Acquisition Date
Chiba Plant	OHSAS18001	3444817	February 6, 2007
Omi Plant	OSHMS	10-15-6	March 8, 2010
DSPL Seraya Plant	OHSAS18001	SNG6011133	January 23, 2011

Initiatives Undertaken on the Production Frontlines in Line with the Aforementioned Basic Policy

Securing Transportation Safety

In addition to preventing accidents and unfortunate incidents in the course of logistics operations, we focus on maintaining safety awareness among employees in charge of transportation. To this end, our fiscal 2017 initiatives included safety patrols undertaken by staff from the logistics departments of Denka's Omi, Omuta and Shibukawa plants and the Bibai Subplant as well as their peers from two affiliates Denka Azumin and Kyusyu Plastic Industry. These patrols were proven successful in terms of raising safety awareness.

In fiscal 2018, we will continue to promote safety assurance activities associated with logistics operations by inviting representatives from transportation subcontractors and other chemical manufacturers to jointly organize facility tours. In this way, we will incorporate external perspectives and exchange insights on logistics safety while helping employees constantly refresh their consciousness on safety operations.

In line with the Denka Value-Up management plan, which took over the previous Denka100 management plan, we will constantly scrutinize every cost element under the new growth strategies in addition to placing the utmost priority on logistics safety. By doing so, we will establish a more efficient logistics structure.

Products and Technologies

We will continue to take on the challenge of expanding the possibilities of chemistry to create new value and contribute to sound social development.



Creating New Products and Technologies That Contribute to the Development of a Sustainable Society

Denka Group Solutions Aimed at Addressing Issues Relevant to SDGs

In 2015, the United Nations adopted "Transforming Our World: The 2030 Agenda for Sustainable Development," identifying 17 Sustainable Development Goals (SDGs) and 169 targets. These SDGs are designed to address universal issues confronting society, with all UN members and stakeholders being called to join initiatives to achieve them.

Focusing its management resources on healthcare, the environment and energy, and high-value-added infrastructure, the Denka Group is aware of the fact that a number of social issues that lie in these fields are also identified by SDGs. Therefore, Denka will maintain acute awareness of what the Company should do to help achieve SDGs, thereby pursuing the possibilities of chemistry to provide solutions to address these goals.

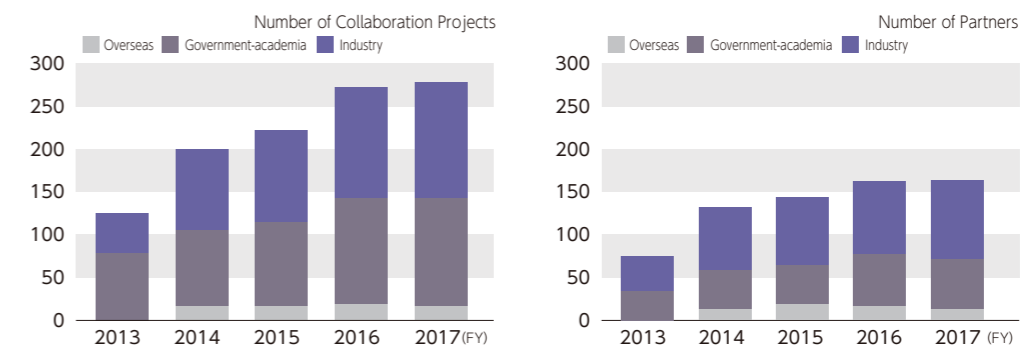


Fields	Denka's key solutions	Primary SDGs
Healthcare	<ul style="list-style-type: none"> Vaccines and diagnostic reagents for infectious diseases Diagnostic reagents for lifestyle-related diseases Cancer remedy information services employing gene alteration analysis 	<p>Goal 3 GOOD HEALTH AND WELL-BEING</p>
The environment and energy	<ul style="list-style-type: none"> Heat dissipating circuit substrates supporting energy-saving technologies Thermally conductive materials and other thermal solution products for electronics components Acetylene black that is used as a conductive aid in lithium-ion secondary cells to help promote the use of clean energy 	<p>Goal 7 AFFORDABLE AND CLEAN ENERGY</p> <p>Goal 11 SUSTAINABLE CITIES AND COMMUNITIES</p> <p>Goal 13 CLIMATE ACTION</p>
High-value-added infrastructure (Various public facilities supporting industries, traffic and communication: rolling stock, roads, ports, waterworks and sewage systems, dams, power and communication infrastructure, etc.)	<ul style="list-style-type: none"> Cement and special cement additives that help build robust and environment-friendly infrastructure Special cement additives and other civil engineering solutions capable of contributing to the effective maintenance and repair of aged structures and buildings Construction and civil engineering materials, including underground drainpipes 	<p>Goal 6 CLEAN WATER AND SANITATION</p> <p>Goal 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p> <p>Goal 11 SUSTAINABLE CITIES AND COMMUNITIES</p>

Examples of Our R&D Accomplishments

① Promoting Open Innovation

With the 2014 opening of the renovated Denka Innovation Center, the number of external collaboration projects increased significantly. In fiscal 2017, we engaged in 274 such projects, an increase of 14 projects from fiscal 2016. To create new businesses and products targeting future generations of potential customers, we have proactively promoted open innovation in a way that utilizes a variety of pipelines, including those secured by top management. As part of in-house collaboration, we also began holding across-the-board meetings on polymer processing. These periodic meetings help relevant employees exchange insights while building a more robust structure for polymer manufacturing and processing.



② Stepping Up Life Innovation Research

Since the launch of Denka Life Innovation Research (DLIR) Private Limited (Singapore) in February 2017, we have been focused on smoothly pushing ahead with and properly managing progress in our R&D activities. To this end, we hold periodic video conferences between researchers while convening bimonthly face-to-face meetings aimed at discussing research themes. Also, the verification of POCT solutions and influenza vaccines is under way at DLIR, with its diagnostic reagent group evaluating the effectiveness of gene-based diagnostic test kits for detecting tropical disease infections and its vaccine group evaluating that of influenza vaccines created via the application of magnICON technology to produce HA antigens. DLIR is also striving to increase synergies with Denka Seiken by formulating joint action plans. Other initiatives undertaken by DLIR include surveys on peripheral needs and potential technologies in the fields of POCT diagnostic reagents and cancer diagnosis with the aim of developing new healthcare-related businesses. Also included are ongoing surveys aimed at identifying next-generation diagnostic technologies and other promising technologies that can be used for such applications as the detection of tropical infectious diseases.

③ Strengthening Our R&D Capabilities and Progress Management

Young researchers engage in collaboration with potential customers

In addition to maintaining technological interaction between young researchers and their external peers, Denka encourages these researchers to be flexible in their pursuit of collaborative research to identify unconventional R&D themes that, in turn, may lead to the creation of new businesses. This approach is expected to yield the added benefit of helping researchers embrace independent-mindedness and achieve personal growth. In fiscal 2017, three external partners were involved in this kind of collaboration.

Nurturing the next-generation of R&D specialists

The Denka Innovation Center held workshops to explore new themes. Avoiding any particular insistence on certain materials, we promote initiatives aimed at encouraging researchers, ranging from new recruits to those working at Denka for 10 years, to bring fresh ideas and employ flexible ways of thinking to the identification of new themes and creation of new businesses and solutions.

Helping promising researchers pursue overseas studies and obtain diploma from leading educational institutions

A researcher has been dispatched from the Denka Innovation Center's Advanced Technologies Research Institute to the University of California, San Diego, to engage in research into next-generation sodium ion secondary batteries, completing studies spanning a period from July 2015 to September 2017 as a visiting researcher. We are proactively helping our researchers to pursue studies at leading educational institutions at home and abroad and to obtain diplomas, including Ph.D.'s. Currently, six people are studying at the graduate school of a national university in Japan to complete the doctoral course.

Properly Managing Product Safety and Quality while Continuously Improving the Quality Assurance Level

Product Safety Management

1. Verify the Safety of Raw Materials and Required Quality Level and Engage in Production Process Design

We select and use raw materials for which safety can be verified while developing products that conform with customer and legal demands. We establish production processes that ensure consistent quality and thus trust in the products we develop.

2. Green Procurement and Purchasing Specifications

We ensure that we purchase only raw materials that do not contain chemical substances prohibited under Japanese and international regulations. At the same time, we purchase and use raw materials based on purchasing specifications that delineate the required characteristics. Consequently, we are striving to manufacture superior products from quality raw materials and production processes.

3 & 5. Manufacturing Vendor Audits

We market products whose manufacturing processes are partially or entirely outsourced. We regularly audit manufacturing vendors based on our in-house standards for quality, logistics, environmental management and product safety.

4. Maintain/Improve Environmental Protection and Quality

We are undertaking environmental and quality management operations; gradually expanding the scope of our efforts to include new products; and working to maintain and improve quality, environmental protection and safety.

6. Waste Contractor Audits

We commission waste contractors in line with the Waste Management and Public Cleansing Law, requiring them to issue manifests and confirm collection. We regularly evaluate the operations and financial positions of these vendors and visit their waste processing sites.

7. Management of Environmentally Hazardous Substances in Products

Based on in-house guidelines for the management of chemical substances used in our products, we are properly managing substances that are potentially hazardous to human health and the environment in accordance with relevant legal regulations. At the same time, we are taking steps to ensure product quality and safety while reducing environmental load by placing restrictions on usage during the raw material phase and by decreasing the residual volume of harmful substances in our products. Upon customer request, we analyze and report the amount of residual substances harmful to the environment contained within products.

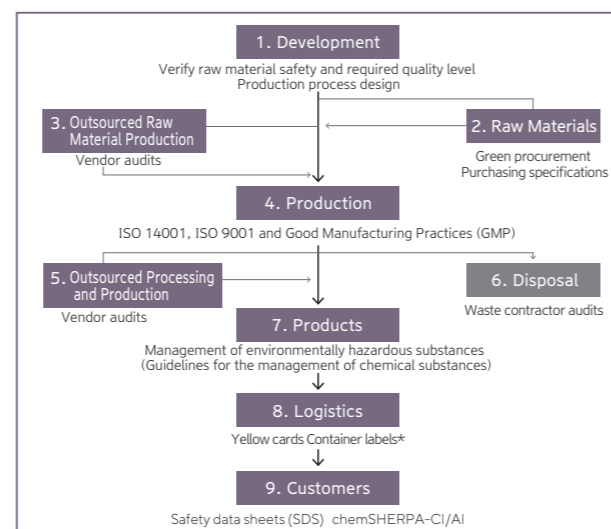
8. Displaying Yellow Cards and Yellow Card Container Labels

We require drivers to carry yellow cards that explain post-accident procedures. We also label containers to ensure swift and proper remediation. We regularly inform drivers of our requirements and conduct emergency drills.

9. Safety Data Sheets (SDS)

We produce these sheets for all products to ensure proper handling according to physical and chemical hazards and health and environmental risks. The sheets inform customers and help educate employees. We also disseminate information on environmentally hazardous substances contained in our products to customers through chemSHERPA-CI/AI, which supplements chemical substance information conveyed on SDS sheets.

Flowchart



*The Japan Chemical Industry Association created a labeling format to augment the Yellow Card system. The labels present emergency guideline numbers and United Nations identification numbers for different chemicals transported simultaneously in relatively small amounts on the same vehicle. The labels aid in the proper handling of these chemicals in emergencies.

The Number of Major Product-Related Incidents and Failures to Meet Customer Requirements

Since April 2016, we have experienced no product liability-related problems or major quality issues, such as serious client complaints or product recalls due to critical product defects. Moreover, the number of complaints registered in fiscal 2017 was down approximately 8% year on year, a continuation of the declining trend we have seen over the last several years (359 in fiscal 2015; 326 in fiscal 2016; and 298 in fiscal 2017).

Customer Satisfaction Surveys

We collect a broad range of customer feedback, including complaints, requests and opinions, to assess customer satisfaction with regard to our quality management initiatives. Moreover, the Electronics & Innovative Products and Living & Environment Products divisions periodically send out questionnaires to identify the level of customer satisfaction. Such actions help these divisions improve the quality of their products in a way that takes heed of customers' voices. Thanks to such efforts, in April 2017 DENKA HITPLATE was chosen by Toyota Motor Corporation's Hirose Plant to receive an Excellent Quality Award. Looking ahead, we will pay close attention to what customers say about our products and continually pursue higher product quality.

Introducing a System for Handling Customer Complaints

In May 2014, we introduced a system for handling customer complaints on a Companywide basis. Employing a centralized database that contains such information as the content of customer complaints, our responses and steps taken to prevent recurrences as well as the verification of steps taken, the system is helping us confirm the status of each complaint on a real-time basis, thereby speeding up information sharing and response time. Moreover, we analyze the database to further enhance product quality and customer satisfaction.

By addressing all negative customer feedback, including complaints, we are doing our best to accommodate requests for even greater product quality.

Response to the Conflict Minerals Issue

In the United States, listed companies are obliged to report on transactions involving and the use of conflict minerals to the Securities and Exchange Commission (SEC) in accordance with the Dodd-Frank Wall Street Reform and Consumer Protection Act enacted in July 2010 and rules issued by the SEC in August 2012. Although Denka is not subject to this legislation, the Company considers it a social responsibility to follow suit. With this in mind, we undertake tracking surveys when requested by customers to affirm that our products are conflict mineral free.

Stepping Up Partnerships with Supply Chains

In order for Denka to implement its management plan, maintaining robust supply chains is a matter of importance. We are well aware of the need to ensure that neither the sell-side or buy-side constituents of a supply chain is forced to accept conditions detrimental to their business, which would damage our favorable relationship with them and eventually cause trouble for end customers. With this in mind, Denka strives to build strategic partnerships with its suppliers while facilitating their understanding of its CSR Procurement Policies and Guidelines. To make our supply chains even stronger, in fiscal 2017 we paid visits to approximately 60 suppliers to engage in face-to-face dialogue.

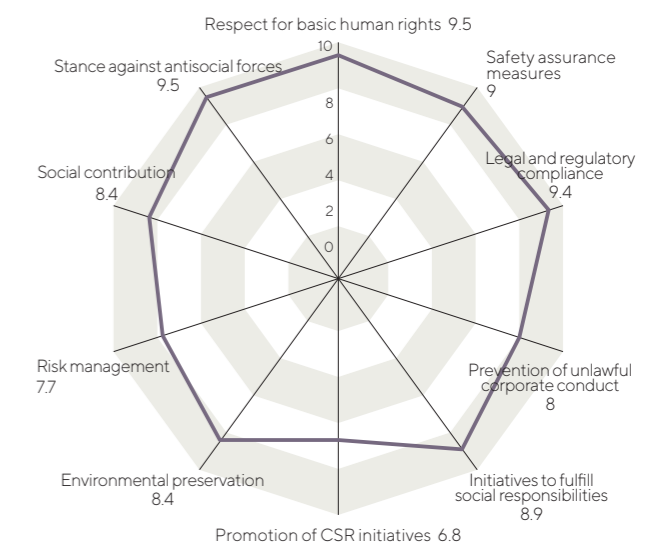
Questionnaires with Regard to CSR Procurement

In fiscal 2017, Denka sent out questionnaires to the top 80% of its suppliers (in terms of transaction value) to confirm their policies on and the status of their CSR activities. Most of the recipients responded and the results suggested that more than 80% of respondents undertake CSR activities, including measures aimed at ensuring operational safety and strict compliance.

Going forward, we will expand the scope of our questionnaires while facilitating mutual understanding through in-depth dialogue. In these ways, we will step up CSR activities in tandem with supply chains.

Primary Items Featured in Suppliers' CSR Policies

Note: Figures in parentheses represent the proportion out of 10 of respondents responding affirmatively with regard to having in place CSR policies addressing the matters listed below.



Corporate Governance: Corporate Conduct Deserving Trust

We are committed to maintaining the soundness and transparency of management as we aim to enhance our corporate value and secure sustainable growth.

Improving Corporate Governance

Analysis and Evaluation of the Effectiveness of the Board of Directors

(1) Method of Evaluation

Following last year, the Company analyzed and evaluated the effectiveness of the Board of Directors by having individual Directors and Audit & Supervisory Board Members to complete the "Self Evaluation Questionnaire," which covers items related to the effectiveness of the Board of Directors, such as scale, composition, operation, and 20 other items, and discussing the questionnaire results at Board of Directors meetings.

(2) Summary of Evaluation Results and Future Efforts

The Company reaffirmed that discussion was reinvigorated at the Board of Directors by ensuring an appropriate Board size and composition (in terms of getting the right balance of expertise, experience, ability and diversity) and an appropriate meeting frequency and duration, as well as through various initiatives to deepen the understanding of Outside Officers of the Company, including prior explanations of agenda items, enabling them to make proactive contributions at the Board of Directors meetings.

In addition, in the area of the Denka Group's overall business strategy as pertains to the last year evaluation, in consideration of the views indicating that further improvement of the role of the Board of Directors may be achieved if the Board of Directors secures adequate time for discussion, including information provision and prior explanations, such that appropriate management and supervision may be implemented, we reaffirmed that we conducted constructive and adequate discussions informed by a wide range of opinion and advice from Outside Officers with regard to the new management plan "Denka Value-Up" through the Management Advisory Committee, which is a voluntary committee comprising all Outside Directors, all Outside Audit & Supervisory Board Members, the Chairman and the President to foster transparency and objectivity in management decision-making, and prior explanations, etc.

At the same time, opinions were submitted that in order to further deepen discussions regarding the overall business strategy of the Group and individual business strategy, it is important to review the time allocation of the Board of Directors and for outside and internal officers to share medium- and long-term and short-term business strategies.

In consideration of these constructive opinions, the Board of Directors will work for the improved effectiveness of the Board to increase medium- and long-term corporate value.

On the other hand, fiscal 2017 self-evaluation identified the need to optimize time allocation at Board meetings to facilitate in-depth discussion of strategies for both the entire Group and individual businesses. These findings also suggested that internal and outside directors must share an accurate understanding of Denka's short-, medium- and long-term business strategies.

Looking ahead, we will act on these inputs and enhance the effectiveness of the Board of Directors' operations so that it contributes to medium- to long-term growth in Denka's corporate value.

Internal Control Systems

Internal Auditing Department

As the organization independent from other business units that monitors the business operations of the whole company, the Internal Auditing Department conducts audits of all organizations and operating companies within the Group.

In fiscal 2017, the department conducted operational theme audits aimed at examining the status of occupational safety and quality management at each plant and cement distribution facility as well as compliance audits of subsidiaries handling cement products around Japan. In addition, the department provided managers of business units across the Company with practical case studies, taken from these audits of the above-listed business sites, as part of educational sessions focused on internal control systems. Thanks to these activities, including practical case studies, we were able to help individual managers confirm their roles and significance in the internal control systems and raise their awareness of internal control.

In fiscal 2018, we are striving to increase the volume and quality of our audits assessing operational risks and management risks. By doing so, we will realize even more solid corporate governance, which is a requisite for "Sustained Growth" and "Sound Growth," two objectives identified in our threefold growth vision under the Denka Value-Up management plan. Specifically, our audits are aimed at ensuring comprehensive examinations of the management of the assets and risks in each Group company and the status of legal compliance and business operations. In these ways, we are striving to identify risk and issues that may have otherwise been overlooked and examine each operational process to assess its effectiveness and appropriateness. Issues identified through audits are communicated to business units subject to auditing to encourage spontaneous efforts to make improvements. Furthermore, we share these issues with other departments as necessary, as we expect them to contribute their ideas to devise solutions and mutually help their peers improve the value of their respective business units.

Our Structure for Screening Contracts

As we aim to ensure that each Group company maintains fair and impartial conduct in the course of transactions with customers, suppliers and other business partners, we believe that the screening of contracts is essential. This screening must carefully examine contractual terms and conditions from a legal perspective and in light of our operational objectives. To that end, Denka is developing an overarching intranet system serving as an end-to-end management tool that updates the status of contracts, including those undergoing pre-signing screening by the

Legal Department and those that have already been signed, as well as the whereabouts of each contract paper. In addition to providing relevant individuals with an easy-to-use interface, this system is expected to help them realize the earlier detection of contractual risks requiring attention and address such risks in a more efficient manner.

Maintaining Strict Compliance with Laws, Regulations and Corporate Ethics

Our Stance against Corruption and Antisocial Forces

The Denka Group Ethics Policy prohibits employees from engaging in bribery or other illegal activities as well as from providing or receiving entertainment or gifts of excessive value or the nature of which violates social norms. We send out periodic alerts reminding employees to take particular heed of the prohibition against bribery when engaged in transactions overseas or trying to penetrate into new market areas. We intend to also implement such employee education at overseas subsidiaries. In addition, our subsidiaries in Singapore have in place even more stringent in-house rules regarding gifts and entertainment in line with the country's legal standards. All Group employees are strictly prohibited from acting in any way to benefit antisocial forces, and we ensure that every business contract incorporates a clause requiring the severance of any relationship with such entities.

Security Trade Control

Current international regulations on trade aim to prevent the proliferation of weapons of mass destruction by prohibiting exports of products and technologies that could help the development and manufacture of such weapons. In line with this, the Denka Group Ethics Policy requires adherence to Japan's Foreign Exchange and Foreign Trade Act, the Export Trade Control Order and other related regulations as well as the Company's in-house rules on security trade control. Reflecting this, our initiatives aimed at ensuring security trade control include internal audits, participation in external seminars and product classification as well as end-use and end-user verification.

Protection of Intellectual Property Rights

The protection of intellectual property (IP) rights is becoming ever more important in terms of compliance. With this in mind, we are implementing the following key initiatives on an ongoing basis.

First, we continually strive to ensure patent clearance. In addition to respecting the IP rights held by other companies, we carry out periodic patent clearance searches to ensure that our products cause no infringement of such rights while sharing search results throughout our organization.

Second, we continually improve employee education. In addition to providing our researchers with education on patent application, our initiatives include annual training sessions themed on the protection of IP rights, targeting personnel at sales, corporate planning and administrative departments. We are thus endeavoring to raise employees' compliance awareness regarding the protection of IP rights.

Standards of Independence for Outside Officers

The standard of independence for an Outside Director or Outside Audit & Supervisory Board Member of the Company shall be persons that do not fall under any of the categories defined in items (1) through (5) below.

- (1) An executor of business (*4) at a main customer (*1), main supplier (*2), or main lender (*3) that is a main trading partner of the Company;
- (2) A consultant, accountant, lawyer, or other such person that has received money or other property exceeding ¥10 million in value per year from the Company, excluding officer compensation, in the most recent fiscal year;
- (3) A person belonging to a group for whom the amount paid by the Company makes up 2% or more of the group's revenues or total income in the most recent fiscal year, in cases where the entity receiving property under item (2) above is a group;
- (4) A person that has fallen under any of the above categories (1) through (3) within the past year;
- (5) A spouse or relation within the second degree of a person falling under any of the categories below (excluding an insignificant person):
 - i. A person that falls under any of the above categories (1) through (4);
 - ii. A person that is or was an executor of business at the Company or a subsidiary of the Company now or within the past year;
 - iii. A person that is or was a non-executive director at the Company or a subsidiary of the Company now or within the past year (for Outside Audit & Supervisory Board Members only).

(*1) Main customer: A customer from whom the amount paid has made up 2% or more of the Company's revenues in the most recent fiscal year

(*2) Main supplier: A supplier to whom the amount paid from the Company has made up 2% or more of the supplier's revenues in the most recent fiscal year

(*3) Main lender: A lender that was essential for the Company's funding, and that the Company relied on to the extent the lender was irreplaceable, as of the end of the most recent fiscal year

(*4) Executor of business: An executive director, executive, executive officer, or other employee, etc.

Prevention of Insider Trading

In recent years, the incidence of insider trading and illegal use or leakage of privileged information has increased. In response, Japan's Securities and Exchange Surveillance Commission is stepping up efforts aimed at cracking down on such illegal activities. In line with its in-house rules regarding the control of insider information and prevention of insider trading, Denka prohibits information leakage while requiring employees in certain positions to submit prior notice when they engage in the sale or purchase of stocks. Also, such sales and purchases are uniformly banned during the two weeks before the date of financial results announcement.

Looking ahead, we will strive to disseminate these rules via the Company's intranet and other media, thereby helping to ensure the appropriate control of information and the prevention of insider trading.

Fair Trade

In line with the stipulations of the Denka Group Ethics Policy requiring adherence to competition laws (e.g., the antimonopoly laws), we are holding in-house compliance training sessions and seminars while conducting internal audits with the aim of facilitating employee understanding of relevant issues and ensuring even stricter compliance. Thanks to these and similar efforts, Denka has not been charged with any violation of competition laws since 1993 in Japan and 2002 overseas. As we aim to remain in this status, we are stepping up such initiatives as employee education aimed at ensuring compliance with fair trade and competition laws.

The Number of Incidents Reported via the Compliance Hotline System

2013	2014	2015	2016	2017
2	2	1	4	4

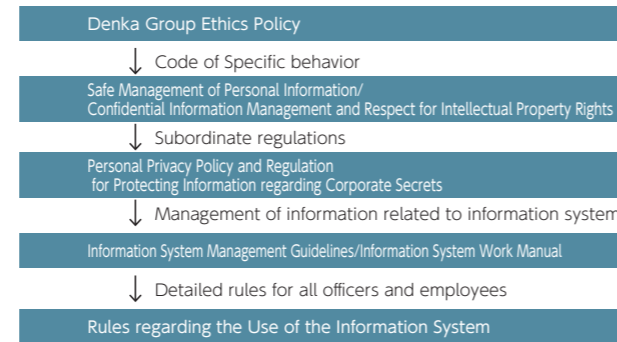
Information Security Management

① Information Management Rules

The Denka Group Ethics Policy encompasses guidelines under the headings the Safe Management of Personal Information/Confidential Information Management and Respect for Intellectual Property Rights, both of which are strictly complied with. As subordinate regulations of these guidelines, Denka established and developed the Personal Privacy Policy and the Regulation for Protecting Information regarding Corporate Secrets.

The Company annually updates rules regarding the use of the information system and posts these rules on its intranet bulletin board with the aim of ensuring that every officer and employee is well aware of "dos and don'ts" with regard to their usage of such systems. Furthermore, Denka strictly manages and respectfully handles confidential information provided by third parties in accordance with the Denka Group Ethics Policy.

Structure of Information Management Rules



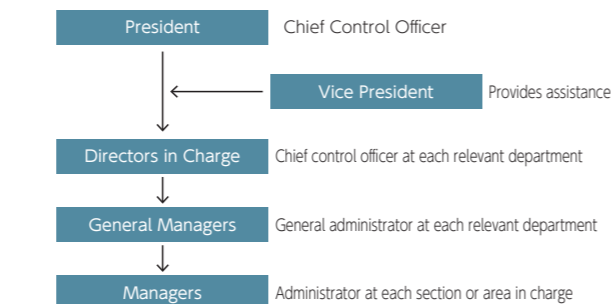
② Information System Management and the Protection of Electronic Data

To ensure the safe and efficient management and operation of its information systems, Denka established the Information System Management Guidelines and the Information System Work Manual as subordinate rules under the Regulation for Protecting Information regarding Corporate Secrets.

As we aim to enforce robust measures aimed at protecting our electronic data, we utilize external secured data centers to operate our servers, disc devices and other equipment constituting our system platform. Moreover, we established a structure that links two data centers (located in the east and west of Japan), each capable of supplementing the other's operational capacity even if one site is struck by a wide-area disaster like an earthquake or a tsunami, thereby securing the continuity of system operations.

Well aware of the threat of malicious cyberattacks employing increasingly sophisticated methodologies, we implement vigorous countermeasures against intrusion into our network and the theft of information from it, striving to ensure the early detection of computer virus infections and other unauthorized activities.

Information System Management Structure



③ Lectures on Information Security

Denka provides newly hired employees with joint training sessions themed on information security, utilizing easy-to-understand videos to instill relevant in-house rules. For mid-ranking and veteran employees, the Company implements annual information system training sessions at Headquarters, branches and plants, giving them lectures on these rules. In these ways, Denka ensures that all employees are well-versed in information security rules whether they are new recruits or veterans.

Employee Happiness



Helping Women Earn Career Success

Every year, we strive to ensure the proportion of women among our newly hired specialists is 20% or more. In April 2017, 12, or 28%, of our newly hired specialists were women.

As our aim is to facilitate equal participation in business of both genders, we have lengthened the period that those engaged in child rearing may opt for shorter working hours while allowing employees to take half-day nursing care leaves for tending to family members. This and other assistance programs have been introduced to help employees develop lengthy careers even when they face the need to place stronger focus on family duties. Moreover, we have prepared and distributed *Life in Denka*, an in-house booklet aimed at facilitating employees' understanding of these programs.

An informative handbook aimed at helping employees strike a balance between nursing care and work



Under the slogan "Your value is Denka's value," we compiled and distributed this handbook to all employees (January 2018).

Status of Work-Life Balance (non-consolidated basis)

	Fiscal 2014	Fiscal 2015	Fiscal 2016	Fiscal 2017
Total working hours	1931	1931	1948	1,942
Overtime hours	100	104	122	130
Average number of days of paid leave utilized	9.05	9.56	9.65	10.48
Ratio of annual paid leave utilized	48%	50%	51%	55%
Number of employees who took childcare leave (Of which, male employees)	6 (0)	11 (0)	21 (0)	19 (0)
Number of employees who opt for shorter working hours	5	13	10	11
Number of employees who utilize programs aimed at assisting their child rearing by subsidizing childcare facility and other fees	—	—	98	100
Number of employees who took nursing care leave	1	0	0	0
Number of employees who took half-day leaves for nursing care leave	—	—	0	0
Number of employees who took volunteer activity leave	0	0	0	0



Ms. Yoshie Komuro and Denka President Manabu Yamamoto Engage in Dialogue

In line with the Denka Value-Up management plan, which we launched in April 2018, we have identified diversity promotion and work style reforms as key factors supporting the plan's threefold growth vision. To discuss these factors, President Manabu Yamamoto and Ms. Yoshie Komuro, President & CEO of Work-Life Balance Co., Ltd., engaged in a dialogue aimed at showcasing Denka management's commitment to promoting diversity and outlining the Company's future initiatives.

Promoting Diversity as a Key Management Strategy

Personal experiences drove home the realization that diversity is essential

Komuro: Looking back on your career, could you point to a specific experience that significantly affected your perspective on diversity?

Yamamoto: When my wife and I married, we had both been working full-time for several years. We had attended the same university, but her more impressive academic achievements won her a well-paying position at a foreign-capital bank after graduation. So, back then, her salary was far higher than mine. As a result, our total family income was pretty high for our age. As soon as we had a child, however, our lives changed drastically. Unfortunately, we were not able to ask our parents to help us out with childcare. Furthermore, neither my wife's nor my own workplace offered more than minimal assistance programs for employees raising children. We had a serious discussion about how to deal with the difficulties we faced, and my wife eventually decided to resign.

Komuro: So, even for someone working at a foreign-capital bank, striking a balance between work and childrearing was that difficult?

Yamamoto: Yes it was. After her resignation, our finances suddenly became tight. Generally speaking, if you are expecting a new family member, you want to see your income going up, don't you? Nevertheless, instead of securing income from two earners, we had been forced to make a choice that ran contrary to our needs. The dissatisfaction with the circumstances we were forced into has lingered ever since.

Komuro: However, I imagine that at that time, the majority of working men in Japan didn't think to question the status quo did they?

Yamamoto: Perhaps not. In fact, at first I simply grumbled that "Our life would be much easier if my wife were still working." It took me a long time to realize the true significance of the loss my wife herself had to accept in terms of missed career opportunities. Similarly, it took a while for me to recognize that her resignation also meant a loss to the industry of a valuable human resource. Today, I clearly see the absurdity and consequences of forcing women to choose between having a career and having a family, but when it was happening to us I had no such awareness.

Komuro: So, despite your negative experience, you thought that's just the way it was.

Takeaways from observations of German practices

Komuro: Mr. Yamamoto, you've worked overseas. What were your impressions regarding differences in the working styles of a typical Japanese as opposed to a foreign businessperson?

Yamamoto: In 1989, when Japan's bubble economy was in full swing, I was transferred to Germany. That was just a month after the collapse of the Berlin wall. My office was in the former West German segment, which had far older population than its East German counterpart. Because of this, human resources were lacking and the presence of women in the workplace was equally as strong as that of their male counterparts.

Komuro: So, the norm was for women to play an equally important role in the workforce and they were actually achieving robust careers as early as the 1990s?

Yamamoto: That's right. I still recall seeing significant numbers of female managers working in the purchasing departments of Denka's client companies. I also met with a number of female researchers. On numerous occasions I was amazed and impressed to see people enjoying career success regardless of gender. In addition, my German counterparts hardly ever had to work overtime to complete their tasks. That was what really inspired me during my association with Germans. Moreover, they took many days off. German law stipulates that annual paid leave granted to employees must be fully utilized within a one-year cycle. No German corporations are allowed to covertly push employees to forgo their rights of annual paid leave by, for example, offering cash incentives.

Komuro: That's different! Did you find it surprising?

Yamamoto: Yes indeed, I found it almost shocking. Although German workers usually take summer vacations that are a month or more long, this practice doesn't affect productivity. They were also extremely good at maintaining a strong focus on work during business hours. Having seen the system at work, I concluded that the secret behind Germany's economic success lies in its strategic emphasis on labor efficiency.

Komuro: So, how did you feel about Japanese working styles once you had returned from Germany?

Yamamoto: In contrast to Germany industry's strong economic position backed by the capabilities of its human resources and efficient working styles, Japan's economic competitiveness is the simple result of human wave tactics and unlimited overtime work. That was my impression.

Komuro: I see. So these observations significantly affected your views on diversity, helping you recognize the need to realize an inclusive and diverse workplace as well as to improve the efficiency of work styles in Japan, right?

Yamamoto: Yes, they did.

Changing our corporate culture to better adapt to the new reality

Komuro: In line with the "Denka Value-Up" management plan, Denka has positioned diversity promotion and work style reforms as key strategies. What was your intention behind this positioning?

Yamamoto: Over the course of its century-long history, Denka has been accumulating strengths in various areas. We now boast a wealth of technological expertise as well as a robust pool of human resources. Although the strengths we have are worthy of being preserved, we must also embrace change so that we can better adapt to the new reality of a rapidly evolving and increasingly globalized market environment. Going forward, we must differentiate ourselves from competitors. We will otherwise be left behind. All of us share a sense of urgency in this regard. Moreover, we are acutely aware of the fact that the conventional, homogeneous organizational model is rapidly becoming irrelevant in the face of the need to accommodate wide-ranging customer needs while looking to specialize our business portfolio. That's why we consider promoting workforce diversity essential. We believe that human diversity helps us enhance versatility and flexibility throughout our organization.

Komuro: So the changing business environment is prompting Denka to promote diversity as a management strategy.

Yamamoto: Exactly. Moreover, promoting diversity also addresses our need to remedy a severe lack of human resources in non-metropolitan areas. At our plants in Niigata, Kyushu and other regions, the scarcity of suitable human resources has become a major obstacle to maintaining robust plant operations. Moreover, given our aim of securing people capable of contributing to the specialization of our businesses, adhering to an age-old recruitment policy focused on maintaining a male-dominated, full-time-only workforce no longer makes sense. We are therefore concentrating on creating a workplace environment that welcomes women, foreign nationals, seniors, persons with disabilities and other diverse people and helps them realize their potential. We believe that failing to do so would be critically detrimental to our corporate growth.

Komuro: If a lack of human resources forces a company to give up work that it could otherwise undertake, the loss of business opportunities could be significant, couldn't it?

Yamamoto: That's true. So, in addition to promoting diversity as a management strategy, we would like to make Denka an attractive employer for diverse individuals who are either working at or seeking careers with the Company.

How Denka promotes diversity

Komuro: Now, let's move on to the details of how Denka promotes diversity. Could you name any specific initiatives now under way?

Yamamoto: First, we will keep our focus on recruiting

a certain number of female specialists and foreign nationals every year. We will also build robust human resource development programs and structures through collaboration between the HR Department and the business units to which they are assigned. In these ways, we will help diverse human resources achieve career success. That being said, we've only just begun the aforementioned periodic recruitment of female specialists, so currently there are but a handful of management candidates. Accordingly, we will step up efforts to nurture female manager candidates. Simultaneously, we will proactively hire human resources with specialized skills. We expect these initiatives to enhance our diversity.

Komuro: What are your views on diversity promotion and work style reform initiatives at production sites?

Yamamoto: Historically, production sites have typically been run by regimented male-dominated organizations optimized to handle often dangerous unautomated tasks requiring brute strength and hard physical labor. Going forward, however, we must ensure that women also play key roles in plant operations and, to this end, review various aspects of our worksites. For example, stair riser heights must be re-designed in light of women's average physical build, so that they won't have trouble going up and down. The same applies to the installation of arm rails. We may also have to review upper limits on the weight of cargo being manually loaded, with an eye to how women are best used in loading and other logistics-related operations. Overall, what we're trying to do is to realize labor-saving operations.

At the same time, we need to standardize our operations and reduce dependence on the skills of particular individuals by, for example, promoting automation via the use of IoT, AI and robots. Standardization and automation will ensure the uniform quality of operations and products while facilitating quick and easy job handover and staff education. In addition, we are considering drawing up multilingual operational procedures as part of this standardization. We expect that promoting labor-saving, standardized operations will help us make our worksites far more productive and safer.

Komuro: That means Denka's working environment is becoming friendlier to senior employees who chose not to resign after reaching retirement age, doesn't it?

Yamamoto: That's right. I also note that physical build and strength varies a lot between individuals; some are well-built and stronger while others are slighter. I suspect that there may be some who feel their tasks are a bit too physically taxing for them. Accordingly, we must create an environment in which everyone can work without excessive physical strain. I expect this ideal to be shared by heads of plants, managers and all other staff in the course of our pursuit of diversity and work style reforms.

Leaders are expected to serve as coaches not commanders

Komuro: To promote the initiatives you've just mentioned, I suppose that enhancing communication

within the workforce will be essential. Specifically, managers will need to engage in in-depth, open dialogue with staff members to know exactly what worries and challenges they face. This will entail coaching-based management, rather than the conventional top-down approach of simply issuing commands. In doing so, managers will need to closely listen to their staff and sincerely address the matters that concern them while encouraging them to become self starters.

Yamamoto: I totally agree with you. I've long been engaged in operations related to electronic materials, an area where market conditions undergo frequent drastic changes. What I've seen in the course of my duties was that managers often rely on market intelligence that has already become obsolete. This renders one-sided top-down communication quite ineffective. My thinking is that there should be a bottom-up intelligence and insight gathering mechanism or organizational culture. I became painfully aware of the reality of this need through my own business experience.

Komuro: Then, could you tell me what roles managers and leaders are expected to fulfill in such an organization?

Yamamoto: I want managers and leaders to spearhead our efforts to raise staff awareness with regard to diversity. Of course, the Company as a whole needs to develop robust programs aimed at promoting diversity, but I would also urge each of my colleagues to have a sense of ownership regarding this matter and understand its importance. I want them to accept differences, respect one another, and mutually help develop each other's potential. I believe this mindset is essential to promoting diversity.

Komuro: About three years ago, a Google project attracted the attention of the general public. In this project, Google identified outstanding and mediocre teams within its organization and studied them to determine what made them different. The project's initial hypothesis, that the presence of well-experienced staff and large businesses with major customers made the standout teams highly productive, was contraindicated by the results. Interestingly, the project concluded that psychological safety was the only defining factor that all the standout teams had in equal measure. Psychological safety means that a person always feels safe to express his ideas and honestly share what he really thinks without fear of negative consequences, such as being subject to mockery. In many Japanese corporations, however, employees have become inured to a kind of a fear-based culture that overemphasizes avoiding mistakes rather than encouraging creative expression. Although such an approach may once have made some sense, corporations are now being called upon to shift toward allowing employees to freely share diverse ideas that may, in turn, help corporations reap greater profits. Such a culture definitely requires ensuring that workers feel safe. I would therefore suggest that Denka fosters a psychologically safe organizational culture by, for example, holding in-house dialogues

at each business unit to intentionally encourage employees to get to know each other and freely voice their opinions.

What everyone at Denka is expected to do

Komuro: Going forward, what do you expect Denka employees to do in terms of diversity promotion?

Yamamoto: The Diversity Promotion Department has coined the slogan "Your value is Denka's value," which, incidentally, speaks to my expectations. I would like each Denka staff member to review their strengths. You know, everyone has some good qualities that can be recognized by those around him or her. So, I encourage my colleagues to identify theirs and proactively communicate their willingness to contribute to the team in a way that best utilizes their own strengths.

Komuro: I really like that slogan.

Yamamoto: Realizing innovation has become what's most important for today's business corporations. Innovation occurs mostly on the frontlines. Therefore, I expect frontline workers to be confident in their own potential, proactively voice their opinions and suggest what they believe is worth trying, however unconventional their ideas seem to be. Every single input must be respectfully considered at Denka. Moreover, management should ensure that every employee is treated with due respect. I will strive to make this part of Denka's corporate culture, thereby motivating staff to develop unique ideas.

Komuro: Innovation is often born out of the chemistry of different ideas coming together. In this light, encouraging workers to nurture diverse opinions is essential. I feel that this brief slogan represents an aspiration to make innovation happen at Denka.

Yamamoto: Actually, the slogan itself was coined employing a bottom-up approach, rather than a top-down approach, with staff members at the Diversity Promotion Department taking the initiative. I hope that Denka's ideals are shared by all my colleagues and inspire them to proactively speak up about how to enhance their own competencies, boost the strength of their teams and organizations, and pursue corporate growth. I expect that these practices will help everyone maximize their potential while generating synergies, which, in turn, solidify the comprehensive strengths of the Denka Group.

Becoming an employer of choice for people around the globe

Komuro: Lastly, do you have any words for employees?

Yamamoto: I would like to make Denka an employer of choice for people all around the globe, a company whose employees are certain that choosing Denka is their best decision. Furthermore, I would like to help my colleagues around the world establish their presence as contributors to the communities around them and be appreciated by all the different kinds of stakeholders. That's my dream. Because of that, Denka needs to focus on improving the well-being of employees and their families, and I believe

that promoting diversity is essential to this end. In addition, I would like my colleagues to understand that the success of diversity promotion also depends on their commitment. Toward becoming a better and stronger company, I invite every Denka Group staff member to work shoulder to shoulder.

Yoshie Komuro

President & CEO, Work-Life Balance Co., Ltd.

2004 Named "Nikkei Woman of the Year" in the Career Create Category

2006 Founded Work-Life Balance Co., Ltd.

2012 Selected as a speaker at TEDxTokyo

2014 Chosen by Japan Mothers Association to receive the Best Mother Prize (Businesspeople Category)

Having served more than 900 client companies as a consultant, Ms. Komuro provides valuable insights for striking an optimal work-life balance, including tips for reducing working hours and increasing the ratio of annual paid leave utilized. Moreover, her consulting activities have helped her clients yield such positive results as improvements in business performance and employee satisfaction while leading to a rise in the number of staff members who go on to start self-motivated learning or chose to become working mothers. Ms. Komuro has thus garnered a solid reputation for her ability to help corporations break away from dependence on excessive working hours and thus facilitate their transition to highly productive organizations.

Environmental Preservation

As a chemical company, we are committed to preserving the global environment through Responsible Care activities while pursuing manufacturing operations that contribute to environmental conservation initiatives.



Sixth Medium-Term Environmental Plan

We are promoting systematic energy-saving initiatives aimed at annually achieving a 1% improvement in both energy consumption and CO₂ emissions intensity indices. Moreover, efforts are now under way to continuously reduce emissions of environmental load substances by improving our production technologies through such measures as the upgrading production process and facilities.

Items	Fiscal 2016		Fiscal 2017		Fiscal 2018	
	Results	Targets	Results	Targets	Results	Targets
Energy consumption intensity (fiscal 2015 base)* ¹	0.99	0.96	0.96	0.96	0.96	0.96
CO ₂ emissions intensity (from energy sources)* ¹ * ²	1.18	1.13	1.12	1.12	1.12	1.12
CO ₂ emissions intensity (from energy sources: fiscal 2015 base)* ¹ * ²	1.00	0.97	0.95	0.95	0.95	0.95
Emissions of PRTR substances (tons)	83	73	75	71	75	71
Final landfill waste (tons)	119	123	88	111	88	111

*¹ Standard calorific value of purchased energy has been set at 9,484 MJ/kWh in accordance with Keidanren's Commitment to a Low Carbon Society; figures include energy consumption attributable to and CO₂ emissions from non-manufacturing sectors (Head Office, branches, etc.).

*² CO₂ emissions intensity is calculated based on the converted production volume of benchmark products

Fiscal 2018 Responsible Care (RC) Activity Policies (environment related)

In line with the Responsible Care Global Charter, we will engage in dialogue with stakeholders to accurately assess society's expectations in addition to maintaining strict compliance and preventing environmental pollution. As our goal is to contribute to environmental conservation initiatives aimed at realizing a sustainable society, we will promote RC activities in all aspects of our business operations, ranging from raw materials procurement through manufacturing and storage to distribution to usage and disposal. In these ways, we will fulfill our social responsibilities.

Priority Initiatives (environment related)

①Global warming countermeasures

- Commercialize energy-saving solutions at the earliest possible date while exploring new themes
- Ensure the appropriate management and systematic renewal of equipment that uses fluorocarbons in line with relevant laws and regulations

②Continuous reduction in industrial waste

- Promote initiatives to improve yield ratios, sell recyclable waste and otherwise utilize waste in ways that complement the exhaustive scrutiny of each business base's cost elements

③Formulation of the Seventh Medium-Term Environmental Plan

- Formulate a plan that aligns with the objectives of the Denka Value-Up management plan and, to this end, identify key performance indicators (KPIs) associated with environmental management

④Key themes for each business base

- Omi Plant: Promote resource recycling in cement production and reduce odor and BOD through the systematic improvement of facilities treating wastewater from chloroprene production lines
- Chiba Plant: Systematically reduce VOC emissions

Promoting Climate Change Countermeasures

Our Response to the Revised Act for Rationalized Use and Proper Management of Fluorocarbons

In accordance with the Act for Rationalized Use and Proper Management of Fluorocarbons (put into force in April 2015), we are stepping up the management of our freezing and air conditioning equipment that uses fluorocarbons as refrigerants. With the revision of this act, business operators are obliged to submit a report to relevant authorities whenever their annual emissions volume exceeds 1,000 t-CO₂e.

Even though we have maintained our fluorocarbon emissions below this limit (fiscal 2015: 812 t-CO₂e; fiscal 2016: 448 t-CO₂e; fiscal 2017: 440 t-CO₂e), we will steadily implement facility inspection and maintenance while promoting the systematic renewal of such equipment, replacing it with alternatives that use refrigerants with a smaller GWP (global warming potential). In this way, we are working to make fundamental improvements.

Third-Party Verification of Denka's GHG Emissions Data

The Denka Group has undergone a third-party verification of its GHG emissions data. This verification was undertaken by Bureau Veritas Co., Ltd. and was intended to enhance the reliability of said GHG emissions data through independent verification as part of initiatives aimed at continuously stepping up the Denka Group's environmental management. For more details, please also see the third-party verification report posted on Denka's corporate website.

[Period covered by the verification]

April 1, 2016 to March 31, 2017

[Scope of the verification]

①Scope1 and 2 GHG emissions

(CO₂ emissions from energy and non-energy sources)

Business sites identified as sources of emissions under these categories are as follows.

Denka's six domestic production sites (Omi, Omuta, Chiba, Shibukawa, Ofuna and Isesaki)

②Categories 1, 6 and 7 of the Scope3 GHG emissions

Items identified as sources of emissions under these categories are as follows.

•Category 1 (purchased goods and services)

Goods and services procured by six domestic production sites (Omi, Omuta, Chiba, Shibukawa, Ofuna and Isesaki: items that accounted for top 90% of procurement transaction costs are included in calculation.

•Categories 6 (business travel) and 7 (employee commuting)
Business travel and commuting by all employees at Denka.

[Verification report]

<http://www.denka.co.jp/eng/news/pdf/20180323ghgvs.pdf>

Prevention of Air, Water, Soil and Other Environmental Pollution

In addition to managing its GHG emissions, the Denka Group is striving to control emissions of environmental load substances from Group facilities, including SO_x and NO_x from boilers and heating furnaces as well as soot and dust and PRTR substances from production lines.

We are committed to complying with relevant laws and national and municipal regulations and standards as well as upholding pollution control agreements with local authorities. Also, we continually strive to reduce our environmental footprint through the appropriate maintenance and management of our facilities and, to this end, implement facility upgrades and periodic inspections. To see data regarding each emission item, please see pages 85 to 88.

During fiscal 2017 we experienced no incidents or accidents with a significant environmental impact.

The Denka Group's Policies regarding and Accomplishments in Biodiversity Protection

In recent years, the general public has voiced growing concerns with regard to environmental issues that significantly affect biodiversity. These issues range widely from the pollution of rivers and oceans, including the micro-plastic contamination of marine environments, and coral bleaching to the extinction of wildlife species and the equitable distribution of the benefits of biological genetic resources.

With the Convention on Biological Diversity coming into effect in 1993, a growing number of businesses are striving to help realize the UN's Sustainable Development Goals and supporting other international initiatives related to biodiversity. With this in mind, Denka is constantly endeavoring to reduce environmental burdens attributable to its production activities by working in collaboration with the entities that comprise its supply chains. At the same time, the Company gives due consideration to the preservation of biodiversity and the natural environment when it is engaged in the construction of hydroelectric power generation facilities and the development of mines. Moreover, Denka is focusing on the sustainable use of resources throughout the course of the development and provision of its products and services. In addition, the Company provides environmental education on a regular basis to ensure that every Group employee is acutely aware of the significance of biodiversity. In these ways, we will step up corporate activities aimed at contributing to a sustainable society.

Examples of concrete initiatives:

①Conducting periodic surveys aimed at assessing the impact of limestone mine development on ecosystems in neighboring areas

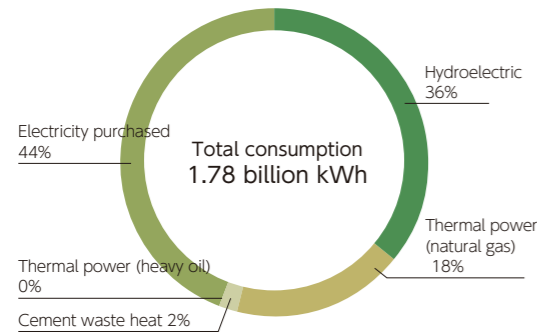
②Engaging in the planting of Japanese evergreen oak and pin oak trees to restore areas that have undergone mining to their original state

③Developing a water treatment business via Group company Denka Consultant & Engineering Co., Ltd. by employing its microorganism handling technologies

④Preserving *Cephalanthera erecta* and *Cephalanthera falcata*, both of which are facing a growing threat of extinction and have been designated as class II endangered species by the Tokyo Metropolitan Government, on the premises of the Denka Innovation Center (Machida, Tokyo) and adjoining areas

Initiatives in Electric Power Generation

Power Sources in Fiscal 2017



Scope of reporting: Six domestic plants directly managed by Denka, the Innovation Center and other operational sectors (Head Office, branches, etc.)

Total maximum output of Denka's in-house power generation (as of June 2018)

Facilities	Maximum output (kW)	The amount Denka is entitled to (kW)
Hydroelectric		
Omigawa	3,300	3,300
Kotakigawa	5,200	5,200
Oami	28,400	28,400
Otokorogawa	9,800	9,800
Yokokawa No. 1	10,000	10,000
Yokokawa No. 2	16,000	16,000
Umikawa No. 1	3,800	3,800
Umikawa No. 2	4,700	4,700
Umikawa No. 3	2,600	2,600
Umikawa No. 4	990	990 (FIT)
Himekawa No. 6	26,000	Kurobegawa Electric Power Co. 13,000
Takigami	15,000	Kurobegawa Electric Power Co. 7,500
Nagatoga	5,000	Kurobegawa Electric Power Co. 2,500
Sasakura No. 2	10,200	Kurobegawa Electric Power Co. 5,100
Kita-otari	10,700	Kurobegawa Electric Power Co. 5,350
Total maximum output	151,690	118,240
Total in-house consumption	-	117,250
Under construction (completion scheduled for 2019)	New Omigawa 8,000	8,000 (FIT)
Under construction (completion scheduled for 2022)	New Himekawa No. 6 27,500	Kurobegawa Electric Power Co. 13,750
(Planned total maximum output for 2022)	187,190	139,990
Solar		
Shibukawa	2,200	2,200 (FIT)
Isesaki	1,200	1,200 (FIT)
Total maximum output	3,400	3,400
Thermal		
LNG	Omi 14,000	14,000
	Omi (Tomi) 25,000	25,000
Waste heat and biomass boilers	Omi cement 11,100	11,100
Gas turbines and cogeneration	Omi (Tomi) 17,760	17,760
	Chiba 12,720	12,720
Diesel	Shibukawa 1,000	1,000
Total maximum output	81,580	81,580
Total maximum output (including output for FIT)	-	203,220
Total maximum output for in-house consumption	-	198,830

Minami Substation Serving Various Production Facilities at the Omi Plant

Electricity generated by a total of 15 hydroelectric power plants, which are situated along the Himekawa, Umikawa and Omigawa river systems, is transferred over the mountains via a high-voltage transmission network maintained by Denka to the Minami Substation. As a key facility feeding various production facilities across the Omi Plant, this substation also relays electricity purchased from Tohoku-Electric Power Co., Inc. as well as electricity generated by the Omi Plant's on-premises natural gas turbines.

Itoigawa City is located on the country's power supply frequency borderline separating western Japan (60 HZ) and eastern Japan (50 HZ). Because of this, the Omi Plant is capable of handling both frequencies. Specifically, most of the facilities in the Omi district are adjusted for 60 HZ, while those in the Tomi district are adjusted for 50 HZ. In addition, some facilities can accept either 50HZ or 60 HZ power feeds.

The Minami Substation collectively handles electricity from in-house power generation facilities, such as hydroelectric power plants that are often impacted by seasonal factors and weather conditions as well as on-premises generators located across the Omi Plant. It also relays externally purchased electricity bought at varying rates by time, day and season. Simultaneously, the substation efficiently maintains an optimal demand-supply balance while assessing the constantly evolving electricity needs of production facilities.



Production Items	60 HZ (western Japan)	50 HZ/60 HZ	50 HZ (eastern Japan)
Omi District:	Cement, Poval, etc.	Calcium carbide, etc.	Tomi District: Chloroprene rubber, etc.



The transmission cables crossing over the mountains distribute electricity from hydroelectric power plants to Denka production facilities



The Osawa Switching Station handles electricity from various power sources procured in-house and externally

The Utilization of Government Subsidies Related to the Environment and Energy

We proactively utilize subsidy programs to develop technologies that lead to ecological and energy-saving solutions.

Over the course of the last five fiscal years (fiscal 2013 through 2017), the Company has been granted subsidies for 12 projects under subsidy programs sponsored by government ministries. These programs, aimed at facilitating public-private cooperation in advanced technology pilot projects and encouraging Japan-based production and R&D facility construction, are having a significant effect on results and helping us meet objectives in various project areas.

Energy-Saving Initiatives

The Omi and Chiba plants have been engaged in projects aimed at upgrading their cement and chloroprene rubber manufacturing facilities and styrene manufacturing facilities, respectively, under the auspices of Japan's Ministry of Trade, Economy and Industry (METI). The projects in question were subsidized by METI's program for the rationalization of business operators' energy use and have successfully yielded the intended results. Meanwhile, a subsidized project has been under way at the Omi Plant since fiscal 2015 to introduce energy-saving facilities at electrolysis plants and thermal power generation facilities alongside improvements in the calcium

carbide production process.

In addition, the Omi, Shibukawa and Ofuna plants undertook a switchover of lighting to LEDs, utilizing METI's subsidies for promoting investment in energy conservation and a productivity revolution for SMEs.

Environmental Load Reduction

Forming a consortium with The Chugoku Electric Power Co., Inc., Kajima Corporation and LANDES Co., Ltd., Denka conducted a project aimed at facilitating the popularization of CO2-SUICOM environment-friendly concrete. This ongoing project was selected for a subsidy program for the verification of carbon dioxide capture and storage (CCS) technologies under the auspices of METI's Agency for Natural Resources and Energy (ANRE). In addition, the product won the 2014 Environment Minister's Award for Global Warming Prevention Activity.

Advanced Technological Development, etc.

The Omuta Plant conducted a project aimed at developing SiC power modules that is subsidized by the Novel Semiconductor Power Electronics Project Realizing Low Carbon Emission Society subsidy program operated under the auspices of METI and the New Energy and Industrial Technology Development Organization. The Chiba Plant's ultra-high purity acetylene black production facility was brought on line in fiscal 2015 utilizing the Subsidy for Domestic Location Promotion Projects.

List of Subsidized Projects

Category	Project	Business site	Subsidy title, relevant authority	Fiscal year
1 Energy saving	The introduction of high-performance burners for cement production	Omi Plant	METI Subsidy program for the rationalization of business operators' energy use	FY2013
2 Energy saving	Introduction of high-performance freezing equipment for chloroprene rubber-related facilities and the upgrading of hardening agent manufacturing systems associated with cement production	Omi Plant	METI Subsidy program for the rationalization of business operators' energy use	FY2014-2016
3 Energy saving	Introduction of the latest steam and fuel consumption reduction technologies at petrochemical plants	Chiba Plant	METI Subsidy program for the rationalization of business operators' energy use	FY2014-2016
4 Energy saving	Introduction of energy-saving facilities at electrolysis plants and thermal power generation facilities and the improvement of the calcium carbide production process	Omi Plant	METI Subsidy program for the rationalization of business operators' energy use	FY2015-2018
5 Energy saving	Introduction of LED lighting	Omi Plant	METI Subsidies for promoting investment in energy conservation and a productivity revolution for SMEs	FY2016
6 Energy saving	Introduction of LED lighting	Shibukawa Plant	METI Subsidies for promoting investment in energy conservation and a productivity revolution for SMEs	FY2016
7 Energy saving	Introduction of LED lighting	Ofuna Plant	METI Subsidies for promoting investment in energy conservation and a productivity revolution for SMEs	FY2016
8 The environment	Promotion of CO ₂ -SUICOM environment-friendly concrete	Omi Plant	METI/ANRE Subsidy program for verification of carbon dioxide capture and storage (CCS) technologies	FY2014-2016
9 Advanced technology	Demonstration of a boron nitride production facility (for use in next-generation high-heat conductive fillers)	Omuta Plant	METI Subsidy for Advanced Technology Demonstration and Evaluation Facility Development	FY2013-2014
10 Advanced technology	Establishment of an R&D facility for next-generation LIBs	Advanced Technologies Research Institute	METI Program for Accelerating Breakthrough Innovation for Practical Applications	FY2014
11 Advanced technology	Development of high-output and high-density SiC power modules capable of withstanding high voltage	Omuta Plant	METI Novel Semiconductor Power Electronics Project Realizing Low Carbon Emission Society	FY2014-2016
12 Domestic business location	Establishment of a facility for producing a high-performance conductive agent (acetylene black) for use in lithium ion batteries	Chiba Plant	METI Subsidy for Domestic Location Promotion Projects	FY2013- 2014

Cement Production-Related Recycling Business

The cement production facilities at Denka's Omi Plant (Itoigawa City, Niigata Prefecture) accept a large amount of waste and byproducts both as fuels and as raw materials. Natural minerals have long been used for these purposes in cement production; however, Denka is aware of the potential utility of the chemical and calorie content of many waste materials and byproducts and maintains a policy of actively promoting a switchover to these materials.

Raw materials utilized by these facilities include coal ash from thermal power stations; contaminated waste soil and plasterboard waste from construction sites; and foundry sand that has been used for casting molds by automakers and machine parts makers. We also accept sludge from water supply and sewage treatment systems, which are integral to people's daily lives.

For fuel, we accept waste plastic separated from general waste as well as automobile shredder residue and waste oil recovered after automobile disassembly. Moreover, the Omi Plant's biomass thermal power facility is fed by scrap wood from the demolition of houses. Also, the plant utilizes byproducts from on-premises chemical production facilities, helping to minimize overall external emissions.

The plant accepts waste from all over Japan. To

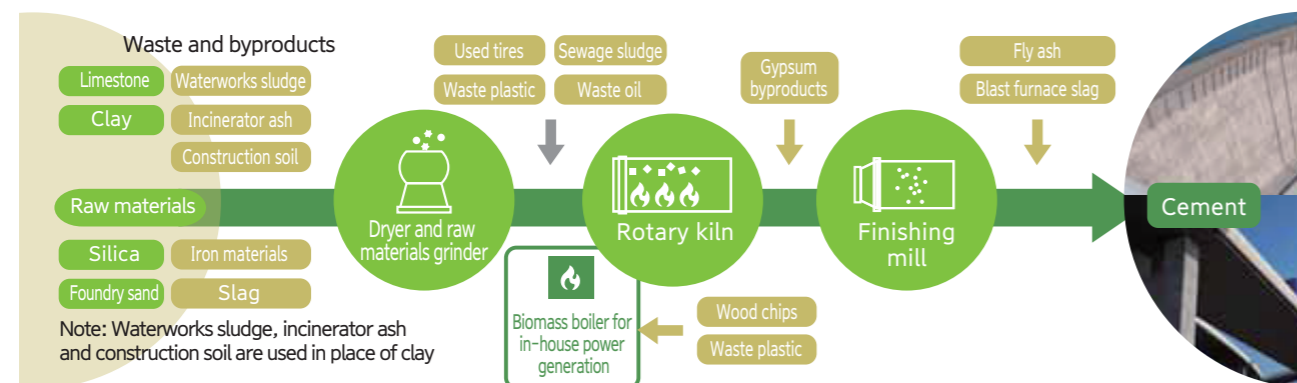
gather this waste we use ground transport in the surrounding Niigata communities and larger Hokuriku area and have proactively adopted cost-effective marine transport to carry large amounts of waste from regions as far away as the Kyushu area, Hokkaido Prefecture and major cities located on the Pacific side of the Japanese archipelago, including Tokyo, Osaka and Nagoya.

As a result of these efforts, in fiscal 2017 Denka used 562 kilograms of waste and byproducts for every metric ton of cement produced.

Recently, we began considering accepting incineration ash from municipal garbage incineration facilities processing general waste while stepping up collaboration with the local governments of communities in which we operate. Due to the impact of restrictions on waste imports enforced by the Chinese government, the need for resource recycling measures is growing in Japan. In response, we are striving to develop a more robust structure capable of accepting an even broader range of waste.

In addition, Denka was chosen by the 3R SUIHINKYOGIKAI (the Reduce, Reuse and Recycling Promotion Committee) to receive the Chairman's Award for 3R Contributor under the committee's Fiscal 2017 3R Award Program. This commendation was attributable to the Company's proactive efforts to accept scrap wood collected from areas devastated by the Kumamoto Earthquake and a massive fire that engulfed streets north of Itoigawa City's main station as part of its social contribution initiatives.

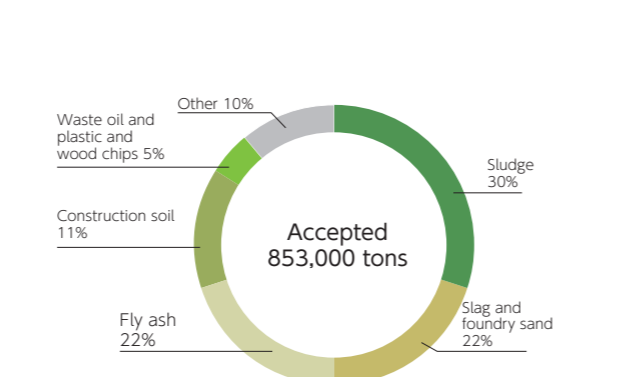
Recycling Process Flowchart



Volume of Waste Accepted (total and per unit of production)



Breakdown of Waste Accepted in Fiscal 2017



Creating Shared Value (CSV): Our Operations Supporting Resource Recycling and Creating New Value

Currently, a large amount of waste emitted from people's day-to-day living and business operations is disposed of in landfills despite recycling efforts undertaken by the public and private sectors. Providentially, Denka's cement manufacturing facilities can be fed by a variety of waste and byproducts, which serve as alternative fuels, while utilizing incineration ash from these substances as cement raw materials. Therefore, we believe that our cement manufacturing is an outstanding example of resource recycling, especially in light of its ability to accept broad range of waste. We are confident that our cement production process is contributing to the preservation of the global environment while helping to extract the full value of resources that would otherwise be wasted in the course of recycling.

We also accept debris from areas devastated by natural disasters and utilize waterworks sludge that meets a radioactivity clearance level determined by municipal bodies of neighboring communities, putting the utmost priority on the safety of frontline production operators, local residents and product users. In these ways, we contribute to the development of local societies.

As such, Denka's resource recycling operations via cement production are recognized as an excellent CSV initiative as they contribute to the enhancement of people's quality of life and the sound development of society while at the same time securing profitability and business continuity. In addition, these operations also rely on the cooperation and understanding of various stakeholders, including our business partners. Here, we introduce one such partner charged with sorting and processing waste, essential functions in our resource recycling operations.

Kaneyo Recycling Center: a Business Partner Supporting Denka's Resource Recycling Operations

The Kaneyo Recycling Center, a business unit of the Itoigawa-based Kaneyo Unyu K.K., is charged with screening and processing scrap wood and waste plastic collected for use as alternative fuels for cement production facilities and biomass boilers at Denka's Omi Plant.

The quality of waste plastic collected for this purpose varies widely in terms of calorific value and other properties. It is thus important to screen these materials in order to secure good alternative fuels; sometimes plastics containing hazardous substances must be rejected in light of a facility's treatment capacity. Of course, the Company's resource recycling operations must not be undertaken in ways that run contrary to its commitment to quality management and environmental preservation.

With this in mind, the Kaneyo Recycling Center screens waste plastic mainly via manual picking because the proper screening of a wide variety of waste emitted from general households and business operators is ultimately dependent on well-experienced operators equipped with specialized expertise. The center also accepts scrap wood collected from housing demolition sites while handling waste wood generated via tree trimming undertaken as part of forest conservation projects. Nails and other metal objects attached to wood materials are rejected while they are processed through automated operational lines that employ magnetic metal rejection systems and gravity separation systems. Screened plastic and wood materials are then crushed and chipped into fractions of designated size, for transport to cement production facilities.

In recent years, scrap wood processing costs have been falling due to an increase in the number of biomass generation facilities and despite a surge in logistics expenses. Closely monitoring the material supply and market conditions, which may together affect its operational cost, the center works in collaboration with Denka's cement production facilities to optimize its output as well as its inventory volume.

Today, an ever broader range of general households and business operators are called on to practice resource recycling by, for example, properly separating recyclable materials and other waste. This improves the value of resources, reduces the cost for the reuser and helps generate profit and employment.

Looking ahead, Denka will work shoulder to shoulder with its business partners, including the Kaneyo Recycling Center, to step up operations aimed at facilitating the recycling of resources. By doing so, we will make a positive impact on environmental issues communities around the globe are now confronting



First from the left: Satoshi Anzawa, General Manager, the Cement Dept., Denka, Second from the left: Ryuji Aoki, General Manager, Kaneyo Recycling Center



Environmental Accounting

Conservation Costs

Conservation Cost Category	Details	Conservation Costs (millions of yen)	
		Investments	Expenses
1. Business site costs	(Subtotal)	607	2,578
①Pollution prevention	Environmental burden reduction	236	2,008
②Environmental conservation	Energy saving	198	210
③Recycling resources	Effective use of resources	173	360
2. Upstream and downstream costs	Change of raw materials, etc.	0	0
3. Administrative costs	Educational activities	1	73
4. R&D costs	Development of energy saving products, etc.	347	813
5. Social activity costs	Educational activities	0	9
6. Environmental damage costs	Community relations	1	89
7. Others		0	0
Total		955	3,563

The Company's environmental investments in fiscal 2017 were mainly accounted for by the following items: implementation of environmental burden reduction measures (25%); introduction of energy-saving facilities (21%); investments for the effective use of resources (18%); and R&D spending focused on developing energy-saving products (36%).

Conservation Effects

Environmental Load	Units	FY2016 Results	FY2017 Results	Effects
CO ₂ emissions (from energy and non-energy sources)	10,000 t	209	221	-12
SOx emissions	t	65	44	21
NOx emissions	t	4,192	4,365	-173
Soot and dust emissions	t	61	65	-4
COD (BOD) discharges	t	358	326	32
Water used	1,000 t	62,777	58,260	4,517
PRTR substance emissions	t	83	75	8
Waste	1,000 t	110	113	-3
Final landfill waste	t	119	88	31
CO ₂ emissions from transportation	1,000 t	34	34	0

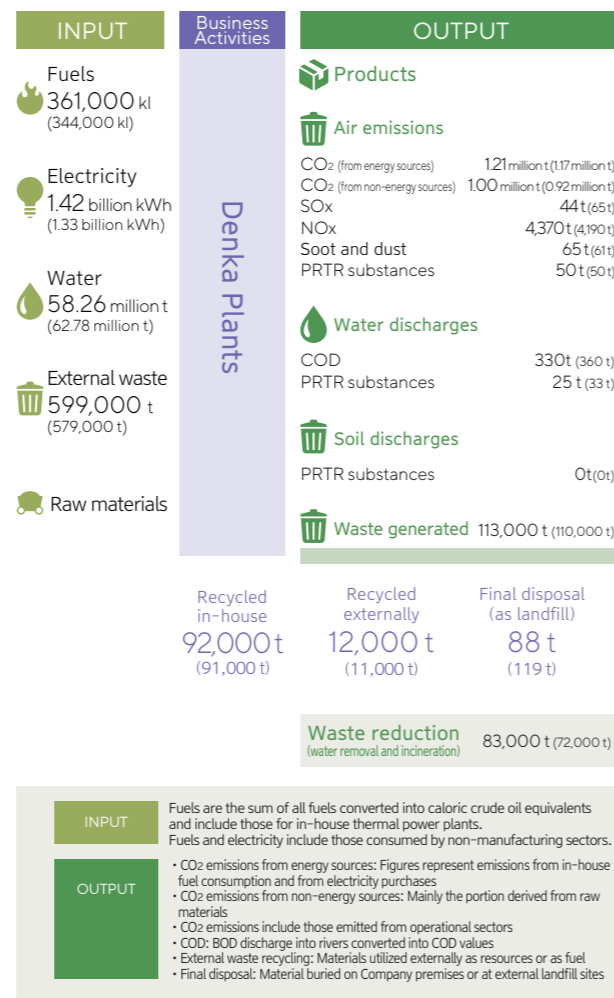
Economic Effects

Category	Item	Details	Effects (millions of yen)
Profits	Proceeds from selling waste from core operations and income from recycling waste	Sales profits	388
Cost reductions	Lowering energy costs by conserving energy	Energy saving	476
Cost reductions	Reducing waste treatment costs by conserving or recycling resources	Effective use of resources	-28
Total			836

To present the actual economic effects of our environmental conservation measures, we calculated proceeds from selling and recycling waste as well as cost reductions in the form of reductions in waste treatment costs.

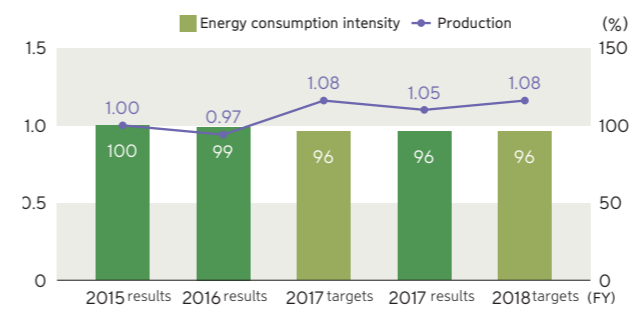
Overview of Environmental Impacts

(totals for all production sites in fiscal 2017; fiscal 2016 figures are provided in parentheses for comparison)



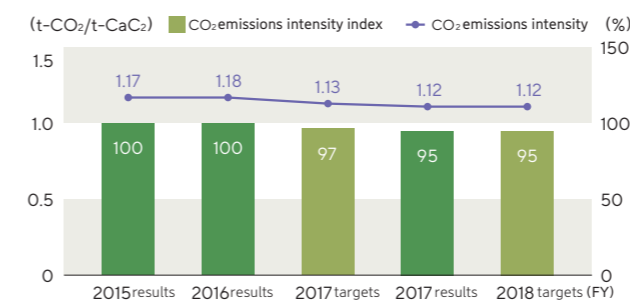
Fiscal 2017 Environmental Performance Data

① Production Volume and Energy Consumption Intensity

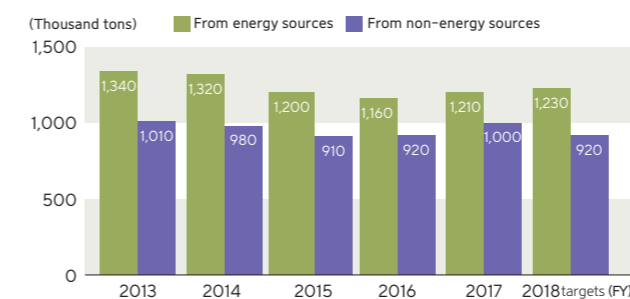


In fiscal 2017, energy consumption intensity was 96% of the fiscal 2015 level, continuing to improve at least 1% on an annual average basis. In fiscal 2018, although we expect production volume to grow, we will implement ongoing measures aimed at reducing energy consumption of each manufacturing site and enhancing the efficiency of in-house power generation. In these ways, we will engage in more effective energy-saving initiatives.

② CO₂ Emissions Intensity (from energy sources)

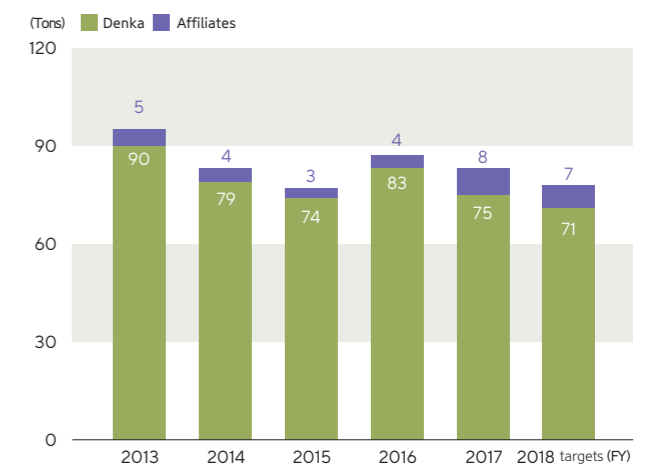


CO₂ Emissions



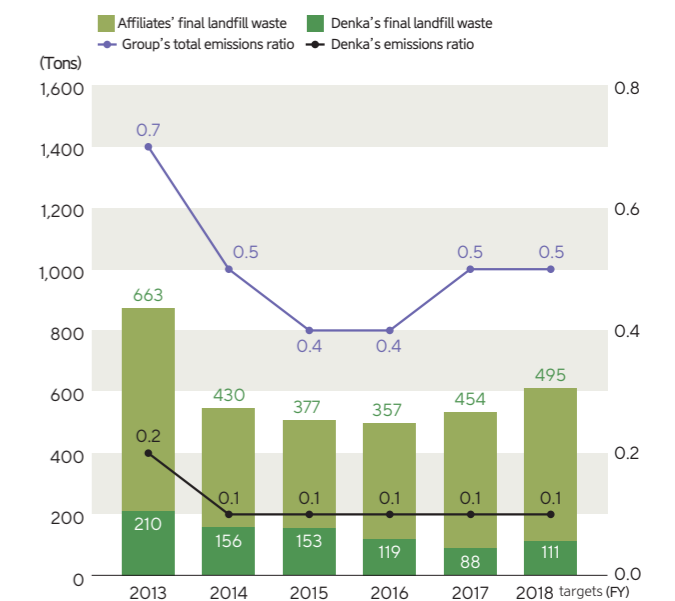
In fiscal 2017, the CO₂ emissions intensity was 95% of the fiscal 2015 level, successfully achieving a 1% improvement on an annual average basis. In fiscal 2018, we anticipate that the CO₂ emission volume will grow in step with the increase in production volume. However, we will continue to implement energy-saving measures for each manufacturing site with the aim of maintaining the CO₂ emissions intensity equivalent to the fiscal 2017 level. By doing so, we will achieve our target of 95% or less in comparison with the fiscal 2015 level.

③ Emissions of PRTR Substances



We will continue to work on the systematic reduction of PRTR substances, especially at the Chiba Plant, which is a major source of emissions.

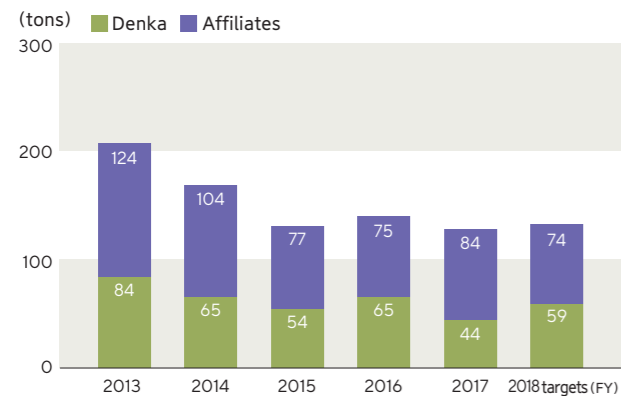
④ Final Disposal Amount and Waste Emission Ratio



Overseas, the volume of final landfill waste disposed of by affiliates is increasing due to an increase in production volume. In response, we will strive to reduce the volume of waste generated while facilitating effective resource utilization via recycling. To this end, domestic mother plants and other relevant departments will act in collaboration with these affiliates. We will thus endeavor to maintain zero-emissions status at all Group members.

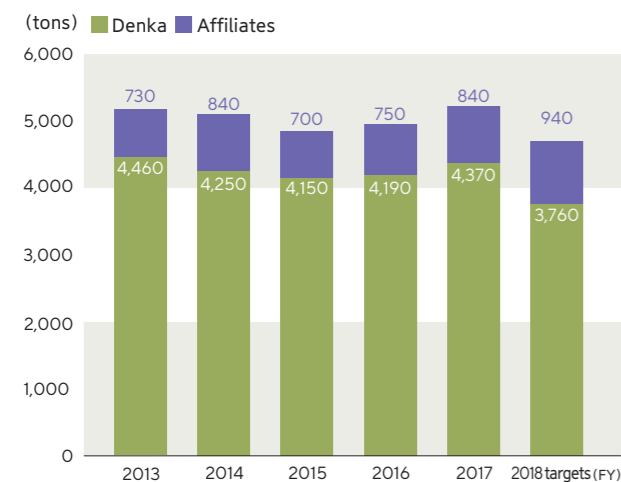
Note: Emissions ratio (%) = amount of final landfill waste/ amount of waste generated x 100 (In Denka's definition, "zero emissions" means an emission ratio lower than 1%.)

⑤SOx



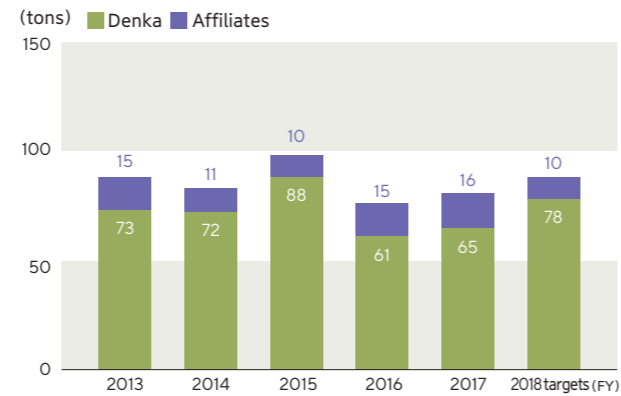
In fiscal 2017, SOx emissions decreased slightly year on year, reflecting changes in the content of industrial waste processed at the Omi Plant's cement production facilities. In fiscal 2018, we will continue to work systematically to reduce SOx emissions.

⑥NOx



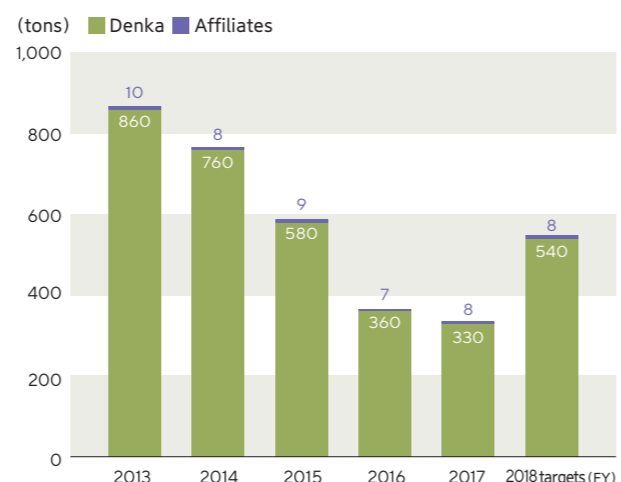
In fiscal 2017, NOx emissions increased slightly due to increases in the volume of the Omi Plant's cement production and overseas bases' fused silica production. In fiscal 2018, we will strive to decrease NOx emissions by, for example, streamlining plant operations.

⑦Soot and Dust



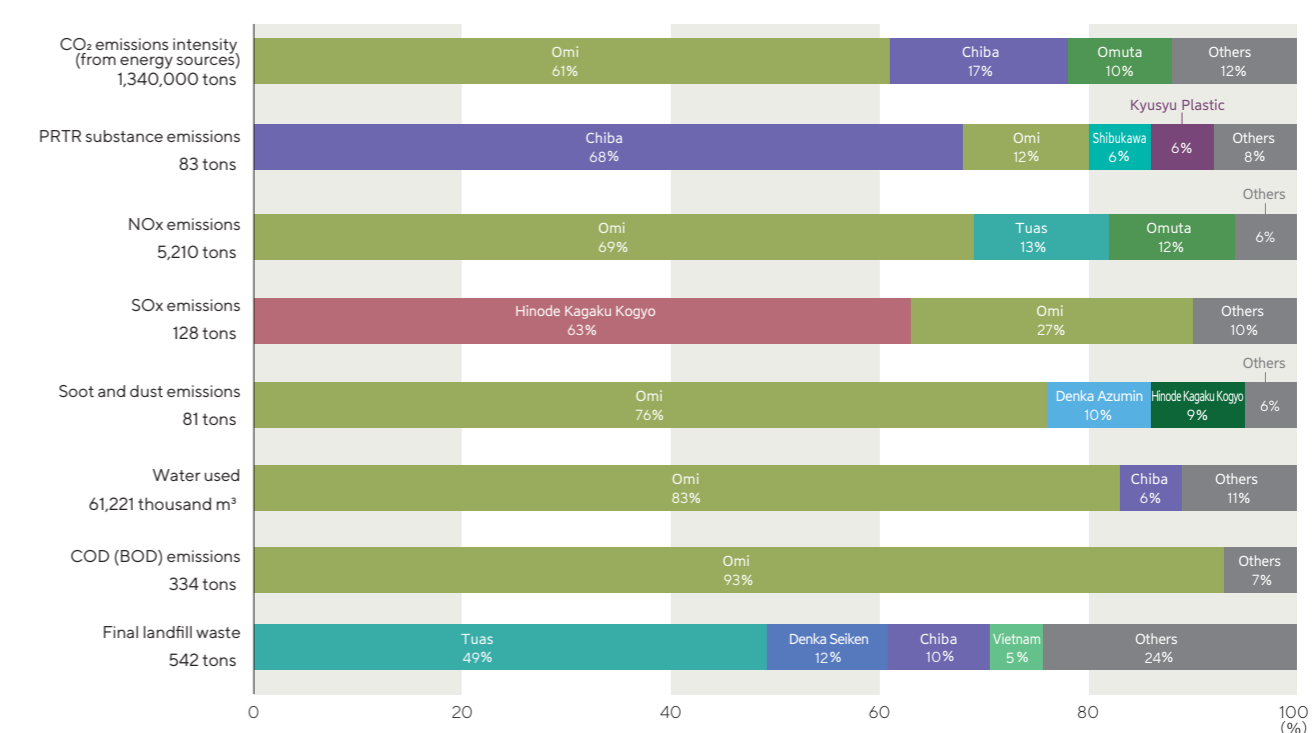
In fiscal 2017, dust emissions increased slightly due to an increase in the production volume of the Omi Plant.

⑧COD (BOD)



In fiscal 2017, COD (BOD) emissions decreased slightly, with the upgraded wastewater treatment facilities that were brought on line in February 2016 at the Omi Plant steadily contributing to the reduction of emission volume.

⑨Ratio of Each Business Site's Contribution to Overall Emissions (fiscal 2017)



Scope of Calculation

Environmental Performance Data	Denka's six domestic plants*1	Innovation Center	Non-manufacturing sectors (Head Office, branches, etc.)	Domestic affiliates (6)		Overseas business bases (9)	
				Denka Polymer, CRK, Hinode Kagaku Kogyo, Denka Azumin and Kyusyu Plastic*2	Denka Seiken, Suzhou (Denka Advanced Materials and Denka Chemicals Development), Tianjin, Dalian and Vietnam		
Overview of Environmental Impacts	○	—	—	—	—	—	—
Environmental Accounting	○	○	—	—	—	—	—
①Production Volume and Energy Consumption Intensity	○	—	○	—	—	—	—
②CO ₂ Emissions Intensity (from energy sources)	○	○	○	—	—	—	—
②CO ₂ Emissions	○	—	○	—	—	—	—
③Emissions of PRTR Substances	○	○	—	○	—	—	—
④Final Disposal Amount and Waste Emission Ratio	○	○	—	○	—	○	○
⑤SOx	○	○	—	○	—	○	○
⑥NOx	○	○	—	○	—	○	○
⑦Soot and dust	○	○	—	○	—	○	○
⑧COD(BOD)	○	○	—	○	—	○	○
⑨Ratio of Each Business Site in Overall Emissions	○	○	—	○	—	○	○

*1 Including emissions from affiliates operating on the premises of Denka plants: Omi Plant: Denal Silane Co., Ltd., Denak Co., Ltd.; Chiba Plant: TOYO STYRENE Co., Ltd., Taiyo Vinyl Corp.

*2 Emissions from Kyusyu Plastic Industry Co., Ltd. has been included since fiscal 2017

At present, some items presented herein encompass only emissions from Denka's domestic business bases, including six domestic plants; however, we are steadily increasing the incorporation of emissions from domestic affiliates, overseas business bases and all other Group entities classified within the scope of consolidation in order to expand the scope of calculation for all items.

Fiscal 2017 PRTR Substances Emissions and Transfers

The following table shows PRTR substances emitted and transferred in amounts exceeding one ton.

PRTR Substances	No.	Emissions					Amount Transferred (to the outside)
		Air	Water	Soil	Landfill	Total	
Ethyl acrylate	3	2	0	0	0	2	0
n-Butyl acrylate	7	0	0	0	0	0	2
Acrylonitrile	9	2	0	0	0	2	11
Acetaldehyde	12	0	4	0	0	4	0
Ethyl benzene	53	4	0	0	0	4	38
Ferric chloride	71	0	0	0	0	0	39
Vinyl acetate	134	6	0	0	0	6	0
N,N-Dimethylacetamide	213	0	0	0	0	0	3
N,N-Dimethylformamide	232	0	0	0	0	0	12
Styrene	240	19	0	0	0	19	131
Water soluble copper salt	272	0	4	0	0	4	0
Toluene	300	11	1	0	0	13	33
Bis (2-ethylhexyl) phthalate	355	0	0	0	0	0	1
Hydrogen fluoride and its water-soluble salt	374	1	1	0	0	2	29
n-Hexane	392	0	0	0	0	0	2
Benzene	400	0	0	0	0	0	10
Boron and its compounds	405	0	14	0	0	14	13
Maleic anhydride	414	0	0	0	0	0	1
2-Ethylhexyl methacrylate	416	0	0	0	0	0	2
Methyl methacrylate	420	2	0	0	0	2	13
4,4'-Methylenedianiline	446	0	0	0	0	0	2
Total (tons/year)		46	24	0	0	70	340
Dioxin (mg-TEQ/year)	243	55	60	0	0	115	1

Social Dialogue

We will strive to ensure the appropriate and timely disclosure of corporate information while establishing bidirectional communication with stakeholders.

Our Initiatives to Ensure the Appropriate and Timely Disclosure of Corporation Information and Bidirectional Communication with Stakeholders

General Meeting of Shareholders

Denka's annual General Meeting of Shareholders provides a valuable opportunity for engaging in direct communication with shareholders. Accordingly, we work to give shareholders enough time to confirm and examine the reports and items up for vote. To this end, we send the notice of convocation for the General Meeting of Shareholders three weeks prior to the date of the meeting. Since fiscal 2016, we also post such notice, along with its English translation, one week prior to sending it out in print, via the Company's and the Tokyo Stock Exchange's websites. As for the print version, we print this notice on large B5-sized (182 x 257 mm) sheets, with the aim of enhancing readability.

Moreover, we try to schedule the meeting at the earliest possible date to avoid overlaps with similar meetings held by other companies, thereby making it easier for shareholders to attend.

At each meeting, we use narrated videos to supplement our explanations of reported items while maintaining exhibition booths to showcase our initiatives and products

and gain greater recognition of our operations. We have adopted a voting system that allows shareholders to use on-line voting via personal computers and cellular phones in addition to regular post. Also, Denka is a member of the Electronic Voting Platform for institutional investors run by the Tokyo Stock Exchange. As such, we are striving to improve shareholders' convenience with regard to the exercise of voting rights.



The 159th Ordinary General Meeting of Shareholders (June 21, 2018)



Exhibition booths

Dialogue with Institutional Investors

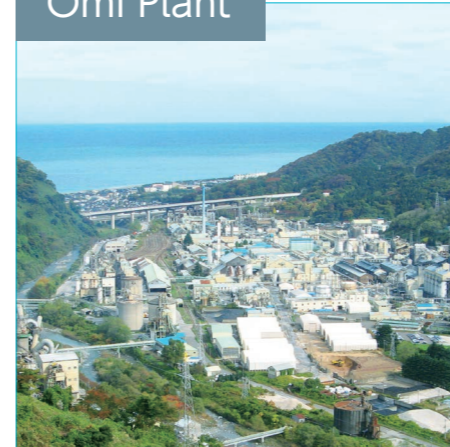
We aim to help institutional investors enhance their understanding of our management strategies and plans as well as our corporate governance. To this end, Denka's management team and staff from relevant departments engage in face-to-face dialogue with investors while undertaking such initiatives as inviting investors to attend plant tours and participate in dialogue sessions with outside directors.

Our Stance on Online Information Management

In accordance with Japan's Financial Instruments and Exchange Law and timely disclosure rules set forth by the Tokyo Stock Exchange, Denka appropriately discloses information with the aim of ensuring the transparency of its management. It is also our policy to proactively disclose information that does not fall under these regulations whenever such information is considered helpful to our stakeholders. Moreover, using such opportunities as results briefings, corporate briefings for individual investors and the General Meeting of Shareholders, we are enhancing communication with our stakeholders while reflecting their feedback in management decisions and business activities.

Denka makes sure that corporate information subject to the timely disclosure rules is protected from unauthorized access or theft prior to release through the Tokyo Stock Exchange's timely disclosure network (TDnet) service. The Company uploads such information to its website only after confirming that the information has been successfully disclosed through the aforementioned service. The number of personnel handling the management of the website is strictly limited, with their workspaces being set apart from other facilities and equipped with protection systems. We have also established a procedure to handle emergencies, such as unintentional information disclosure and leakage.

Omi Plant



Operations	Since its establishment in 1921, the Omi Plant has exploited its abundant in-house resources, including the Mount Kurohime limestone mines and substantial power generation capacity, to manufacture calcium carbide and calcium cyanamide. Boasting a broad range of offerings, the plant has built on its unique carbide chemical technologies, harnessing its strength in inorganic chemistry to manufacture such products as cement and its organic chemistry expertise to manufacture synthetic rubber. The Omi Plant also produces macromolecular sodium hyaluronate preparation.
Products	<ul style="list-style-type: none"> Infrastructure & Social Solutions: Calcium carbide, calcium cyanamide, DENKA ALCEN, Denka Cement and special cement additives Elastomers & Performance Plastics: DENKA CHLOROPRENE and Denka Poval Electronics & Innovative Products: Ultra-high purity monosilane gas Life Innovation: Macromolecular sodium hyaluronate preparation
Address	2209, Oaza Omi, Itoigawa, Niigata Telephone: +81-25-562-6105
Employees	830 (as of March 31, 2018)

Message from the General Manager

As a chemical company, we supply materials for various products that support the development of society. In the production of these materials we utilize a wide variety of raw materials, including limestone from local mines and waste from neighboring communities.

At all times, we place particular priority on the careful handling of hazardous substances and the prevention of their release into the environment. We believe that such practices are key to continuing production in the regional communities surrounding us.

Looking ahead, we will accelerate the development of specialty businesses to realize sustained and sound corporate growth while striving alongside other community members to ensure mutual prosperity.



Hideki Hirano
Managing Executive Officer,
General Manager of Omi Plant

Omuta Plant



Operations	Established in 1916, the Omuta Plant is the first manufacturing site that Denka built. The plant started out its operations with the production of calcium carbide and calcium cyanamide. Since that time, as an inorganic chemical product manufacturing base boasting proprietary electric furnace, high-temperature control and nitride technologies, the Omuta Plant has introduced a number of unique products. Currently, we are strengthening our operations related to fine ceramics and electronic materials in order to contribute to the development of the electronics, automotive and numerous other industries.
Products	<ul style="list-style-type: none"> Infrastructure & Social Solutions: Calcium carbide, calcium cyanamide, fire resistant materials for steel making, alumina cement and special cement additives Electronics & Innovative Products: Fused silica filler, spherical alumina, silicon nitride, boron nitride, ceramics-based electronic circuit substrates, thermally conductive sheets, ceramic composite, LED phosphors and acetylene black
Address	1, Shinkai-Machi, Omuta, Fukuoka Telephone: +81-944-52-1055
Employees	606 (as of March 31, 2018)

Message from the General Manager

What sets the Omuta Plant apart is its expertise in producing inorganic materials, such as calcium carbide and calcium cyanamide—two key products Denka has been manufacturing since its founding—as well as electronic materials, a class of products that requires the ability to adapt to a rapidly changing market environment. We are acutely aware of the value of the legacy passed down by our predecessors in the form of outstanding technological capabilities and unwavering commitment to precise manufacturing. While we honor these traditions, we are also actively incorporating new methodologies. In the course of doing so, we are striving to create a safe, secure and lively workplace environment that allows staff to work with confidence. Furthermore, we are promoting an environment-friendly operational approach to ensure that our plant coexists in harmony with neighboring communities. In addition to developing and delivering unique products, we will sincerely take on every challenge that we meet in the course of these pursuits.



Kazuo Takahashi
Executive Officer, General
Manager of Omuta Plant

Chiba Plant



Operations	About half a century ago, the Chiba Plant started out as Denka's core petrochemical facility. Today, the plant is striving to transform its business structure by strengthening its capacity to produce functional chemicals with the aim of reaching a new growth stage. Its products include such petrochemicals as styrene-based functional resins and synthetic rubber, polymer processing products, including biaxially oriented polystyrene sheets, vinyl chloride tapes and other housing and environmental materials as well as ultra-high purity acetylene black for use in lithium ion batteries.
Products	Styrene monomer, polystyrene, ABS resin, heat-resistant polymers, transparent polymers, styrene-based specialty resins, EVA emulsions, synthetic rubber, biaxially oriented polystyrene sheets, vinyl chloride tapes, rain gutters, corrugated pipes and ultra-high purity acetylene black
Address	6, Goi-Minamikaigan, Ichihara, Chiba Telephone: +81-436-26-3200 Bibai Subplant: 1-1, Higashi-Gojo-kita 10-chome, Bibai, Hokkaido Telephone: +81-126-62-1444
Employees	489 (as of March 31, 2018)

Message from the General Manager

The Chiba Plant is striving to live up to the trust and expectations of the communities surrounding it. We focus on pursuing harmonious coexistence and mutual development with local society, to this end stepping up initiatives to facilitate communication, foster mutual understanding and nurture friendships with our fellow community members.

We also aim to create a safe and secure worksite environment and ensure that all workers respect one another and engage in robust communication while striving to enhance profitability. To this end, we will rally the overall strengths of the Chiba Plant.



Hideki Watanabe
Executive Officer, General
Manager of Chiba Plant

Ofuna Plant



Operations	Employing ejection molding and adhesion coating technologies, the Ofuna Plant is engaged in the development and production of such items as synthetic fibers, packaging tapes and functional films. We are Denka's prime production unit charged with supplying polymer processing products and committed to accommodating customers' product needs in a timely manner and satisfying their expectations in terms of product safety and quality.
Products	<ul style="list-style-type: none"> • Packing tapes • Caralyan Y functional film • TOYOKALON synthetic fiber
Address	13-1, Dai 2-chome, Kamakura, Kanagawa Telephone: +81-467-45-1110
Employees	181 (as of March 31, 2018)

Message from the General Manager

We at the Ofuna Plant engage in manufacturing activities rooted in Kamakura City, which boasts an outstanding historical legacy. In terms of environmental activities, we strive to preserve the abundant blessings of the city's natural environment and thereby help enhance the well-being of local residents. To this end, we strictly comply with environmental regulations and strive toward reduced waste emissions and energy consumption. These efforts are backed by an environmental management system designed to help us achieve continuous improvement. As for safety assurance activities, we are steadfastly committed to the prioritization of safety in all aspects of our operations while utilizing hazard prediction and risk assessment systems to identify workplace dangers and steadily mitigate operational risks. We are thus creating a sound workplace environment in which everyone can work vigorously and abide by compliance regulations associated with occupational safety and health while implementing robust measures to prevent accidents, injuries and diseases attributable to our operations.



Mikio Shimizu
General Manager of Ofuna Plant

Shibukawa Plant



Operations	In 1951, the Shibukawa Plant was established as a production base for vinyl chloride polymers. In 1976, the plant began manufacturing HARDLOC structural adhesive. In 1984, the plant started expanding its business domain, making a full-scale entry into the electronic materials business. Currently, the Shibukawa Plant specializes in electronics-related products, encompassing electronic circuit substrates, thermally conductive materials, emitters, structural adhesives and semiconductor processing-related products, helping drive Denka's growth strategies as a key organic electronic materials production base.
Products	<ul style="list-style-type: none"> • Electronics & Innovative Products: HITPLATE high thermal conductivity aluminum substrates, Thermally Conductive Spacer, TFE and LaB6 CATHODE electron and ion emitters, ELEGRIP dicing tape and back grinding tape, HARDLOC structural adhesive, HARDLOC OP/UV light curing adhesive
Address	1135, Nakamura, Shibukawa, Gunma Telephone: +81-279-25-2109
Employees	242 (as of March 31, 2018)

Message from the General Manager

The Shibukawa Plant manufactures products expected to become increasingly sought after in markets for items used in such products as vehicle-mounted devices and mobile electronic terminals. In line with Denka's strategies aimed at achieving sustained and sound growth, our plant operations place strong focus on maintaining the trust of our employees, the communities surrounding us and society as a whole. With this in mind, we will implement such priority initiatives as engaging in dialogue and interaction with community members as well as volunteer activities in tandem with businesses operating in our neighborhood.



Yoshimi Ishizuka
General Manager of Shibukawa
Plant

Isesaki Plant



Operations	This plant manufactures sheets and films from polystyrene, vinyl chloride and other raw materials. We supply food and electronic packaging materials that meet stringent requirements for performance and quality management, and are endeavoring to bolster our processing technologies while developing value-added offerings.
Products	<ul style="list-style-type: none"> • Electronics & Innovative Products: Carrier tapes, trays and cover tapes for semiconductor and electronic component transportation • Living & Environment Products: Food packaging sheets, stretch films and solar cell module back sheet materials
Address	Isesaki Plant: 245, Nishigawara, Naganuma-cho, Isesaki, Gunma Telephone: +81-270-32-1251 Isesaki Plant (Ota): 3015, Serada-cho, Ota, Gunma Telephone: +81-276-52-4111
Employees	251 (as of March 31, 2018)

Message from the General Manager

The Isesaki Plant's primary products are resin sheets and films used for packaging materials for foodstuffs and those for transporting electronic components. In line with the Denka Value-Up management plan, we will place the utmost priority on safety in the course of our manufacturing operations, thereby delivering high-quality products to our customers. Also, we will develop specialty products that fill the needs of future generations and are environment-friendly. In these ways, we will create a plant capable of winning the trust of local society while fulfilling our social responsibilities.



Koichi Taguchi
Executive Officer, General
Manager of Isesaki Plant

Denka Innovation Center



Operations	The Denka Innovation Center began operating at its current site in 1962 after the Company relocated its Meguro Research Center, which was established in 1916, from Meguro-ku, Tokyo, renaming it the Central Research Institute. The facility laid the foundations for Denka's business expansion by developing numerous core technologies and new products in broad areas ranging from inorganic, organic and polymer chemistry to resin processing and biotechnologies. Renewed in 2014 as the Denka Innovation Center, the facility is moving forward as the Company's core R&D facility as well as a venue for incubating Companywide initiatives to promote open innovation. Furthermore, the center will focus its resources on pursuing R&D themes aimed at enhancing its core technologies and creating new businesses backed by next-generation products and technologies.
Products	Advanced Technologies Research Institute: The environment and energy Life Innovation Research Institute: Healthcare Infrastructure & Solutions Development Research Institute: Infrastructure
Address	5-1, Asahi-cho 3-chome, Machida, Tokyo Telephone: +81-42-721-3611
Employees	183 (as of March 31, 2018)

Message from the General Manager

Since the renovation of its main building in 2014, the Denka Innovation Center has been hard at work to realize its full potential as a key facility for open innovation initiatives being undertaken by business units across the Group. Striving to create new value that contributes to sustainable social development, the Advanced Technologies Research Institute, the Life Innovation Research Institute and the Infrastructure & Solutions Development Research Institute are functioning as corporate R&D bases charged with research into the three growth fields of "the environment and energy," "healthcare" and "high-value-added infrastructure." Moreover, the center engages in collaboration with partner companies and external research institutions at home and abroad while serving as a venue for working with a broad range of customers in the co-creation of innovative solutions. Furthermore, we participate in the annual Summer Holiday Chemical Experiment Show for Children to help young people—the leaders of tomorrow—experience the excitement of chemistry. We also host a plant tour for local elementary school students as part of social contribution initiatives.

Going forward, we will strive to support the realization of a company capable of contributing to the sound and sustainable development of society and, to this end, rally our Groupwide strengths to live up to the expectations of each stakeholder.



Nobuyuki Yoshino
Assistant to Chief R&D Officer,
Innovation Center,
General Manager of
Advanced Technologies
Research Institute

Denka Singapore Merbau Plant



Operations	The Merbau Plant manufactures acetylene black, a unique material boasting high purity as well as superior electro-conductivity and thermal conductivity. Acetylene black is widely used for a variety of applications, including high-voltage transmission cables and lithium ion secondary batteries. With the aim of accommodating an expected surge in demand, efforts are now under way to augment our production capacity.
Products	Acetylene black
Address	Singapore Office: 4 Shenton Way #29-02 SGX Centre 2, Singapore 068807 Telephone: +65-6225-6120 Plant: 300 Ayer Merbau Road, Singapore 628282 Telephone: +65-6867-8496
Employees	55 (as of March 31, 2018) (Including one Japanese national)

Message from the General Manager

Unfortunately, on December 1, 2017, we experienced an accident. This sobering experience caused us to seriously reflect on how vigilant we must be to maintain safe operations. In response, our fiscal 2018 initiatives will be focused on fostering a corporate culture that places the utmost priority on safety (via the solicitation of employee suggestions about safety measures) and providing plant employees and subcontractors with educational sessions focusing on laws, regulations and in-house rules. In these ways, we will step up our safety assurance activities.



Yuji Koga
General Manager of Merbau

Denka Singapore Seraya Plant



Operations	The Seraya Plant is situated on Jurong Island, where Singapore's main concentration of petrochemical complexes is located. In 1997, we initiated plant operations as a polystyrene manufacturing facility. We began producing TX Polymer (methyl methacrylate styrene (MS)) and CLEAREN (styrene-butadiene block copolymer) in 2006 and launched a facility to manufacture DENKA IP (imidized polymers) in 2012. Having steadily expanded its production lines, the plant now boasts overall annual output of 335,000 metric tons (four types of resin combined), serving as a key production base spearheading the Denka Group's resin business.
Products	DENKA STYROL, Denka TX Polymer, CLEAREN, Denka NSBC and Denka IP
Address	40 Seraya Avenue, Singapore 627873 Telephone: +65-6867-6089
Employees	76 (as of March 31, 2018) (Including three Japanese nationals)

Message from the Deputy Managing Director

In its efforts to contribute to society through production activities, Denka creates products of value by consuming limited natural resources and energy. We recognize that giving due consideration to the impact of such activities on the environment and communities surrounding us, as well as the well-being of our employees, is essential. We are therefore determined to focus on maintaining a harmonious coexistence with the environment, society and people of Singapore in the course of our production activities.



Michio Kawamura
Deputy Managing Director,
General Manager of Seraya Plant

Denka Advantech Tuas Plant



Operations	The Tuas Plant commenced operations in 1991 in Singapore to produce fused silica filler, a material mainly used as an encapsulant for semiconductor packaging. Currently, the Tuas Plant's focus is on spherical fused silica filler to accommodate advances in semiconductor packaging as well as the trend toward more environment-friendly products. Stepping up its quality management and production structures, the plant serves mainly Chinese and Southeast Asian markets and works in cooperation with the Omuta Plant.
Products	Spherical fused silica filler
Address	11A Tuas Avenue 20, Singapore 638823 Telephone: +65-6861-0004
Employees	74 (as of March 31, 2018) (Including two Japanese nationals)

Message from the General Manager

In 2018, the Tuas Plant celebrated the 27th anniversary of its founding as a fused silica filler production facility. Amid the severe market environment for semiconductors, we are striving to maintain stable operations, improve our production technologies and enhance product quality, with the aim of achieving sustainable growth as Denka's mainstay fused silica production base. We have positioned securing facility security and occupational safety as basic to operations. Accordingly, we are engaged in ongoing safety assurance activities aimed at creating a workplace environment in which every employee can work in confidence.



Keishi Iizuka
General Manager of Tuas Plant

Denka Advantech South Plant



Operations	The South Plant initiated operations in 2013 to manufacture TOYOKALON synthetic fiber for wigs and hairpieces through the application of Denka's unique ejection molding technologies, with the aim of accommodating demand for this product in such regions as Africa. Since then, TOYOKALON has grown into a world-leading brand in its product category. With this in mind, the South Plant will work in tandem with the Ofuna Plant to bolster the Group's supply structure as the second flagship TOYOKALON production site, helping to accommodate growing demand.
Products	TOYOKALON
Address	6 Tuas South Drive Singapore 637046 Telephone: +65-6412-9200
Employees	43 (as of March 31, 2018) (Including one Japanese national)

Message from the General Manager

Last year, we were able to maintain our zero-accident and disaster status thanks to ongoing safety activities that have been implemented since the production kickoff in addition to new initiatives being introduced to step up safety assurance. Under the slogan "GO! ANZEN-NII," in fiscal 2018 we will rally the strength of all plant employees to secure a more robust safety assurance structure, realize even higher product quality and enhance our operational productivity.



Yoshiyuki Yoshino
General Manager of South Plant

Denka Construction Solutions Malaysia



Operations	Denka Construction Solutions Malaysia is situated in Shah Alam City, on the outskirts of Kuala Lumpur—the capital of Malaysia. We are charged with the manufacture, development and sale of special cement additives and other chemical products for use in construction. We became a part of the Denka Group in April 2015 and, since then, have served as the Group's special cement additive production and development base in Southeast Asia. In addition to producing existing Denka products for local markets, we are developing new products that better accommodate regional standards and needs.
Products	Special cement additives (special mortar, special pavement fillers, concrete quick-setting agent for use in tunnel construction, etc.) and construction chemicals (waterproofing materials, resin-based floor coating materials, repair materials, etc.)
Address	No. 18, Jalan Utas 15/7, Seksyen 15, 40200 Shah Alam, Selangor Darul Ehsan, Malaysia
Employees	96 (as of March 31, 2018) (Including two Japanese nationals)

Message from the Managing Director

We constantly strive to create a sound and safe workplace environment. We adhere to a policy of practicing safe operations in accordance with domestic and international laws and regulations as well as relevant principles and guidelines. We are dedicated to ensuring that all employees can work with confidence and, to this end, promote the betterment of our working environment by undertaking ongoing investment in occupational safety and health measures and by upgrading our safety, hygiene and environmental manuals.



Mohd Ridzuan Amral Bakri
Managing Director

Denka Advanced Materials Vietnam



Operations	Denka Advanced Materials Vietnam operates a production facility near Hanoi, northern Vietnam, and is engaged in the manufacture of VINI-TAPE, a vinyl chloride-based adhesive tape used for electrical insulation and automotive wire harnesses, as well as Denka Thermo Film ALS for use as cover tape in the process of transporting electronic components. Targeting Asian and Middle Eastern markets, we strive to deliver high-quality, cost-competitive products and thereby accommodate growing demand.
Products	VINI-TAPE and Denka Thermo Film ALS
Address	Plot D-5, Thang Long IP II, Lieu Xa Commune, Yen My District, Hung Yen Province, Vietnam Telephone: +84-221-3974-805 Fax: +84-221-3974-806
Employees	113 (as of March 31, 2018) (Including two Japanese nationals)

Message from the General Manager

As a Denka Group member operating in Vietnam, we will uphold the Denka Principles and are committed to placing the utmost priority on safety in all aspects of our production and corporate activities as a whole. By doing so, we will realize Denka Mission: "Taking on the challenge of expanding the possibilities of chemistry to create new value and contribute to sound social development."



Ichiro Katano
General Manager

Denka Advanced Materials (Suzhou)



Operations	Established in January 2006 as the Group's first production and sales subsidiary in China, the company engages in the slitting and marketing of electronic packaging sheets and cover tapes as well as the manufacture, import and sale of packaging sheets for electronic components and foodstuffs.
Products	Electronic packaging sheets, whole sheets used to produce cover tapes and food packaging sheets with slitting
Address	Unit 9B, Modern Industrial Square, No. 333 Xingpu Road, Suzhou Industrial Park, Suzhou, Jiangsu, China 215126 Telephone: +86-512-6287-1088
Employees	80 (as of March 31, 2018) (Including three Japanese nationals)

Message from the General Manager

1. On May 1, 2016, we achieved 1,600 days of zero-accident and disaster status. Looking ahead, we will rally the strengths of all employees to promote safety assurance activities, with the aim of lengthening this record to 2,000 days.
2. As a resin processing and marketing base that handles electronic and food packaging materials, we will not only expand our facilities but also enhance our technologies to differentiate ourselves from competitors. Moreover, we will regularly assess our profitability and region-specific operational risk, thereby pursuing sound corporate development.



Satoshi Yokoyama
General Manager

Denka Chemicals Development Suzhou



Operations | Established in December 2010 in China, Denka Chemicals Development Suzhou is Denka's first overseas R&D base. We are engaged in R&D focusing on such materials as chloroprene rubber, HARDLOC, special cement additives and functional sheets, with the aim of embodying "possibility of chemistry" in line with the corporate slogan. We are thus helping serve the Chinese market, the largest market in the world.

Address | Unit 1D, Modern Industrial Square, No. 333 Xingpu Road, Suzhou Industrial Park, Suzhou, Jiangsu, China 215126
Telephone: +86-512-6280-6808

Employees | 17 (as of March 31, 2018) (Including four Japanese nationals)

Message from the General Manager

We are in charge of research into core technologies supporting Denka's operations in China. In addition to contributing to the success of the Denka Value-Up management plan, we will help our researchers enhance their skills while creating a working environment in which everyone can work vigorously with the utmost priority on safety. To this end, we will rally all our strengths to promote operational process reforms. We will also tackle unconventional R&D themes and flexibly collaborate with organizations across the board, including other Group business bases in China. In these ways, we will push ahead with exploring new themes in an effort to accurately accommodate region-specific needs.



Kazuhiro Oshima
General Manager

Denka Electronics Materials Dalian



Operations | In September 2014, Denka Electronics Materials was established in Dalian, China, as a company that produces ALSINK, a thermal conductive substrate for use in power modules installed in high-speed rolling stock and other vehicles.

Products | ALSINK

Address | Building Unit 30, Jingang Industrial Park Phase III, No. 41-10 Wanda Road Dalian Economic & Technological Development Zone, Dalian, Liaoning Province, China 116600
Telephone: +86-411-6263-4377

Employees | 32 (as of March 31, 2018) (Including two Japanese nationals)

Message from the General Manager

We are a new company that has been operating only four years. With the majority of our workforce being accounted for by young people in their late 20s, we are engaged in systematic staff education and training aimed at motivating local employees to become advocates for continuous improvement. Hoping that Denka's corporate culture is embraced by people of Dalian, China, we will endeavor to create a safe workplace in which employees find their job rewarding.



Makoto Fukuda
General Manager

Denka Inorganic Materials (Tianjin)



Operations | As part of the Group's special cement additive supply chain, Denka Inorganic Materials was established in September 2013 as a wholly owned subsidiary (capital: ¥250 million) of Denka to manufacture and sell such products as inorganic additives that enhance the function of cement, mortar and concrete as well as to provide technical consulting services.

Products | Hardening accelerator for special cement additives (SC-1, BEFORM, etc.)
Special cement additives for quick-setting cements (Xunpai, Junchiwang, etc.)

Address | No. 3 Saida Mechanical Park, Xiqing Economic Development Area, Tianjin, China 300385
Telephone: +86-22-8792-0488

Employees | 9 (as of March 31, 2018) (Including two Japanese nationals)

Message from the General Manager

In addition to creating a workplace that places the utmost priority on safety, we will give due consideration to the environment. To remain a trustworthy manufacturer, we will always undertake our corporate activities with sincerity and integrity. In particular, we will strive to maintain our zero-disaster status in a way that exercises our team strength.



Yutaka Shirayama
General Manager

Denka Performance Elastomer



Operations | Having taken over operations related to chloroprene rubber (Neoprene™) from DuPont in November 2015, Denka Performance Elastomer was established as a joint venture owned by Denka and MITSUI & CO., LTD. Bringing together the strengths of Neoprene™, long a top-selling product, and proprietary Denka technology, Denka Performance Elastomer will supply superior-quality products to customers around the world, especially those in the Americas.

Products | Chloroprene rubber (Neoprene™)

Address | 560 Highway 44, LaPlace, LA70068, USA
Telephone: +1-985-233-7600 Facsimile: +1-985-359-4781

Employees | 239 (as of March 31, 2018) (Including seven Japanese nationals)

Message from the Vice President

Denka Performance Elastomer LLC, or DPE, is engaged in the production and sale of chloroprene rubber in the United States. Japanese and American staff at DPE work hand in hand to enhance the company's production structure and technological capabilities with the aim of further expanding the chloroprene rubber business, a core business supporting the Denka Group. We are also committed to helping revitalize communities in the surrounding region.



Masanobu Kosaka
Vice President Technology

Icon Genetics



Operations | Icon Genetics is an R&D company specializing in vaccines and diagnostic reagents and has a unique proprietary technology for efficiently manufacturing proteins using the tobacco plant (*Nicotiana tabacum*). Icon operates a Good Manufacturing Practice (GMP) conformant facility and is capable of producing prototypes of genetically modified proteins for use in reagents as well as vaccines for clinical trials.

Products | Prototypes for various types of vaccines and diagnostic reagents

Address | Weinbergweg 22, D-06120, Halle (Salle), Germany
Telephone: +49-345-5559889-664 or 885

Employees | 21 (as of March 31, 2018) (Including two Japanese nationals serving as two of three managing directors)

Message from the CEO

Icon Genetics GmbH became a part of the Denka Group in August 2015 and a wholly owned subsidiary of Denka in August 2017. We are currently striving to develop new vaccines via the utilization of the magnICON® platform, our proprietary technology capable of efficiently producing genetically modified proteins for medical applications in four to five weeks, a significantly shorter period of time than possible with other methods. Through these development efforts, we will strive to contribute to people's well-being in various ways.



Kazuyuki Hiruta
CEO

Denka Seiken



Operations | Since its founding in 1950, Denka Seiken has been operating its mainstay plants in Gosen, Niigata. Taking on its mission as a supplier of vaccines and diagnostic reagents, the company is striving to protect people's lives and well-being via its corporate activities.

Products | Influenza vaccines, immune serum diagnostic reagents, clinical chemistry reagents, bacterial and virological diagnostic reagents and POCT products

Address | Head Office: Nihonbashi Mitsui Tower, 1-1, Nihonbashi Muromachi 2-chome, Chuo-ku, Tokyo
Telephone: +81-3-6214-3231
Plants: Niigata Plant, Kagamida Plant (Gosen, Niigata)

Employees | 727 (as of March 31, 2018)

Message from the President

Since its founding, Denka Seiken has been taking on the challenge of eradicating infectious diseases. Under the keyword "prevention," we are striving to fully leverage our strengths as an R&D company in the manufacture of various vaccines as well as the development and production of a range of diagnostic reagents. At the same time, we are always conscious of our responsibilities as a pharmaceutical maker. Backed by society's trust in us and the dedication of our enthusiastic employees, we provide unique high-quality products in an effort to accommodate the evolving needs of markets around the globe. In step with the development of human civilization, we are also being called on by the general public to counter emerging threats of infectious disease pandemics. Because of this, we believe that Denka Seiken must play an ever important role going forward. Building on technologies we have accumulated thus far, we will step up our operations aimed at contributing to society.



Mitsukuni Ayabe
President

Denka Polymer



Operations | As a wholly owned subsidiary of Denka, we are supporting the Group's styrene business through the molding and sale of food containers. Founded in 1966, as Nakasan Kagaku K.K., we boast a business track record spanning more than 50 years. Along with the development of Japan's retail sector, including supermarkets, we have been endeavoring to deliver plastic food containers that satisfy the latest customer needs.

Products | Plastic food containers and food packaging stretch films for industrial use (prepared food trays, food containers, PVC films for automated and manual wrapping, etc.)

Address | Tower S, Fukagawa Gatharia, 5-25, Kiba 1-chome, Koto-ku, Tokyo
Telephone: +81-3-5632-9530

Employees | 424 (as of March 31, 2018)

Message from the President

A key management issue for a business wishing to grow is the provision of a favorable workplace environment. We therefore believe that the company must become more inclusive and help employees envision a bright and stable future. This is essential as we want our employees to be able to take on their duties without anxieties. Based on this belief, we will continue to improve our workplace environment, placing the utmost priority on safety and security. In these ways, we will contribute to society while maintaining the trust of customers.



Sizuho Tanaka
President

CRK



Operations | On August 8, 1963, we were founded as Chloroprene Rubber Kogyo K.K. through a joint investment by Denka and local interests based in Takasaki City. On February 28, 2018, we became a wholly owned subsidiary of Denka. We are engaged in the manufacture, processing and sale of industrial rubber products.

Products | Rubber compounds, master batches, rubber products made using press molding and ejection molding (hydrophilic expansive, water-stop and adhesive products as well as sponge tapes), fire-resistant thermal expansion materials (press molded products, sponges, vulcanized and non-vulcanized rubber and putty)

Address | 306, Koyagi-machi, Takasaki, Gunma
Telephone: +81-27-362-7510 Facsimile: +81-27-362-7561
<http://www.crk.co.jp>

Employees | 58 (as of March 31, 2018)

Message from the President

In June, we underwent evaluation aimed at assessing conformity with the 2015 version of the ISO 9001. We have thus successfully upgraded our quality management system, incorporating measures to satisfy new requirements with regard to risk and opportunities. Plans call for receiving follow-up evaluation in October 2018. Moreover, efforts are now under way to acquire ISO 14001 certification for our environmental management system, with the goal of passing the evaluation in conjunction with the evaluation of the renewal of the ISO 9001 certification that will take place in three years.



Hideaki Nagasaka
President

Hinode Kagaku Kogyo



Operations	In fiscal 2018, Hinode Kagaku Kogyo will mark the 69th anniversary of its founding as Japan's first commercial phosphate fertilizer producer. Based in Maizuru City, northern Kyoto, the company began operating in 1949 as the first plant established in response to the city's initiatives aimed at attracting business operators. Due to its location near Maizuru Port, which boasts beautiful landscapes, the company has quick access to port facilities handling imported cargoes and materials to be relayed to such domestic destinations as Hokkaido. Accordingly, we are determined to not only produce fertilizers but also make significant contributions to the development of the port's logistics operations.
Products	YORIN (fused magnesium phosphate) TORETARO (fused silicate phosphate fertilizer)
Address	660, Aza Kuratani, Maizuru, Kyoto Telephone: +81-773-75-5760
Employees	40 (as of March 31, 2018)

Message from the President

Hinode Kagaku Kogyo produces long-selling YORIN fused magnesium phosphate, as well as TORETARO fused silicate phosphate, which has garnered a solid reputation as a fertilizer for use in rice paddies and at vegetable farms. In recent years, we have invited a number of farmers to take part in plant tours. While allowing them to take a close look at our production lines, we often exchange opinions with them and acquire valuable insights. Building on strengths backed by a longstanding manufacturing legacy, we will engage in forward-looking efforts to enhance our technologies as we aim to remain a strong supporter of the development of Japan's agricultural sector.



Hisao Akimoto
President

Kyusyu Plastic Industry



Operations	Kyusyu Plastic Industry was established in 1964. As a Denka Group affiliate, the company engages in the processing of hard polyvinyl chloride, which is well known to entail extremely sophisticated technologies, the manufacture of dual-layered resin products with superior weather resistance, the ejection molding of acrylic resin and the annealing and molding of polycarbonate resin products with complex shapes. Our offerings also include continuously molded polyethylene corrugated pipes with inner diameters ranging from 50 to 1000 millimeters.
Products	<ul style="list-style-type: none"> • TOYO GUTTERS hard polyvinyl chloride rain gutters • TOYODRAIN corrugated pipes used as underground drainpipes for agriculture and construction use • DENKA THERMOSHEET with superior thermal conductivity and insulation property
Address	209-1, Naka Aza Ominato, Tamana, Kumamoto Telephone: +81-968-72-5121
Employees	100 (as of March 31, 2018) (including part-time and temporary workers as well as those seconded from other Group companies)

Message from the President

For more than 50 years, we have been engaged in manufacturing, with 100 employees working together to deliver products that contribute to and meet the needs of society. Looking ahead, we will continue with these pursuits while fulfilling our responsibilities and obligations as a corporate citizen via the creation of employment and the payment of tax. In the course of day-to-day operations, we will also strive to create an inclusive workplace environment in which employees find their job fascinating and fulfilling.



Kazuyuki Koyama
President

Denka Azumin



Operations	Denka Azumin is the single domestic humic acid fertilizer manufacturer equipped with an integrated system encompassing the nitric acid reaction of raw material lignite. We were founded as the Hanamaki Plant of Japan Metals & Chemicals Co., Ltd. and began producing AZUMIN (magnesium humate fertilizer) in 1963. In July 2003, the plant was reorganized into Denka Azumin Co., Ltd. via business transfer. Since then, we have been serving as Denka's key fertilizer production facility.
Products	AZUMIN (magnesium humate fertilizer and farm soil improver)
Address	118, 5 Chiwari, Nimaibashi, Hanamaki, Iwate Telephone: +81-198-26-2131
Employees	24 (as of March 31, 2018)

Message from the President

We have manufactured AZUMIN for more than half a century, helping to improve farm soils and thereby to support Japan's agricultural sector. We handle such hazardous substances as nitric acid. Accordingly, we consider steadily implementing daily safety assurance activities key to continuing our operations. In recent years, we began producing humic acid liquid fertilizers as well as chemical fertilizers based on ash from the combustion of chicken droppings as we push ahead with business development aimed at contributing to agriculture. Going forward, we will strive to raise employees' safety awareness while contributing to the communities surrounding us.



Takahito Masuda
President