

**Denka**

**Denka Group  
CSR Report 2016  
References**

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## Denka Principles / The Denka Group Guidelines

### Denka Principles

#### Denka Principles

We:

- Boldly confront challenges with determination and sincerity.
- Think and take action today with the future in mind.
- Deliver new values, and inspire customers through innovative *monozukuri*.
- Respect the environment and create a cheerful workplace that prioritizes safety.
- Contribute to a better society, whilst taking pride in being a trusted corporate citizen.

(As of April 1, 2015)

### The Denka Group Guidelines

Based on its corporate philosophy, "to become a company that creates new value from resources by fully employing our technological capabilities," the Denka Group established CSR action guidelines.

1. We will promote sustainable social and business development out of a conviction that corporate social responsibility is the essence of business.
2. While constantly ensuring quality to maintain customer trust, we will contribute to sound social progress by developing and supplying products and services that are safe and environment friendly.
3. We will operate fairly.
4. We will maintain a good level of communication with society and disclose appropriate information.
5. We will comply with laws and regulations and operate fairly according to social norms.
6. We will maintain safe, clean and comfortable workplaces and respect all basic human rights.
7. We will use, reuse and recycle resources to help protect the environment.
8. We will maintain security and disaster prevention measures, participate in environmental protection activities and communicate with society.
9. We will contribute to society as a good corporate citizen.
10. We will contribute to social development as a good member of the global community.

Established April 1, 2007

## Compliance

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To Maintain the Trust of Society, We Will Seek Greater Transparency and Ensure Integrity in All Our Endeavors.

### Compliance

#### 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. In fiscal 2015, we sent out 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, 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 fiscal 2015 initiatives aimed at ensuring security trade control included internal audits undertaken at eight departments of two divisions and participation in external seminars in addition to product classification as well as end-use and end-user verification in the course of our daily operations.

#### Protection of intellectual Property Rights

In line with the Denka100 new growth strategies, we are focusing on accelerating global expansion and facilitating open innovation. Therefore, 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. While respecting the IP rights held by other companies, we work to confirm that our products cause no infringement of such rights through patent clearance search.

Second, we continually improve employee education. In addition to providing our researchers with education on patent application, our initiatives included annual training sessions themed on the protection of IP rights, the content of related contracts, the utilization of trademarks and the exercise of property rights, targeting personnel at sales, corporate planning and administrative departments. For fiscal 2016, we will assiduously endeavor to raise employees' compliance awareness regarding the protection of IP rights.

#### 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 while conducting internal audits, thereby ensuring even stricter compliance. In fiscal 2015, to ensure the smooth acquisition of synthetic rubber-related operations in the United States, we submitted mandatory notification to and obtained approval from all the relevant trade competition authorities.

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.

## Information Security / Information Disclosure

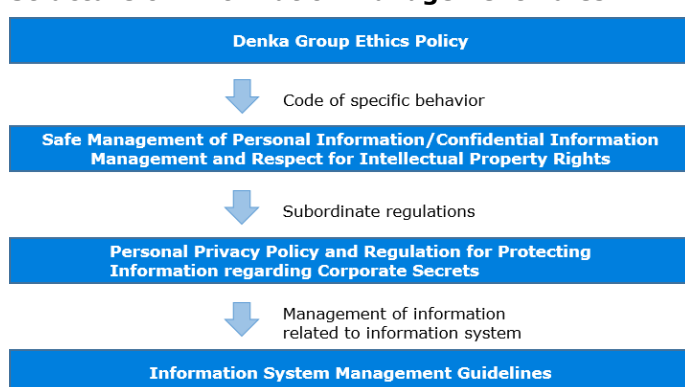
We Will Ensure Information Security through Proper Control while Maintaining Timely and Appropriate Information Disclosure.

### Information Security

#### Information Management Policy

The Denka Group Ethics Policy established in 2002 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, which are thoroughly disseminated through lectures and in-house newsletters. 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



#### Lectures on Information Security (fiscal 2015)

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.

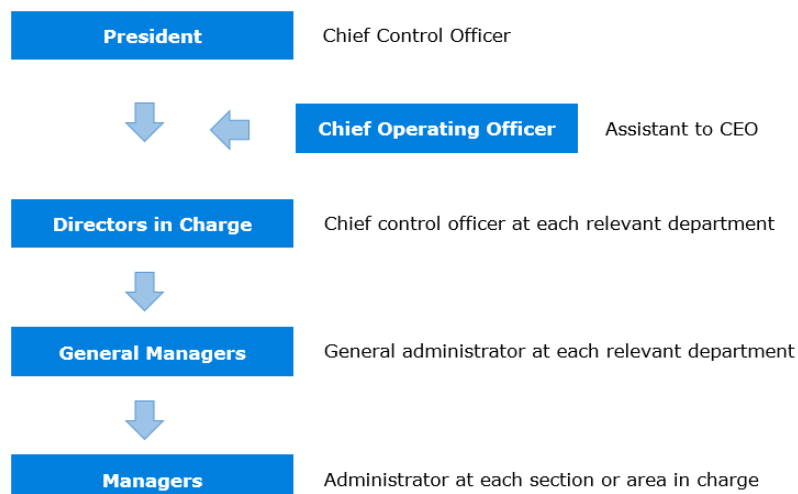
#### Information System Management and the Protection of Electronic Data

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



## Information Disclosure

### Our Stance on Information Disclosure and 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 shareholders and investors.

Moreover, using such opportunities as results briefings, corporate briefings for individual investors and the General Meeting of Shareholders, we are enhancing communication with our shareholders and investors 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.

## ISO14001 and ISO9001 Management Systems

The Denka Group Is Pursuing Ongoing Improvement Using Quality and Environmental Management Systems.

### Status of ISO Certification Acquisition

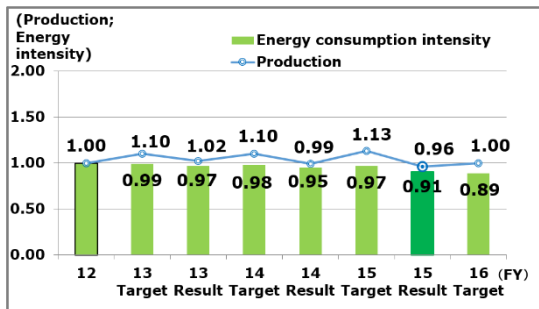
August 8th, 2016

	ISO14001(Environment)		ISO9001(Quality)		
	Date Certified	Registration Number	Date Certified	Registration Number	Products Covered
Omi Plant	October 16, 1999	3320229-2A (BV)	August 19, 1994	2936857(BV)	Chloroprene, acetaldehyde, POVAL, ASR, SAKNOHOL, special cement additives, cement, alumina fiber, monochloro acetic acid, sodium monochloroacetate, caustic soda, monosilane, dichlorosilane, hexachlorodisilan
Omuta Plant	October 28, 2000	3467588(BV)	November 7, 1998	3066427(BV)	Fused silica, special cement additives, nitride powder, ceramic substrates, steel additives, acetylene black, calcium aluminate cement, FIRELEN, boron, boron carbide powder, thermally conductive materials, heat sinks, phosphor
Chiba Plant	May 31, 1999	3181497(BV)	March 22, 1995	2985010(BV)	Polystyrene, acrylonitrile styrene resins, methyl methacrylate styrene resins, methyl methacrylate butadiene styrene resins, methyl methacrylate acrylonitrile butadiene styrene resins, acrylonitrile butadiene styrene resins, styrene-maleimide copolymers, styrene-butadiene copolymers, styrene methyl methacrylate copolymer resins, ethylene-vinyl acetate copolymers, acrylic synthetic rubber, polystyrene sheet, styrene monomer, ethyl benzene, rain gutters, vinyl tape, corrugated pipes, duct hosing, piping covers, polyvinyl chloride, acetylene black
Shibukawa Plant	May 21, 2001	3522129(BV)	October 23, 1996	3119550(BV)	Metal substrates, adhesives, emitters, thermally conductive spacers, thermally conductive adhesive sheets, electromagnetic shields, ELEGRIP tape, electric power
Ofuna Plant	November 9, 2001	JQA-EM1895 (JQA)	October 25, 1996	JQA-1429(JQA)	Packaging tape, plastic films, polyvinyl chloride fibers
Isesaki Plant	September 30, 2003	2770789(BV)	February 28, 2008	3038095(BV)	Stretch films, food packaging sheets, electronic packaging sheets, cover tapes, DX FILMS
Denka Innovation Center	July 5, 2004	3599252(BV)	—	—	—
DPE Pontchartrain	By the end of 2017 (target)	—	August 27, 2014	10001143 QM08(DQS)	Chloroprene Rubber
DSPL MERBAU	June 8, 2001	SNG0190016(Lloyd's)	November 29, 2000	SNG0160194(Lloyd's)	Acetylene black
DSPL SERAYA	May 28, 2003	SNG0190023(Lloyd's)	September 27, 2001	SNG0160242(Lloyd's)	Polystyrene, methyl methacrylate styrene resins, styrenebutadiene copolymers, styrene-maleimide copolymers
DAPL TUAS	March 2003	2003-0194 (TÜV SÜD PSB)	April 2000	99-2-0984 (TÜV SÜD PSB)	Fused silica filler
DAPL SOUTH	—	—	March 16, 2015	2015-2-2293 (TÜV SÜD PSB)	Synthetic fiber for hair wigs and hair pieces
DAV PVC Tape Plant	July 30, 2016	44104169/4000 4 (TÜV NORD)	July 20, 2015	VN/24/0607866 941	PVC adhesive tape
Denka Advanced Materials (Suzhou) Co., Ltd.	May 20, 2008	310092-UK(BV)	September 19, 2007	310799-UK(BV)	Electronic packaging sheets, cover tapes
Denka Electronic Materials Dalian Co., Ltd.	January 19, 2016	CNBJ/320896-UK(BV)	January 19, 2016	CNBJ320895-UK (BV)	heat sink
Denka Polymer Co., Ltd.	—	—	September 14, 2001	JUSE-RA-1970(JUSE)	Plastic food packaging and plastic sheets
Denka Seiken Co., Ltd.	June 23, 2000	3359017(BV)	July 13, 2005	12 100 25631TMS/ (TÜV SÜD PSB)	Clinical chemistry diagnostic reagents, immunological diagnostic reagents, bacteriological and virological diagnostic reagents, sterile cotton swabs
CRK Co., Ltd.	—	—	November 19, 2009	3492172(BV)	Rubber compounds, rubber tape, rubber molding
Hinode Kagaku Kogyo Kaisha Ltd.	August 1, 2012	KES2-0622*	—	—	—
Kyushu Plastic Kogyo k.k.	—	—	August 21, 1998	3643869(BV)	Plastic Rain gutters, Plastic drain pipe
Nakagawa Techno Industrial Co., Ltd.	—	—	December 11, 2011	CI/1906(J)/Certification International	Metal gutters, Air conditioning ducts

\* Hinode Kagaku Kogyo Kaisha Ltd. acquired KES Step 2 certification, which comprises management items that are virtually identical with ISO 14001, thereby improving its environmental management.

# Fiscal 2015 Environmental Performance by Denka Business Sites and Affiliates

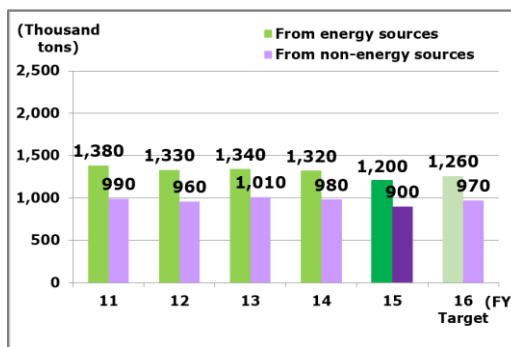
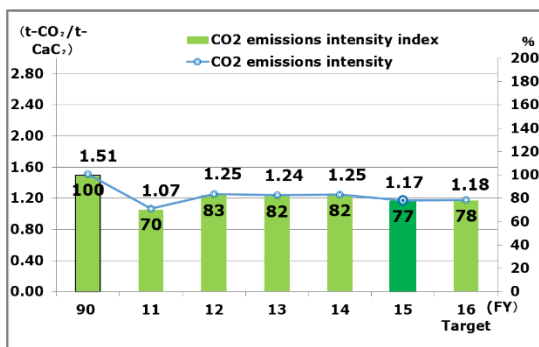
## 1. Production Volume and Energy Consumption Intensity (Relative to the Fiscal 2012 Level)



In fiscal 2015, energy consumption intensity was 91% of the fiscal 2012 level, much better than our initial target of achieving a 3% reduction over the course of three years.

Despite the expected production growth in fiscal 2016, we will execute facility upgrades aimed at reducing energy consumption at each manufacturing plant while enhancing the efficiency of our power generation facilities. Moreover, we will promote such new initiatives as stepping up collaboration between the Chiba plant and external companies housed in the same industrial complex to optimize the use of utilities.

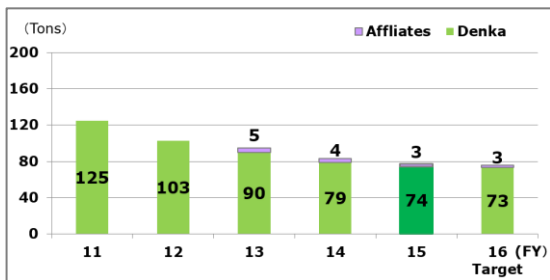
## 2. CO<sub>2</sub> Emissions Intensity (from energy sources)      3. CO<sub>2</sub> Emissions



CO<sub>2</sub> emissions intensity: Calculated based on the converted production volume of benchmark products

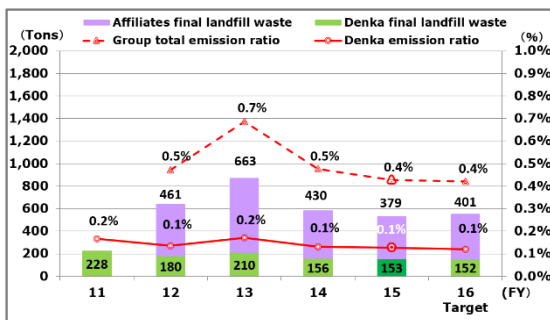
In fiscal 2015, our CO<sub>2</sub> emissions intensity was lower than the initial target of 1.20, thanks to a decrease in cement production at the Omi Plant and our systematic efforts to make improvements. For fiscal 2016, we will strive to offset the negative effect of an estimated increase in the production of cement with high CO<sub>2</sub> emissions intensity through the optimization of utilities at the Chiba Plant. By doing so, we will maintain overall CO<sub>2</sub> emissions intensity at a level on par with that for fiscal 2015.

## 4. PRTR Substances



Emissions of PRTR substances decreased approximately 3% year on year (on a non-consolidated basis) thanks to the appropriate management of acrylonitrile, vinyl acetate and toluene. For fiscal 2016, we will endeavor to keep the emissions volume unchanged from fiscal 2015, undertaking an ongoing and systematic reduction effort mainly at the Chiba Plant.

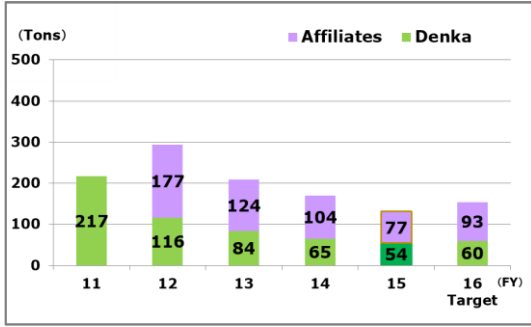
## 5. Waste Emissions Ratio



The fiscal 2015 Group total waste emission ratio was down from the fiscal 2014 level, reflecting the review and adjustment of data collected from affiliates during fiscal 2012 through 2015. In addition, our fiscal 2016 target for affiliates' final landfill waste is slightly up from the fiscal 2015 level due to increases in overseas silica production and the resulting generation of waste silica. However, we will strive to reduce waste generation and promote the effective utilization of recycled waste, rallying Groupwide strength to maintain our zero-emission status.

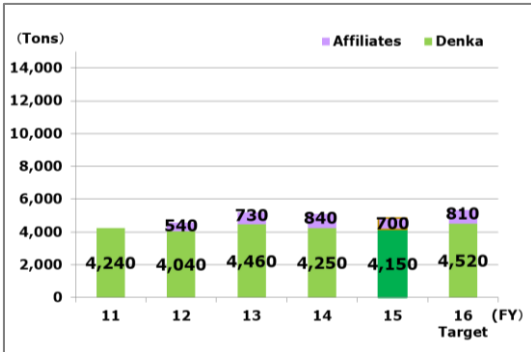


## 6. SOx



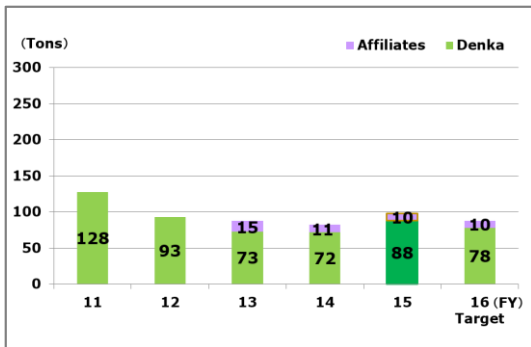
In fiscal 2015, SOx emissions decreased approximately 22% year on year. This was attributable to a decrease in the use of heavy oil resulting from the partial suspension of the Chiba Plant's boiler facility operations as well as changes in the composition of waste accepted by the Omi Plant's cement production facilities and raw materials used by domestic affiliates. For fiscal 2016, we anticipate a slight increase in SOx emissions volume, taking into account changes in the composition of waste used as cement ingredients and a switchover to conventional fuels at domestic affiliates as well as computational errors in exhaust gas measurements. Despite this projection, we will endeavor to maintain the current emissions status.

## 7. NOx



In fiscal 2015, the NOx emissions intensity decreased thanks to the improved combustion efficiency of the fused silica production process and a decrease in production loss at the Omuta Plant. For fiscal 2016, we anticipate a slight increase in NOx emissions due to a planned increase in overseas silica production, cement production growth and a change in the composition of waste accepted by the Omi Plant's cement production facilities as well as computational errors in exhaust gas measurements. Nevertheless, we will strive to maintain the current emissions status.

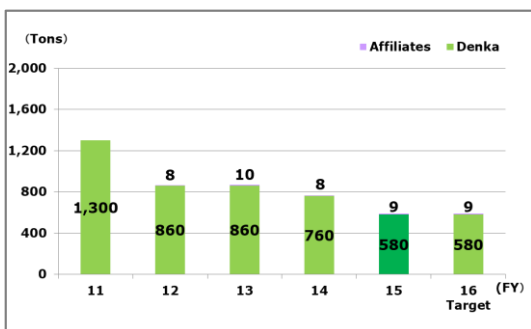
## 8. Soot and Dust



In fiscal 2015, soot and dust emissions increased approximately 18% year on year due to an increase in dust emissions attributable to the presence of foreign substances in limestone processed at the Omi Plant. In fiscal 2016, we will strive to reduce emissions through the use of limestone with a lower foreign substance content and the maintenance and reinforcement of dust collectors despite an expected increase in cement and other production.

Note: Previously presented data of affiliates has been corrected as an error was found in data collected from Denka Azumin Co., Ltd. over the fiscal 2013–2015 period.

## 9. COD (BOD)



In fiscal 2015, we successfully reduced COD (BOD) emissions from the Omi Plant, the Group's single largest COD (BOD) emitter, through the successful augmentation of wastewater treatment facilities for chloroprene production lines, thereby achieving a 23% reduction in total emissions compared with the previous fiscal year. In fiscal 2016, we will systematically make further improvements through the efficient operation of wastewater treatment facilities despite an expected increase in chloroprene production.

**Scope of calculation:** Figures presented above is based on data from the following production and R&D facilities.

2. and 3.; Denka (six domestic plants);
- 4.: Denka (six domestic plants) and one domestic affiliate (Hinode Kagaku Kogyo Kaisha Ltd.)
5. 6. 7. 8. and 9.: Denka (six domestic plants and Innovation Center), five domestic affiliates (Denka Polymer Co., Ltd., Denka Seiken Co., Ltd., CRK Co., Ltd., Hinode Kagaku Kogyo Kaisha Ltd., and Denka Azumin Co., Ltd.) and overseas bases (Merbau, Seraya, Tuas, Tuas South, Suzhou (production and research sites) Tianjin, Dalian and Vietnam

## Fiscal 2015 PRTR Substances Emissions and Transfers

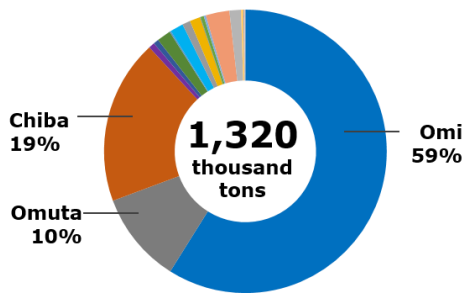
The following table shows PRTR substances emitted and transferred in amounts exceeding one ton.

Unit: tons (excluding dioxin)

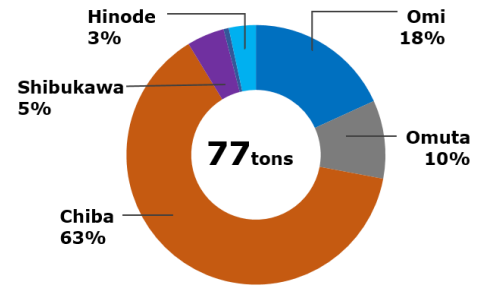
PRTR Substances	No.	Emissions					Amount Transferred (to the outside)
		Air	Water	Soil	Landfill	Total	
n-Butyl acrylate	7	0	0	0	0	0	1
Acrylonitrile	9	1	0	0	0	1	11
Acetaldehyde	12	0	5	0	0	5	0
Ethyl benzene	53	3	0	0	0	3	30
Ferric chloride	71	0	0	0	0	0	34
Vinyl acetate	134	5	0	0	0	5	0
N-Acetyl dimethylamine	213	0	0	0	0	0	9
N,N-Dimethylformamide	232	0	0	0	0	0	16
Styrene	240	19	0	0	0	19	111
Water soluble copper salt	272	0	5	0	0	5	12
Toluene	300	17	1	0	0	18	27
Bis (2-ethylhexyl) phthalate	355	0	0	0	0	0	1
Hydrogen fluoride and its water-soluble salt	374	0	0	0	0	0	22
n-Hexane	392	0	0	0	0	0	2
Boron compounds	405	0	9	0	0	9	19
2-Ethylhexyl methacrylate	416	0	0	0	0	0	1
Methyl methacrylate	420	2	0	0	0	2	11
Total (tons/year)		47	20	0	0	67	306
Dioxin (mg-TEQ/year)	243	26	39	0	0	65	0

# Fiscal 2015 Environmental Performance Data—Ratio of Each Business Site in Overall Emissions

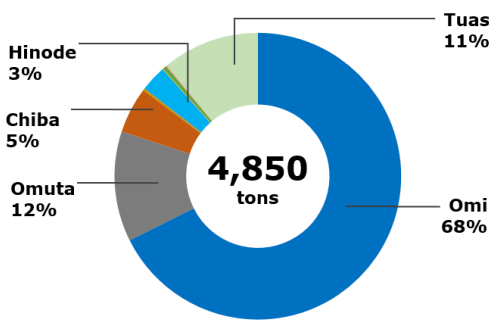
**CO<sub>2</sub> Emissions Intensity (from energy sources)**



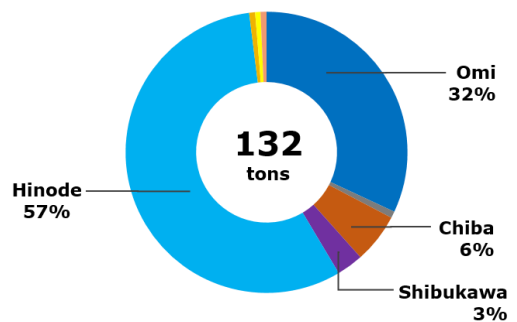
**PRTR substance emissions**



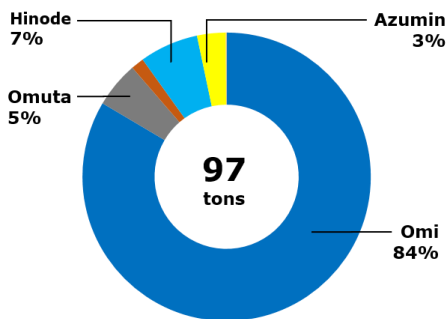
**NO<sub>x</sub> emissions**



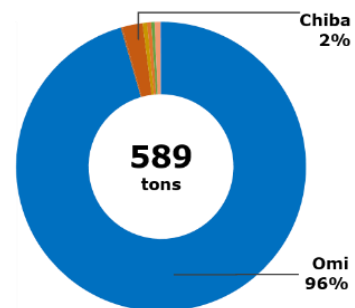
**SO<sub>x</sub> emissions**



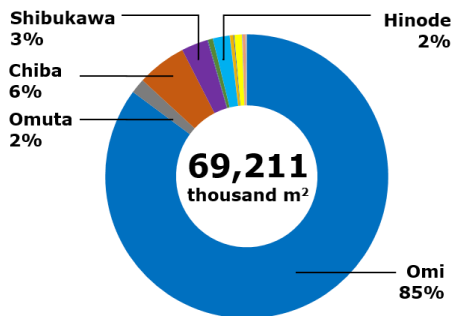
**Soot and dust emissions**



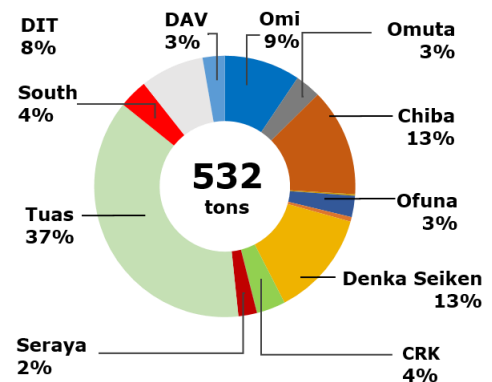
**COD (BOD) discharges**



**Water used**



**Final landfill waste**



## Denka's Policy on Biodiversity and Accomplishments

### Policy on Biodiversity and Accomplishments

#### The Denka Group's Basic Policy on Biodiversity

In recent years, the general public has voiced growing concerns with regard to such environmental issues as river and ocean pollution, the micro-plastic contamination of marine environments, coral bleaching due to the global warming and the possible extinction of some wild animal species (such as those on the "Red List"). Moreover, to set rules for the handling of biological genetic resources, signatories to COP 10 signed the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization.

On the back of the signing of the Convention on Biological Diversity,\* formulation of the UN's Sustainable Development Goals and other moves driven by ever stronger sense of urgency toward the preservation of natural resources, businesses have been called upon to give due consideration to the sustainable utilization of resources by protecting biodiversity.

Meanwhile, the Japanese government has announced the "National Biodiversity Strategy of Japan 2012 – 2020" based on the September 2012 Cabinet resolution, classifying possible causes of biodiversity crises into the following four categories: (1) human activities, including development; (2) reduced environmental conservation efforts; (3) artificially introduced factors, such as alien species and chemical substances; and (4) major changes in the global environment, including global warming and ocean acidification.

In addition, the government established a long-term target for 2050 stating "Through the maintenance and recovery of biodiversity and the sustainable use of its components, the current biodiversity in Japan will be enriched further and a society in harmony with nature will be achieved where humans can benefit from ecosystem services into the future." Furthermore, it also determined a short-term target for 2020 as follows; "In order to halt the loss of biodiversity, effective and urgent action will be taken with the aim of achieving the Japanese national targets towards the achievement of the Aichi Biodiversity Targets."

Accordingly, Denka gives due consideration to these backgrounds and respects international protocols and targets in the course of developing, producing and providing its products and services. Denka also works in tandem with its supply chain to continuously reduce environmental burdens. In these ways, the Company endeavors to protect biodiversity and thereby contribute to a sustainable society through its corporate activities.

\*Convention on Biological Diversity: Based on a resolution at COP 10 in Aichi, signatories to the convention agreed with 20 individual targets aimed at preventing the loss of biodiversity through effective and urgent actions to be taken by 2020 and ensuring resilient ecosystems capable of providing basic services.

#### Fiscal 2015 Achievements

Denka is striving to augment its hydroelectric power generation facilities, which constitute a major renewable energy source. Concrete initiatives include (1) the construction of the New Omigawa Power Plant (operational kickoff scheduled for 2018) and (2) the planned construction of the New Himekawa Power Plant No. 6 (preliminarily surveys are now under way; completion scheduled for 2022). To minimize the negative impact of such construction, before launching any project Denka undertakes various surveys of the river that the proposed site is on, the local landscape and the surrounding environment, including flora and fauna, and reflects the survey results in its facility specifications. In particular, we work with external specialists to minimize the impact on raptor species' habitat.

In addition, we engage in cleanup activities covering beaches and rivers near the Omi Plant, removing floating articles and other waste. We also clean water channels around the premises of the Shibukawa plant.

#### Future Initiatives

Looking ahead, we will give even more consideration to biodiversity in our planning and construction of hydroelectric power plants. Simultaneously, we will promote ongoing initiatives to reduce environmental burdens through the development, production and provision of products and services in collaboration with our supply chain. We will also help provide environmental education aimed at raising employee awareness about the significance of biodiversity and the prudent use of natural resources. In these ways, we will ensure sustainable corporate activities.

## Topics on Our Environmental Activities

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### Climate Change: Risks and Opportunities

Climate change can affect business activities in various ways. The impact may be immediate and physical, like flooding or drought, or less direct, for example, causing major disruptions in sources of raw materials, triggering cost fluctuations or prompting new legislation or the tightening of regulations that restrict business activities.

With this in mind, Denka actively pursues a flexible and varied approach, for example, utilizing clean energy through the augmentation of hydroelectric power plants, promoting facility upgrades to reduce production-related energy consumption and introducing novel environment-friendly technologies. Moreover, the Company implements countermeasures against flooding at its plants, making sure that its facilities are insulated from water damage.

At the same time, Denka is acutely aware of potential business opportunities brought on by climate change. For example, there are growing calls for the development and provision of products and technologies that help save energy and reduce greenhouse gas emissions. With the aim of seizing such an opportunity, the Company has established a new factory in China to produce thermally conductive substrates for the inverter circuit components installed in high-speed rolling stock, a field where cutting-edge energy-saving technologies are now being applied. Also, through such means as M&A, the Company is expanding its operations related to special cement additives—which help realize resource- and time-saving construction methods and reduce repair costs—in China and Southeast Asia. In line with the Denka100 management plan growth strategy, the Company is focusing its management resources on these growth fields.

### Achievements in Environmental Education

In November and December 2015, we provided training sessions on environmental issues at our six domestic plants and Innovation Center. With specialists from Head Office's Technology Division serving as lecturers, these sessions involved briefings on our initiatives to counter global warming, such as those employing the CDP (Carbon Disclosure project)\* information disclosure scheme, and life cycle assessment (LCA) initiatives as well as the latest trends in this area. The question and answer sessions following the lectures were brisk, attesting to a growing awareness of the significance of environmental conservation among our employees.

\*CDP: A London-based NPO run by an association of institutional investors from around the world with the aim of encouraging businesses to reduce GHG emissions and mitigate the risk of climate change. Once a year, CDP compiles and publishes a report on participating companies' strategies to counter climate change as well as the volume of their GHG emissions.

### Topic: CO<sub>2</sub>-SUICOM—Eco-Friendly Concrete

CO<sub>2</sub>-SUICOM is an epoch-making concrete jointly developed by Denka, The Chugoku Electric Power Co., Inc. and Kajima Corporation with the aim of reducing the life cycle CO<sub>2</sub> emissions of concrete to zero. Since 2014, when this development project was selected the Japanese government to receive a subsidy, the aforementioned three companies and LANDES Co., Ltd. have been striving to enhance the features and verify the effectiveness of this product. Moreover, the co-development of CO<sub>2</sub>-SUICOM led to Denka's inclusion among the winners of the 2014 Environment Minister's for Global Warming Prevention Activity.

## Product and Labor Safety Management Systems

We Consider Safety, Environmental Protection and Quality in All Our Processes, from Raw Materials Procurement to Research, Production, Logistics, Consumption and Disposal.

### Product Safety Management

We ensure product safety at each phase—from development and production to use by customers—while focusing on maintaining and improving quality.

#### 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 purchase and use raw materials based on the Negative List, which takes into consideration Japanese and international environmental management regulations, as well as purchasing specifications that outline the required characteristics of purchased raw materials. Consequently, we are striving to manufacture superior products from quality raw materials and production processes.

#### 3 & 5. Manufacturing Vendor Audits

We outsource some raw material production processes and the manufacture of semi-processed goods. 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

We established the Negative List, which lists substances that are considered to be harmful to people and the environment. 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. The Advanced Technologies Research Institute analyzes the amount of residual substances harmful to the environment contained within raw materials and products. Analytical data verifying that the amount of such substances is below regulatory limits is shared with the production, sales, and analysis and product management departments.

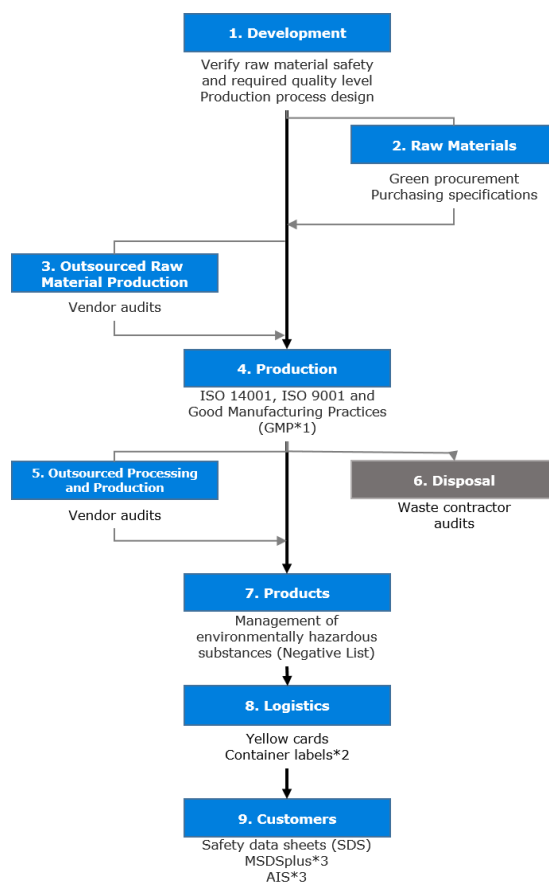
#### 8. Displaying Yellow Cards and Yellow Card Container Labels

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 have begun disseminating information on environmentally hazardous substances contained in our products to customers through the Material Safety Data Sheet plus (MSDS plus)—which supplements information conveyed on SDS sheets—and Article Information Sheet (AIS) systems.

Flowchart



## Quality Symposia and SQC Education

In line with Companywide quality policy, Denka aims to better employ the statistical quality control (SQC) method to promote R&D and quality engineering. With this in mind, the Company implements education programs focused on SQC while holding quality symposia aimed at sharing quality management techniques.

### Employee Education on the SQC Method

For the last five years Denka has been focusing on providing practical training on statistical data analysis, and a cumulative total of 86 employees have completed this training. Participants have included not only researchers and production staff members but also chiefs and assistant chiefs who are working on the manufacturing frontlines. Consequently, the statistical quality control (SQC) method is firmly embraced at Group production sites.

We have also appointed SQC leaders at each business site to serve as trainers and are helping them acquire advanced expertise through quarterly training sessions. In this way, we nurture personnel capable of teaching advanced SQC application in such areas as experiment planning. Simultaneously, we make sure that personnel at all business sites are equipped with adequate SQC skills through the preparation and sharing of uniform training materials. We can see that a sufficient and growing number of employees have acquired strong data analysis competencies. Going forward, we will work to further enhance our data collection and management systems.

### Quality Symposia

On May 20, 2016, we held our sixth quality symposium, with representatives from Denka plants' manufacturing, R&D and quality assurance departments, the Denka Innovation Center and affiliates attending. These representatives gave a total of nine presentations on SQC application best practices. With the venue having been relocated from Head Office to the Denka Innovation Center, this round involved discussions that were particularly active thanks to the inclusion of a number of younger engineers among the attendees. In addition to the successful application of basic analysis methodologies for statistical process control, presentations included a growing number of cases involving advanced SQC application in experiment planning. As such, our efforts to facilitate the understanding and utilization of the SQC method have steadily progressed.



Giving a presentation at the quality symposium

## Collaborating in Chemical Industry Initiatives

### GPS/JIPS (Global Product Strategy/Japan Initiative of Product Stewardship)

The Japan Initiative of Product Stewardship (JIPS)\*<sup>4</sup> refers to a voluntary initiative undertaken by domestic chemical manufacturers to control risk associated with chemical substances under the auspices of the Japan Chemical Industry Association (JCIA). Based on the Global Product Strategy (GPS)\*<sup>5</sup> promoted by the International Council of Chemical Associations (ICCA), the aim of JIPS is to realize the "2020 goal for sound chemicals management" agreed upon at the World Summit on Sustainable Development (WSSD) by supporting efforts to ensure that "chemicals are used and produced in ways that lead to the minimization of significant adverse effects on human health and the environment" by 2020.

As a participant in this initiative, Denka is stepping up chemical substances risk assessment and management operations with due consideration being paid to the entire supply chain. To this end, the Company is collecting information on hazardous substances and assessing risk based on accurate data pertaining to the manufacture, sale and use of chemical substances. Based on the results of its assessments, Denka prepares and posts GPS/JIPS Safety Summaries for five substances on the GPS portal site run by the JCIA.

The BIGDr website (a chemical risk assessment support portal) run by JCIA  
[http://www.jcia-bigdr.jp/jcia-bigdr/en/material/icca\\_company\\_list](http://www.jcia-bigdr.jp/jcia-bigdr/en/material/icca_company_list)

GPS Chemicals Portal (a chemical information service website) run by ICCA  
<http://icca.cefic.org/en/Home/Global-Product-Strategy/global-product-strategy/chemical-information-search/>

### LRI( Long-Range Research Initiative)

The JCIA, the American Chemistry Council and the European Chemical Industry Council oversee this program. The program entails conducting long-term basic research to correctly determine if and/or in what manner chemical substances affect human health and the environment. Based on scientific evidence, the LRI is aimed at uncovering new insights and developing new assessment methods that will aid in the appropriate management and risk assessment of chemical substances. The LRI also supports the establishment of international standards and government policies on relevant matters. In fiscal 2016, we continue to participate in this initiative.

\*1. Good Manufacturing Practices (GMP) refers to standards that Japan's Ministry of Health, Labour and Welfare established in



- its Ministerial Ordinance on Standards for Manufacturing Control and Quality Control for Drugs and Quasi-drugs.
- \*2. 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.
  - \*3. The Joint Article Management Promotion-consortium (JAMP\*)'s Material Safety Data Sheet plus (MSDSplus) and Article Information Sheet (AIS) systems provide standardized formats for presenting information on substances subject to management. MSDSplus is mainly for substances and agents that are upstream in the supply chain. Article manufacturers produce AISs based on that information. JAMP aims to spread its systems throughout Japan and Southeast Asia.
    - \* JAMP is a cross-industry association established in Japan in 2006 to encourage companies to properly manage information on substances and compounds as well as on chemical substances in parts, plastics and other articles. JAMP also establishes mechanisms to disclose and present information on supply-chain products.
  - \*4. Japan Initiative of Product Stewardship (JIPS): Domestic chemical manufacturers' voluntary initiative to control the risk chemical substances pose encompassing their supply chains.
  - \*5. Global Product Strategy (GPS): A voluntary initiative promoted by the International Council of Chemical Associations (ICCA) to control the risk chemical substances pose.

## **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.



## Optimizing Logistics Operations

### Response to the Revised Law Concerning the Rational Use of Energy

As a designated shipper,\* we are continually working to further streamline such logistics operations as the transportation and storage of products to reduce environmental burdens while striving to improve customer satisfaction. In recent years, the domestic transportation industry has been facing a chronic manpower shortage affecting trucking and coastal shipping operations. Moreover, burgeoning transactions through electronic commerce triggered a rapid increase in small-lot transportation. These factors worsened the supply-demand balance, making it difficult to maintain the usually high level of user convenience of our transport services. Denka thus considers securing stable transportation channels as essential as the streamlining of its logistics operations.

In the three years since launching the Denka100 management plan in 2013, Denka has pursued a growth strategy that has involved closely scrutinizing every cost element. Under this strategy, Denka has implemented ongoing initiatives to review transport and storage methods, streamline packaging and optimize the overall logistics process. Going forward, Denka will strive to further reduce cost and environmental burdens attributable to its logistics structure without compromising customer satisfaction.

In fiscal 2015, the Company's total shipment volume was approximately 530 million t-km, up 2.2% compared with fiscal 2014, with CO<sub>2</sub> emissions attributable to transportation increasing 0.9% year on year. However, energy consumption intensity decreased 1.4% year on year due to an increase in the shipping of styrene monomer, which boasts superior transport efficiency. We will continue striving to reduce energy consumption intensity while optimizing our logistics operations.

\*Designated under the Revised Law Concerning the Rational Use of Energy: Business operators whose annual transportation volume exceeds 30 million t-km are obligated to fulfill specific requirements under said law, including submitting reports on their energy-saving targets and achievements.

#### Energy Saving Status

\* Crude oil equivalent divided by cargo volume

(FY)	2011	2012	2013	2014	2015
Shipment volume (1,000t-km)	521,131	532,709	567,484	518,700	530,019
Energy consumption intensity*	0.0250	0.0246	0.0244	0.0247	0.0244
Year-on-year	104.8%	98.3%	99.1%	101.6%	98.6%
CO <sub>2</sub> emissions (t-CO <sub>2</sub> )	34,700	34,800	36,707	34,061	34,382

### Initiatives Undertaken by the Logistics Subcommittee

#### Logistics Safety Assurance Activities; "Yellow Card Drills" at the Omi Plant

Assuming an accident in the course of the transport of caustic soda, which is a hazardous substance, the Omi Plant implemented a drill aimed at practicing procedures described in a yellow card attached to this product. Using an actual container truck, the drill involved simulated reporting and the rehearsal of immediate fixing measures.

1



2



3



- 1) Accident reporting and the provision of instructions on countermeasures
- 2) A driver checking the leak situation around the truck
- 3) Alerting passersby using a megaphone
- 4) Reporting the completion of immediate measures
- 5) A fire truck deployed in response to the driver's request
- 6) Examining and evaluating how procedures were practiced

4



5



6



# Occupational Safety and Health Management System / Our Structure for Managing Changes in Production Process

## 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.

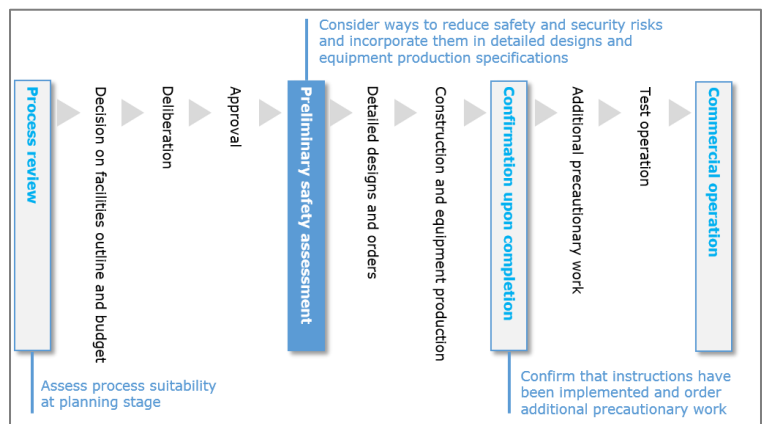
Although the Shibukawa Plant has not acquired certification for its occupational safety and health management system, the plant is implementing safety management and promotion activities equivalent to those prescribed by a certified system.

## 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

## Our Structure for Managing Changes in Production Process

This encompasses establishing rules to assess risks and implement measures where needed for changes in the 4Ms\* during production. Preliminary safety assessments are important when building plants that use new processes. Change management comes into play when we upgrade or modify facilities. Facilities and operations departments conduct preliminary safety assessments and meet with inhouse third parties to discuss risks relating to fires, explosions and worker safety. In particular, we emphasize preventing key lapses in areas concerning disaster prevention and occupational health.



\* 4Ms: Man, Machines (facilities, equipment, tools), Materials (raw materials and components) and Methods (including work methods/operations, processing conditions and formulas)

## Environment- and Energy-Related Subsidies

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We Proactively Utilize Subsidy Programs to Develop Technologies That Lead to Ecological and Energy-Saving Solutions.

### Initiatives under the Government Subsidy Programs

As part of its activities to reduce the environmental burden as well as energy consumption, Denka actively utilizes subsidy programs provided by the Japanese Ministry of the Environment (MOE) and the Ministry of Economy, Trade and Industry (METI). It also utilizes subsidies aimed at facilitating public-private cooperation in advanced technology pilot projects as well as at encouraging Japan-based production and R&D facility construction. During the fiscal 2011 to 2015 period, Denka received subsidies and approvals for subsidies for 14 projects, all of which have proven effective in achieving their objectives. In fiscal 2015, the value of subsidies to which Denka was entitled totaled ¥1,113 million. Here, we introduce details of projects subsidized during fiscal 2015.

#### Energy-Saving Initiatives

In fiscal 2015, a program for the rationalization of business operators' energy use operating under the auspices of Japan's Ministry of Trade, Economy and Industry (METI) granted a subsidy to a project undertaken by the Omi Plant. The project in question involves the introduction of energy-saving facilities at electrolysis plants and thermal power generation facilities alongside improvements in the calcium carbide production process. The Omi Plant is also promoting the introduction of high-performance freezing equipment for chloroprene rubber-related facilities and the upgrading of cement production-related facilities. Meanwhile, the Chiba Plant is engaged in the introduction of the latest steam and fuel consumption reduction technologies at petrochemical plants. Since fiscal 2014, the latter two projects have been the beneficiaries of the same METI-sponsored subsidy program. In addition, the Omi Plant's initiative to introduce high-performance burners for a cement kiln was featured at the 40th exhibition of earth environment and energy harmonization (ENEX2016), held from January 27 to 29, 2016 at Tokyo Big Sight, as an example of subsidized projects that Denka is undertaking.

#### Environmental Load Reduction

Forming a consortium with The Chugoku Electric Power Co., Inc., Kajima Corporation and LANDES Co., Ltd., Denka's Omi Plant launched a project aimed at facilitating the popularization of CO<sub>2</sub>-SUICOM environment-friendly concrete. In 2014, this ongoing project was selected for METI's subsidy program for the verification of carbon dioxide capture and storage (CCS) technologies. In addition, the product won the 2014 Environment Minister's Award for Global Warming Prevention Activity.

#### Advanced Technological Development, etc.

The Omuta Plant is developing SiC power modules by utilizing subsidies provided by METI under the Novel Semiconductor Power Electronics Project Realizing Low Carbon Emission Society. Utilizing the Subsidy for Domestic Location Promotion Projects, the Chiba Plant brought its ultra-pure acetylene black production facility online in 2015.

	Category	Project	Business site	Subsidy title, relevant authority		Fiscal year
1	Energy saving	Introduction of energy-saving burners for cement calcining, etc.	Omi Plant	METI	Subsidy program for the rationalization of business operators' energy use	FY2011
2	Energy saving	Introduction of the latest technologies at petrochemical plants (styrene monomer-related facilities)	Chiba Plant	METI	Subsidy program for the rationalization of business operators' energy use	FY2011 FY2012
3	Energy saving	The improvement of heat recovery at the Omi Plant's POVAL production facilities	Omi Plant	METI	Subsidy program for the rationalization of business operators' energy use	FY2011-2013
4	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
5	Energy saving	Introduction of high-performance freezing equipment for chloroprene rubber-related facilities and upgrade of cement production-related facilities	Omi Plant	METI	Subsidy program for the rationalization of business operators' energy use	FY2014-2016
6	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
7	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
8	The environment	Development of a method to recycle slaked lime generated from acetylene manufacture into cement products	Omuta Plant	MOE	Environment Research and Technology Development Fund	FY2011 FY2012
9	The environment	Promotion of CO <sub>2</sub> -SUICOM environment-friendly concrete	Omi Plant	METI	Subsidy program for verification of carbon dioxide capture and storage (CCS) technologies	FY2014-Y2016
10	Advanced technology	Demonstration of a high-frequency induction furnace for silicon nitride	Omuta Plant	METI	Subsidy for Advanced Technology Demonstration and Evaluation Facility Development	FY2012 FY2013
11	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 FY2014
12	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
13	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
14	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 FY2014

## Environmental Accounting

### Conservation Costs

Conservation Cost Category	Details	Conservation Costs (millions of yen)	
		Investments	Expenses
1) Business site costs	(Subtotal)	1,622	2,609
a) Pollution prevention	Environmental burden reduction	492	2,051
b) Environmental conservation	Energy saving	960	115
c) Recycling resources	Effective use of resources	171	443
2) Upstream and downstream costs	Change of raw materials, etc.	0	0
3) Administrative costs	Educational activities	0	50
4) R&D costs	Development of energy saving products, etc.	380	1,012
5) Social activity costs	Educational activities	2	15
6) Environmental damage costs	Community relations	0	90
7) Others		0	0
Total		2,004	3,777

The Company's environmental investments in fiscal 2015 were mainly accounted for by the following items: implementation of environmental burden reduction measures (24%); introduction of energy-saving facilities (48%); R&D spending focused on developing energy-saving products (19%); and investments for the effective use of resources (9%).

### Conservation Effects

Environmental Load	Units	FY2014 Results	FY2015 Results	Effects
CO <sub>2</sub> emissions (from energy and non-energy sources)	10,000t	229	210	19
SO <sub>x</sub> emissions	t	65	54	11
NO <sub>x</sub> emissions	t	4,252	4,148	104
Soot and dust emissions	t	72	88	-16
COD(BOD) discharges	t	760	578	182
Water used	1,000t	70,363	66,539	3,824
PRTR substance emissions	t	79	74	5
Waste	1,000t	119	120	-1
Final landfill waste	t	156	153	3
CO <sub>2</sub> emissions from transportation	1,000t	34	34	0

We have calculated our environmental load data. For more details, please also refer to the CSR Report 2016 (print or online version) and site reports.

### Economic Effects

Category	Item	Details	Effects (millions of yen)
Profits	Proceeds from selling waste from core operations and income from recycling waste	Sales profits	449
Cost reductions	Lowering energy costs by conserving energy	Energy saving	407
	Reducing waste treatment costs by conserving or recycling resources	Effective use of resources	42
Total			898

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 energy savings and reductions in waste treatment costs.

## The CSR Procurement Policies

1. We will maintain respect for human rights while striving to improve the workplace environment and occupational safety and health.
2. We will pursue environment-conscious procurement, striving to secure safety and to reduce our impact on the earth's environment.
3. We will undertake procurement activities based on compliance with relevant laws, regulations and corporate ethics.
4. We will purchase raw materials and equipment and consign construction work by comprehensively taking into account such factors as quality, prices and delivery time as well as suppliers' technological capabilities, supply reliability and environmental conservation initiatives.
5. We will sincerely engage with our suppliers and treat them as important business partners, fostering mutual understanding and trustworthy relationships with them through fair business transactions.
6. We will not accept from our suppliers nor provide them with any gifts or entertainment of value that are deemed in excess of social norms or of an inappropriate nature.
7. We will not divulge any non-public information acquired in confidence from our suppliers in the course of procurement activities while properly managing and protecting their intellectual property rights.
8. We will maintain an equal partnership with all suppliers and provide them with equal opportunities for competition in a fair manner.

## The CSR Procurement Guidelines

1. **Respect for Human Rights and Occupational Safety and Health:** A supplier is required to include respect for fundamental human rights and the pursuit of occupational safety and health in its corporate policy.
2. **Compliance with Laws and Regulations:** A supplier is required to include compliance with law and regulations, as well as fair corporate activities in accordance with social ethics, in its corporate policy.
3. **CSR Promotion:** A supplier is required to recognize CSR as being integral to its business activities. This entails including sustainable social and business development in its corporate policy and establishing an in-house CSR promotion structure.
4. **Environmental Conservation:** A supplier is required to include environmental conservation activities in its corporate policy and disclose the status of said activities to the general public. The said activities include the appropriate management of chemical substances contained in its products and green procurement.
5. **Product Quality and Safety:** A supplier is required to include quality and safety assurance in its corporate policy. Such activities are expected to take place under an established product quality management system.
6. **Fair and Just Business Transactions:** A supplier is required to include fair and just business transactions in its corporate policy.
7. **Risk Management:** A supplier is required to make sure that any risk or contingencies it may confront are managed and controlled through such means as the appropriate and timely information disclosure.
8. **Contribution to Society:** A supplier is required to include proactive contribution to local communities and global society in its corporate policy.
9. **Severing Ties with Antisocial Forces:** A supplier is required to not have any relationship with antisocial forces, whether they are individuals or entities.

## Customer Satisfaction Surveys

In line with its medium-term quality assurance policy, the Electronics & Innovative Products Division focuses on securing greater customer satisfaction through superior products and services. Since fiscal 2010, the division has been conducting periodic surveys of its entire product lineup, specifically, sending out questionnaires to ascertain customer needs and expectations in a swift and accurate manner. These surveys also help us assess whether customer feedback is properly reflected in our business operations.

The content of the questionnaires is revised annually. Reviewing the results of these surveys since their inception, we see an overall improvement in customer feedback regarding the performance of products and services, with a number of comments providing invaluable insights, including helpful suggestions as to how partnerships could be deepened. Looking ahead, we will carefully address customer concerns to improve our products and services.





## Educational Support Initiatives

### Major Educational Support Initiatives Undertaken by the Denka Group (FY2015)

Experimental Science Classes	The Innovation Center and Head Office	The Summer Holiday Chemical Experiment Show for Children sponsored by the "Dream Chemistry 21" committee	1
	Omi Plant	<i>Geomaru &amp; Nuna to Omoshiro Science</i> and Tazawa Elementary School	2
	Omuta Plant	Chemistry classes for children (Ecosanc Center in Omuta City and the Omuta Ecotown Fair)	3
	The Innovation Center	Machida Dai-Yon Elementary School	4
Plant Tours	Omuta Plant	Saga University, Miike Technical High School and Omuta High School	5
	Chiba Plant	Goi Elementary School (Jointly hosted by Maruzen Petrochemical Co., Ltd. and Hitachi Chemical Company, Ltd.)	6
	Shibukawa Plant	Shibukawa Technical High School and Maebashi Commerce High School	7
	The Innovation Center	Machida Dai-Yon Elementary School	8
Internship	Omuta Plant	Toyohashi University of Technology, Miike Technical High School and Yame Technical High School, National Institute of Technology Kagoshima College and National Institute of Technology Sasebo College	
	Chiba Plant	Chiba Technical High School	
Other Initiatives	Head Office	Sponsoring the Fureai Trio's classical music concerts at elementary schools nationwide	9
	The Innovation Center	Machida City's Junior Football Tournament (the 35th Denka Cup)	10

#### Experimental Science Classes



#### Plant Tours



#### Other Initiatives



## Corporate Officers (as of June 22, 2016)

Board of Directors / Audit & Supervisory Board / Executive Officers

### [Board of Directors]

Representative Director, President	Shinsuke Yoshitaka
Representative Director	Mitsukuni Ayabe
Director	Manabu Yamamoto
Director	Kenji Nakano
Director	Tetsuro Maeda
Director	Yasuo Sato (Outside)
Director	Akio Yamamoto (Outside)
Director	Tatsutsugu Fujihara (Outside)

### [Audit & Supervisory Board]

Audit & Supervisory Board Member	Shohei Tamaki
Audit & Supervisory Board Member	Masanori Sakamoto
Audit & Supervisory Board Member	Tsunehiro Sasanami (Outside)
Audit & Supervisory Board Member	Toshio Kinoshita (Outside)

### [Executive Officers]

President and Chief Executive Officer	Shinsuke Yoshitaka
Chief Operating Officer	Mitsukuni Ayabe
Senior Managing Executive Officer	Toshiharu Kano
Senior Managing Executive Officer	Hideyuki Udagawa
Senior Managing Executive Officer	Manabu Yamamoto
Managing Executive Officer	Norihiro Shimizu
Managing Executive Officer	Sanshiro Matsushita
Managing Executive Officer	Kenji Nakano
Managing Executive Officer	Masaharu Suzuki
Executive Officer	Ken Koizumi
Executive Officer	Tetsuya Shinmura
Executive Officer	Junichi Kimura
Executive Officer	Toshio Imai
Executive Officer	Hideki Hirano
Executive Officer	Koichi Taguchi
Executive Officer	Hideki Watanabe
Executive Officer	Toyoki Yokoyama
Executive Officer	Koki Tabuchi



Back row from the left: Tabuchi, Yokoyama, Watanabe, Taguchi, Imai, Shinmura, Suzuki, Shimizu, Kano, Udagawa, Matsushita, Koizumi, Kimura, Hirano, Tamaki, Sakamoto, Sasanami, Kinoshita  
Front row the left: A. Yamamoto, Maeda, M. Yamamoto, Yoshitaka, Ayabe, Nakano, Sato, Fujihara



## Outside Directors' Career Summaries

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**Yasuo Sato** (September 30, 1942)  
April 1965 Joined TEIKOKU SANSO Co., Ltd. (present Air Liquide Japan Ltd.)  
March 1987 Director and Vice President of Electronics Div. of Air Liquide Japan Ltd.  
April 1992 Vice President of Worldwide Electronics Div. of L'Air Liquide S.A. (until March 1996)  
March 1999 Representative Director and President of Air Liquide Japan Ltd. (until January 2003)  
January 2003 Director and Chairman of Japan Air Gases Co., Ltd. (until March 2005)  
March 2005 Director and Advisor (part-time) of Air Liquide Japan Ltd. (until September 2007)  
June 2005 Outside Director of Denal Silane Co., Ltd. (until February 2008)  
May 2006 President & CEO of I.B. Associates Co., Ltd. (present)  
June 2006 Outside Auditor of Santen Pharmaceutical Co., Ltd. (until June 2014)  
February 2008 Auditor of Denal Silane Co., Ltd. (until June 2014)  
June 2015 Outside Director of the Company (present)

**Akio Yamamoto** (December 2, 1951)  
April 1974 Joined Mitsui & Co., Ltd.  
April 1999 President of Mitsui & Co., Benelux S.A./N.V.  
April 2004 Vice President of Synthetic Resin & Inorganic Chemical Products Business Unit of Mitsui & Co., Ltd.  
April 2007 Executive officer of Mitsui & Co., Ltd. (until March 2010), President of Mitsui & Co. (Thailand) Ltd.  
April 2009 Representative Director and President of Mitsui Bussan Plastic Trade Co., Ltd. (present Mitsui & Co. Plastics Ltd.) (until June 2014)  
June 2014 Counselor of Mitsui & Co. Plastics Ltd. (until June 2015)  
June 2015 Outside Director of the Company (present)

**Tatsutsugu Fujihara** (November 23, 1952)  
April 1976 Joined The Dai-Ichi Kangyo Bank, Ltd.  
May 2000 General Manager, Osaka Sales Department of The Dai-Ichi Kangyo Bank, Ltd.  
April 2002 General Manager, Osaka Sales Department III of Mizuho Corporate Bank, Limited  
March 2003 Executive officer of Mizuho Corporate Bank, Limited (until April 2003), General Manager, Corporate Department II (until April 2003)  
June 2003 Managing Executive Officer of Orient Corporation (until March 2005)  
April 2005 Managing Executive Officer of Mizuho Corporate Bank, Limited (until March 2007)  
June 2007 Director and President of Mizuho Marketing Experts Co., Ltd. (until March 2013)  
June 2013 Representative Director and President of KSO Corporation  
June 2014 Representative Director and Chairman of KOO Corporation  
April 2016 Director of KSO Corporation (present)  
June 2016 Outside Director of the Company (present)

For detailed reasons for the appointment of each outside director, please visit our website and refer to the Corporate Governance Report posted on the page entitled "Governance and CSR Promotion Structure" within the "Sustainability" section. The relevant information is also accessible from the notice of convocation for the annual General Stockholder's Meeting, posted under the title "IR Information" in the "IR Information" section.

<http://www.denka.co.jp/eng/sustainability/management/governance/pdf/cgreport.pdf>

[http://www.denka.co.jp/eng/news/pdf/160523\\_Notice%20of%20Convocation%20of%20the%2015th%20Ordinary%20General%20Meeting%20of%20Shareholders.pdf](http://www.denka.co.jp/eng/news/pdf/160523_Notice%20of%20Convocation%20of%20the%2015th%20Ordinary%20General%20Meeting%20of%20Shareholders.pdf)

## Consolidated Financial Statements

### Consolidated Balance Sheets (As of March 31, 2016)

Millions of yen

Account Item	(Ref.) 156 <sup>th</sup> term	157 <sup>th</sup> term
<b>Assets</b>	<b>445,569</b>	<b>443,864</b>
<b>Current assets</b>	<b>170,497</b>	<b>161,876</b>
Cash and deposits	9,219	11,895
Notes and accounts receivable-trade	83,172	76,009
Merchandise and finished goods	44,103	43,981
Work in process	2,725	3,279
Raw materials and supplies	17,687	16,839
Deferred tax assets	1,994	1,753
Other	11,851	8,336
Allowance for doubtful accounts	(256)	(218)
<b>Non-current assets</b>	<b>275,071</b>	<b>281,988</b>
<b>Property, plant and equipment</b>	<b>211,864</b>	<b>214,329</b>
Buildings	36,957	40,709
Structures	18,125	20,350
Machinery and equipment	74,198	77,730
Vehicles	438	647
Tools, furniture and fixtures	2,481	3,046
Land	63,303	63,084
Lease assets	344	371
Construction in progress	16,014	8,388
<b>Intangible assets</b>	<b>1,509</b>	<b>11,131</b>
Software	574	917
Goodwill	-	6,401
Right of using patent	934	3,813
<b>Investments and other assets</b>	<b>61,698</b>	<b>56,527</b>
Investment securities	55,356	49,843
Long-term loans receivable	1,430	1,293
Long-term prepaid expenses	1,463	1,581
Deferred tax assets	915	1,210
Other	2,573	3,368
Allowance for doubtful accounts	(42)	(770)
<b>Total</b>	<b>445,569</b>	<b>443,864</b>

Note: Amounts are rounded down to the nearest million yen.

Millions of yen

Account Item	(Ref.) 156 <sup>th</sup> term	157 <sup>th</sup> term
<b>Liabilities</b>	<b>234,771</b>	<b>227,793</b>
<b>Current liabilities</b>	<b>160,101</b>	<b>147,537</b>
Notes and accounts payable-trade	47,401	41,811
Short-term loans payable	47,456	42,861
Commercial paper	9,000	5,000
Current portion of long-term loans payable	12,570	18,225
Accounts payable-other	12,015	11,543
Income taxes payable	5,525	2,806
Accrued consumption taxes	1,799	1,433
Accrued expenses	8,095	8,972
Provision for bonuses	2,544	2,741
Other	13,692	12,142
<b>Non-current liabilities</b>	<b>74,669</b>	<b>80,255</b>
Bonds payable	30,000	30,000
Long-term loans payable	23,509	28,510
Deferred tax liabilities	6,114	3,984
Deferred tax liabilities for land revaluation	8,879	8,407
Net defined benefit liability	5,262	8,314
Other	903	1,039
<b>Net Assets</b>	<b>210,798</b>	<b>216,071</b>
<b>Shareholders' equity</b>	<b>182,722</b>	<b>190,647</b>
Capital stock	36,998	36,998
Capital surplus	49,284	49,284
Retained earnings	99,080	112,335
Treasury stock	(2,641)	(7,971)
<b>Accumulated other comprehensive income</b>	<b>26,043</b>	<b>21,087</b>
Valuation difference on available-for-sale securities	<b>13,231</b>	<b>10,775</b>
Revaluation reserve for land	<b>9,795</b>	<b>10,267</b>
Foreign currency translation adjustment	<b>3,174</b>	<b>2,739</b>
Remeasurements of defined benefit plans	<b>(158)</b>	<b>(2,695)</b>
<b>Non-controlling interests</b>	<b>2,032</b>	<b>4,336</b>
<b>Total</b>	<b>445,569</b>	<b>443,864</b>

Note: Amounts are rounded down to the nearest million yen.

## Consolidated Statements of Income (From April 1, 2015 to March 31, 2016)

Millions of yen

Account item	(Ref.) 156 <sup>th</sup> term		157 <sup>th</sup> term	
<b>Net sales</b>		<b>383,978</b>		<b>369,853</b>
<b>Cost of sales</b>		<b>302,381</b>		<b>278,064</b>
<b>Gross profit</b>		<b>81,596</b>		<b>91,788</b>
Selling, general and administrative expenses		57,549		61,154
<b>Operating income</b>		<b>24,047</b>		<b>30,634</b>
<b>Non-operating income</b>				
Interest and dividend income	1,254		1,210	
Equity in earnings of affiliates	950		1,097	
Other	2,169	4,374	850	3,158
<b>Non-operating expense</b>				
Interest expense	962		860	
Other	3,171	4,133	5,909	6,770
<b>Ordinary income</b>		<b>24,287</b>		<b>27,022</b>
<b>Extraordinary income</b>				
Gain on sales of non-current assets	2,947	2,947	-	-
<b>Extraordinary loss</b>				
Provision of allowance for doubtful accounts	-		671	
Acquisition-related expenses	259		632	
Difference on change from simple method to principled method for retirement benefits	-	259	544	1,848
<b>Income before income taxes</b>		<b>26,975</b>		<b>25,174</b>
Income taxes-current	7,535		5,488	
Income taxes-deferred	255	7,790	438	5,926
<b>Profit</b>		<b>19,184</b>		<b>19,247</b>
Profit attributable to non-controlling interests		162		(225)
<b>Profit attributable to owners of parent</b>		<b>19,021</b>		<b>19,472</b>

Note: Amounts are rounded down to the nearest million yen.

## Consolidated Statement of Changes in Net Assets (From April 1, 2015 to March 31, 2016)

Millions of yen

	Shareholders' Equity				
	Capital Stock	Capital Surplus	Retained Earnings	Treasury Stock	Total Shareholders' Equity
<b>Balance at the beginning of the fiscal year</b>	<b>36,998</b>	<b>49,284</b>	<b>99,080</b>	<b>(2,641)</b>	<b>182,722</b>
<b>Change of items during the fiscal year</b>					
Dividends from surplus			(6,139)		(6,139)
Profit attributable to owners of parent			19,472		19,472
Change of scope of consolidation			(78)		(78)
Purchase of treasury stock				(5,330)	(5,330)
Disposal of treasury stock		0		0	0
Net changes of items other than shareholders' equity					-
<b>Total changes of items during the fiscal year</b>	<b>-</b>	<b>0</b>	<b>13,255</b>	<b>(5,330)</b>	<b>7,924</b>
<b>Balance at the end of the fiscal year</b>	<b>36,998</b>	<b>49,284</b>	<b>112,335</b>	<b>(7,971)</b>	<b>190,647</b>

Millions of yen

	Accumulated Other Comprehensive Income					Minority Interests	Total Net Assets
	Valuation Difference on Available-for-Sale Securities	Revaluation Reserve for Land	Foreign Currency Translation Adjustments	Remeasurements of Defined Benefit Plans	Total Accumulated Other Comprehensive Income		
<b>Balance at the beginning of the fiscal year</b>	<b>13,231</b>	<b>9,795</b>	<b>3,174</b>	<b>(158)</b>	<b>26,043</b>	<b>2,032</b>	<b>210,798</b>
<b>Change of items during the fiscal year</b>							
Dividends from surplus					-		(6,139)
Profit attributable to owners parent					-		19,472
Change of scope of consolidation					-		(78)
Purchase of treasury stock					-		(5,330)
Disposal of treasury stock					-		0
Net changes of items other than shareholders' equity	(2,455)	472	(434)	(2,537)	(4,955)	2,304	(2,651)
<b>Total changes of items during the fiscal year</b>	<b>(2,455)</b>	<b>472</b>	<b>(434)</b>	<b>(2,537)</b>	<b>(4,955)</b>	<b>2,304</b>	<b>5,273</b>
<b>Balance at the end of the fiscal year</b>	<b>10,775</b>	<b>10,267</b>	<b>2,739</b>	<b>(2,695)</b>	<b>21,087</b>	<b>4,336</b>	<b>216,071</b>

Note: Amounts are rounded down to the nearest million yen.

## Non-consolidated Financial Statements

### Non-consolidated Balance Sheets (As of March 31, 2016)

Millions of yen

Account Item	(Ref.) 156 <sup>th</sup> term	157 <sup>th</sup> term
<b>Assets</b>	<b>353,026</b>	<b>345,893</b>
<b>Current assets</b>	<b>110,729</b>	<b>103,015</b>
Cash and deposits	2,280	4,476
Notes receivable-trade	2,364	3,157
Accounts receivable-trade	52,999	46,310
Merchandise and finished goods	32,200	29,014
Raw materials and supplies	11,333	9,686
Prepaid expenses	960	944
Deferred tax assets	893	699
Short-term loans receivable	950	3,960
Other	6,783	4,772
Allowance for doubtful accounts	(36)	(6)
<b>Non-current assets</b>	<b>242,296</b>	<b>242,878</b>
<b>Property, plant and equipment</b>	<b>175,078</b>	<b>168,557</b>
Buildings	28,357	28,305
Structures	15,069	17,455
Machinery and equipment	55,685	53,714
Vehicles	363	464
Tools, furniture and fixtures	1,655	2,118
Land	60,154	60,153
Construction in progress	13,792	6,344
<b>Intangible assets</b>	<b>1,058</b>	<b>1,048</b>
Software	423	481
Right of using patent	634	566
<b>Investments and other assets</b>	<b>66,159</b>	<b>73,272</b>
Investment securities	31,501	27,580
Stocks of subsidiaries and affiliates	30,298	40,593
Long-term loans receivable	1,440	2,412
Long-term prepaid expenses	1,201	950
Other investments	1,729	1,743
Allowance for doubtful accounts	(12)	(7)
<b>Total</b>	<b>353,026</b>	<b>345,893</b>

Note: Amounts are rounded down to the nearest million yen.

Millions of yen

Account Item	(Ref.) 156 <sup>th</sup> term	157 <sup>th</sup> term
<b>Liabilities</b>	<b>194,928</b>	<b>190,142</b>
<b>Current liabilities</b>	<b>123,217</b>	<b>116,531</b>
Accounts payable–trade	30,289	23,002
Short-term loans payable	27,675	27,675
Commercial paper	9,000	5,000
Current portion of long-term loans payable	12,058	18,058
Accounts payable–other	10,869	9,808
Income taxes payable	2,744	-
Accrued consumption taxes	1,193	1,012
Accrued expenses	5,995	5,557
Deposits received	21,500	24,389
Provision for bonuses	1,414	1,488
Other	477	537
<b>Non-current liabilities</b>	<b>71,710</b>	<b>73,611</b>
Bonds payable	30,000	30,000
Long-term loans payable	23,229	27,637
Deferred tax liabilities	5,845	4,906
Deferred tax liabilities for land revaluation	8,879	8,407
Provision for retirement benefits	3,619	2,522
Long-term accounts payable–other	13	13
Asset retirement obligation	124	125
<b>Net Assets</b>	<b>158,098</b>	<b>155,750</b>
<b>Shareholders' equity</b>	<b>136,543</b>	<b>135,840</b>
<b>Capital stock</b>	<b>36,998</b>	<b>36,998</b>
<b>Capital surplus</b>	<b>49,284</b>	<b>49,284</b>
Legal capital surplus	49,284	49,284
Other capital surplus	-	0
<b>Retained earnings</b>	<b>52,892</b>	<b>57,519</b>
Other retained earnings	<b>52,892</b>	<b>57,519</b>
Reserve for advanced depreciation of non-current assets	3,781	3,854
Retained earnings brought forward	49,111	53,665
<b>Treasury stock</b>	<b>(2,632)</b>	<b>(7,962)</b>
<b>Valuation and translation adjustments</b>	<b>21,554</b>	<b>19,910</b>
<b>Valuation difference on available for-sale securities</b>	<b>11,758</b>	<b>9,643</b>
<b>Revaluation reserve for land</b>	<b>9,795</b>	<b>10,267</b>
<b>Total</b>	<b>353,026</b>	<b>345,893</b>

## Non-consolidated Statements of Income (From April 1, 2015 to March 31, 2016)

Millions of yen

Account Item	(Ref.) 156 <sup>th</sup> term		157 <sup>th</sup> term	
<b>Net sales</b>		<b>240,359</b>		<b>225,823</b>
<b>Cost of sales</b>		<b>187,377</b>		<b>169,841</b>
<b>Gross profit</b>		<b>52,982</b>		<b>55,981</b>
Selling, general and administrative expenses		40,117		41,879
<b>Operating income</b>		<b>12,864</b>		<b>14,101</b>
<b>Non-operating income</b>				
Interest and dividend income	2,996		4,562	
Other	2,437	5,434	964	5,527
<b>Non-operating expense</b>				
Interest expense	779		702	
Other	3,021	3,801	4,786	5,488
<b>Ordinary income</b>		<b>14,498</b>		<b>14,140</b>
<b>Extraordinary income</b>				
Gains on sales of non-current assets	2,947	2,947	-	-
<b>Extraordinary loss</b>				
Acquisition-related expenses	259	259	632	632
<b>Income before income taxes</b>		<b>17,186</b>		<b>13,508</b>
Income taxes—current	4,162		2,188	
Income taxes—deferred	150	4,312	554	2,742
<b>Net income</b>		<b>12,873</b>		<b>10,766</b>

Note: Amounts are rounded down to the nearest million yen.



## Non-consolidated Statement of Changes in Net Assets (From April 1, 2015 to March 31, 2016)

Millions of yen

	Shareholders' Equity								Total Shareholders' Equity
	Capital Stock	Capital Surplus			Retained Earnings			Treasury Stock	
		Legal Capital Surplus	Other Capital Surplus	Total Capital Surplus	Other Retained Earnings		Total Retained Earnings		
					Reserve for Advanced Depreciation of Non-current Assets	Retained Earnings Brought Forward			
<b>Balance at the beginning of the fiscal year</b>	36,998	49,284	-	49,284	3,781	49,111	52,892	(2,632)	136,543
<b>Change of items during the fiscal year</b>									
Provision of reserve for advanced depreciation of non-current assets				-	99	(99)	-		-
Reversal of reserve for advanced depreciation of non-current assets				-	(26)	26	-		-
Dividends from surplus				-		(6,139)	(6,139)		(6,139)
Net income				-		10,766	10,766		10,766
Purchase of treasury stock				-				(5,330)	(5,330)
Retirement of treasury stock			0	0				0	0
Net changes of items other than shareholders' equity				-					-
<b>Total changes of items during the fiscal year</b>	-	-	0	0	72	4,554	4,626	(5,330)	(703)
<b>Balance at the end of the fiscal year</b>	36,998	49,284	0	49,284	3,854	53,665	57,519	(7,962)	135,840

Millions of yen

	Valuation and Translation Adjustments			Total Net Assets
	Valuation Difference on Available-for-Sale Securities	Revaluation Reserve for Land	Total Valuation and Translation Adjustments	
<b>Balance at the beginning of the fiscal year</b>	11,758	9,795	21,554	158,098
<b>Change of items during the fiscal year</b>				
Provision of reserve for advanced depreciation of non-current assets			-	-
Reversal of reserve for advanced depreciation of non-current assets			-	-
Dividends from surplus			-	(6,139)
Net income			-	10,766
Purchase of treasury stock			-	(5,330)
Disposal of treasury stock			-	0
Net changes of items other than shareholders' equity	(2,115)	472	(1,643)	(1,643)
<b>Total changes of items during the fiscal year</b>	(2,115)	472	(1,643)	(2,347)
<b>Balance at the end of the fiscal year</b>	9,643	10,267	19,910	155,750

Note: Amounts are rounded down to the nearest million yen.

Appendix 1  
Responsible Care (RC) Activities

Fiscal 2015 RC Objectives and Achievements

Assessment code: A = Reached target B = Partially missed target C = Missed target

Key Area		Fiscal 2015 (the final year of the Fifth Medium-Term Environmental Plan)			Relevant Pages	Major Initiatives and Goals for Fiscal 2016
		Goals	Achievements	Evaluation		
Environmental Conservation	Prevent global warming and save energy	<ul style="list-style-type: none"> <li>●CO<sub>2</sub> emissions intensity (from energy sources) : 1.20t/t*</li> <li>●Energy consumption intensity (fiscal 2012 base) : 96% or lower*</li> <li>*Non-consolidated basis</li> </ul>	<ul style="list-style-type: none"> <li>●CO<sub>2</sub> emissions intensity (from energy sources) : 1.17t/t</li> <li>●Energy consumption intensity (fiscal 2012 base) : 91%</li> <li>-Achieved emissions intensity targets through the production decrease of cement while systematically implementing improvement measures</li> </ul>	○	Print P.20,21,22,23 References P.8,11,13,17,19,21	<ul style="list-style-type: none"> <li>●CO<sub>2</sub> emissions intensity (from energy sources): 1.18t/t (non-consolidated basis)</li> <li>-Strive to achieve a year-on-year 1% reduction through the optimization of utilities at the Chiba Plant and other energy-saving initiatives despite a trend toward an increase in emissions intensity reflecting a change in the composition of energy sources (a decline in the ratio of hydroelectric power generation due to an overall production increase) as well as changes in production mix (an increase in the production of cement and other products that entail greater CO<sub>2</sub> emissions intensity)</li> <li>●Energy consumption intensity (fiscal 2015 base): 97% or lower (non-consolidated basis)</li> <li>-Execute facility upgrades to reduce energy consumption while enhancing the efficiency of our power generation facilities; step up collaboration with other companies housed in the same industrial complex with the Chiba Plant to optimize the use of utilities</li> </ul>
	Prevent air and water pollution	<ul style="list-style-type: none"> <li>●SO<sub>x</sub> : 69t</li> <li>●NO<sub>x</sub> : 4,040t</li> <li>●Soot and dust : 125t</li> <li>●COD (BOD) : 770t (Non-consolidated basis)</li> </ul>	<ul style="list-style-type: none"> <li>●SO<sub>x</sub> : 54t</li> <li>●NO<sub>x</sub> : 4,148t</li> <li>●Soot and dust : 88t</li> <li>●COD (BOD) : 578t</li> <li>-SO<sub>x</sub> emissions decreased 17% year on year due to a significant decline in the use of heavy oil, reflecting the partial suspension of boiler facility operations at the Chiba Plant.</li> <li>-NO<sub>x</sub> emissions decreased approximately 2% year on year thanks to the improved combustion efficiency of the fused silica production process and a decrease in production loss, both of which, in turn, helped enhance emissions intensity at the Omuta Plant.</li> <li>-Soot and dust emissions increased approximately 18% year on year due to the presence of foreign substances in limestone processed at the Omi Plant.</li> <li>-COD (BOD) emissions decreased approximately 23% year on year thanks to the Omi Plant's augmentation of its wastewater treatment facilities.</li> </ul>	○	Print P.20,21,23 References P.8,11,21	<ul style="list-style-type: none"> <li>●SO<sub>x</sub> emissions: 60t (Denka); 93t (affiliates)</li> <li>-Maintain the current level through appropriate emissions management and other ongoing initiatives despite changes in the composition of recycled waste used as cement ingredients and the type of fuels used by affiliates</li> <li>●NO<sub>x</sub>: 4,520t (Denka); 810t (affiliates)</li> <li>-Pursue ongoing technological advancements to maintain and improve current emissions status despite such factors as estimated increases in silica production in Singapore and the volume of waste accepted as cement ingredients</li> <li>●Soot and dust: 78t (Denka); 10t (affiliates)</li> <li>-Strive to reduce emissions through the use of limestone with a lower foreign substance content and the maintenance and reinforcement of dust collectors despite an expected increase in cement and other production</li> <li>●COD (BOD): 580t (Denka); 9t (affiliates)</li> <li>-Systematically reduce emissions by efficiently operating wastewater treatment facilities despite an expected increase in chloroprene production</li> </ul>
	Reduce waste (zero emissions)	<ul style="list-style-type: none"> <li>●Total waste generated: 133,000t (Non-consolidated basis)</li> </ul>	<ul style="list-style-type: none"> <li>●Total waste generated: 120,280t</li> <li>-Achieved target by improving yield ratio and promoting resource recycling</li> </ul>	○	Print P.20,21,23 References P.8,11,21	<ul style="list-style-type: none"> <li>●Total waste generated: 127,130t (Denka); 4,173t (affiliates)</li> <li>-Increase yield ratios as well as the volume of waste sold, thereby reducing the volume of total waste generated and promoting resource recycling</li> </ul>
		<ul style="list-style-type: none"> <li>●Final landfill waste: Total: 176t (Non-consolidated basis)</li> </ul>	<ul style="list-style-type: none"> <li>●In-house and external landfill: 153t</li> <li>-Maintained zero-emission status on a non-consolidated basis</li> </ul>	○	Print P.20,21,23 References P.8,11,21	<ul style="list-style-type: none"> <li>●Total in-house and external landfill: 152t (Denka); 401t (affiliates)</li> <li>-Maintain the zero-emissions status of the entire Group through reduction in waste generation and the effective utilization of recycled resources despite an estimated increase in final disposal amount at affiliates, reflecting a silica production increase in Singapore</li> </ul>
Use resources efficiently	Raise the amount of waste and byproducts used in cement (recycled resource usage intensity) to contribute to a recycling-oriented society (590kg/t in fiscal 2014)	<ul style="list-style-type: none"> <li>●Recycled resource usage intensity: 541kg/t</li> <li>-Recycled resource usage intensity decreased, reflecting a decline in cement production</li> </ul>	△	Print P.20,21,23	<ul style="list-style-type: none"> <li>●Raise the recycled resource usage intensity, thereby contributing to the development of a recycling-oriented society</li> </ul>	
Product Safety	Compliance with chemical substance management policies	<ul style="list-style-type: none"> <li>●Fiscal 2015 Companywide Quality Policy</li> <li>1. Improve quality assurance levels Companywide</li> <li>2. Strengthen compliance with laws and regulations and enhance customer satisfaction</li> <li>3. Raise awareness of employees engaged in manufacturing</li> <li>4. Enhance technologies to ensure built-in quality</li> <li>5. Facilitate the adoption of quality control technologies and methods at each production site</li> </ul>	<ul style="list-style-type: none"> <li>●Although a quality management system in conformance with the ISO 9001 standards is firmly in place, we recognize the need to upgrade said system to meet revised ISO 9001 standards.</li> <li>●Having discovered a shortfall in our compliance with regulations related to certain chemical substances used in some of our products, we undertook a review of all products' chemical content, thereby stepping up our chemical substance management.</li> <li>●We encountered no product liability-related quality problem or major customer complaint. The total number of customer complaints decreased slightly (fiscal 2014: 496; fiscal 2015: 359). In addition, we are stepping up measures to improve some product lines that have been subject to recurring complaints.</li> <li>●Although we strove to improve product quality through daily quality management activities, small-group initiatives and the use of the SQC method, we recognize that enhancing quality management practices at production and R&amp;D frontlines is a priority issue.</li> </ul>	○	Print P.28 References P.7,14	<ul style="list-style-type: none"> <li>●Fiscal 2016 Companywide Quality Policy</li> <li>Appropriately respond to legal regulations in the course of product development and changes, placing particular emphasis on the importance of product safety and quality assurance; stringently manage raw materials and processes; and facilitate engineers' awareness of built-in quality while helping them improve their technological skills</li> <li>0.Place particular emphasis on the importance of product safety and quality assurance</li> <li>1.Strengthen compliance with laws and regulations and enhance customer satisfaction</li> <li>2.Improve quality assurance levels Companywide</li> <li>3. Raise awareness of employees engaged in manufacturing</li> <li>4. Enhance technologies to ensure built-in quality</li> <li>5.Utilize quality management technologies and methodologies to enhance our ability to resolve issues</li> </ul>
	Chemical substance management and emission reduction	<ul style="list-style-type: none"> <li>●Companywide emissions of PRTR substances (non-consolidated basis) : 88t</li> </ul>	<ul style="list-style-type: none"> <li>●74t (non-consolidated basis)</li> <li>-Achieved target through the appropriate management of acrylonitrile, vinyl acetate, toluene and other PRTR substances</li> </ul>	○	Print P.20,21 References P.8,10	<ul style="list-style-type: none"> <li>●Emissions of PRTR substances: 73t (Denka); 3t (Hinode Kagaku Kogyo)</li> <li>- Continue reducing VOC emissions at the Chiba Plant</li> </ul>
	Ensure safe transportation	<ul style="list-style-type: none"> <li>●Fiscal 2015 Policies for RC Activities</li> <li>Promote collaboration between departments in charge of logistics management and environment and safety at Headquarters and each business site while:</li> <li>- Ensuring the safety of workers engaged in loading and unloading</li> <li>- Enhancing capabilities to handle transportation accidents</li> </ul>	<ul style="list-style-type: none"> <li>●We continually implement cross-inspections between worksites in charge of logistics, with our affiliates participating in these initiatives from fiscal 2015.</li> <li>●We prepared standard procedure documents with regard to the handling of accidents in the course of transportation. In fiscal 2015, we recorded no logistics accidents.</li> </ul>	○	References P17	<ul style="list-style-type: none"> <li>●Fiscal 2016 Policies for RC Activities</li> <li>Promote collaboration between departments in charge of logistics management and environment and safety at Headquarters and each business site while:</li> <li>- Ensuring the safety of workers engaged in loading and unloading</li> <li>- Enhancing capabilities to handle transportation accidents</li> </ul>

Occupational Safety and Health	Eliminate occupational accidents	<ul style="list-style-type: none"> <li>●Companywide target: Eliminate major accidents while continually reducing the number of occupational accidents</li> <li>●Priority initiatives:             <ol style="list-style-type: none"> <li>1) Create a lively and sound workplace                 <ul style="list-style-type: none"> <li>- Facilitate worksite communication to ensure the ongoing reduction of potential dangers and eliminate accidents attributable to operator action</li> <li>- Promote safety activities in which each worker is able to grasp the worth of their efforts</li> </ul> </li> <li>2) Step up hazard prediction systems aimed at preventing major accidents and facility-related incidents                 <ul style="list-style-type: none"> <li>- Leverage case studies of accidents at Denka and other companies</li> <li>- Utilize systems developed by industrial associations to assist with safety assurance operations</li> </ul> </li> </ol> </li> </ul>	<p>The number of occupational accidents at Denka and its subcontractors totaled 15 (down seven year on year). Meanwhile, the number of occupational accidents at domestic and overseas affiliates was 13 (up six year on year). Regarding some incidents, accident severity may have been exacerbated by workers' own safety compliance failures.</p> <ul style="list-style-type: none"> <li>●Accidents involving absence from work (fiscal 2014 data in parentheses)             <ul style="list-style-type: none"> <li>-Denka: one (two); accident frequency: 0.36 (0.19)</li> <li>-Subcontractors: one (one); accident frequency: 0.35 (0.17)</li> </ul> </li> </ul>	△	Print P.18,19 References P.18	<p>Step up the management of each improvement project by setting aside a dedicated budget for facility improvements related to safety countermeasures, with the aim of ensuring the steady execution of hazard prediction activities aimed at preventing major accidents and facility-related incidents as well as initiatives to address potential dangers identified by employees through worksite communication</p> <ul style="list-style-type: none"> <li>●Companywide targets:             <ul style="list-style-type: none"> <li>-Reduce the number of major accidents and disasters to zero</li> <li>-Continually improve the occupational safety record</li> </ul> </li> <li>●Priority initiatives:             <ol style="list-style-type: none"> <li>(1) Step up hazard prediction systems to prevent major accidents (leverage case studies of accidents at Denka and other companies and utilize assistance systems developed by industrial associations, etc.)</li> <li>(2) Create a lively and sound workplace (facilitate worksite communication to ensure the ongoing reduction of potential dangers and the eradication of accidents attributable to operator action and promote safety assurance activities in which every worker plays his/her roles and feels rewarded)</li> <li>(3) Step up the planning and management of facility improvement projects related to safety countermeasures (conduct facility reviews to re-identify those in need of safety countermeasures, formulate a three-year action plan, set aside budget and steadily execute said plan)</li> </ol> </li> </ul>
	Manage employee health	<ul style="list-style-type: none"> <li>●Achieve zero sick leaves attributable to work</li> </ul>	<p>Provided mental health education programs at each plant while promoting the Mental Health Promotion Plan as part of comprehensive countermeasures at Headquarters, branches and the Innovation Center</p>	○	Print P.26,27	<p>Promote comprehensive countermeasures against mental health issues through the provision of employee training and the development of in-house structure</p> <ul style="list-style-type: none"> <li>-Assess and improve the status of worksite environments by implementing the Mental Health Promotion Plan and stress checks</li> </ul>
Disaster Prevention	Eliminate major accidents	<ul style="list-style-type: none"> <li>●Eliminate major accidents</li> </ul>	<ul style="list-style-type: none"> <li>●We recorded no major facility accident during fiscal 2015. However, we experienced two fires and one leak (the number of incidents is unchanged from the previous fiscal year). Having identified problems in the handling of combustible materials and the management of forklifts, we quickly corrected current practices while taking steps aimed at preventing recurrences.             <ul style="list-style-type: none"> <li>-Endeavored to enhance our ability to prevent security incidents and disasters by employing a security capability evaluation system developed by JSSE</li> <li>-As we did in the previous fiscal year, we invited Dr. Masayoshi Nakamura, a professor at Tokyo Institute of Technology, to inspect and give guidance to our safety countermeasures at calcium carbide and cement production facilities at the Omi Plant.</li> </ul> </li> </ul>	△	Print P.18,19 References P.17,18	<ul style="list-style-type: none"> <li>●Companywide target: Reduce major facility-related accidents to zero</li> <li>●Priority initiatives: Step up hazard prediction systems to prevent major accidents and facility-related incidents             <ul style="list-style-type: none"> <li>- Leverage case studies of accidents at Denka and other companies</li> <li>- Utilize systems developed by industrial associations to assist with safety assurance operations</li> </ul> </li> </ul>
Community Relations	Maintain community trust	<ul style="list-style-type: none"> <li>●Build and maintain relationship of trust with community residents and local society by enhancing communication</li> </ul>	<ul style="list-style-type: none"> <li>●Actively engaged in such local events as festivals and cleanup activities in communities surrounding each plant and business base while holding experimental chemistry classes, thereby building on our relationships of trust with community members             <ul style="list-style-type: none"> <li>-Promoted initiatives to vitalize local communities through sports activities by, for example, sponsoring events at Denka Big Swan Stadium, to which Denka holds the naming rights, and by supporting the NIIGATA Albirex BB Rabbits</li> <li>-Continued to dispatch volunteers to Minami Sanriku-cho, which was hit by the Great East Japan Earthquake. As of August 2016, a total of 580 employees engaged in volunteer activities on 65 occasions</li> <li>-Strove to enhance information disclosure with regard to environmental, social and governance aspects of our operations by issuing a CSR report, utilizing the CDP(Carbon Disclosure Project) scheme and participating in an environmental information disclosure scheme sponsored by Japan's Ministry of the Environment</li> </ul> </li> </ul>	○	Print P.14-17,29,50-53,54 References P.23	<ul style="list-style-type: none"> <li>●Maintain robust communications with communities around business sites while contributing to the revitalization of local society</li> <li>●Continuously implement volunteer activities to meet the needs of disaster-stricken areas (Minami Sanriku-cho)</li> <li>●Support the restoration and reconstruction of areas hit by the Kumamoto Earthquake with the Omuta Plant serving as a main contributor</li> <li>●Step up the disclosure of such non-financial information as environmental activity data and consider measures to secure its reliability (e.g., commission a third-party audit to earn accreditation)</li> </ul>

## Appendix 2

### GRI Guidelines

Please see below to find disclosure information listed in the Sustainability Reporting Guidelines Version 4 (G4).

(The Denka Group CSR Report 2016 includes data related to disclosure standards set out in the GRI Sustainability Reporting Guidelines. However, the report is not fully compliant with these guidelines.)

Items	DMA and Indicators	Location of Disclosure
<b>General Standard Disclosures</b>		
Strategy and Analysis		
G4-1	a. Provide a statement from the most senior decision-maker of the organization (such as CEO, chair, or equivalent senior position) about the relevance of sustainability to the organization and the organization's strategy for addressing sustainability.	• To Our Stakeholders (P.4-5)
G4-2	a. Provide a description of key impacts, risks, and opportunities.	• To Our Stakeholders (P.4-5) • Denka's Healthcare-Related Operation (P.8-9) • Denka Group's CSR (P.10-13) • Our Business Strategies (P.34-47) • Climate Change: Risks and Opportunities (Ref. P.13) • Responsible Care (RC) Activities (Ref. Appendix 1)
Organizational Profile		
G4-3	a. Report the name of the organization.	• Corporate Profile (P.6)
G4-4	a. Report the primary brands, products, and services.	• Denka's Business Operations (P.7)
G4-5	a. Report the location of the organization's headquarters.	• Corporate Profile (P.6)
G4-6	a. Report the number of countries where the organization operates, and names of countries where either the organization has significant operations or that are specifically relevant to the sustainability topics covered in the report.	• Corporate Profile (P.6) • Denka's Overseas Expansion (P.6-7) • Site Reports
G4-7	a. Report the nature of ownership and legal form.	• Corporate Profile (P.6)
G4-8	a. Report the markets served (including geographic breakdown, sectors served, and types of customers and beneficiaries).	• Corporate Profile (P.6) • Denka's Overseas Expansion (P.6-7)
G4-9	a. Report the scale of the organization, including: - Total number of employees - Total number of operations - Net sales (for private sector organizations) or net revenues (for public sector organizations) - Total capitalization broken down in terms of debt and equity (for private sector organizations) - Quantity of products or services provided	• Corporate Profile (P.6) • Consolidated Financial Statements (P.26-29)
G4-10	a. Report the total number of employees by employment contract and gender. b. Report the total number of permanent employees by employment type and gender. c. Report the total workforce by employees and supervised workers and by gender. d. Report the total workforce by region and gender. e. Report whether a substantial portion of the organization's work is performed by workers who are legally recognized as self-employed, or by individuals other than employees or supervised workers, including employees and supervised employees of contractors. f. Report any significant variations in employment numbers (such as seasonal variations in employment in the tourism or agricultural industries).	• Developing Comfortable Workplaces (P.26-27)
G4-11	a. Report the percentage of total employees covered by collective bargaining agreements.	-
G4-12	a. Describe the organization's supply chain.	-
G4-13	a. Report any significant changes during the reporting period regarding the organization's size, structure, ownership, or its supply chain, including: - Changes in the location of, or changes in, operations, including facility openings, closings, and expansions - Changes in the share capital structure and other capital formation, maintenance, and alteration operations (for private sector organizations) - Changes in the location of suppliers, the structure of the supply chain, or in relationships with suppliers, including selection and termination	-
G4-14	a. Report whether and how the precautionary approach or principle is addressed by the organization.	• Corporate Governance (P.30-31) • Our initiatives to Maintain Safe Operations (P.18-19) • Quality management: Working with Our Supply Chain (P.28) • Compliance (Ref. P.4) • Responsible Care (RC) Activities (Ref. Appendix 1)
G4-15	a. List externally developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes or which it endorses.	• Caring for the Global Environment (P.20-21) • ISO 14001 and 9001 Management Systems (Ref. P.7) • Product and Labor Safety Management Systems (Ref. P.14-16) • Occupational Safety and Health Management System (Ref. P.18)
G4-16	a. List memberships of associations (such as industry associations) and national or international advocacy organizations in which the organization: - Holds a position on the governance body - Participates in projects or committees - Provides substantive funding beyond routine membership dues - Views membership as strategic	• Occupational Safety and Health Management System (Ref. P.14-16)
Identified Material Aspects and Boundaries		
G4-17	a. List all entities included in the organization's consolidated financial statements or equivalent documents. b. Whether any entity included in the organization's consolidated financial statements or equivalent documents is not covered by the report.	• Main Points of the 2016 Edition (P3) • Denka's Business Operations (P7) • Site Reports
G4-18	a. Explain the process for defining the report content and the Aspect Boundaries. b. Explain how the organization has implemented the Reporting Principles for Defining Report Content.	• Main points of the 2016 Edition (P3) • Denka Group's CSR (P10-13) • Third-party Opinion (P55)
G4-19	a. List all the material Aspects identified in the process for defining report content.	• Denka Group's CSR (P10-13)



G4-20	a.For each material Aspect,report the Aspect Boundary within the organization, as follows: - Report whether the Aspect is material within the organization - If the Aspect is not material for all entities within the organization (as described in G4-17), select one of the following two approaches and report either: - The list of entities or groups of entities included in G4-17 for which the Aspect is not material or - The list of entities or groups of entities included in G4-17 for which the Aspects is material - Report any Specific limitation regarding the Aspect Boundary within the organization	-
G4-21	a.For each material Aspect, report the Aspect Boundary outside the organization, as follows: - Report whether the Aspect is material outside of the organization - If the Aspect is material outside of the organization, identify the entities,groups of entities or elements for which the Aspect is material. In addition, describe the geographical location where the Aspect is material for the entities identified - Report any specific limitation regarding the Aspect Boundary outside the organization	-
G4-22	a.Report the effect of any restatements of information provided in previous reports, and the reasons for such restatements.	• Fiscal 2015 Environmental Performance by Denka Business Sites and Affiliates (Ref. P.9)
G4-23	a.Report significant changes from previous reporting periods in the Scope and Aspect Boundaries.	• Not applicable
<b>Stakeholder Engagement</b>		
G4-24	a.Provide a list of stakeholder groups engaged by the organization.	• Local Communities (P.14-17) • Engaging with Our Stakeholders (P.24-29) • Our CSR Initiatives Overseas (P.54) • Third-party Opinion (P.55)
G4-25	a.Report the Basis for identification and selection of stakeholders with whom to engage.	-
G4-26	a.Report the organization's approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group, and an indication of whether any of the engagement was undertaken specifically as part of the report preparation process.	• Local Communities (P.14-17) • Human Resource Development (P.24-25) • Developing Comfortable Workplaces (P.26-27) • Quality management:Working with Our Supply Chain (P.28) • Our CSR Initiatives Overseas (P.54) • Third-party Opinion (.55) • Customer Satisfaction Surveys (Ref. P.22) • Educational Support Initiatives (Ref. P.23)
G4-27	a.Report the key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns, including through its reporting. Stakeholder groups that raised each of the key topics and concerns.	• Denka Group's CSR (P.10-13) • Local Communities (P.14-17) • Human Resource Development (P.24-25) • Developing Comfortable Workplaces (P.26-27) • Quality management:Working with Our Supply Chain (P.28) • Our CSR Initiatives Overseas (P.54) • Third-party Opinion (P.55) • Customer Satisfaction Surveys (Ref. P.22) • Educational Support Initiatives (Ref. P.23)
<b>Report Profile</b>		
G4-28	a.Reporting period (such as fiscal or calendar year) for information provided.	• Coverage (P.3)
G4-29	a.Date of most recent previous report (if any).	• Back cover
G4-30	a.Reporting cycle (such as annual, biennial).	• Coverage (P.3)
G4-31	a.Provide the contact point for questions regarding the report or its contents.	• Inquiries (P.3)
G4-32	a.Report the 'In accordance' option the organization has chosen. b.Report the GRI Content Index for the chosen option (see tables below). c.Report the reference to the External Assurance Report, if the report has been externally assured.	a. This table indicates the sections applicable to the Standard Disclosures, but the report as a whole is not fully compliant with the Guidelines. b. GRI Guidelines
G4-33	a.Report the organization's policy and current practice with regard to seeking external assurance for the report. b.If not included in the assurance report accompanying the sustainability report, report the scope and basis of any external assurance provided. c.Report the relationship between the organization and the assurance providers. d.Report whether the highest governance body or senior executives are involved in seeking assurance for the organization's sustainability report.	-
<b>Governance</b>		
G4-34	a.Report the governance structure of the organization, including committees of the highest governance body. Committees responsible for decision-making on economic, environmental and social impacts.	• Denka Group's CSR (P.10-13) • Our initiatives to Maintain Safe Operations (P.18-19) • Caring for the Global Enironment (P.20-21) • Corporate Governance (P.30-31)
G4-35	a.Report the process for delegating authority for economic, environmental and social topics from the highest governance body to senior executives and other employees.	• Denka Group's CSR (P.10-13) • Our initiatives to Maintain Safe Operations (P.18-19) • Caring for the Global Enironment (P.20-21) • Corporate Governance (P.30-31)
G4-36	a.Report whether the organization has appointed an executive-level position or positions with responsibility for economic, environmental and social topics, and whether post holders report directly to the highest governance body.	• Corporate Governance (P.30-31)
G4-37	a.Report processes for consultation between stakeholders and the highest governance body on economic, environmental and social topics. If consultation is delegated, describe to whom and any feedback processes to the highest governance body.	-
G4-38	a.Report the composition of the highest governance body and its committees by: - Executive or non-executive - Independence - Tenure on the governance body - Number of each individual's other significant positions and commitments, and the nature of the commitments - Gender - Membership of under-represented social groups - Competences relating to economic, environmental and social impacts - Stakeholder representation	• Corporate Governance (P.30-31)
G4-39	a.Report whether the Chair of the highest governance body is also an executive officer (and, if so, his or her function within the organization's management and the reasons for this arrangement).	• Corporate Governance (P.30-31) • Corporate Officers (Ref. P.24)

G4-40	a.Report the Nomination and selection processes for the highest governance body and its committees, and the criteria used for nominating and selecting highest governance body members, including: <ul style="list-style-type: none"> <li>- Whether and how diversity is considered</li> <li>- Whether and how independence is considered</li> <li>- Whether and how expertise and experience relating to economic, environmental and social topics are considered</li> <li>- Whether and how stakeholders (including shareholders) are involved</li> </ul>	• Corporate Governance (P.30-31)
G4-41	a.Report processes for the highest governance body to ensure conflicts of interest are avoided and managed. Report whether conflicts of interest are disclosed to stakeholders, including, as a minimum: <ul style="list-style-type: none"> <li>- Cross-board membership</li> <li>- Cross-shareholding with suppliers and other stakeholders</li> <li>- Existence of controlling shareholder</li> <li>- Related party disclosures</li> </ul>	• Corporate Officers (Ref. P.24)
G4-42	a.Report the highest governance body's and senior executives' roles in the development, approval, and updating of the organization's purpose, value or mission statements, strategies, policies, and goals related to economic, environmental and social impacts.	• "Executives" and "Organization Chart" sections under Company Profile page <a href="http://www.denka.co.jp/eng/corporate/">http://www.denka.co.jp/eng/corporate/</a>
G4-43	a.Report the measures taken to develop and enhance the highest governance body's collective knowledge of economic, environmental and social topics.	• Third-Party Opinion (P.55)
G4-44	a.Report the processes for evaluation of the highest governance body's performance with respect to governance of economic, environmental and social topics. Report whether such evaluation is independent or not, and its frequency. Report whether such evaluation is a self-assessment. b.Report actions taken in response to evaluation of the highest governance body's performance with respect to governance of economic, environmental and social topics, including, as a minimum, changes in membership and organizational practice.	-
G4-45	a.Report the highest governance body's role in the identification and management of economic, environmental and social impacts, risks, and opportunities. Include the highest governance body's role in the implementation of due diligence processes. b.Report whether stakeholder consultation is used to support the highest governance body's identification and management of economic, environmental and social impacts, risks, and opportunities.	• Denka Group's CSR (P.10-13) • Corporate Governance (P.30-31)
G4-46	a.Report the highest governance body's role in reviewing the effectiveness of the organization's risk management processes for economic, environmental and social topics.	• Corporate Governance (P.30-31)
G4-47	a.Report the frequency of the highest governance body's review of economic, environmental and social impacts, risks, and opportunities	• Corporate Governance (P.30-31)
G4-48	a.Report the highest committee or position that formally reviews and approves the organization's sustainability report and ensures that all material Aspects are covered.	• Governance and CSR Promotion Structure <a href="http://www.denka.co.jp/eng/sustainability/management/governance/index.html">http://www.denka.co.jp/eng/sustainability/management/governance/index.html</a>
G4-49	a.Report the process for communicating critical concerns to the highest governance body	
G4-50	a.Report the nature and total number of critical concerns that were communicated to the highest governance body and the mechanism(s) used to address and resolve them.	-
G4-51	a.Report the remuneration policies for the highest governance body and senior executives for the below types of remuneration: <ul style="list-style-type: none"> <li>- Fixed pay and variable pay: <ul style="list-style-type: none"> <li>- Performance-based pay</li> <li>- Equity-based pay</li> <li>- Bonuses</li> <li>- Deferred or vested shares</li> </ul> </li> <li>- Sign-on bonuses or recruitment incentive payments</li> <li>- Termination payments</li> <li>- Clawbacks</li> <li>- Retirement benefits, including the difference between benefit schemes and contribution rates for the highest governance body, senior executives, and all other employees</li> </ul> b.Report how performance criteria in the remuneration policy relate to the highest governance body's and senior executives' economic, environmental and social objectives.	-
G4-52	a.Report the process for determining remuneration. Report whether remuneration consultants are involved in determining remuneration and whether they are independent of management. Report any other relationships which the remuneration consultants have with the organization.	-
G4-53	a.Report how stakeholders' views are sought and taken into account regarding remuneration, including the results of votes on remuneration policies and proposals, if applicable.	-
G4-54	a.Report the ratio of the annual total compensation for the organization's highest-paid individual in each country of significant operations to the median annual total compensation for all employees (excluding the highest-paid individual) in the same country.	-
G4-55	a.Report the ratio of percentage increase in annual total compensation for the organization's highest-paid individual in each country of significant operations to the median percentage increase in annual total compensation for all employees (excluding the highest-paid individual) in the same country.	-
<b>Ethics and Integrity</b>		
G4-56	a.Describe the organization's values, principles, standards and norms of behavior such as codes of conduct and codes of ethics.	• Denka's Corporate Philosophy (P.1) • Denka Principles / The Denka Group Guidelines (Ref. P.3)
G4-57	a.Report the internal and external mechanisms for seeking advice on ethical and lawful behavior, and matters related to organizational integrity, such as helplines or advice lines.	• Compliance Hotline System (P.31)
G4-58	a.Report the internal and external mechanisms for reporting concerns about unethical or unlawful behavior, and matters related to organizational integrity, such as escalation through line management, whistleblowing mechanisms or hotlines.	• Compliance Hotline System (P.31)

## Specific Standard Disclosures

DMA and Indicators	Location of Disclosure
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### ECONOMIC

DMA	Management Approach	<ul style="list-style-type: none"> <li>• To Our Stakeholder (P.4-5)</li> <li>• Denka's Healthcare-Related Operation (P.8-9)</li> <li>• Denka Group's CSR (P.10-13)</li> <li>• Caring for the Global Environment (P.20-21)</li> <li>• Denka 100 New Growth Strategies (P.34-35)</li> </ul>
<b>Economic Performance</b>		
EC1	Direct economic value generated and distributed	• Engaging with Shareholders (P.29)
EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change	<ul style="list-style-type: none"> <li>• To Our Stakeholder (P.4-5)</li> <li>• Denka 100 New Growth Strategies (P.34-35)</li> <li>• Caring for the Global Environment (P.20-21)</li> <li>• Initiatives to Secure Our Electricity Supply (P.22)</li> <li>• Climate Change: Risks and Opportunities (Ref. P.13)</li> </ul>
EC3	Coverage of the organization's defined benefit plan obligations	-
EC4	Financial assistance received from government	• Environment- and Energy-Related Subsidies (Ref. P.19-20)
<b>Market Presence</b>		
EC5	Ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation	-
EC6	Proportion of senior management hired from the local community at significant locations of operation	-
<b>Indirect Economic Impacts</b>		
EC7	Development and impact of infrastructure investments and services supported	<ul style="list-style-type: none"> <li>• Local Communities (P.14-17)</li> <li>• Educational Support Initiatives (Ref. P.23)</li> </ul>
EC8	Significant indirect economic impacts, including the extent of impacts	-
<b>ENVIRONMENTAL</b>		
EC9	Proportion of spending on local suppliers at significant locations of operation	-

### ENVIRONMENTAL

DMA	Management Approach	<ul style="list-style-type: none"> <li>• To Our Stakeholder (P.4-5)</li> <li>• Denka Group's CSR (P.10-13)</li> <li>• Denka 100 New Growth Strategies (P.34-35)</li> <li>• Caring for the Global Environment (P.20-21)</li> </ul>
<b>Materials</b>		
EN1	Materials used by weight or volume	-
EN2	Percentage of materials used that are recycled input materials	<ul style="list-style-type: none"> <li>• Overview of Environmental Impacts (P.21)</li> <li>• Resource Recycling through Cement Production (P.23)</li> </ul>
<b>Energy</b>		
EN3	Energy consumption within the organization	• Overview of Environmental Impacts (P.21)
EN4	Energy consumption outside of the organization	-
EN5	Energy intensity	• Fiscal 2015 Environmental Performance by Denka Business Sites and Affiliates (Ref. P.8)
EN6	Reduction of energy consumption	<ul style="list-style-type: none"> <li>• Caring for the Global Environment (P.20-21)</li> <li>• Fiscal 2015 Environmental Performance by Denka Business Sites and Affiliates (Ref. P.8)</li> <li>• Optimizing Logistics Operations (Ref. P.17)</li> </ul>
EN7	Reductions in energy requirements of products and services	<ul style="list-style-type: none"> <li>• Caring for the Global Environment (P.20-21)</li> <li>• Creating Shared Value (CSV): How Denka Products Help Resolve Social Issues (P.46-49)</li> </ul>
<b>Water</b>		
EN8	Total water withdrawal by source	<ul style="list-style-type: none"> <li>• Overview of Environmental Impacts (P.21)</li> <li>• Fiscal 2015 Environmental Performance Data—Ratio of Each Business Site in Overall Emissions (Ref. P.11)</li> <li>• Environmental Performance (Site Reports P.33-38)</li> </ul>
EN9	Water sources significantly affected by withdrawal of water	• Initiatives to Secure Our Electricity Supply (P.22)
EN10	Percentage and total volume of water recycled and reused	-
<b>Biodiversity</b>		
EN11	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	-
EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas	• Denka's Policy on Biodiversity and Accomplishments (Ref. P.12)
EN13	Habitats protected or restored	• Denka's Policy on Biodiversity and Accomplishments (Ref. P.12)
EN14	Total number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk	• Denka's Policy on Biodiversity and Accomplishments (Ref. P.12)



<b>Emissions</b>		
EN15	Direct greenhouse gas (GHG) emissions (Scope 1)	<ul style="list-style-type: none"> <li>• Caring for the Global Environment (P.20-21)</li> <li>• Fiscal 2015 Environmental Performance by Denka Business Sites and Affiliates (Ref. P.8)</li> <li>• Fiscal 2015 Environmental Performance Data—Ratio of Each Business Site in Overall Emissions (Ref. P.11)</li> <li>• Environmental Performance (Site Reports P.33-38)</li> <li>• Responsible Care (RC) Activities (Ref. Appendix 1)</li> </ul>
EN16	Energy indirect greenhouse gas (GHG) emissions (Scope 2)	<ul style="list-style-type: none"> <li>• Caring for the Global Environment (P.20)</li> <li>• Fiscal 2015 Environmental Performance by Denka Business Sites and Affiliates (Ref. P.8)</li> <li>• Fiscal 2015 Environmental Performance Data—Ratio of Each Business Site in Overall Emissions (Ref. P.11)</li> </ul>
EN17	Other indirect greenhouse gas (GHG) emissions (Scope 3)	<ul style="list-style-type: none"> <li>• Optimizing Logistics Operations (Ref. P.17)</li> </ul>
EN18	Greenhouse gas (GHG) emissions intensity	<ul style="list-style-type: none"> <li>• Caring for the Global Environment (P.20-21)</li> <li>• Fiscal 2015 Environmental Performance by Denka Business Sites and Affiliates (Ref. P.8)</li> <li>• Fiscal 2015 Environmental Performance Data—Ratio of Each Business Site in Overall Emissions (Ref. P.11)</li> <li>• Responsible Care (RC) Activities (Ref. Appendix 1)</li> </ul>
EN19	Reduction of greenhouse gas (GHG) emissions	<ul style="list-style-type: none"> <li>• Optimizing Logistics Operations (Ref. P.17)</li> <li>• Responsible Care (RC) Activities (Ref. Appendix 1)</li> </ul>
EN20	Emissions of ozone-depleting substances (ODS)	<ul style="list-style-type: none"> <li>• Our Response to the Revised Act for Rationalized Use and Proper Management of Fluorocarbons (P.21)</li> </ul>
EN21	NOx, SOx, and other significant air emissions	<ul style="list-style-type: none"> <li>• Caring for the Global Environment (P.20-21)</li> <li>• Fiscal 2015 Environmental Performance by Denka Business Sites and Affiliates (Ref. P.8)</li> <li>• Fiscal 2015 Environmental Performance Data—Ratio of Each Business Site in Overall Emissions (Ref. P.11)</li> <li>• Responsible Care (RC) Activities (Ref. Appendix 1)</li> <li>• Environmental Performance (Site Reports P.33-38)</li> </ul>
<b>Effluents and Waste</b>		
EN22	Total water discharge by quality and destination	-
EN23	Total weight of waste by type and disposal method	<ul style="list-style-type: none"> <li>• Caring for the Global Environment (P.20-21)</li> <li>• Responsible Care (RC) Activities (Ref. Appendix 1)</li> <li>• Environmental Performance (Site Reports P.33-38)</li> </ul>
EN24	Total number and volume of significant spills	<ul style="list-style-type: none"> <li>• Our Initiatives to Maintain Safe Operations (P.18)</li> </ul>
EN25	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention <sup>2</sup> Annex I, II, III, and VIII, and percentage of transported waste shipped internationally	-
EN26	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the organization's discharges of water and runoff	-
<b>Products and Services</b>		
EN27	Extent of impact mitigation of environmental impacts of products and services	<ul style="list-style-type: none"> <li>• Resource Recycling through Cement Production (P.23)</li> <li>• Our Business Strategies (P.36-43)</li> <li>• Creating Shared Value (CSV): How Denka Products Help Resolve Social Issues (P.46-49)</li> </ul>
EN28	Percentage of products sold and their packaging materials that are reclaimed by category	-
<b>Compliance</b>		
EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	-
<b>Transport</b>		
EN30	Significant environmental impacts of transporting products and other goods and materials for the organization's operations, and transporting members of the workforce	<ul style="list-style-type: none"> <li>• Optimizing Logistics Operations (Ref. P.17)</li> </ul>
<b>Overall</b>		
EN31	Total environmental protection expenditures and investments by type	<ul style="list-style-type: none"> <li>• Environmental Accounting (Ref. P.21)</li> </ul>
<b>Supplier Environmental Assessment</b>		
EN32	Percentage of new suppliers that were screened using environmental criteria	-
EN33	Significant actual and potential negative environmental impacts in the supply chain and actions taken	-
<b>Environmental Grievance Mechanisms</b>		
EN34	Number of grievances about environmental impacts filed, addressed, and resolved through formal grievance mechanisms	-

#### **SOCIAL: LABOR PRACTICES AND DECENT WORK**

DMA	Management Approach	<ul style="list-style-type: none"> <li>• Our Initiatives to Maintain Safe Operations (P.18-19)</li> <li>• Human Resource Development (P.24-25)</li> <li>• Developing Comfortable Workplaces (P.26-27)</li> </ul>
<b>Employment</b>		
LA1	Total number and rates of new employee hires and employee turnover by age group, gender, and region	<ul style="list-style-type: none"> <li>• Developing Comfortable Workplaces (P.26-27)</li> </ul>
LA2	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation	<ul style="list-style-type: none"> <li>• Developing Comfortable Workplaces (P.26-27)</li> </ul>
LA3	Return to work and retention rates after parental leave, by gender	-
<b>Labor/Management Relations</b>		
LA4	Minimum notice periods regarding operational changes, including whether these are specified in collective agreements	-



<b>Occupational Health and Safety</b>		
LA5	Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs	-
LA6	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of workrelated fatalities, by region and by gender	• Our Initiatives to Maintain Safe Operations (P.18-19)
LA7	Workers with high incidence or high risk of diseases related to their occupation	-
LA8	Health and safety topics covered in formal agreements with trade unions	• Developing Comfortable Workplaces (P.26-27)
<b>Training and Education</b>		
LA9	Average hours of training per year per employee by gender, and by employee category	-
LA10	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	• Human Resource Development (P.24-25)
LA11	Percentage of employees receiving regular performance and career development reviews, by gender and by employee category	-
<b>Diversity and Equal Opportunity</b>		
LA12	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity	• Developing Comfortable Workplaces (P.26-27)
<b>Equal Remuneration for Women and Men</b>		
LA13	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation	-
<b>Supplier Assessment for Labor Practices</b>		
LA14	Percentage of new suppliers that were screened using labor practices criteria	-
LA15	Significant actual and potential negative impacts for labor practices in the supply chain and actions taken	-
<b>Labor Practices Grievance Mechanisms</b>		
LA16	Number of grievances about labor practices filed, addressed, and resolved through formal grievance mechanisms	-

## **SOCIAL:HUMAN RIGHTS**

DMA	Management Approach	<ul style="list-style-type: none"> <li>• Quality Management: Working with Our Supply Chain (P.28)</li> <li>• The Denka Group Guidelines ((Ref. P.3)</li> <li>• The CSR Procurement Policies &amp; Guidelines (Ref. P.22)</li> </ul>
<b>Investment</b>		
HR1	Total number and percentage of significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	-
HR2	Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained	• Developing Comfortable Workplace: Our Initiatives to Protect Human Rights (P.26-27)
<b>Non-discrimination</b>		
HR3	Total number of incidents of discrimination and corrective actions taken	• Compliance Hotline System (P.31)
<b>Freedom of Association and Collective Bargaining</b>		
HR4	Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights	-
<b>Child Labor</b>		
HR5	Operations and suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor	<ul style="list-style-type: none"> <li>• Quality Management: Working with Our Supply Chain (P.28)</li> <li>• The CSR Procurement Policies &amp; Guidelines (Ref. P.22)</li> </ul>
<b>Forced or Compulsory Labor</b>		
HR6	Operations and suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor	<ul style="list-style-type: none"> <li>• Quality Management: Working with Our Supply Chain (P.28)</li> <li>• The CSR Procurement Policies &amp; Guidelines (Ref. P.22)</li> </ul>
<b>Security Practices</b>		
HR7	Percentage of security personnel trained in the organization's human rights policies or procedures that are relevant to operations	-
<b>Indigenous Rights</b>		
HR8	Total number of incidents of violations involving rights of indigenous peoples and actions taken	-
<b>Assessment</b>		
HR9	Total number and percentage of operations that have been subject to human rights reviews or impact assessments	-
<b>Supplier Human Rights Assessment</b>		
HR10	Percentage of new suppliers that were screened using human rights criteria	-
HR11	Significant actual and potential negative human rights impacts in the supply chain and actions taken	-
<b>Human Rights Grievance Mechanisms</b>		
HR12	Number of grievances about human rights impacts filed, addressed, and resolved through formal grievance mechanisms	• Compliance Hotline System (P.31)

**SOCIAL:SOCIAL**

DMA	Management Approach	<ul style="list-style-type: none"> <li>• Our Initiatives to Maintain Safe Operations (P.18-19)</li> <li>• Local Communities (P.14-17)</li> <li>• Compliance (Ref. P.4)</li> </ul>
<b>Local Communities</b>		
SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs	-
SO2	Operations with significant actual or potential negative impacts on local communities	• Our Initiatives to Maintain Safe Operations (P.18-19)
<b>Anti-corruption</b>		
SO3	Total number and percentage of operations assessed for risks related to corruption and the significant risks identified	-
SO4	Communication and training on anti-corruption policies and procedures	• Compliance (Ref. P.4)
SO5	Confirmed incidents of corruption and actions taken	-
<b>Public Policy</b>		
SO6	Total value of political contributions by country and recipient/beneficiary	-
<b>Anti-competitive Behavior</b>		
SO7	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes	• Compliance (Ref. P.4)
<b>Compliance</b>		
SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	-
<b>Supplier Assessment for Impacts on Society</b>		
SO9	Percentage of new suppliers that were screened using criteria for impacts on society	-
SO10	Significant actual and potential negative impacts on society in the supply chain and actions taken	-
<b>Grievance Mechanisms for Impacts on Society</b>		
SO11	Number of grievances about impacts on society filed, addressed, and resolved through formal grievance mechanisms	-

**SOCIAL:PRODUCT RESPONSIBILITY**

DMA	Management Approach	<ul style="list-style-type: none"> <li>• Quality Management: Working with Our Supply Chain (P.28)</li> <li>• Information Security / Information Disclosure (Ref. P.5-6)</li> <li>• ISO 9001 Management Systems (Ref. P.7)</li> <li>• Product and Labor Safety Management Systems (Ref. P.14-16)</li> </ul>
<b>Customer Health and Safety</b>		
PR1	Percentage of significant product and service categories for which health and safety impacts are assessed for improvement	<ul style="list-style-type: none"> <li>• ISO 9001 Management Systems (Ref. P.7)</li> <li>• Product and Labor Safety Management Systems (Ref. P.14-16)</li> </ul>
PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes	<ul style="list-style-type: none"> <li>• Quality Management: Working with Our Supply Chain (P.28)</li> <li>• Product and Labor Safety Management Systems (Ref. P.14-16)</li> </ul>
<b>Product and Service Labeling</b>		
PR3	Type of product and service information required by the organization's procedures for product and service information and labeling, and percentage of significant product and service categories subject to such information requirements	• Product and Labor Safety Management Systems (Ref. P.14-16)
PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes	<ul style="list-style-type: none"> <li>• Quality Management: Working with Our Supply Chain (P.28)</li> <li>• Product and Labor Safety Management Systems (Ref. P.14-16)</li> </ul>
PR5	Results of surveys measuring customer satisfaction	• Customer Satisfaction Surveys (Ref. P.22)
<b>Marketing Communications</b>		
PR6	Sale of banned or disputed products	-
PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship, by type of outcomes	• Information Disclosure (Ref. P.6)
<b>Customer Privacy</b>		
PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data	-
<b>Compliance</b>		
PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	-