



Shin-Etsu Chemical Co., Ltd.

CSR Report 2018

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Message from Management

The Shin-Etsu Group (the Group) achieved its highest profit ever and recorded its eighth consecutive year of increased profit in the fiscal year ended March 2018 (FY2017).

At the same time, we were able to strongly move forward towards realizing our targets of making "Contributions to the Earth's Future."

In this message for our CSR Report 2018, I would like to introduce our management objectives and the CSR activities that we are carrying out to accomplish these objectives.



President

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

Yasuhiko Saito

> [Chairman's Message](#)
[Chihiro Kanagawa](#)

Realizing Business Principle

The Group's Business Principle is to "contribute to people's living, society and industry through value creation in materials and technologies, while observing all laws and regulations as well as conducting fair corporate activities." With these Business Principle as a foundation, each and every one of the people working in our group is conscientiously carrying out their daily work with the objectives "to supply key materials that meet society's needs" and "to contribute to the solution of the various issues that the Earth on which we are living is facing." Having these two objectives propelling us forward, our company is working to enduringly develop. In order to work to realize these objectives, in FY2017, we carried out the following activities.

Strengthening ESG Activities

In recent years, an increasing amount of attention is being given by investors to companies' ESG¹ activities. In August 2017, we reorganized former CSR Promotion Committee and formed an ESG Promotion Committee to further promote company-wide ESG activities in all aspects of our corporate activities. This committee is now chaired by myself, as the president of Shin-Etsu Chemical, and is comprised of 40 persons, including the members of Shin-Etsu Chemical's Board of Directors, the people in charge of relevant divisions and departments and the people in charge of CSR at a Group company, and it also has a secretariat. In this way, we are moving ahead with the strengthening of our Group's ESG activities.

Contributing to Achieving UN Sustainable Development Goals (SDGs)

Since 2010 the Group has been a participant in the United Nations Global Compact (UNGC) and has been voluntarily supporting and practicing in our business operations and strategies the UNGC's Ten Principles with regard to the four fields of human rights, labor standards, the environment and the prevention of corruption. Furthermore, we are also concentrating our efforts on achieving the United Nation's SDGs. In the process of considering the making of investments in our existing businesses as well as the development of new products and new businesses, we always assess their compatibility and suitability with regard to SDGs. Upon clearly explaining their congruence with SDGs, proposals of investment ideas are then submitted for consideration at our Board of Directors Meeting. In this connection, more than 90% of the investment proposals made during FY 2017 were those contributing to SDGs.

At this point, I would like to briefly introduce just some of our company's products that are contributing towards the achieving of SDGs. PVC based resin window frames, silicones that are used in such areas as automobiles, construction and solar panels, and rare earth magnets that are used in motors and generators in such areas as hybrid cars, electric vehicles and wind-power generators are contributing to the achievement of Goal 13 to "take urgent action to combat climate change and its impacts." Activities such as recycling of water, recycling of rare earths in the manufacturing process and waste reduction are contributing to Goal 12 to

"ensure sustainable consumption and production patterns." In this manner, our contributions to SDGs lead to the making of "Contributions to Earth's Future" that our Group's is pursuing, and at the same time, it also leads to our company's business expansion and growth and the development of new products.

Tokyo Principles for Strengthening Anti-Corruption Practices

As I explained earlier, right at the start of the statement of our Business Principle it emphasizes that we observe all laws and regulations as well as conducting fair corporate activities. In February 2018, we were the first company to agree to sign onto the Tokyo Principles for Strengthening Anti-Corruption Practices pursuant to that established by the Global Compact Network Japan². Assenting to these Tokyo Principles also contributes to the achievement of Goal 16: to "promote just, peaceful, and inclusive societies." We have notified all of the Group's companies of the decision we made to sign the Tokyo Principles, and we are endeavoring to further raise awareness of the fundamental importance of corruption prevention in our corporate activities, as we go about carrying out our daily work.

Totally Committed to Responsible Care

The Group signed and put into practice the Responsible Care^{®3} Global Charter of the International Council of Chemical Associations (ICCA) in 2006. Furthermore, in 2014, we also signed the revised Responsible Care[®] Global Charter issued by the ICCA. In accordance with this Charter, we are continuously striving to further contribute to the role of chemicals in improving the quality of life as well as in sustainable development by working to make continuous improvements in and achieve the highest levels of excellence in occupational safety and health, process safety and prevention and environmental conservation. In FY 2017, a total of 21 Group offices, globally, carried out their business activities in compliance with the Charter through such means as carrying out audits of environmental and safety management.

As I stated above, I am introducing only some aspects of the Group's CSR activities that we are presently working on. These activities are explained in greater detail in each chapter of this CSR Report.

All of us working in the Group are aiming to continue to grow together with society through all of our corporate activities. Going forward, we will continue to strive towards new value creation that responds to the needs of society, and we will steadily fulfill our corporate social responsibilities, as we work towards making "Contributions to the Earth's Future." We sincerely ask for your continued understanding and support in the future as well.

June 2018

Yasuhiko Saitoh, President,

1 ESG

Environment, Social and Governance (ESG) refers to the three central CSR factors expounded on by investors and others that are used to evaluate a company's CSR endeavors.

2 Global Compact Network Japan (GCNJ)

Global Compact Network Japan (GCNJ) is the local Global Compact network branch that has been set up to actively work as a CSR platform in Japan in order to disseminate the United Nations Global Compact's mission and various key principles to management levels within companies and organizations through such means as CSR education and the activities of study groups with different themes as well as the holding of various symposiums. As of June 2018, more than 260 Japanese companies/groups are participating in GCNJ.

3 Responsible Care[®]

Activities whereby each company that handles chemical materials on a voluntary basis commits itself to improve health, safety and environmental performance in all the life-cycle processes from the development of chemical materials through manufacture, distribution, usage, final consumption and disposal up to recycling, and then making public the results of its activities and continuously engaging in dialogue with the local community and the public, while striving to maintain good communication with society.

Editorial Policy

The Shin-Etsu Group started issuing the "Environmental Report" in 2000. In 2004, the report was renamed the "Environmental and Social Report" after expanding its contents to include corporate social responsibility in general. Furthermore, in 2016, the report was retitled the "CSR Report" and has been issued without interruption. The Report also serves as a report on our Responsible Care programs¹.

Referenced Guidelines

GRI Standards
Ministry of the Environment "Environmental Accounting Guidelines 2005 Edition"
Global Compact Ten Principles
UN International Bill of Rights (UDHR)
UN Guiding Principles on Business and Human Rights

Period Covered by the Report (indicated where otherwise)

Japan: April 1, 2017 to March 31, 2018
Overseas: January 1, 2017 to December 31, 2017

Organizations Covered by the Report

The report covers our 145 Group companies including Shin-Etsu Chemical Co., Ltd, herein after called the Company. The range of entities from which data were collected is in principles as stated below. Where otherwise, this is indicated in a separate note.

(1) Environmental Activity Report

The report includes data from the 127 companies of the Group.
63 manufacturing bases in Japan
123 non-manufacturing bases in Japan
49 overseas manufacturing bases
63 overseas non-manufacturing bases

(2) Environmental Accounting

The Company

(3) Other

The Group, except for the Shin-Etsu Polymer Group²

(4) A collection of ESG data

Consolidated companies including the Shin-Etsu Polymer Group

Previous issue: June 2017

Issued: June 2018

Next issue: scheduled for June 2019

Membership

Keidanren (Japan Business Federation)
Japan Chemical Industry Association
Vinyl Environmental Council
Plastic Waste Management Institute
The International Friendship Exchange Council
The Japan Committee for UNICEF
Global Compact Network Japan
Millennium Promise Japan, etc.

¹ Responsible Care programs

A campaign encouraging enterprises that handle chemical substances to voluntarily ensure protection of the environment, safety and health in all processes, from the development of chemical substances through manufacture, distribution and utilization to final consumption, disposal or recycling, to publish the results of their activity, and to engage in dialogue and communication with society.

² For a report on the Shin-Etsu Polymer Group, see "Shin-Etsu Polymer Sustainability Report 2018" (to be published at the end of September 2018).



Shin-Etsu Group's products which contribute to the solution of the UN "Sustainable Development Goals (SDGs)"

The Shin-Etsu Group does its best to solve various social issues, and it implements this through our Corporate Mission Statement to "contribute to people's daily lives as well as to the advance of industry and society by creating value through providing key materials and technologies."
Products borne from these efforts also contribute to solving the UN "Sustainable Development Goals(SDGs)".

Shin-Etsu Group solutions as viewed by SDGs targets



■ [Shin-Etsu Group solutions as viewed by product](#)

SDGs Targets	Our Products	Solution Example
 <p>Goal 2 ZERO HUNGER End hunger, achieve food security and improved nutrition and promote sustainable agriculture</p>	 <p>Polyvinyl chloride (PVC)</p>	PVC is used for agricultural films such as vinyl plastic hothouses and plastic tunnel culture. It provides agricultural materials indispensable to grow vegetables and other crops.
	 <p>Synthetic pheromones</p>	Synthetic pheromones provide a new type of agricultural material that suppresses the mating of harmful insects to prevent the growth of the next generation of such insects. Since it aims only at eliminating agricultural insects, it enables the cultivation of agricultural products without disturbing the ecosystem, including many living creatures, such as these insects' natural enemies.
	 <p>Biodegradable runner clips</p>	Biodegradable runner clips are used to fix agricultural products during agricultural work. They do not need to be collected after use because they are decomposed by microorganisms.



[Cellulose derivatives](#)

If Cellulose derivatives are added to tablets, they enable the adjustment of the location of the tablets' dissolution, the amount dissolved, and the time required for their dissolution in the body.

The bitterness and smell of tablets can be eliminated by covering them with cellulose films, making them easier to take.

Cellulose derivatives are used to manufacture catalyst carriers and filters, which purify exhaust gas generated from the internal-combustion engines of vehicles and other systems that use gasoline or light oil.

They contribute to improving the atmospheric environment by preventing the emission of NOx and SOx in exhaust gas and diesel soot, thus allowing people to lead a healthy life.



[Silicones](#)

Silicones are used to provide contact lenses with oxygen permeability. They help enhance the performance of contact lenses.



[Rare earth magnets](#)
[Silicones](#)
[Semiconductor silicon](#)

These products are used for the joint motors of nursing care and support robots, such as to help reduce heavy workloads for nurses and caregivers, cushioning, and electronic device control.



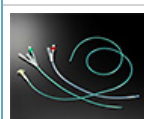
[Rare earth](#)

Rare earth is used for scintillator materials for diagnostic imaging systems such as CT scanning and PET. It contributes to reducing X-ray doses, high-speed diagnosis, and improving diagnostic accuracy.



[Semiconductor encapsulating materials](#)

Semiconductor encapsulating materials are used for electronic devices (such as monitors and sensors) for medical equipment (MRI and medical testers).



[Catheters](#)

In some cases, the use of catheters enables treatment and testing without performing surgical operations.



[Wrapping film](#)

Wrapping films maintain foods, etc., in a sanitary condition when storing them. They also allow them to be preserved over a long period of time.



[Copolymer resin emulsions](#)

The application of wall paper coated with copolymer resin emulsions in hotels and houses help dissolve smells generated by human activities.



[Polyvinyl alcohol](#)

Coating the surface of tablets with polyvinyl alcohol, which has high gas barrier properties, contributes to preventing the degeneration of medicines and reducing their smells.

The fibers of polyvinyl alcohol replace asbestos, which causes mesothelioma and pneumoconiosis. They prevent exposure to asbestos from construction materials, etc.



[Synthetic quartz wafers](#)



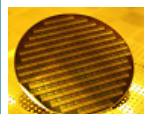

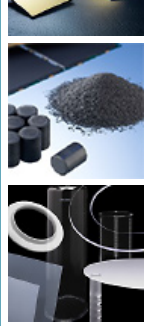

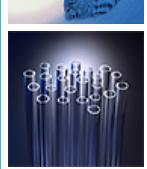
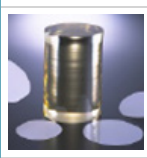





In DNA analysis, synthetic quartz wafers are used for fixed DNA sequencing boards for detection. They contribute to reducing the analytical time and improving the resolution.
















[Synthetic quartz preforms for optical fibers](#)

Synthetic quartz fibers are used for some medical endoscopes and fiber scopes. Compared to previous ones, they reduce the burden on patients and enable more accurate diagnosis and treatment.

4 QUALITY EDUCATION 	Goal 4 QUALITY EDUCATION Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	 Synthetic quartz wafers	Synthetic quartz wafers are used for TFT liquid crystal panels for educational data projectors at schools and other institutions. They project a larger image of the teaching materials to clarify the aims of learning and allow students to easily share what they are studying.
6 CLEAN WATER AND SANITATION 	Goal 6 CLEAN WATER AND SANITATION Ensure availability and sustainable management of water and sanitation for all	 Sodium hypochlorite	Tap water and drinking water are made safe and sanitary by using high-quality sodium hypochlorite with less impurities to sterilize the water.
		 Synthetic pheromones	Synthetic pheromones are used to fix agricultural products during agricultural work. They help reduce the amount of agricultural chemicals used, thus reducing water contamination due to agricultural chemicals.
		 Quartz glass for lamps	Ultraviolet lamps using quartz glass tubes sterilize super-pure water and drinking water to secure safe, high-quality water. They are also used to sterilize foodstuffs.
7 AFFORDABLE AND CLEAN ENERGY 	Goal 7 AFFORDABLE AND CLEAN ENERGY Ensure access to affordable, reliable, sustainable and modern energy for all	 Rare earth magnets	Rare earth magnets contribute to making wind power generators highly efficient.
		 Silicones	Solar batteries can be used for 30 years or more by sealing their modules with weather-resistant, durable silicone.
		 Cellulose derivatives	Cellulose derivatives are used to mold electrolytic ceramics for solid-oxide fuel cells, which are used for the Ene-Farm home-use fuel cell.
		 Rare earth	Rare earth is used as a material for fluorescent substances, which convert the color of LED to white. The use of long-life LED for lighting and displays contributes to energy conservation. Rare earth is used for ceramic materials, which are indispensable to new energy systems such as wind power generation and fuel cells.
		 Semiconductor silicon	Semiconductor devices using semiconductor silicon to enable substantial power conservation through the inverters for which they are used.
		 Carbon mold separator	Carbon mold separators are used as one of clean fuel cells' principal components.















	PVC pipe	<p>The use of highly durable PVC for PVC pipes and joints makes replacement of service water and sewage piping unnecessary for at least 50 years.</p>
   	Semiconductor silicon Photomask blanks Semiconductor encapsulating materials Quartz glass products for semiconductor manufacturing	<p>These products contribute to development of next-generation semiconductors such as stacked three-dimensional semiconductors. They provide materials and technologies indispensable to artificial intelligence (AI), Internet of things (IoT, which means that everything is connected to the Internet through networks), and smart grids.</p>
 	Synthetic quartz preforms for optical fibers Synthetic quartz glass for fiber optics	<p>These products are used as materials for optical fibers, which are essential for the information society.</p>
	Oxide single crystals (Lithium Tantalate)	<p>Oxide single crystals are used for mobile phones' SAW filters, contributing to enhancing the functions of mobile phones and improving their sound quality.</p>
	Cellulose derivatives	<p>Cellulose derivatives improve the resistance of bridge piers to massive earthquakes, thus making their structures stronger. During non-excavation work for old sewage pipes, cellulose derivatives are added to heighten the liquidity of mortar to fill gaps inside the pipes.</p>
	Rare earth	<p>Rare earth is used for electronic components, which are indispensable to smartphones as they become smaller and smaller and offer increasingly high performance, as well as for the safe driving of vehicles and automated operation systems. Highly plasma-resistant rare earth materials are attracting attention as they enhance the performance of semiconductor production equipment as semiconductor devices indispensable to AI, IoT, and smart grids evolve.</p>
	Silicone/acrylic group hybrid resin	<p>These products are used for industrial hoses and abrasion-resistant electric cables. They strengthen the durability of such hoses and electric cables by being combined with major types of resin used for hoses and electric cables.</p>
	Shin-Etsu capacitor films	<p>The use of Shin-Etsu capacitor films makes the replacement of condensers for power transmission networks unnecessary for 30 years. They are used for condensers at frequency converter stations (east-west interconnection) to contribute to the stable supply of electricity.</p>
	Shin-Etsu self lock bantage	<p>If water leaks from water pipes and other pipes, they can be repaired simply by stretching and winding this bandage around the pipe, which makes maintenance easy.</p>

11 SUSTAINABLE CITIES AND COMMUNITIES 	Goal 11 SUSTAINABLE CITIES AND COMMUNITIES Make cities and human settlements inclusive, safe, resilient and sustainable	 Toilet Booth	This toilet booth reduces the risk of a finger being caught in the booth. In addition, if, for example, an accident (such as a sudden illness or other unexpected event) occurs when it is being used, the door can easily be opened from the outside. These functions provide a safe toilet space.
		 Semiconductor silicon	This high-performance semiconductor silicon used for surveillance cameras and monitor camera sensors contributes to crime prevention and improving the safety of vehicles.
		 Polyvinyl alcohol	Polyvinyl alcohol provides the raw materials for polyvinyl butyral, which is used for the intermediate films of window glass for vehicles and buildings. It helps prevent fragments of glass from scattering when glass is broken due to an accident or similar.
12 RESPONSIBLE CONSUMPTION AND PRODUCTION 	Goal 12 RESPONSIBLE CONSUMPTION AND PRODUCTION Ensure sustainable consumption and production patterns	 Sodium hypochlorite	Tap water and drinking water are made safe and sanitary by using high-quality sodium hypochlorite with less impurities to sterilize the water.
		 Cellulose derivatives	Cellulose derivatives use natural cellulose for raw materials. They are biodegradable and return to nature after use.
		 Embossed carrier tapes	Embossed carrier tapes are used to transport minimum-chip electronic components. They contribute to resource conservation by reducing the amount of tape used and discarded compared to their predecessor products.
		 HSP	HSP is a jig plate used in the electronic component manufacturing process for fixation. The use of slightly adhesive silicones for raw materials eliminates the need for adhesive tapes. In addition, HSP can be used repeatedly.
		 Shin-Etsu polycarbonate	Materials recycled from polycarbonate are used for at least 50% of the product.
		 Conductive polymer (SEPLEGYDA)	Conductive polymers are used for hybrid electrolytic condensers with aluminum. They help reduce the quantity and area of condensers used compared to electrolytic aluminum condensers.
		 Biodegradable runner clips	Biodegradable runner clips are used to fix agricultural products during farm work. They do not need to be collected because they are decomposed by microorganisms in the ground after they are used.
		 Functionality compounds EXELAST SX series	This product is lighter than the previous rubber glass runs, contributing to lower fuel consumption for vehicles.



Goal 13
CLIMATE ACTION
Take urgent action to combat climate change and its impacts

	Polyvinyl chloride (PVC)	PVC window reduce the amount of heat that escapes from windows by 71% compared to aluminum windows.
	Rare earth magnets	<p>Rare earth magnets improve the power generation efficiency of wind power generators.</p> <p>The use of rare earth magnets for the compressor motor of air-conditioning systems increases energy consumption efficiency and reduces power consumption.</p> <p>The use of rare earth magnets for industrial motors increases motor efficiency and reduces power consumption.</p> <p>The use of high-performance small rare earth magnets for the driving motor of hybrid cars, electric vehicles, and fuel-cell vehicles and various motors for vehicles helps reduce the overall weight of the cars or vehicles, thus increasing fuel efficiency.</p>
   	Semiconductor silicon Photoresists, Photomask blanks Semiconductor encapsulating materials Quartz glass products for semiconductor manufacturing	These products are used for electronic devices that control the fuel efficiency of motor vehicles.
	Silicon tetrachloride	Silicon tetrachloride is used for compounds and materials that constitute Green Tire, which improves fuel efficiency by reducing rolling resistance.
	Semiconductor silicon	Insulated-gate bipolar transistors (IGBT) are used for the inverters of hybrid cars, electric vehicles, and fuel-cell vehicles, contributing to substantial reductions in CO2 emissions.
	LED encapsulating materials	Among long-life, energy-saving LED optical modules, silicone packaging materials are used for most of the major components other than LED.
	Anode material of lithium ion batteries	The anode material of lithium ion batteries increases the capacity and output of lithium ion secondary batteries.
	Silicone/acrylic group hybrid resin	This product is used for window frame gaskets and packing. It increases the airtightness of windows by making them smoother and more durable.
	Office automation roller	Development of rollers with a particularly small external diameter contributes to reducing the power consumption of printers.
	Plastic tape frame Frame cassette	The weight of these products is half or less than that of the previous metallic ones, thus reducing CO2 emissions during transport.
	Silicones	<p>Silicones are used as raw materials for ship bottom paint. They prevent marine organisms from sticking to the ship bottom, thereby improving the fuel efficiency of ships.</p> <p>Replacement of metallic automotive components with silicone products increases the fuel efficiency of motor vehicles.</p>

				
		 Input device	Conventional mechanical switches consist of many parts such as buttons and frames, but touch switches are comprised of a sheet of film. This conserves resources and reduces the weight of switches. The use of these for onboard switches leads to a reduction in the overall weight of a car, improving its fuel efficiency.	
		 Embossed carrier tapes	Embossed carrier tapes are used to transport minimum-chip electronic components. They contribute to energy conservation by reducing the amount of tape used and reduced compared to their predecessor products.	
		 Wafer Cases	Wafer cases are used for transport between semiconductor silicon manufacturers and device manufactures. Their overall weight is reduced by using a smaller number of parts, and this enables reduction in energy consumption during transport.	
		 Shupua	Shupua consists of glass made from silicon rubber. It can be manufactured using a smaller amount of energy than glass.	
	Goal 14 LIFE BELOW WATER Conserve and sustainably use the oceans, seas and marine resources for sustainable development	 Cellulose derivatives	The addition of cellulose derivatives to concrete reduces its separation in water. This makes it possible to cast concrete without polluting water.	
		 Silicones	Silicones are used as raw materials for ship bottom paint and antifouling agents for fishing nets. They help prevent marine organisms from sticking to them, protecting the ocean ecosystem.	
	Goal 15 LIFE ON LAND Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	 Caustic soda and Hydrochloric acid	Caustic soda and hydrochloric acid make harmful substances generated from productive operations harmless, protecting the air and aquatic environment.	
		 Synthetic pheromones	<p>Synthetic pheromones provide a new type of agricultural material that inhibits the mating of harmful insects to reduce the next generation of these insects.</p> <p>Since they are intended to eliminate only agricultural insects, they enable cultivation of agricultural products without disturbing many organisms, including natural enemies of such insects, in the ecosystem.</p> <p>They help keep down the amount of agricultural chemicals used, thereby reducing soil contamination by agricultural chemicals.</p>	
		 Silicones	The use of silicones as a spreader for agricultural chemicals makes them spread easily. As a result, the amount of agricultural chemicals sprinkled can be reduced.	
		 Yosaku Sheet (Fumigation Sheets)	Yosaku sheets are used to cover damaged pines when they undergo fumigation. Since they are biodegradable, they contribute to environmental protection even after they are used.	
		 Biodegradable runner clips	Biodegradable runner clips are agricultural materials used to fix agricultural products. They do not contaminate soil because they are decomposed by microorganisms in the ground after they are used.	

Shin-Etsu Group Corporate Mission Statement

The Group strictly complies with all laws and regulations, conducts fair business practices and contributes to people's daily lives as well as to the advance of industry and society by creating value through providing key materials and technologies.



Basic CSR Policy

The Shin-Etsu Group:

1. Will do our best to increase the Group's corporate value through sustained growth and make multifaceted contributions to society.
2. Will carry out all of our company activities by making safety always our utmost priority.
3. Will constantly pursue energy-saving, resources-saving and the reduction of the environmental impact, and seek to help create a sustainable future world in which we all live in harmony with the Earth.
4. Will endeavor to contribute to the prevention of global warming and the conservation of biodiversity by means of our cutting-edge technologies and products.
5. Will strive to respect human dignity, assure equality in employment opportunities and support the self-fulfillment of our employees.
6. Will appropriately disclose information in a timely manner.
7. Will carry out trustworthy corporate activities that are based on the integrity of the Group's ethical values.

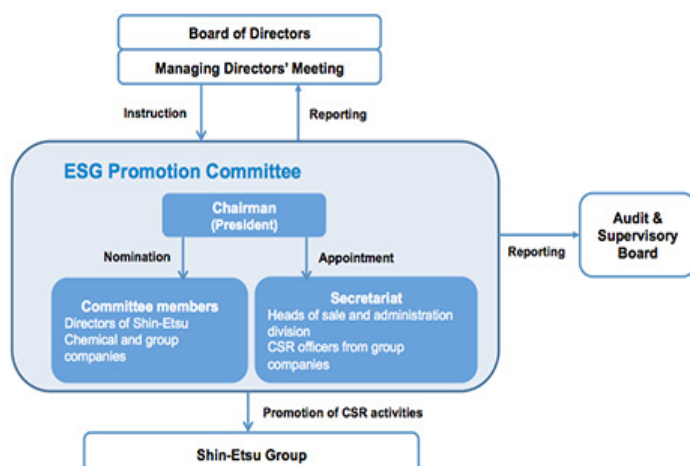
CSR Promotion Structure

CSR Promotion Initiatives

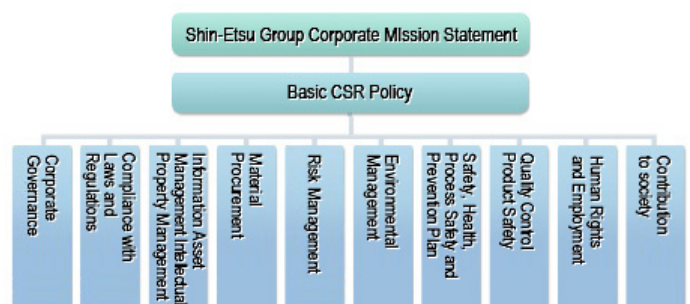
The Group believe that it is the social responsibility of the Group to contribute to our stakeholders, such as shareholders, investors, customers, business partners, local communities and employees.

To achieve this, we formulated the Basic CSR Policy and internal regulations and are carrying out CSR activities. In order to promote CSR activities in an effective and appropriate manner at a company wide level in all aspects of corporate activity, we have set up the ESG Promotion Committee chaired by the President, which is comprised of 40 members, including directors and division heads of Shin-Etsu Chemical and CSR officers from group companies and other parties concerned.

CSR Organizational Chart



Outline of the Corporate Mission Statement, Basic CSR Policy, and the Shin-Etsu Group's activities



Holding the kick-off meeting for the ESG Promotion Committee

In December 2017, the kick-off meeting for the ESG Promotion Committee was held. Each and every one of the members of the Committee and its Secretariat is expected to be actively involved in ESG promotion. At the meeting, President Saito, the chairman of the Committee, presented the basic policy for ESG promotion and the direction the Group should take in this initiative. The Executive administrator explained about issues to be addressed by the Committee, the U.N. Sustainable Development Goals (SDGs) the Group should address as a member of global society, and the Group's support for the Global Compact Network Japan's Tokyo Principles for Strengthening Anti-Corruption Practices.



List of executives in charge of CSR initiatives

Position	Name	Current Positions (related to CSR)	Key CSR Issues
Vice Chairman	Fumio Akiya	In charge of Technologies	Key Issue 3: Product quality improvements and product safety control
President	Yasuhiko Saitoh	Chairman of ESG Promotion Committee	
Managing Director	Toshiya Akimoto	Vice Chairman of ESG Promotion Committee In charge of Office of the President, Public Relations and Legal Affairs	Corporate Governance (Operation of Group Companies) The cornerstone of all activities: legal compliance, fair corporate activities Key Issue 6: Respect for and protection of intellectual property Key Issue 8: Accurate and timely information disclosure and communication with stakeholders
Managing Director	Masaki Miyajima	Chairman of Risk Management Committee	Risk Management
Director	Toshiyuki Kasahara	General Manager of Finance & Accounting Dept.	Corporate Governance (Fair tax payment)
Director	Hidenori Onezawa	In charge of Business Auditing	Corporate Governance (Business Auditing)
Director	Kenji Ikegami	In charge of General Affairs, Personnel & Labor Relations and Purchasing	Corporate Governance Key Issue 4: Promoting CSR procurement and the diversification of supply sources Key Issue 5: Respect for human rights, the development of human resources and the promotion of diversity
Director	Toshio Shiobara	In charge of Patents	Key Issue 6: Respect for and protection of intellectual property
Director	Yoshimitsu Takahashi	In charge of Environmental Control & Safety	Key Issue 1: Employees and contractor health and safety Key Issue 2: Energy-saving, resource-saving and the reduction of the environmental impact

As of June 28, 2018

Participant in UN Global Compact

In November 2010, the Group has joined to the UN Global Compact. As life in society has become more complex and more diverse in recent years, the social responsibilities of enterprises have grown.

Against this background, the Shin-Etsu Group remains firmly committed to its corporate mission statement, which calls for it to contribute to people's living, society and industry through value creation in materials and technologies, while observing all laws and regulations as well as conducting fair corporate activities. At the same time we ensure a flexible response to changes in the social and economic environment.

The Group has also been participating in the Global Compact Network Japan since November 2010. The Group takes part in subcommittees, such as the Supply Chain and ESG to utilize information on the latest development of CSR, gained from participation, for promoting the Group's CSR.

The Group signed a document to support GCNJ's Tokyo Principles for Strengthening Anti-Corruption Practices in February 2018.

■ The cornerstone of all activities: legal compliance, fair corporate activities [↗](#)

Global Compact Ten Principles

Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and

Principle 2: make sure that they are not complicit in human rights abuses.

Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;

Principle 4: the elimination of all forms of forced and compulsory labour;

Principle 5: the effective abolition of child labour; and Principle 6: the elimination of discrimination in respect of employment and occupation.

Principle 7: Businesses should support a precautionary approach to environmental challenges;

Principle 8: undertake initiatives to promote greater environmental responsibility; and

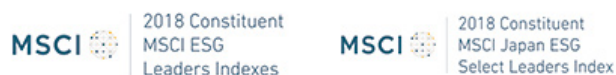
Principle 9: encourage the development and diffusion of environmentally friendly technologies.

Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.



Evaluation from Society

The Company is incorporated in the following ESG index.



As of January 4, 2018



Utilization of Supply Chain CSR Management Systems

The Group utilizes supply chain CSR management systems, such as RBA Online¹, Sedex² and EcoVadis³ to disclose CSR information. In fiscal 2017, the Group received a gold medal from EcoVadis.

1 RBA Online

An online database organized by non-profit organization the Responsible Business Alliance (Former Electronic Industry Citizenship Coalition) for managing labor, health and safety, environment and ethics in the supply chain. Enterprises in the global electronic industry and others take part in Responsible Business Alliance.

2 Sedex

An online database organized by and named after non-profit organization Sedex, for storing and accessing data regarding ethical and responsible business practices. Enterprises in the global 28 industries, including food, automobile, cosmetics and amenity from 150 countries, have joined Sedex.

3 EcoVadis

The supply chain management system operated by the French CSR rating agency EcoVadis which is used by multinational corporations in 150 countries of North America, Asia, and Europe.

The Company considers Corporate Governance to be one of the important management tasks, and it is focusing on the following points.

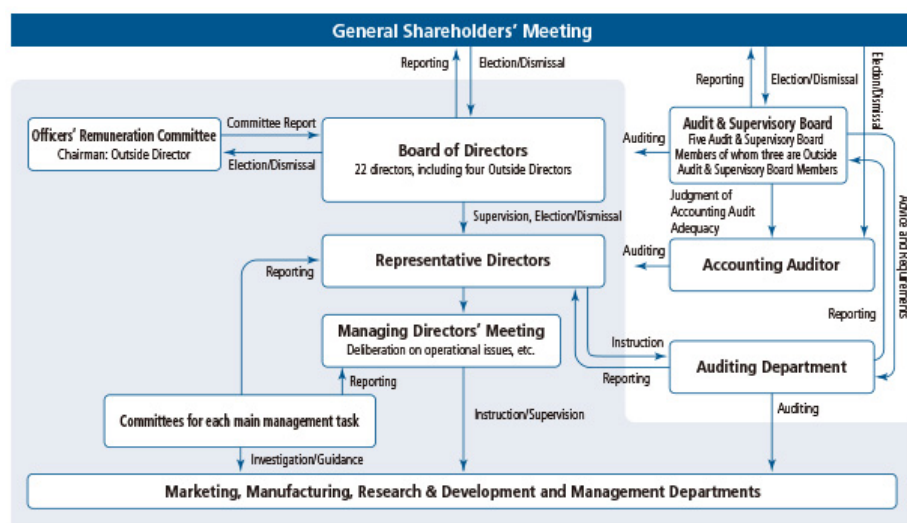
- Development of an efficient organizational structure and institutions
- Ensuring management transparency
- Strengthening internal controls
- Timely and accurate disclosure of information

Board of Directors, Managing Directors' Meeting and Audit & Supervisory Board

The Board of Directors consists of 22 members, of whom four are Outside Directors with a wealth of corporate management experience and exceptional insight. Two organizations to discuss and decide on the execution of operations: the Board of Directors and the Managing Directors' Meeting, which are each held on one or more times a monthly basis. The Board of Directors sets out the Company principle and deliberates and makes decisions regarding key aspects of Company operations in accordance with the Companies Act, the Company articles of incorporation, etc. Meanwhile, the Managing Directors' Meeting makes deliberations and decisions on a variety of other operational issues. It is evaluated that the Board of Directors decides and reports important matters appropriately and swiftly based on the opinions collected from each of its members.

The Company has adopted an Audit & Supervisory Board Member system. The Audit & Supervisory Board is composed of five members, including three Outside Audit & Supervisory Board Members. As well as attending the Board of Directors meetings, Managing Directors' Meetings, and other important internal meetings, the Audit & Supervisory Board Members review documents, visit factories in Japan and overseas, and carry out other tasks in order to audit the execution of operations by the directors. Furthermore the Audit & Supervisory Board Members also hold monthly meetings with the Auditing Department where they receive progress reports on activities, internal auditing results, the situation of the Auditing Department business, and other matters. In addition, they also provide advice and make requests on topics including these activities and the selection of key auditing topics.

Corporate Governance System at Shin-Etsu Chemical



As of June 28, 2018

■ Board of Directors

Outside Directors

For the purpose of the fulfilled advisory and supervisory functions of management from an independent position, the Company welcomes four Outside Directors. Advice has been obtained from Outside Directors about the enhancement of growth strategy and governance. We believe that these points are extremely important in order to raise corporate value.

Outside Director List

Name	Status of significant other positions held
Frank Peter Popoff	Former CEO, The Dow Chemical Company (US)
Tsuyoshi Miyazaki	Former Representative Director and President, Former Representative Director and Chairman and current Advisor, Mitsubishi Logistics Corporation
Toshihiko Fukui	Former Governor of the Bank of Japan President, The Canon Institute for Global Studies Outside Director, Kikkoman Corporation
Hiroshi Komiyama	Former President, The University of Tokyo Chairman, Mitsubishi Research Institute, Inc.



From the left, Toshihiko Fukui, Hiroshi Komiyama, Frank Peter Popoff, Tsuyoshi Miyazaki

As of June 28, 2018

Outside Audit & Supervisory Board Members

For the purpose of the fulfilled advisory and supervisory functions on management through an independent position, the Company welcomes three Outside Audit & Supervisory Board Members. Outside Audit & Supervisory Board Members are auditing the Company's management as experts in their respective fields or from a broad point of view based on corporate management experience. Outside Audit & Supervisory Board Auditing is contributing to ensure the Company's compliance system.

Outside Audit & Supervisory Board Member List

Name	Status of significant other positions held
Taku Fukui	Lawyer Managing Partner, Kashiwagi Sogo Law Offices Professor, Keio University Law School Outside Director, YAMAHA CORPORATION
Yoshihito Kosaka	Certified Public Accountant Certified Public Tax Accountant Counselor, Kisaragi Audit Corporation Outside Director, Star Mica Co., Ltd.
Kiyoshi Nagano	Former Representative Director, Chairman and President, former JASDAQ Securities Exchange, Inc., Outside Director, LEC INC.



From the left, Yoshihito Kosaka, Kiyoshi Nagano, Taku Fukui

As of June 28, 2018

Directors' Remuneration

In order to ensure transparency and validity in the decision-making process of the Directors' Remuneration, the Officers' Remuneration Committee has been in place since 2002. The committee consists of five directors, with Outside Director Frank Peter Popoff as chairman. Mainly through its biannual regular meetings and telephone meetings called as required, the committee comprehensively reviews the evaluation results of the contribution to business performance and management of each director in each fiscal year, and reports this to the Board of Directors.

Internal Control System and Operational Audit

The Company has formulated a Basic Policy on Internal Controls to help put in place "structures to ensure that the execution of duties by the directors is fully compliant with relevant legislation and the articles of incorporation, and structures to ensure the propriety of business operations within the corporate group consisting of its subsidiaries as well as this corporation and other corporate business", as stipulated by the Companies Act and an Ordinance of the Ministry of Justice.

Internal controls are an important management responsibility at the Company. Accordingly, the internal control system is structured and implemented in accordance with the above policy. It is subjected to constant review to make the system more appropriate and efficient.

Internal operation audits and assessment of internal controls over financial reporting are handled by the Auditing Department. The results of these audits and assessments are reported to board members including Outside Directors and Outside Audit & Supervisory Board Members to strengthen coordination between Auditing Department and Outside Directors and Audit & Supervisory Board Members.

Tax Policy

In its corporate code, the Group states that it strictly complies with all laws and regulations and conducts fair business practices. Based on this code, each and every one of the Group's personnel is performing his/her daily work duties sincerely. One of the Group's management goals is to contribute to society by paying taxes appropriately in accordance with local laws and regulations. Our group companies conduct tax payments in compliance with each country's local tax laws and regulations. Total corporate tax paid in Fiscal 2017 was 74.7 billion yen in consolidated basis.

Operation of Group Companies

The Company aims for development of the whole Group by supporting and respecting the autonomy of the Group companies. Group companies are managed on the basis of the Shin-Etsu Chemical Group Company Operational Regulations. The 91 companies that are consolidated subsidiaries are conducting prior consultation and reporting on the following projects.

(1) Prior Consultation Item Example

- Capital increase or decrease, mergers, dissolutions, amendments to the Articles of Incorporation
- New business and capital investment plan
- Transfer or acquisition of business
- Appointment and dismissal or transfer of officers and seconded executives

(2) Reporting Item Example

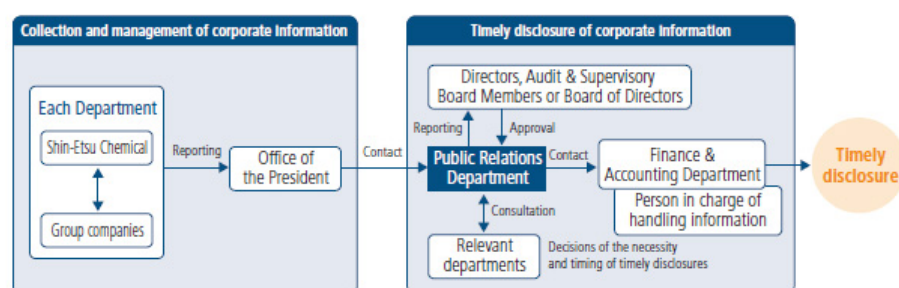
- Operations review
- Financial results
- Risk information recognized by Group companies
- Important information such as deficiencies in internal control

Furthermore, by holding meetings which are attended by the presidents of our main Group companies one or more times each year, we actively promote the sharing and exchange of information among Group companies.

Internal System for Timely Disclosure of Corporate Information

In accordance with the regulations regarding information disclosure set by the stock exchange and the Financial Instruments and Exchange Act, the Company has formulated internal regulations regarding collection, management, and timely disclosure of corporate information. These regulations include the Regulations on Timely Disclosure of Corporate Information and the Rules on Regulation of Insider Trading. These rules are communicated to all of the departments in the Company and Group companies to promote smooth and timely disclosure.

State of the internal system for timely disclosure



■ [Corporate Governance Report](#)

■ [ESG Data](#)

Risk Management Regulations

The Company has established the Risk management Regulations. Comprehensive risk considered in carrying out business activities in the Company and the Group are specifically defined in a long-term perspective in the regulations. In addition, risk handling methods and a risk management system has been established.

Risks Defined in Risk Management Regulations

(1) Risk factors related to business activities

1. Business risks
2. Research and development risks
3. Production and quality management risks
4. Sales risks
5. Purchasing risks
6. Finance and accounting risks
7. Personnel and labor risks
8. Environment and safety risks
9. Information management risks
10. Intellectual property, contract, and litigation risks
11. Fraud risks
12. Country risks
13. Legal risks
14. Other

(2) Risk factors not related to business activities

1. Risks caused by economic factors
2. Risks caused by social factors
3. Risks caused by governmental factors
4. Risks caused by scientific and/or technical factors
5. Risks caused by natural environmental factors and/or disasters
6. Other

Risk Management Committee

The Risk Management Committee has been established. The Committee constructs risk management structures, establishes regulations, and works to identify and prevent potential washout of risks arising in connection with the operations of the Company. The Committee also promotes broad-based activities such as the development of business continuity planning, education, and information provision. The Committee reports directly to the Board of Directors, the Audit & Supervisory Board, and the Managing Directors' Meeting on major issues in risk management.

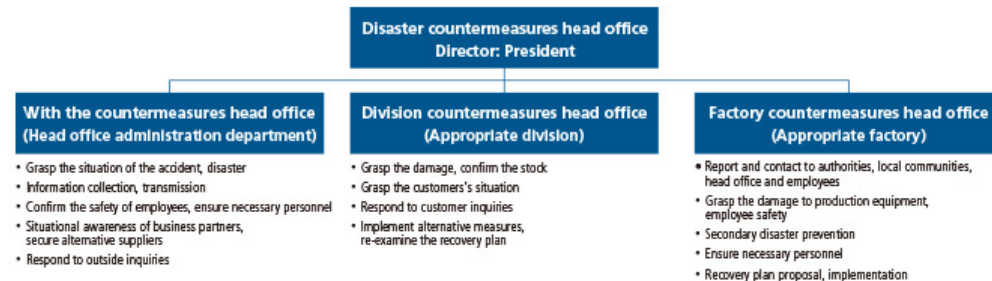
Handling in the Business Continuity Plan and during an Emergency

The Group offers a number of products used in special applications in state-of-the-art industries and has a high market share in products not only in Japan but around the world. For that reason, if these products cannot be supplied due to an accident or serious disaster such as a massive earthquake or fire, it will have an effect on society.

In the Company, each division and each factory is preparing for a disaster and accident and formulates a business continuity plan on the basis of the Companywide Business Continuity Management Regulations.

In addition, if a disaster or accident occurs, we will work using the structure shown below. Each of the countermeasures head office and organizations carry out emergency response and recovery support on the basis of pre-defined business standards.

System and major response operation in the occurrence of a disaster or accident



Response training for large-scale earthquakes
(July 2017, Shin-Etsu Chemical Takefu Plant)

Specifying Shin-Etsu Group Key CSR Issues

The Group established the CSR Promotion Committee ("the Committee") in 2005, and in order to practice the Corporate Mission Statement to "The Group strictly complies with all laws and regulations, conducts fair business practices and contributes to people's daily lives as well as to the advance of industry and society by creating value through providing key materials and technologies." we have been working on a wide variety of activities.

What the Group must address in particular was defined as "Key CSR Issues" through the following procedure in fiscal 2015.

Having targets set for each Key CSR issues, we will work and evaluate to improve the current situation in order to achieve the targets.

Process of Specifying Shin-Etsu Group Key CSR Issues

1 Clarifying Key CSR Issues

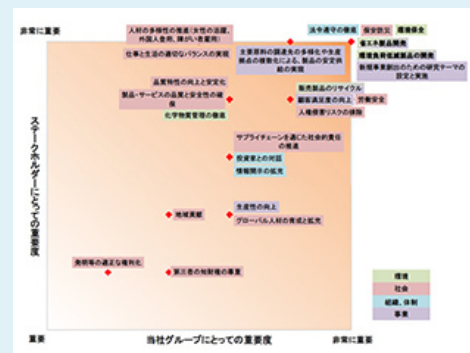
In the Committee, the following investigations were done for all of the Company's departments and major domestic Group companies.

1. Stakeholders for each department and each company are reconfirmed and reorganized.
2. In reference to ISO26000 core subjects, Key CSR Issues are listed in each department and each company.
3. Level of importance of each key issue for the Group as well as for stakeholders is scored. Each point of the importance.

2 Creating a scatter plot of Key CSR Issues and organizing them

The Committee created a scatter plot of key issues on the basis of the key issues and their scores submitted by each department and each company. The result showed that the majority of key issues were "very important" issues.

The Committee organized the listed key issues and also created a draft of Key CSR Issues with these being reflected in the scatter plot.



Key CSR Issues Scatter Plot

3 Interviews with Outside Directors

Individual interviews were conducted with all Outside Directors with prepared proposal. The followings are the suggestions and opinions provided in the interviews.

1. Compliance with Laws and Regulations are related to all the other issues.
2. All of the Key CSR Issues listed are equally important for the Group, and it is difficult to prioritize them.
3. The Group should clarify what we are aiming at as a goal as the Group specify Key CSR Issues.

4 Re-examination in the Committee and approved by the management

Based on the suggestions and opinions from the Outside Directors, the Committee has re-examined key issues. The Managing Directors' Meeting, which is the decision-making body with all the directors and audit & supervisory board members also examined and has decided the items in the figure below to be Key CSR Issues of the Group.

The Group will work equally on all of these Key CSR Issues without an order.

Also, the Group has set a goal to contribute to the future of the Earth by practicing the Corporate Mission Statement while working on these issues. The Group now has a goal to "Contribute to the future of the Earth" while working on Key CSR Issues.

Shin-Etsu Group Aims Contributions to the Earth's future

Strengthen existing businesses
Create new businesses

> The cornerstone of all activities:
Legal compliance, fair corporate activities

> Key Issue 1:
Employees and contractor health and safety

> Key Issue 2:
Energy-saving, resource-saving and the reduction of the environmental impact

> Key Issue 3:
Product quality improvements and product safety control

> Key Issue 4:
Promoting CSR procurement and the diversification of supply sources

> Key Issue 5:
Respect for human rights, the development of human resources and the promotion of diversity

> Key Issue 6:
Respect for and protection of intellectual property

> Key Issue 7:
Contribution to industry and social initiatives

> Key Issue 8:
Accurate and timely information disclosure and communication with stakeholders

Diagram of the Shin-Etsu Group's various relationships



The cornerstone of all activities: legal compliance, fair corporate activities

Policy

Officers and employees will work together to make all-out efforts for compliance and to conduct business fairly.

Ensuring Full Compliance Awareness

The Group emphasizes the importance of Compliance with Laws and Regulations in the Corporate Mission Statement and periodical management objectives. We always work with strictly compliance with laws and regulations.

In the event of promulgation of or amendments to legislation pertaining to corporate activities, the Legal Department serves in a central role by issuing internal bulletins and disseminating knowledge of these changes.

All of the officers and employees submit a Compliance Pledge to the Company. For the eventuality of inappropriate action occurring, disciplinary measures are available.

In addition, officers and employees can consult with and report to the Compliance Consultation Office if they discover a violation of a law, regulations, or the Company's regulations, including the ethical code and anti-corruption rules, or if they experience acts of harassment. The office then carries out a detailed investigation in response to the information received. With necessary investigations, the office will take necessary corrective actions. Confidentiality will be maintained for consulters and whistleblowers. There is no unfavorable treatment as a reason for consulting and reporting.



Compliance workshop (November 2017, Shin-Etsu Handotai Shirakawa Plant)

Initiatives Aimed at Preventing Corruption

The Company has created the Anti-Bribery Regulations and prohibits actions that involve unfair transfer of profit from or to parties such as domestic or foreign government officials, customers and business partners. Moreover, by having a Compliance Pledge, we assuredly prevent the provision of unfair benefits or unfair demands in respect to our customers, domestic or foreign government officials and business partners. Also, the status of compliance with ethical standards is one item included in personal evaluations. Furthermore, we provide internal training and lectures by outside instructors to prevent bribery and carry out regular internal audits for corruption, embezzlement and bribery.



Lecture meeting regarding compliance with the Anti-Monopoly Act and bribery related law (August 2017, Shin-Etsu Chemical Head office)

Supporting GCNJ's "Tokyo Principles for Strengthening Anti-Corruption Practices"

The Group's corporate code includes "observe all laws and regulations as well as conducting fair corporate activities," and it is working to prevent corruption, including bribery. Since the Global Compact Network Japan's Tokyo Principles for Strengthening Anti-Corruption Initiatives correspond with the Group's current policy and initiatives for preventing corruption, we immediately decided to support them and became a signatory to them in February 2018.

We will continue to make it a principle to comply with laws and regulations and carry out business activities fairly and work to conduct business in accordance with the Tokyo Principles and our internal anti-corruption regulations.

■ [GCNJ's "Tokyo Principles for Strengthening Anti-Corruption Practices"](#) (only Japanese available)



Export Control

From the viewpoint of maintaining world peace and security, the Company has created the "Control Program on Security Control" to comply with the Foreign Exchange and Foreign Trade Act and other export related legislation. The followings are our initiatives based on this program.

- Classification, customer review and transaction review when exporting products
- Internal audit
- Training officers and employees and instruction to Group companies

Cutting Ties with Anti-social Forces

The Group declares in its the Basic Policy on Internal Controls that the Group shall adopt a consistently resolute attitude towards anti-social forces and shall take measures necessary to cut itself off from any and all associations with them. In accordance with this policy, we will endeavor to develop internal systems under the leadership of the department in charge of managing these issues. At the same time, we are promoting the signing of memorandums and letters of confirmation regarding the exclusion of anti-social forces with customers and business partners.

In addition, we are working closely with external specialized agencies.

■ [ESG Data](#) 

Key Issue 1: Employees and contractor health and safety

Policy

The Group will work to create a comfortable and safe workplace whose goals are to "Zero serious accident" and to "Achieve zero accident requiring an absence of a day or more."

Occupational Safety

Each of Group's plant clarifies every single possibility that could cause any kind of injury or illness and works hard to mitigate those risks.

If it is found that there are tolerable risks in the workplace, various safety measures are taken, and examples include providing workers with individual protective tools, posting safety signs in dangerous areas, and locking out¹ and tagging out² to keep workers away from dangerous machinery and equipment. Safety devices are attached to machinery and equipment, and other safety measures include making machinery and equipment fail-safe³ and foolproof⁴, interlocking⁵ them, and putting up protective walls. In addition, there are KY⁶ hazard prediction activities e.g. pointing and calling prior to work and reconfirming safety.

Furthermore, the workers are taking measures against unsafe areas by regularly collecting "close calls and other incidents of concern" from case examples of workers who have experienced close-call incidents and matters of concern. At the same time, we share our risk information and prevent similar accidents by disclosing this risk information internally and externally.

Close-calls Incidents Topics

2018.07.31	Updated of Close-Call (Hiyari-Hatto) Incidents
2018.01.31	Updated of Close-Call (Hiyari-Hatto) Incidents
2017.07.31	Updated of Close-Call (Hiyari-Hatto) Incidents
2017.01.31	Updated of Close-Call (Hiyari-Hatto) Incidents
2016.07.29	Updated of Close-Call (Hiyari-Hatto) Incidents
2016.02.24	Updated of Close-Call (Hiyari-Hatto) Incidents
2015.07.31	Updated of Close-Call (Hiyari-Hatto) Incidents
2015.01.30	Updated of Close-Call (Hiyari-Hatto) Incidents
2014.07.31	Updated of Close-Call (Hiyari-Hatto) Incidents

1 Lock out

Blocking the power source by locking the switches and other units of machinery and equipment so that they cannot be operated.

2 Tag out

Attaching tags to areas where machinery and equipment are locked out. This means that operating the machinery and equipment is prohibited until the tags are removed.

3 Fail-safe

Controlling equipment and systems so that they always operate safely if a problem occurs due to a mistaken operation or malfunction.

4 Foolproof

Taking measures in advance so that safety is ensured even if workers operate machinery and equipment mistakenly.

5 Interlock

One of the concepts for safety devices and mechanisms in which machinery and equipment do not work unless certain conditions are met.

6 KY

Hazard prediction activities. Workers learn safe working methods prior to getting into workplace in order to prevent the occurrence of possible disease or injuries.

Process Safety and Prevention Plan

Prevention of serious accidents is a top priority in the Group, and we continue to work on a variety of safety and disaster prevention activities. Countermeasures are taken against dangerous places identified through process risk assessments, and pipes and equipment that have become obsolete are maintained and managed, mainly through scheduled maintenance.

Since FY2013 we have worked to enhance safety management by performing risk evaluations and by implementing effective safety measures, particularly of envisaged abnormal plant conditions.

The Company has been participating in the Japan Society for Safety Engineering's Japan Safety Competency Center since its inauguration in FY2012. Each plant uses the Center's "Safety Evaluation System" to further improve the situation and works even harder on the Process Safety and Prevention Plan.

Education and drills

To keep plant operation constantly safe, it is important for each employee to improve his /her skills and knowledge and be aware of danger.

So besides providing safety education such as on material handling and possible dangers involving processes as well as simulating possible dangers, we plan and conduct emergency drills for abnormal situations such as major earthquakes or fires. In addition, we work on handing down operation at skills for manufacturing equipment.

Furthermore, we are working to foster an awareness of safety by creating a workplace atmosphere in which operation processes and rules are observed.



Comprehensive emergency drill in industrial complex (October 2017, Shin-Etsu Chemical Kashima Plant)



Emergency drill at dormitory (October 2017, Shin-Etsu Handotai Shirakawa Plant)

Environmental Control and Safety Audits

In order to confirm that activities such as environmental conservation, occupational safety and health, process safety and prevention plan are carried out as planned, the Group conducts an internal audit. The results of audits are also reported to top management.

In referring to cases from other companies in FY2013, we communicated revisions to "Nonroutine Work Safety Measures" within the company. As in FY2016, their implementation status in FY2017 was chosen as a special audit theme.



Environmental and safety audit at overseas group company (January 2018, Shin-Etsu Silicones of America)

Health Considerations

We are working to prevent possible diseases through encouraging employees to take health checks, offering health counseling on life style diseases as well as promoting measures on mental health and activities for health promotion and fitness. In addition, we are conducting prevention of and raising awareness toward infectious diseases including new strains of influenza.

Our head office and branch offices have a Health Committee, and each plant has a Safety and Health Committee. The committee works to improve the workplace environment and to promote worker's health with advice and information from industrial physicians. We also have special programs such as physical fitness checks and seminars which help workers to maintain and improve their physical conditions.

Furthermore, we have set up Family Health Consultation with our health insurance union and an affiliated insurance company. It is available 24 hours a day. This consultation can also be used by the family members of employees.



Health promotion workshop (October 2017, Shinano Electric Refining Kashiwabara Plant)



Norovirus countermeasure workshop at dormitory (January 2018, Shin-Etsu Chemical Gunma Complex)

Targets and Results

Every fiscal year, the Group creates environmental and safety management plans based on Responsible Care Code¹. The entire Group works on key issues such as the prevention of major disasters including explosions and fires and industrial accidents according to the management plan prepared.

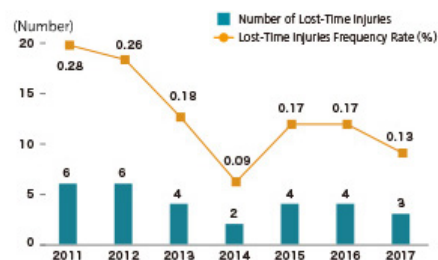
¹ Responsible Care Codes

Codes setting basic conditions for the implementation of Responsible Care in six areas: environmental preservation, process safety (and disaster prevention), occupational health and safety, distribution safety, chemical and product safety, and social dialog (with the public). Alongside conditions in these areas, a Management System Code to operate all the above is required.

■ [Implementation Status, Evaluation, and Planned Implementation Items](#) 

Reporting of accidents and lost time injuries

In FY2017, there were no serious accidents but three lost-time injuries in the Group companies in Japan. We have analyzed causes for each accident and reviewed safety on handling hazardous materials and possible hazardous operations to eliminate possible injuries and also secure equipment safety, and have implemented appropriate safety measures. Furthermore, we are working on revising the operation manuals to help prevent re-occurrence of the accidents. We will continue to work on preventing work-related accidents complying with what was described above.



Number of Lost-Time Injuries and Changes in Frequency Rates (Group companies in Japan)

Receiving a Special Award for 45 Years of Zero Disasters

In July 2017, the Manufacturing Department I of Shin-Etsu Chemical Naoetsu Plant that produce caustic soda and sodium hypochlorite received a Special Award for 45 Years of Zero Disasters from the Japan Soda Industry Association. In accordance with the Association's safety commendation regulations, this award is presented to business sites that achieve excellent safety results. This manufacturing department was officially commended for its long-standing safety activities and their results.



Employees of the Manufacturing Department I of Shin-Etsu Chemical Naoetsu Plant

■ [ESG Data](#) 

The safety targets and results for FY2017 and safety targets for FY2018 are as listed below.

Item	Priority Issues (Target)	Implementation Status for FY2017	Evaluation	Planned Implementation Items for FY2018
Management System	1. Continuous improvement and implementation of the health and safety management system	<ul style="list-style-type: none"> Communication by the plant manager and division heads of their commitment and active involvement Formulation of the annual management plan based on the health and safety management system Promotion of effective safety activities through substantial discussions during internal audits 	◎	<ul style="list-style-type: none"> Communication by the plant manager and division heads of their commitment and active involvement (ongoing) Appropriate implementation of the PDCA cycle¹ based on the health and safety management system Promotion of effective safety activities through substantial internal audits (audit the PDCA cycle)
	2. Qualitative improvement of environmental safety audits	<ul style="list-style-type: none"> Appropriate follow-up on the matters pointed out during environmental safety audits Qualitative improvement of environmental safety audits at affiliated companies in the plant area 	◎	<ul style="list-style-type: none"> Appropriate follow-up on the matters pointed out during environmental safety audits (ongoing) Qualitative improvement of environmental safety audits at affiliated companies in the plant area (ongoing) Active involvement at overseas manufacturing bases through guidance and auditing
	3. Thorough change management	<ul style="list-style-type: none"> Improvement and review of the standards for change management at the plants Confirmation of application of change management rules at the plants and thorough compliance with them 	◎	<ul style="list-style-type: none"> Confirmation of application of change management rules at the plants and thorough compliance with them (ongoing) Risk assessment at the time of 4M² change
Process Safety and Prevention Plan	1. Zero serious accident	Achieved target of zero serious accident	◎	Zero serious accident
	2. Facility and process safety improvement	<ul style="list-style-type: none"> Improve technology for hazard assessment and implement countermeasures by process risk assessment Safety measures for non-routine work and unsafe operation as well as continuing to consider accident trouble cases Application of Security Evaluation System by the Japan Safety Competency Center 	○	<ul style="list-style-type: none"> Process risk assessment, including periodic reviews Safety measures for non-routine work and unsafe operations, as well as continuing to consider accident trouble cases (ongoing) Obtain and examine information on internal and external accidents and disasters related to one's division Investigation of application of guidelines for the handling of combustible powder and liquids Application of Security Evaluation System by the Japan Safety Competency Center (ongoing)
	3. Improvement of facilities and maintenance management	<ul style="list-style-type: none"> Thorough investigation of equipment trouble causes, recurrence prevention and design technology improvement Implementation and improvement of equipment maintenance (conservation management for aging piping and equipment through activities like planned repairs) 	○	<ul style="list-style-type: none"> Thorough investigation of equipment trouble causes, recurrence prevention and design technology improvement (ongoing) Improvement of equipment maintenance (inspection of airtightness between rupture disks³ and safety valves and systematic repair of old pipes and equipment)
	4. Reliable emergency response	<ul style="list-style-type: none"> Handling for worst-case scenario measures for serious disasters and earthquakes Maintenance of emergency-response criteria / manuals Review and implement business continuity planning training 	○	<ul style="list-style-type: none"> Consider estimating and minimizing damage if the worst situations such as serious accidents and massive earthquakes occur Maintenance of emergency-response criteria/manuals (ongoing) Review and implement business continuity planning training (ongoing)
	5. Plant security enhancement	Strengthen prevention measures against external intruders	○	<ul style="list-style-type: none"> Strengthen prevention measures against external intruders (ongoing) Provide visitors to the plants with risk information and inform them of evacuation methods if an accident or disaster occurs
Occupational Safety	1. Achieve zero accidents requiring an absence of a day or more	<ul style="list-style-type: none"> The Shin-Etsu Group: three people Shin-Etsu Chemical achieved its goal with a rate of zero 	△	Achieve zero accidents requiring an absence of a day or more
	2. Rate of accidents not accompanied by an absence of a day or more: 0.5 or less	<ul style="list-style-type: none"> The Shin-Etsu Group achieved its goal with a rate of 0.50 Shin-Etsu Chemical: 0.68 	△	Rate of accidents not accompanied by an absence of a day or more: 0.5 or less
	3. Human error reduction	Prevent accidents caused by human error	○	Prevention of accidents and disasters due to human errors (ongoing)
	4. Improve work safety	<ul style="list-style-type: none"> Promoting "zero accident" activities (practiced Hazard prediction activities, pointing and calling, and 5S⁴ activities) Implemented improvement and promotion of close-call incident proposals and improvement proposals (set promotion goals) Implemented assured horizontal expansion of accident examples of the Group companies 	○	<ul style="list-style-type: none"> Promoting "zero accident" activities (practiced Hazard prediction activities, pointing and calling, and 5S activities) (ongoing) Implemented improvement and promotion of close-call incident proposals and improvement proposals (set promotion goals) (ongoing) Implemented assured horizontal expansion of accident examples of the Group companies (ongoing) Cultivate a safety culture in which rules and manuals are followed
	5. Review and reorganize work manuals and ensure strict compliance	<ul style="list-style-type: none"> Implement of planned review of work manual maintenance Work manual content enhancement Confirm the compliance of work manuals 	◎	<ul style="list-style-type: none"> Establishment of work and operation manuals (such as standard and non-standard ones and emergency response) Make the content of work and operation manuals substantial (stronger involvement by managers) Confirm the compliance of work manuals
	6. Work risk assessment	<ul style="list-style-type: none"> Implement work risk assessment based on plans Implement and follow up on the results of work risk assessment and matters decided Risk extraction skill improvement 	○	<ul style="list-style-type: none"> Implement work risk assessment based on plans Risk assessment as stipulated in the Industrial Safety and Health Act Risk assessment for dangerous and non-standard work at one's workplace Appropriate reflection of risk assessment results in future work Improvement of work risk assessment skills
	7. Safety measures of construction and non-routine work	<ul style="list-style-type: none"> Clarify work instructions and procedures and implement hazard prediction activities Apply thorough construction rules Create and make thorough confirmation methods for pre-operation, work completion and recovery 	○	<ul style="list-style-type: none"> Clarify work instructions and procedures and implement hazard prediction activities (ongoing) Apply thorough construction rules (ongoing) Clarification of responsibilities of divisions that request construction work and those which perform it, and reliable implementation of work for which they are responsible
	8. Training and drill promotion	<ul style="list-style-type: none"> Planned implementation of education and training Promote acquisition of qualifications 	○	<ul style="list-style-type: none"> Plan promotion of education and training (ongoing) Promote acquisition of qualifications (ongoing)
	9. Ensuring subcontracting safety	<ul style="list-style-type: none"> Strengthen guidance on safety management for subcontractors and follow it up Provide and review safety information such as the results of work environment measurements, danger and hazardous information (SDS) and work manuals 	○	<ul style="list-style-type: none"> Stronger guidance for and follow-up on safety management at companies to which, as a manufacturer, the Company outsources its operations (ongoing) Provide and review safety information such as the results of work environment measurements, danger and hazardous information (SDS) and work manuals (ongoing)
Occupational health	1. Create and maintain a comfortable workplace environment	<ul style="list-style-type: none"> Implemented working environment measurements and promote working environment improvements based on the results Implement chemical substance handling education and strict wearing of chemical protective equipment as well as confirmation of compliance status for wearing protective equipment Appropriate implementation under the Industrial Safety and Health Law Concrete activities to promote workplace communication 	◎	<ul style="list-style-type: none"> Implemented working environment measurements and promote working environment improvements based on the results (ongoing) Implement chemical substance handling education and strict wearing of chemical protective equipment as well as confirmation of compliance status for wearing protective equipment (ongoing) Appropriate implementation under the Industrial Safety and Health Law (ongoing) Appropriate reporting, communication, and consultation, as well as promotion of good communication
	2. Promote physical and mental health wellbeing	<ul style="list-style-type: none"> Implement concrete guidance, etc., and effective utilization of health check results Appropriate compliance with additional inspection criteria due to regulatory amendments Promotion of specific activities to build mental and physical health (such as stress check) 	○	<ul style="list-style-type: none"> Implement concrete guidance, etc. and effective utilization of health check results (ongoing) Appropriate compliance with additional inspection criteria due to regulatory amendments (ongoing) Promotion of specific activities to build mental and physical health (ongoing)

1 PDCA cycle

One of the method to smoothly carry out management tasks such as production control and quality control in business activities. To improve business operating continually by repeating the four steps such as Plan (P) → Do (D) → Check (C) → Act (A).

2 4M

It is the first letter "M" of four words for man, machines, materials and methods.

3 Rupture disc

Pressure relieving device that operates reliably with a preliminarily determined setting pressure.

4 5S

It is the first letter "S" of five Japanese words for seiri seiton (organize and order things), seiso (cleaning), seiketsu (cleanliness), and shitsuke (bringing-up).

* Evaluation standards

◎: Goal achieved ○: Goal basically achieved △: 50% achieved ×: Far from achieved

Key Issue 2: Energy-saving, resource-saving and the reduction of the environmental impact

Policy

The Group will meet various environmental challenges for the future of the earth.

Environment Management

Environment Management System

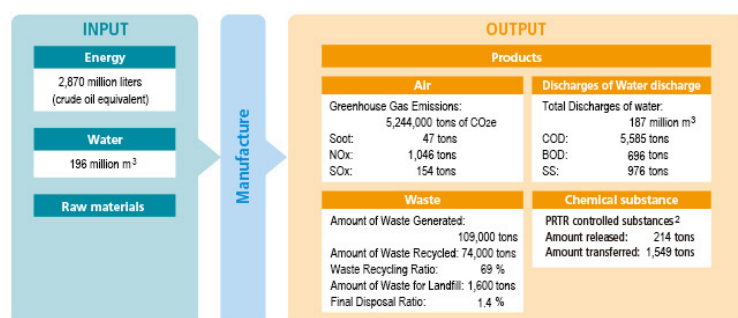
The Group works on Energy savings, waste and chemical substance management. We annually create the Shin-Etsu Group Environmental Safety Management Plan in accordance with the Responsible Care Codes¹ and set goals using numerical numbers. The Company and all the Group companies set goals annually according to this plan and work on their activities. Annual activity results are reported to the director in charge of the environment control at the Group Environmental Protection Conference.

In order to increase the level of activity, each plant and the Group companies perform several internal audits a year to check if their goals are appropriately set and the progress they have achieved. In addition, we check the activities and achievements plants have made also through periodical environmental control and safety audits. The results of audits are reported to top management.

Promoting the Reduction of Environmental Impact

The Group constantly works so that manufacturing products will have the least influence on the environment. Furthermore, we do examinations so that our products will have the least environmental influence, which is also energy saving as well as resource saving. Research, Manufacturing and Sales divisions are united to develop such products. These well-examined products are used in various fields including industry, our daily lives as well as renewable energy.

Reducing the Environmental Impact of Business Activities



1 Responsible Care Codes

Six principle areas are addressed when implementing Responsible Care: environmental preservation, process safety (and disaster prevention), occupational health and safety, distribution safety, chemical and product Safety, and social dialogue (with the public). The codes initiatives in these areas, together with the Management System Codes required for operating all the above.

2 PRTR controlled substances

462 substances designated as Class I designated chemical substances from the "Pollutant Release and Transfer Register in the Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management."

* In order to clearly define the reduction efforts, the average power CO₂ conversion factor from 2000-2009 is used.

* Waste standards and PRTR controlled substances differs from country to country, the figures for the Company and Group companies in Japan were counted.

* Waste recycling ratio indicates the ratio of an amount recycled to total waste generated.

* Final disposal ratio indicates the ratio of an amount of landfill waste to total waste generated.

Targets and Results

The following are Targets and Results for environmental protection and chemical substance management for FY2017 as well as Targets for FY2018.

■ [Implementation Status, Evaluation, and Planned Implementation Items](#)

Environmental Certification

The Group has continued to obtain ISO 14001 certification, the international standard for environmental management systems. In 1996, Shin-Etsu Chemical's Gunma Complex obtained ISO 14001 certification, becoming the first facility of a major chemical company in Japan to achieve such certification.

■ [ISO 14001 Certification of the Shin-Etsu Group](#)

■ [ESG Data](#)

Mid-term target	Reduce the greenhouse gas emissions to 45% of the 1990 level in emission intensity unit by 2025
Results and evaluation in FY2017	The Shin-Etsu Group was at 53.4%, and Shin-Etsu Chemical was at 48.9%, and they could not achieve the target

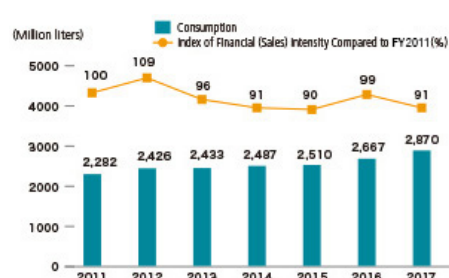
FY2017 target	Reduce energy consumption in intensity at an annualized rate of 1%
FY2017 results	The annualized reduction rate from FY2014 to FY2017 was 1.4% for Shin-Etsu Chemical. Shin-Etsu Group increased by 1.1%.
FY2017 evaluation	Both the Group and the Company didn't achieve the target.
FY2018 target	Reduce energy consumption in intensity at an annualized rate of 1%

The Group regards the global climate change as a critical issue to be resolved. Starting from FY2010, the Group promoted energy savings and installation of a cogeneration system in order to achieve the mid-term goal which is "Reduce the greenhouse gas emission intensity to 50% of the 1990 level in emission intensity by 2015". Furthermore, in FY2016, we set a new mid-term target of "reduce the greenhouse gas emissions intensity to 45% of the 1990 level in emission intensity by 2025", and we have been working towards that goal.

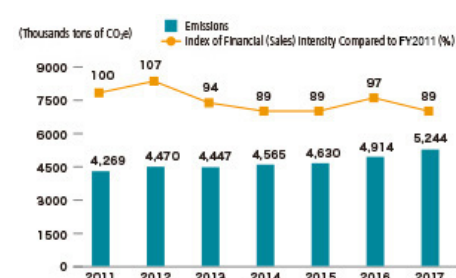
Regarding the greenhouse gas emissions intensity for FY2017, the Group and the Company achieved 53.4% and 48.9% of 1990 emissions respectively.

■ [Environmental Data](#) 

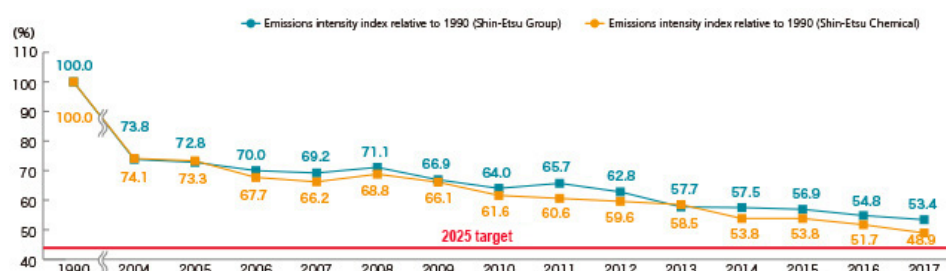
Energy Consumption (crude oil equivalent)



Greenhouse Gas Emission Volume Trends



Changes in Greenhouse Gas Emissions Intensity Relative to FY1990 Levels



Thermal energy recycling initiatives

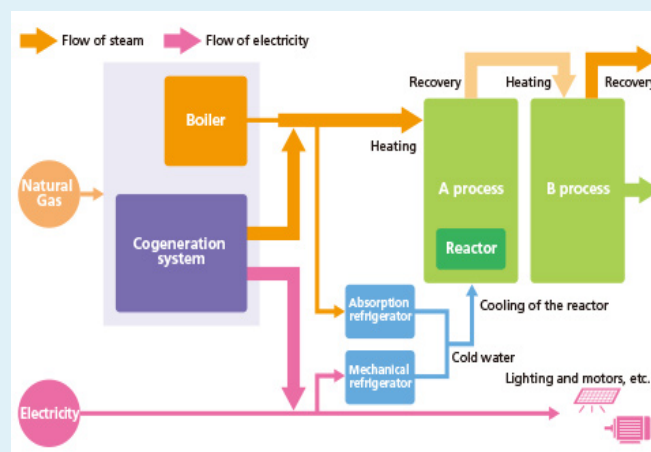
Each plant in Shin-Etsu Chemical is working on the recycling of heat energy.

■ Cogeneration promotion

Steam and electricity are produced in a plant using a cogeneration system¹. Electricity made with the cogeneration system is supporting the operation of manufacturing facilities. In addition, steam is being used for heating and thermal insulation for manufacturing equipment. Steam used for heating will not be emitted but will be reused for manufacturing equipment in which steam with lower temperature can be used. The steam is finally changed into water to be collected and recycled.

■ Waste heat recovery

Heat is recovered from the production process and is used as thermal energy in another process. Furthermore, the remaining waste heat is mainly collected as steam to make cold water in the absorption refrigerator. This chilled water is used for cooling the manufacturing equipment, etc.



Flow of steam and electricity at the plant

¹ Cogeneration system (heat and power combined)

This system generates power with engines, turbines and fuel cells using natural gas, petroleum, liquefied petroleum gas, etc. and simultaneously collects heat which would be generated.

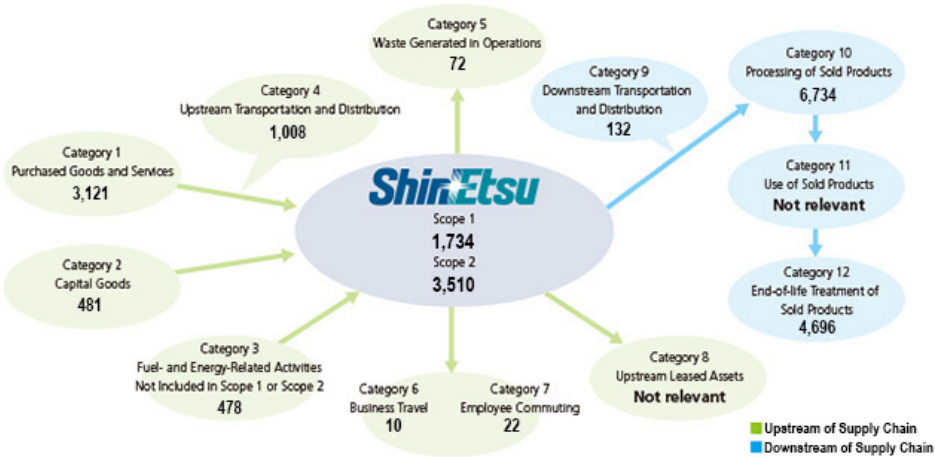
Scope 3 Greenhouse Gas Emissions

The Group's Scope 3 greenhouse gas emissions for FY2017 were 16,754 thousand tons of CO₂, amounting to 76% in the supply chain¹.

1 Supply chain
All stages of a product from raw material production until it reaches the final customer.

■ [Environmental Data](#) 

Scope 3 Emissions by Category in FY2017 (unit: thousand of tons CO₂e)





* Greenhouse Gas Emission Calculation Range
SCOPE 1: The company itself has direct emissions from facilities it owns or governs (example: emissions during combustion of materials such as heavy oil and natural gas).
SCOPE 2: The company itself has emissions during production of purchased energy (example: emissions during power generation of purchased power).
SCOPE 3: Emissions from the supply chain of the company itself.

Shin-Etsu Chemical's products that contribute to actions to combat climate change



The Group's products are contributing to actions to combat climate change, as they are used for a wide range of final products worldwide. This helps achieve Goal 7 of the Sustainable Development Goals (SDGs) , "Ensure access to affordable, reliable, sustainable and modern energy for all," and Goal 13 of the SDGs, "Take urgent action to combat climate change and its impacts." Sales in FY2017 of products that contributed to these two goals were 167 billion yen.

■ [Shin-Etsu Group's products which contribute to the solution of the UN "Sustainable Development Goals \(SDGs\)"](#) 

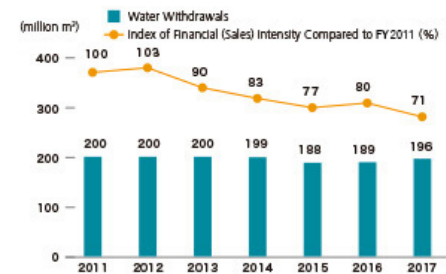
■ [Shin-Etsu Group Products and Technologies that Contribute to Environmental Conservation](#) 

FY2017 target	Achieve 1% reduction of water withdrawals in intensity at an annualized rate Achieve 1% reduction of water pollutant discharge in intensity at an annualized rate
FY2017 results	The annualized reduction rate from FY2014 to FY2017 was 5.0% in the water withdrawals amount and 0.3% in the BOD emissions amount
FY2017 evaluation	The BOD emission reduction rate didn't achieve the target.
FY2018 target	Achieve 1% reduction of water withdrawals in intensity at an annualized rate Achieve 1% reduction of water pollutant discharge in intensity at an annualized rate

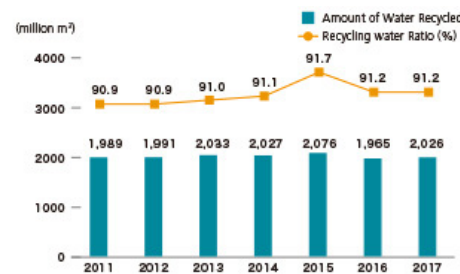
The Group's major manufacturing plants are located where clean water is abundant. However, due to the scarcity of water in many regions of the world, the United Nations Environment Program (UNEP) has predicted that water scarcity in some regions will become serious by the year 2025. To enable the Group to continue to operate in those regions where there is a risk of water scarcity, we are actively engaged in conserving water resources by reducing our daily water withdrawals and recycling and utilizing water.

We also comply with regulations concerning water contaminants in emitting water so that the water we discharge will be of sufficient quality with sufficient values. We also check the water quality ourselves for verification.

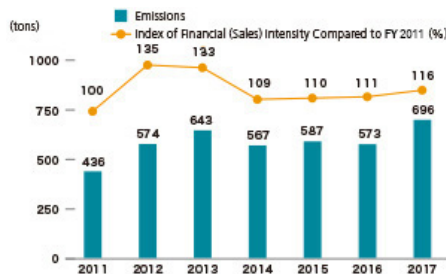
Water Withdrawals Trends



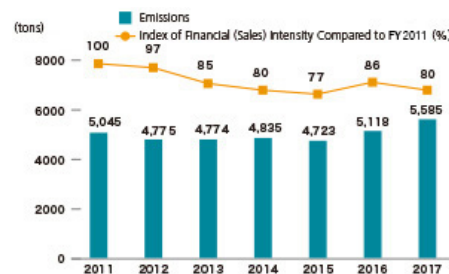
Amount of Water Recycled Trends



BOD Emissions Trends



COD Emissions Trends



ESG Data

Environmental Data

Water Resource Conservation Efforts by the Shin-Etsu Chemical Gunma Complex

The Shin-Etsu Chemical Gunma Complex manufactures highly functional materials centered on silicone. Located inland in the south-west region of Gunma prefecture, the Complex draws its water required for manufacturing almost from nearby rivers and purifies the discharges of water from the Complex before return to the rivers.

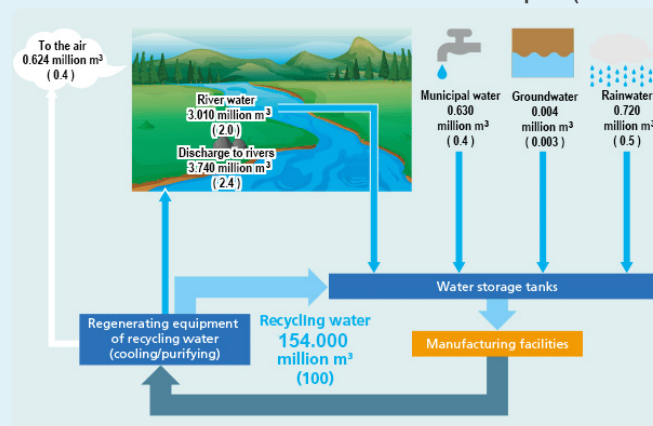
The Gunma Complex is situated in a rich natural environment. Downstream from the nearby rivers sits the Tokyo metropolitan area where these rivers sustain the daily lives of its residents as well as industry and agriculture. Although the manufacturing of chemical products requires large quantities of water, the Complex strives to conserve valuable water resources by keeping its water withdrawals from these rivers to a minimum. For this reason, the Complex reuses as much water as possible in its manufacturing and water cooling processes by recycling and circulating water and ensuring there is no water leakage outside of the Complex.

Besides purifying the water before return to the rivers, rigorous water quality management is also applied. The Complex strives to maintain optimum conditions by continually monitoring the operating status of water treatment facilities and conducts regular water quality analysis of discharges of water to verify that it is in strict compliance with high water standards.

Furthermore, they separate rainwater to prevent inflow of rainwater during heavy downpours as a measure to protect their treatment facilities from being damaged by natural disaster. In addition, since 2014 they have been carrying out seismic strengthening works assuming large-scale earthquakes.

By effectively utilizing limited water resources, the Gunma Complex will continue to fulfill its responsibility as an upstream located production base.

Water Flow at the Shin-Etsu Chemical Gunma Complex (FY2017)



Rainwater Utilization at Overseas Group Company

Calls are increasing for the protection of the world's water resources, and since its foundation Asia Silicones Monomer Limited has been making effective use of the plentiful rainfall it enjoys in its location in Thailand.

It stores rainwater in storage tanks on-site, using it for industrial water and as coolant for waste gas incinerator. It always maintains a reserve of rainwater for use in fire fighting in the event of an emergency. It also supplies Group company Shin-Etsu Silicones Thailand and its nearby partners with rainwater for uses such as industrial water.



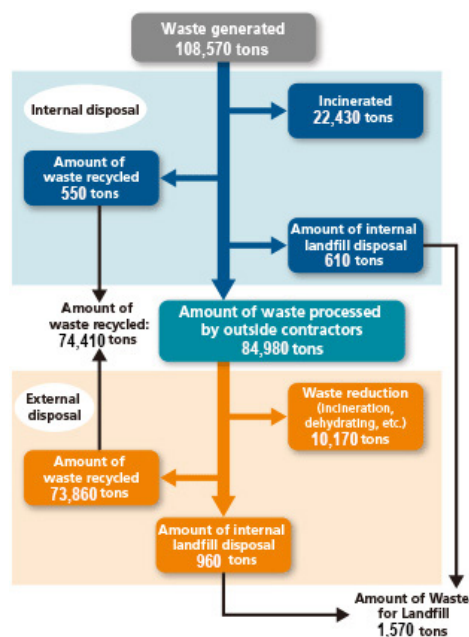
Waste reduction



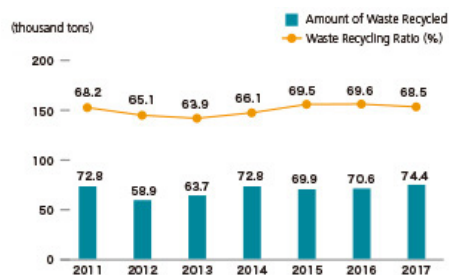
FY2017 target	Achieve zero waste emissions (landfill waste 1% or less of the final amount of all waste generated)
FY2017 results	The final waste landfill disposal rate was 4.45% in the Shin-Etsu Group and 4.32% in Shin-Etsu Chemical
FY2017 evaluation	The target was not achieved
FY2018 target	Achieve zero waste emissions Promotion of reduction of waste generation through intensity

Since the production volume in FY2017 increased substantially compared to FY2016, the amount of waste generated, the amount of waste recycled, and the amount of waste for landfills all increased. Due to the characteristics of the manufacturing formula, a zero waste emission, which the Group aimed at, could not be achieved because there is a process where a certain amount of residue occurs. We will continue to work on fewer emissions and less waste for landfills. We have external contractors to handle our disposals. We check to confirm that the contractor properly handles disposals by regularly inspecting their operation.

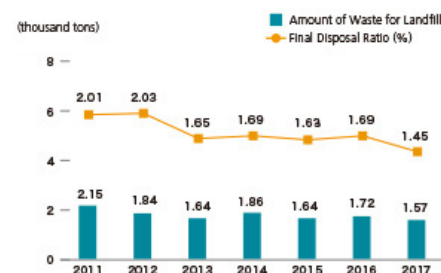
Flow of Waste Disposal



Amount of Waste Recycled



Amount of Waste for Landfill



■ Environmental Data

* The figures are aggregated only for Shin-Etsu Chemical and group companies in Japan because waste standards differ from country to country.

Waste Recycling at Overseas Group Company



Drew Harris
General Manager - Production

Simcoa's Waste Utilization

As an environmental initiative, Simcoa in Australia, manufactures and sells silicon metal, is committed to waste utilization. The waste utilization not only reduces environmental impact but also results in waste materials becoming a valuable resource by treating them as a by-product, and as such, the company is positively working towards reuse. Charcoal is one example of a way in which waste materials are utilized. Wood from forest clearing for a bauxite mining operation is processed to produce charcoal. Previously, partial the wood from the forest clearing operations was burnt, however, in 2004 the company began producing charcoal for incineration with the goal of effectively using the resource as a by-product.

Currently, Simcoa uses 100,000 tons of wood to produce 25,000 tons of charcoal each year. The source for the wood is felled trees from the bauxite mining operation, plantation wood, waste from sawmill and so on.

Other examples of waste utilization in addition to charcoal are listed below. We hope these example initiatives help to demonstrate our commitment to the environment and waste utilization.

Examples of Simcoa's Waste Utilization

Silica fume	Amorphous silica fume is a by-product of silicon metal. Initially when Simcoa began operations, there was no market for silica fume and the waste had to be buried in an on-site landfill. Simcoa developed a market in Australia for silica fume as an additive to increase the strength of cement, and has sold its silica fume for the past 25 years.
Charcoal fines	Fine charcoal is screened off from the lump charcoal because it cannot be used in the silicon metal furnaces and is sold for the production of barbecue briquettes.
Dross	A certain amount of slag ¹ is generated as a by-product during the manufacturing process of silicon metal. Slag is treated as a waste product by most silicon smelters, however, Simcoa sells this slag as a resource for producers of steel for deoxidization.
Sawdust and wood mulch	Sawdust and wood mulch are generated during cutting timber. It is sold for use in soil improvement. Investigations are underway into the potential use of this by-product for biomass energy generation in the future.
Undersized quartz	As some of the quartz rock recovered from the quartz mine is too small for use in the silicon metal furnaces, it is sold as flux materials for use in metallurgical operations and as decorative stone for use with concrete.

¹ Slag

Slag is a waste produced when molten metal is separated into fractions during metal smelting.

The Group collaborates with customers and related industry groups, using cutting-edge technologies to recover used products, extract resources, and reuse them in the Group's products. Through these initiatives, it is possible to reduce the waste output of our customers and the Group itself. We are also contributing to environmental conservation through reuse of resources.

Rare Earth Magnet Resource Recycling

The Group manufactures rare earth magnets by our integrated production process using separation and refinement techniques to extract rare earth magnets from rare earth raw materials.

As one of the measures to achieve stable procurement of raw materials, since 2007, the Group has been recycling magnet powder generated by our rare earth magnet manufacturing processes. Furthermore, from March 2013, we have also been developing techniques for recycling rare earth magnets used in recovered power-saving air conditioners and hybrid cars in order to re-use resources.

These initiatives have made it possible to reduce the environmental impact that comes along with resource development and to safely and securely protect the valuable rare earth resource. The Group's rare earth magnets create significant economic and social value as recycled products and also contribute significantly to energy conservation.

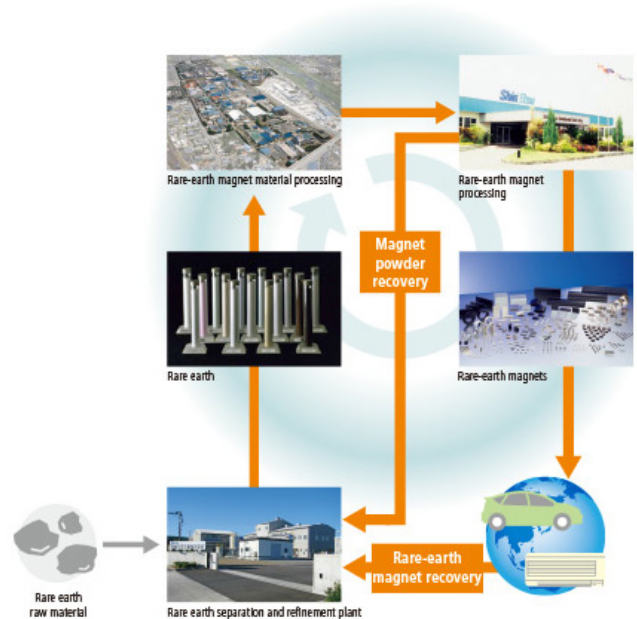
Recycling of PVC Products

Initiatives for the recycling of products containing PVC are making progress. There are various methods for recycling PVC, the most common of which is material recycling.

Material recycling uses used PVC products as raw materials to create new PVC products. PVC pipes, flooring materials and other PVC products are not greatly influenced by foreign substance contamination, so various kinds of recycling are conducted for those products. In particular, 60% of used PVC pipes and joints are recycled for reuse in new PVC pipes and joints, and 70% of agricultural film is recycled for use in flooring material.

■ [Vinyl Environmental Council](#) 

Rare-Earth Magnet Resource Recycling Process



Conservation of biodiversity initiatives, pollutant countermeasures

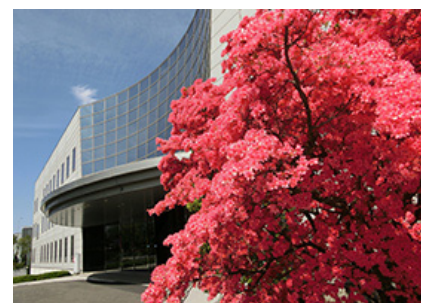
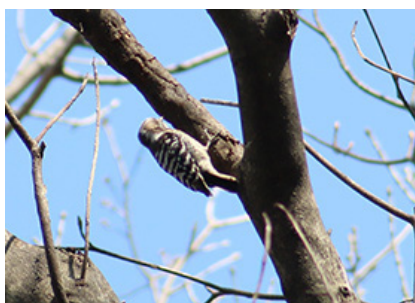
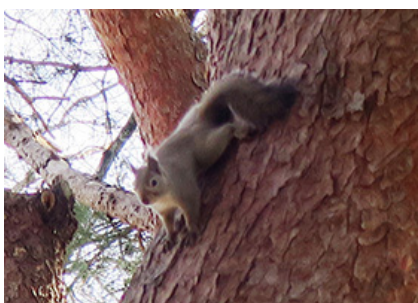


Conservation of Biodiversity

The Group aims for environmentally considerate product design starting already from the product development stage. At the same time, we are also meeting our responsibility as a chemical company by working actively to ensure strict control of chemical substances, mitigate global warming, reduce energy consumption, reduce the amount of waste generated, prevent water pollution, and make other environmental contributions. We are also engaged in activities such as tree planting in our plant site in compliance with the Factory Location Act (Japanese law) and voluntary river cleaning in areas neighboring our plants. Furthermore, we request that our business partners implement environmental conservation initiatives in accordance with our CSR procurement guidelines. The Group preserves the earth's ecosystem through these efforts.



Nearby river cleanup effort (June 2017, Shin-Etsu Chemical Takefu Plant)



Animals and plants that live and grow in the plant site (From the left, squirrels, Japanese pigmy woodpeckers, and Kirishima azaleas/Shin-Etsu Handotai Shirakawa Plant)

Pulp suppliers' biodiversity conservation efforts

We have bought pulp derived from wood as the main raw material of cellulose derivatives in the Group. Upon purchase, we ask all our pulp suppliers to consider conservation of biodiversity, and we have confirmed that they all have obtained national and/or international forest certifications. In addition, we work hard to know about our suppliers' activities on biodiversity activities.

Release of Chemical Substance



The Group has chemical substances which requires strict release management. The Group works on reducing chemical release with proper manufacturing processes as well as establishing the proper operation conditions of pollutant treatment facilities. In addition, the Group reports the amount of chemical substance released and moved in natural environment according to the PRTR system¹ in the PRTR Law². The main factor in the increase of chloroethylene release is the increase in the number of work days at the PVC plant. On the other hand, release amount per consumption has declined by 5.2% compared with FY2014 due to the production equipment running at optimal conditions. The amount of PRTR controlled substances generated varies depending on production volumes.

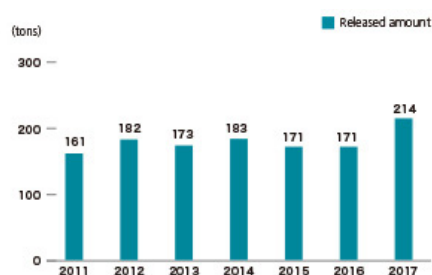
¹ PRTR system

Chemical substance release and transfer notification based on the "Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof."

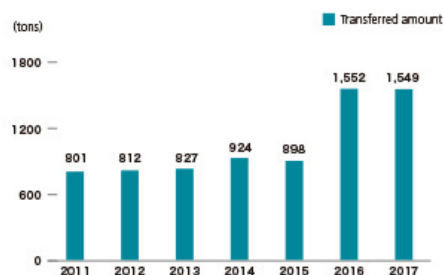
² PRTR Law

Short for "Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof." A law intended to promote improved self-directed control of chemical substances by business operators, in order to prevent the risk of damage to the environment.

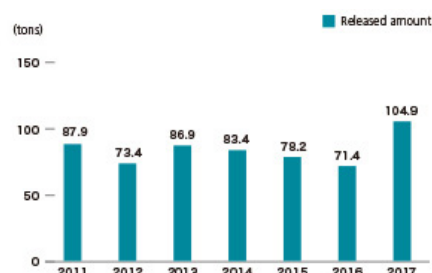
PRTR Controlled Substance: Total Release Trends



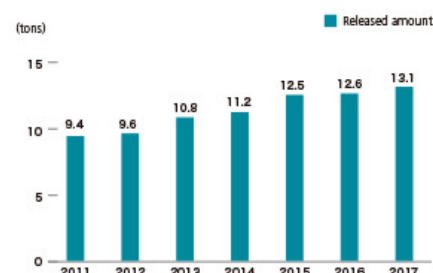
PRTR Controlled Substance: Total Amount Transferred Trends



PRTR Controlled Substance: Chloromethane Release Trends



PRTR Controlled Substance: Chloroethylene Release Trends



■ [Environmental Data](#)

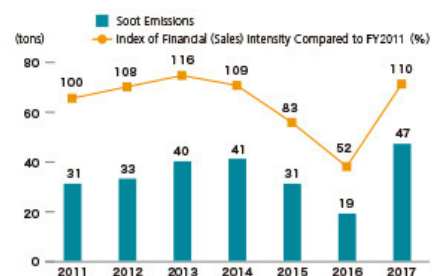
* The figures are aggregated only for Shin-Etsu Chemical and group companies in Japan in accordance with the Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof and the PRTR.

Prevention of Air Pollution

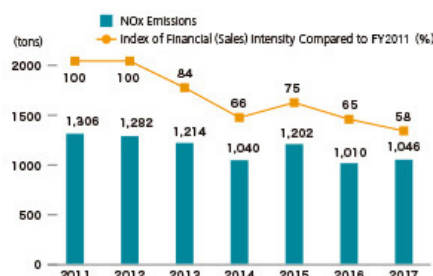


The Group is working to reduce emissions of air pollutants by setting emission reduction targets at each of our Group companies and by converting to fuel components with less sulfur. Each group company carried out regular investigations on emitted gas to confirm compliance with laws and regulations. In FY2017, emissions of soot, NOx and SOx increased as production volumes increased significantly.

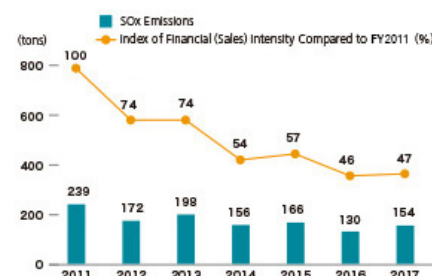
Soot Emissions Trends



NOx Emissions Trends



SOx Emissions Trends



■ [ESG Data](#)

■ [Environmental Data](#)

Initiatives for Reducing Emissions of Substances Governed by Environmental Regulations

The manufacturing processes used by the Shin-Etsu Group do not discharge waste water or waste gas byproducts as-is into the atmosphere or rivers, instead extracting substances which can be used as fuel or raw materials, thoroughly recycling them and rendering them harmless before eliminating them. Below are some examples.

The cellulose derivative manufacturing processes of the Shin-Etsu Chemical Naoetsu Plant use caustic soda to process pulp created from trees. The result then undergoes reactions with chemicals such as methyl chloride to produce cellulose derivative products.

The waste gasses created by this process contain environmental pollutants such as VOC and PRTR controlled substances. The processes also create water with a high concentration of salt. These waste products are incinerated, producing a gas consisting of carbon dioxide and water vapor. The waste water is highly concentrated salt water, which is used as a raw material in electrolysis process.

This manufacturing process also creates water with high BOD values, containing organic compounds. This waste water is treated by anaerobic water treatment equipment¹, separating most of the organic compounds in the waste water into methane gas and carbon dioxide. The methane gas is then used as fuel for the plant's boilers. The amount of methane gas produced each year is equivalent to 3 million liters in crude oil equivalent, and accounts for 20% to 30% of the fuel used by the boilers.

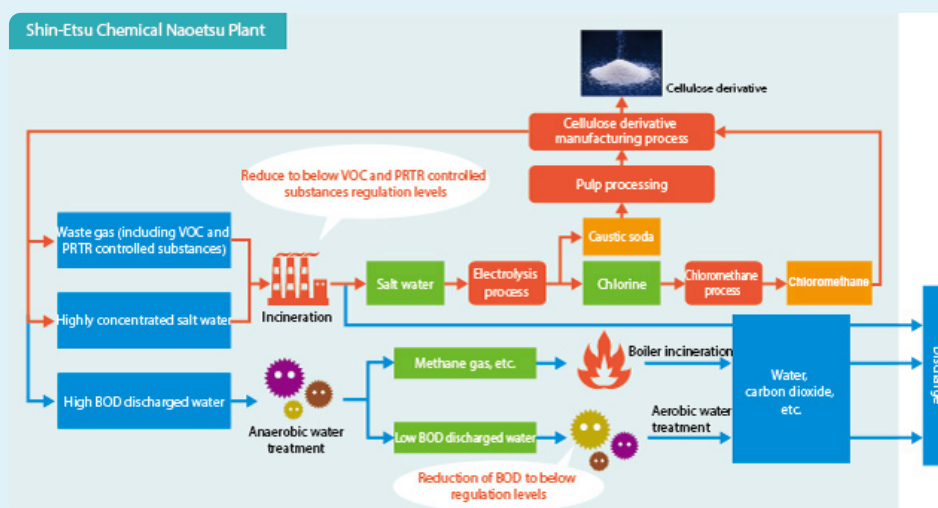
The waste water discharged from the anaerobic water treatment equipment contains some undecomposed organic compounds, so it undergoes additional treatment using aerobic water treatment equipment², purifying it to BOD levels below discharge regulatory standard levels before discharging it.

1 Anaerobic water treatment equipment

Equipment which processes water containing high concentrations of organic substances by closed it in an oxygen-free environment and using bacteria which do not require oxygen to break the organic substances down into substances such as methane gas.

2 Aerobic water treatment equipment

Equipment which uses bacteria which require oxygen to break organic substances down into carbon dioxide and water.



Prevention of Soil Pollution



Groundwater and soil monitoring at each plant is being carried out in accordance with the Soil Contamination Countermeasures Act, and we make sure that we are in compliance with laws and regulations. In FY2017, at its plant sites, the Company monitored groundwater and soil as total of 133.

Environmental Accounting

In FY2017, the Company referring calculated to the Environmental Accounting Guidelines 2005 prepared by the Ministry of the Environment in Japan calculated the investments and expenditures involved in the reduction of the environmental impact of air pollution, water pollution, environmental release of chemical substances, etc.; energy-saving measures to conserve the global environment; and waste reduction and recycling to improve reuse of resources.

Environmental Conservation Costs in FY2017

million yen

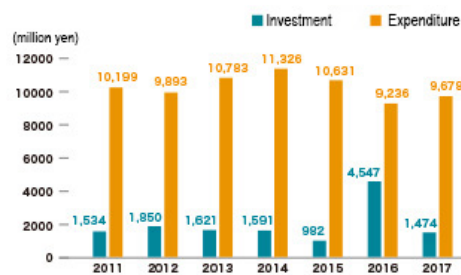
Category	Details	Investment	Expenditure
Plant area costs		1,353	7,860
(1)Pollution prevention cpsts	Prevention measures for air, water, noise and other type of pollution	304	3,111
(2)Global envirenmental conservation costs	Energy saving and global warming mitigation measures	628	3,126
(3)Resource recycling costs	Waste reduction, recycling and other measures	421	1,623
Upstream and downstream costs	Green purchasing and container and packaging measures	19	46
Administration costs	Environmental management, environmental impact monitoring and enbironmental education measures	57	421
Research and development costs	Research and development of environmentally conscious products and processes	0	1,297
Social engagement costs	Donations and contributions to environmental saving	45	32
Environmental remediation costs	Assessment, handling and other costs related to environmental pollution	0	21
Total		1,474	9,678

Economic Benefits of Environmental Accounting in FY2017

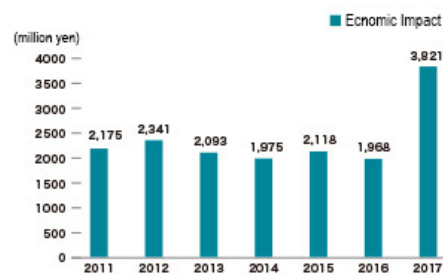
million yen

Details of benefits	Economic benefit
Energy saving	508
Improved production efficiency	3,401
Production process	3,053
Secondary materials costs	347
Reduction in waste treatment costs	-259
Profit from sale of valuable resources	171
Total	3,821

Cost of Environmental Conservation: Investment and Expenditure



Economic Impact



The FY2017 targets and results and FY2018 targets for environmental protection and management of chemical substances are as listed below.

Item	Priority Issues (Target)	Implementation Status for FY2017	Evaluation	Planned Implementation Items for FY2018
Management System	1. Continuous improvement and implementation of the environmental management system	<ul style="list-style-type: none"> Set qualitative plans to meet environmental challenges Implement plans and achieve goals without fail through activities leveled throughout the year Conduct substantial internal audits Strengthen systems to check laws and ordinances (compliance with laws and ordinances and review of the list of laws and ordinances) 	◎	<ul style="list-style-type: none"> Set qualitative plans to meet environmental challenges (ongoing) Implement plans and achieve goals without fail through activities leveled throughout the year (ongoing) Conduct substantial internal audits (ongoing) Strengthen systems to check laws and ordinances (compliance with laws and ordinances and review of the list of laws and ordinances) (ongoing)
	2. Qualitative improvement of environmental safety audits	<ul style="list-style-type: none"> Appropriate follow-up on the matters pointed out during environmental safety audits Qualitative improvement of environmental safety audits for affiliated companies at the plant area 	◎	<ul style="list-style-type: none"> Appropriate follow-up on the matters pointed out during environmental safety audits (ongoing) Qualitative improvement of environmental safety audits for affiliated companies at the plant area (ongoing) Active involvement at overseas manufacturing bases through guidance and auditing
Environmental conservation	1. Zero environmental accidents	Achieved target of zero environmental accidents	◎	Zero environmental accidents
	2. Thorough environmental management	Continued appropriate compliance with environmental laws and regulations	◎	Appropriate compliance with environmental laws and regulations (ongoing)
	3. Promotion of energy savings (Reduce energy consumption by an average annual rate of 1% per unit production)	<ul style="list-style-type: none"> The Shin-Etsu Group: Increased by 0.2% annually on average Shin-Etsu Chemical: Reduced by 0.8% annually on average 	△	Reduce energy consumption by an average annual rate of 1% per unit production
	4. Reducing greenhouse gas emissions (Intensity reduction to 54% of 1990 level by fiscal 2025)	<ul style="list-style-type: none"> The Group reduced to 53.4% and the Company 48.9% compared to fiscal 1990 Simple, periodic inspection based on the Act on Rational Use and Proper Management of Fluorocarbons and reporting to the national government on the amount of leakage calculated 	○	<ul style="list-style-type: none"> Reduction to 45% of 1990 level in intensity by fiscal 2025 Simple, periodic inspection based on the Act on Rational Use and Proper Management of Fluorocarbons and reporting to the national government on the amount of leakage calculated (ongoing)
	5. Reduce waste (Achieve zero waste emissions (waste to landfill ratio to 1% or less))	Landfill waste to total waste ratio of 1.45%	△	<ul style="list-style-type: none"> Promote achievement of zero waste emissions (waste to landfill ratio to 1% or less) Promotion of waste generation reduction through intensity unit
	6. Reduced emissions of substances causing water pollution or air pollution (Reduction in intensity at annualized rate of 1%)	<ul style="list-style-type: none"> Reduced at an annualized rate of 0.3% for BOD¹ Reduced at an annualized rate of 2.2% for soot Reduced at an annualized rate of 7.2% for SOx Regular review and strict compliance with specific facility using hazardous substances pertaining to the Water Quality Pollution Control Act and installation standards for designated storage facilities Promotion of separation of process wastewater and rainwater discharged (including cooling water) and the laying of pipes installed in the rainwater drainage way on the ground 	○	<ul style="list-style-type: none"> Regular review and strict compliance with specific facility using hazardous substances pertaining to the Water Quality Pollution Control Act and installation standards for designated storage facilities (ongoing) Promotion of separation of process wastewater and rainwater discharged (including cooling water) and the laying of pipes installed in the rainwater drainage way on the ground (ongoing)
	7. Reduction in water withdrawals (Reduction in intensity at an annualized rate of 1%)	<ul style="list-style-type: none"> The Shin-Etsu Group: reduced at an annualized rate of 5.0% Shin-Etsu Chemical: reduced at an annualized rate of 2.1% 	◎	<ul style="list-style-type: none"> Reduction in intensity at an annualized rate of 1% Plan and implement measures for improving recycling water ratio
Chemical substance management	1. Thorough new chemical substance management	<ul style="list-style-type: none"> Thorough management of permitted production volumes (confirmed) and production results Communicated reporting of harmful substance information, etc., at the time of acquisition 	◎	<ul style="list-style-type: none"> Thorough management of permitted production volumes (confirmed) and production results (ongoing) Communicated reporting of harmful substance information, etc., at the time of acquisition (ongoing)
	2. Compliance with legal and other requirements for chemical substance control	<ul style="list-style-type: none"> Responded to revisions and strict compliance with the Chemical Substances Control Law², Industrial Safety and Health Act, PRTR Law³, and Poisonous and Deleterious Substances Control Act Strict compliance with overseas laws and regulations Implement control of PCB waste and processes required by the deadline (Deadline: 2020) 	◎	<ul style="list-style-type: none"> Respond to revisions and strict compliance with Chemical Substances Control Law, Industrial Safety and Health Act, PRTR Law, and Poisonous and Deleterious Substances Control Act (ongoing) Compliance with overseas laws and regulations (ongoing) Implement control of PCB waste and processes required by the deadline (Deadline: 2020)
	3. Information disclosure on the harmfulness of chemical substances	Information disclosure and awareness raising of substances handled by contractors and subcontractors	○	Confirmation of well-known situations and information provision related to substances handled by contractors and subcontractors (ongoing)

¹ BOD (Biochemical Oxygen Demand)
Biochemical oxygen consumption. The amount of oxygen required when decomposing contaminants in the water by microorganisms. This indicates the degree of water pollution.

² Chemical Substances Control Law
Short for the "Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc." A law intended to prevent environmental pollution by chemical substances that can be harmful to human health or to ecosystems.

³ PRTR Law
Short for the "Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof." A law intended to promote improved self-directed control of chemical substances by business operators, in order to prevent the risk of damage to the environment.

* Intensity unit

A measure calculated from the production volume of a reference product.

* Average annual rate for implementation

Average annual reduction rate from fiscal 2014 to fiscal 2017

* Evaluation standards

◎: Goal achieved ○: Goal basically achieved △: 50% achieved ×: Far from achieved

Key Issue 3: Product quality improvements and product safety control

Policy

The Group will provide customers with high-quality, highly safe products.

Quality control

The Group is making an effort on stable supply of the high quality products requested by the customers.

Each the Company's division and/or Group companies are promoting quality control activities. The sales department, research and development department, manufacturing department and quality assurance department cooperate in roles as in the following in order to meet the demands of our customers.

Sales department

Receive to the customer requests, and promptly inform them to the research and development department as well as the manufacturing department

Research and development department as well as the manufacturing department

Utilize the customer requests for the improvement of existing products and research and development of new products

Quality assurance department

Make a final confirmation on product taking into account the product characteristics and the customers use

Almost all of the Group's manufacturing bases, both domestic and overseas, have obtained certification of the quality control systems such as ISO 9001, IATF16949¹, etc.

■ [Quality Control](#) 

■ [ISO 9001 Certification of the Shin-Etsu Group](#) 

¹ IATF16949

It is a quality management system for automotive industry.

Response to complaints

We have established a strict rule to make an initial response to all quality complaints from customers within 48 hours of receipt.

In particular, the recall and product liability problem that has a social impact is defined as a critical quality claims and is given high priority distinguished from other claims. When a serious claim occurs, it is immediately reported to the top management so that a company-wide response can be implemented.

Quality audits and support

To solve the zero quality problem, the claim and complaint information from the customers are closely examined. In quality audits, quality control activities and the quality control system are checked and improved. Also, quality control activities are evaluated according to two different viewpoints, which are the customers' viewpoint and quality cost viewpoint. We work to find the root cause of quality issues and to make an effort toward the recurrence prevention. Furthermore, Six Sigma¹ programs are deployed on a company-wide basis in order to improve the quality level.



Quality audit (August 2017, Shin-Etsu Chemical Gunma Complex)



The 18th debrief session of the results of Shin-Etsu Six Sigma (February 2018, Shin-Etsu Chemical Head office)

¹ Six Sigma programs

Quality improvement method developed by Motorola in the 1980s. Focused on processes where quality variation appears, it is designed to minimize variation within the processes and thereby reduce the incidence of quality defects. This approach has been adopted across the Group.

Product safety control

Product safety is being managed from product development to transport based on internal regulations.

The safety is confirmed and risk assessment is performed for environment and health in the development of new chemical substances. We also focus on developing products as well as their manufacturing technologies which do not use hazardous substances that have been designated by the Industrial Health and Safety Law and Chemical Substances Control Law¹, as well as the EU RoHS Directive². Furthermore, we submit necessary notifications and reports according to laws and regulations.

Customers are offered information such as product hazards and risks in SDS³ in order to ensure proper transmission of information to the supply chain.

Through SDS, customers are requested to handle products safely by complying with laws and regulations, installing abatement equipment, wearing protective equipment, etc.

As a transportation safety measure, we issue Yellow Cards⁴ and/or Container Yellow Cards⁵ that are affixed to containers. Furthermore, pictorial indication of hazard and harm is also implemented in accordance with GHS⁶.

¹ Chemical Substances Control Law

Short for "Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc." A law intended to prevent environmental pollution by chemical substances that can be harmful to human health or to ecosystems.

² RoHS (Restriction of the Use of Certain Hazardous Substances) Directive

EU directive on restricting the use of certain hazardous substances in electrical and electronic equipment.

³ SDS (Safety Data Sheet)

SDS lists the physical and chemical properties of the chemical substance together with harmfulness and emergency response procedures. Designed to promote safer use of chemical substances and prevent accidents and incidents, SDS are supplied by manufacturers, importers and distributors to customers at the point of sales or shipment.

⁴ Yellow Cards

The yellow cards are cards on which all relevant information on treatment required in case of an accident during transportation of chemical substances is described.

The cards are handed to the transport contractor to be brought by tanker lorry or other means at the time of transportation.

⁵ Container Yellow Cards

The standard yellow card system is not suitable for use with mixed cargoes and small-lot deliveries. Instead, each container carries a label displaying safety information such as UN number of chemical name and emergency response procedure number.

⁶ GHS (The Globally Harmonized System of Classification and Labeling of Chemicals)

Internationally standardized system of classification and labeling of chemicals.

Key Issue 4: Promoting CSR procurement and the diversification of supply sources

Policy

The Group will procure fairly and build an environmentally conscious supply chain.

Basic Procurement Policy

A Basic Procurement Policy has been formulated for the purchasing of supplies needed for production activities, including raw materials, sub materials including transportation packaging, and machinery and equipment. This policy is ensured in the Group and posted on the website. Business partners are expected to understand the Basic Procurement Policy and asked to incorporate the content of the Policy into their supply contracts.

In addition, the Group prepared and distributed the Guidelines for CSR Procurement so as to ensure that business partners have a deeper understanding of the Basic Procurement Policy. We held an explanatory meeting of CSR procurement for suppliers in July 2017. It was to ask suppliers for understanding and cooperation to our promotion of CSR procurement.

In January 2018, we established the Supplier Hotline to ensure the transparency and fairness of transactions between the Group and suppliers.

■ [Basic Procurement Policy](#)

■ [Shin-Etsu Group CSR Procurement Guidelines](#)

■ [Supplier Hotline](#)



Briefing of the Guidelines for CSR Procurement (July 2017, Shin-Etsu Chemical Head Office)

Compliance with the Act against Delay in Payment of Subcontract Proceeds, Etc. to Subcontractors

Staff members in charge of purchasing and procurement attend external seminars and internal training sessions to learn specific examples in order to support thorough compliance with the Subcontract Act. Also, we make sure that all the subcontractors that are applicable for the Subcontract Act are in full compliance by periodical checks and through new transaction report.



Internal auditing for compliance with the Act against Delay in Payment of Subcontract Proceeds, Etc. to Subcontractors (December 2017, Shin-Etsu Chemical Naoetsu Plant)

Initiatives Aimed at Eliminating the Use of Conflict Minerals

In our Basic Procurement Policy, the Group has declared our dedication to eliminating conflict minerals¹ from all product procurement. We ask that all business partners adhere to this policy, and we regularly perform studies of pertinent minerals, tracking their production all the way back to the smeltery level.

¹ Conflict minerals

Minerals used to fund armed groups in conflict areas in the Democratic Republic of the Congo and its neighboring countries. These conflict minerals are tantalum, tin, gold, tungsten, and their derivatives.

Procurement Audit

By asking business partners to reply to a supplier CSR procurement questionnaire, we confirm whether they conduct business activities in accordance with the Group's CSR Procurement Guidelines. Additionally, we visit business partners in Japan and overseas whenever necessary to carry out audits.

Procurement Conferences

The Purchasing Department holds a company-wide meeting every six months with all procurement department personnel company-wide to discuss material procurement. This meeting is not only for reporting material procurement but also for training procurement department personnel according to the Guidelines for CSR Procurement and checking the status of CSR procurement as well as learning the latest examples of CSR Procurement inside and outside the Company.



Procurement conference (Shin-Etsu Chemical Head office)

Business Continuity Initiatives

The Group has formulated a Business Continuity Plan and is prepared for contingencies. We would like business partners to understand the effectiveness and practicality of the Group's Business Continuity Plan and draw up a business continuity plan of their own.

Control of Chemical Substances Used as Raw Materials

The Group checks the ISO 14001 status of business partners and considers preferential business transactions with business partners that have ISO certification so as to purchase materials of lower environmental impact. On making contracts on specifications for raw material supply, we work to confirm the following.

- The business partners' use of chemical substances that impact the environment in products and packaging, compliance with the relevant laws and regulations
- Compliance with the RoHS Directive

Key Issue 5: Respect for human rights, the development of human resources and the promotion of diversity

Policy

The Group will respect the fundamental human rights of all people involved in the Group.

Respect for Human Rights



Observance of International Labor Standards

The Group respects the human rights of employees in accordance with the international labor standards through the International Labour Organization (ILO), and never discriminates employees on the basis of race, age, gender, sexual preferences, ethnic or national origin, disabilities or religion.

To this end, the Company confirms with its consolidated companies every year whether respect of human rights, labor management, and employment are being appropriately implemented following laws and regulations in their respective countries and regions. In addition, when building a new plant, its impact on the region in terms of human rights is taken into consideration.

Confirmation Items concerning Respecting Human Rights

Prohibition of child labor, proper working hours, decent wages, proper employment contract in writing, prohibition of inhuman treatment, prohibition of discrimination, freedom of association

Efforts for human rights awareness

The Group has established a Human Rights Enlightenment Promotion Committee. This committee holds regular human rights awareness training for directors and employees. Human rights Q & A are serialized in our internal company newspaper, and we compile a human rights enlightenment motto to coincide with our annual human rights week in December.

Furthermore, the Company has been a member of both the Tokyo Industrial Federation for Human Rights and the Osaka Dow / Human Rights Issues Industrial Federation and participates proactively in events held by both federations as well as training sessions held by administrative organizations.



Human rights awareness training (July 2017, Shin-Etsu Chemical Osaka Branch)

Education/Training and Personal Development

The Group supports employees to grow through various training systems. The training system has training for different staff grades, international adaptation training, auditing student system, environmental education, safety education and mental health education.

Conduct international adaptation training

The Group is expanding its business activities throughout the world. Competency to communicate in foreign languages is therefore an essential skill for smooth operations. Therefore, the Company offers the following kinds of training.

- English language training (meeting skills course and presentation skills course)
- Cross-cultural communication training
- Chinese conversation classes

Auditing system for students

In 1962, the Company established an auditing system for students. Under the learning system with the goal of improving the workforce, up to about ten operators at manufacturing sites of the Group each year are chosen and sent to study at universities for one year. In the 55 years since the system was introduced, a total of 531 employees have completed the program and are now functioning in various workplaces.

Training system list

	Training for different staff grades	Specialized education	General education	Special education	Environment and safety education	Quality control education	Six Sigma education
General manager level	Advanced management training S staff group/ M staff group training	<ul style="list-style-type: none"> Patent training Training for adaptation to internationalization 					Black belt training
Section manager level	Middle management training	English language training, meeting skills course VII	Mental health seminars	Course for management development training (external training)	Specialized education in environmental control and safety	QC master course	Green belt training
Junior manager level	Line management training Staff management training Leader training	English language training, presentation skills course VII	Human rights awareness training		Supervisor education	QC intermediate course	
Regular employees	Junior leader training New employee second-phase training New employee induction training	Chinese conversation classes Intercultural communication training		Auditing student system (1 year)	Safety education Special education Basic education New recruit education	QC basic course	

Continuing Chinese languages classes

Du Yan, lecturer in Chinese

I have been in charge of Chinese-language classes at Shin-Etsu Chemical since about 20 years ago. At first, these classes were like an association of those who liked to study the language, and I taught language useful for travel and other things, such as about the history and culture of China and the disposition of Chinese people. But since four years ago, I have emphasized students' efforts to pursue their studies and reviewed the content of classes so that the language could be used for daily operations. The students are enthusiastic about learning Chinese, and some of them have passed the Chinese Proficiency Test. Recently, one student reported, "I was able to exchange emails with business partners in Chinese," and another said, "I was able to talk directly with people at the company I visited on a business trip, and the negotiations went well." I am very happy to receive such reports.

I will strive to teach Chinese in an easy-to-understand way so that students can use it effectively.



Chinese languages classes (May 2018, Shin-Etsu Chemical Head Office)

Performance-based Personnel Evaluation Systems and Equal Opportunities

The Group has introduced a personnel system that places importance on employee ability and work performance. This system proves useful for increasing employees' motivation, as their treatment reflects their performance, attitude, and evaluations of how they meet their challenges to achieve higher goals.

To operate the personnel system in a fair and appropriate manner, evaluation training is provided for all managers who conduct performance review so that they can carry out personnel evaluations in a fair way.

Transparency is increased by making evaluation standards available and disclosing the results. In addition, there is a system of interviews between a person who evaluates and the person who is evaluated to ensure that they can communicate successfully.

During interviews, each staff member and his/her immediate superior are using Communication Sheets to ensure mutual awareness of the superior's expectations and are setting half-year goals.

Furthermore, feedback on progress is given for further ability development.

Promotion of Diversity



Active promotion of diverse human resources

As a group engaged in business operations around the world, the Group hires local employees at overseas group companies and hires foreign nationals in Japan.

The entire Group is also working to proactively employ people with disabilities and create environments where it is easy for them to work. Our employment population for persons with disability exceeds the legally mandated employment rate.

We have created the Internal Re-Employment Program for employees who have reached the retirement age of 60 years, which allows employees who wish to be re-employed to stay until a maximum age of 65.

Furthermore, the Group has been promoting women's participation and advancement. In the next five years from FY2016, the Company will target that:

Goals to promote women's participation and advancement

In the next five years from FY2016, the Company will target that:

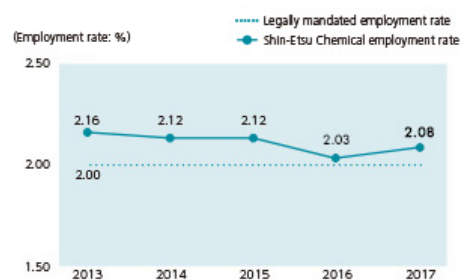
1. The rate of hiring women is 40% for administrative positions and 10% for engineering positions.
2. The number of women in managerial positions including junior manager level will be doubled compared to the number in FY2014.

Changes in the number of female managers compared to the 2014 level

April 2017	April 2018
Approx.150%	Approx.170%

■ [ESG data](#)

Employment Rate of Persons with Disabilities



Wheelchair Ramps (Shin-Etsu Chemical Gunma Complex)

* The legally mandated employment rate has been 2.2% since April 2018.

System for work-life balance

Childcare support system

The Group supports employees having and raising children. It has published the Childbirth and Child Care Guidebook, which summarizes the systems and procedures related to childbirth and child care. Employees can use the Company's childcare leave system for children up to three years old. About 40 employees on average use the childcare leave system in the Company and consolidated companies in Japan. In addition, employees can use the shorter working hour system and shorten their working hours for a maximum of two hours. This system can be used until children graduate from elementary school. Furthermore, three days of paid leave are granted when a spouse delivers a child.

Childcare is supported according to local laws and regulations in overseas Group companies.

Main system for childcare support (Shin-Etsu Chemical)

	Childbirth	Three years old	Entering elementary school	Graduating from elementary school
Maternity leave	Six weeks before and eight weeks after the childbirth			
	Five days when a spouse has childbirth			
Childcare leave				
	* Legally 1.5 years old			
Sick/injured child care leave	Five days per year when having one child 10 days per year when having two children			
	* As per the legal requirements			
Short hours Work				
	* Legally three years old			
Legal		Progressive measures at Shin-Etsu Chemical		

* Since October 2017, employees can take child care leave until their child becomes aged two, if they meet certain conditions.

Number of Employees Who have Taken Childcare Leave

	FY2014		FY2015		FY2016		FY2017	
	Male	Female	Male	Female	Male	Female	Male	Female
Shin-Etsu Chemical (Non-consolidated)	2	8	0	6	0	9	0	8
Consolidated in Japan	3	44	2	36	0	35	0	31
Consolidated	56	86	44	73	68	72	77	69

* The length of childcare leave differs from country to country, as the program is based on local law.

Nursing care leave system

The Group has a nursing care leave system as shown in the chart right. The system enables employees to work in the Company while caring for elders.

The Nursing Care Guidebook is issued in which all the necessary information on our nursing care system and care insurance is provided. Furthermore, we started "health care and nursing support" services in FY2014 and provide counseling by external experts.

Main system for the care system (Shin-Etsu Chemical)

	93 days	One year
Care leave		
	* Legally 93 days	
Measures such as short-time work, etc. *		
	* Legally 93 days	
Time off for nursing care	Five days per year when having one person to be cared for 10 days per year when having two persons to be cared for	
	* As per the legal requirements	
* Flextime system, measures to start/finish early or late		
Legal	Progressive measures at Shin-Etsu Chemical	

Number of people obtaining nursing care leave

	FY2014	FY2015	FY2016	FY2017
Consolidated in Japan	3	3	1	2

Welfare and Benefits

Accumulated holidays

If a certain number of annual paid holidays granted in accordance with labor regulations have expired without being taken, a certain number of days can be treated as saved holidays. Employees may use these saved holidays for nursing care, for injury or illness, for volunteer work for regional disasters or for donating organs or bone marrow transplants.

Employee hot line

As a counseling service for trouble with work or other issues, we have set up Dial Shin-Etsu, which is staffed by external counselors who are specialists from outside of the Company. Consultations are received anonymously and treated with strict confidentiality, but if requested by the consulter, the counselor will contact the Personnel Department to discuss possible solutions.

Shinkansen commuting system

Since 1989, the Group has allowed commuting by Shinkansen at company expense. This system is promoting more employees to own houses. It also enables personnel who are reassigned to head office from plants and other business sites in Gunma and Fukushima prefectures to transfer to jobs in Tokyo without changing their lifestyles. As of March 2018, 77 employees use this system.

Other systems

The Dr. Kanagawa scholarship was established in June 2012 for employees to study at St. Clark State College in Washington, USA for one year. This scholarship was enabled due to the trusting relationship which was built over many years between the College and our Chairman, Mr. Kanagawa.

In addition, we have established asset-building schemes, an employee shareholding system, and a mutual aid society to provide support for weddings, childbirth, and sudden hospitalization of family members.

Welfare and benefits facilities

We have dormitories and company housing near the head office and plants for employees who live outside the commuting area.

We also have directly operated recreational facilities in Kanagawa, Shizuoka, Fukushima and Niigata prefectures. The Group's employees can use these facilities with family and friends. Furthermore, we have partnerships with external recreational facilities, and subsidies are given to the users.



Shin-Etsu Chemical Hakone Shinsensou (Kanagawa prefecture)

Labor-management Relations

The Company engages in various dialogues with the Shin-Etsu Chemical Labor Union to promote mutual understanding between labor and management. The Central Labor-Management Meeting is held once a month at the head office attended by top management. They engage in thorough discussions with labor union regarding subjects such as management policy, and outline information about individual businesses, and the personnel system. Also, each business site holds a monthly Local Labor Meeting with the local branch of the Shin-Etsu Chemical Labor Union.

Repeated dialogues and discussions between labor and management deepen mutual understanding and trust and facilitate the expansion of business operations in which staff and management can come together to carry out speedy responses to the changing business environment.

* Personnel subject to CSR Key Issue 5 in the Shin-Etsu Group are the employees of and loaned employees from Shin-Etsu Chemical.

■ [ESG Data](#)

Key Issue 6: Respect for and protection of intellectual property

Policy

The Group will respect all intellectual property and manage information assets appropriately.

Intellectual Property Management

The Company has established the Basic Regulations for Intellectual Property which has set regulations regarding acquisition, management, and application of intellectual property. The Company's intellectual property is protected from infringement by third parties on the basis of these regulations. These regulations also require respect for the rights regarding all intellectual property of third parties.

Moreover, information in forms such as an annual report is disclosed to allow all persons involved with the Group to have a precise collection of the status of the Group's intellectual property assets. In addition, employees who have devised useful inventions, improvements and devices in business have been awarded in systems such as the following.

Actual compensation awards

A system to recognize and award employees who greatly contributed to the company by creating an invention or idea which brings great profit to the company in the form of patents

Multiple inventor awards

A system to recognize employees who have made a large number of inventions and who have acquired a large number of patent rights in the Company

■ [ESG Data](#)

Initiatives for Information Asset Management

The Information Asset Management Basic Policy have been established to maintain the confidentiality¹, integrity², and availability³ of information possessed by the Group. The information Asset Management.

For daily business operations and smooth communication, it is extremely important to use information assets effectively. On the other hand, the risk of information being leaked or otherwise mishandled is growing due to inappropriate management of information assets. For this reason, all personnel who handle information are required to understand the importance of information assets and manage and use them properly. In case of emergencies, by preventing its expansion and effects on other operations, they must make the greatest possible effort to maintain information security on a Group-wide basis.

Regulations are set under the Information Asset Management Basic Policy to protect, utilize, control and manage information assets.

Furthermore, related rules and regulations such as Information Asset Management Standards set details concerning our customers, handling all the information concerning our customers, management, storage period and waste. In addition, we have formulated the Standards for Preventing Technology Leaks in order to prevent the outflow of technologies.

We also carry out training and implementation related to the Information Asset Management Department, regularly conduct checks on the status of compliance with the Information Asset Management Regulations and other regulations, and perform internal audits.

Protection of Personal Information

In order to properly protect personal information in accordance with the Act on the Protection of Personal Information, we have established our Privacy Policy, which is available on our website. Moreover, we have been providing education on law and regulations and holding lectures regarding personal information protection in trainings for different staff grades in order to ensure the appropriate handling and protection of personal information.

Group companies in the EU area comply with the EU's General Data Protection Regulation (GDPR)¹, which came into force in May 2018.

¹ General Data Protection Regulation (GDPR) The General Data Protection Regulation stipulates on the handling and transfer of personal information. EU member countries had their own regulations to protect personal data, and these regulations were unified under the General Data Protection Regulation in May 2018.

Key Issue 7: Contribution to industry and social initiatives

Policy

The Group is promoting communication with local communities in order to build relationships of trust with a wide range of stakeholders in society.

Fundraising for U.N. World Refugee Day



Japan

UNHCR (Office of the United Nations High Commissioner for Refugees) supports world refugees who are driven out of their homes by conflict, persecution and disaster.

Since 2006, the Group have supported world refugees through the collection of donations in the company for World Refugee Day (June 20), which was established by The United Nations, and we have donated them to the UNHCR through the Japan Association for UNHCR. Furthermore, we have implemented matching gift programs since 2012.



Hosting of the Great East Japan Earthquake Disaster Relief Marché

Japan

Every March, the Great East Japan Earthquake Disaster Relief Marche has held since 2012 at Asahi Seimei Ohtemachi Building where the Shin-Etsu Chemical Head Office is located. In cooperation with Shin-Etsu Chemical and Shin-Etsu Handotai Co., Ltd., local specialties and Sake from Fukushima, Iwate, and Miyagi prefectures are sold. This is a way of supporting disaster relief activities while our being in Tokyo.



Summer school for elementary school student (Naoetsu)

Japan

The Naoetsu Plant has held an annual summer school, organized mainly by new employees, for local children in the upper grades of elementary school since 1975. The goal of this school is to have these children finish their homework earlier so they can use their summer vacation effectively.



Contribution to society activities at Overseas Group Company

Shintech Inc. Contribution to society activities



Rick Gros
Site Services Manager,
Shintech Louisiana, LLC

Since before startup of the first Shintech Louisiana plant in 2000, the company has been actively involved in organizations, sponsorships, leadership development, and civic activities that further the development and success of the communities in which we live and work. Several Shintech employees and contractors returned to "Safety Town" for the ninth year in a row. "Safety Town" is a safety program designed for kindergartners to help educate them in the proper way to cross streets, ride bikes, handle emergencies (such as home fires) and other safety related issues.

Furthermore, for the past seven years, the employees of Shintech Louisiana, LLC, SE Tylose LA, LLC and many of the plant contractors have collected toys during the Christmas holidays to benefit Children's Hospital in Baton Rouge. A group representing Shintech and SE Tylose employees and contractors has made the annual delivery of toys to the hospital. The hospital playroom is a special place for children to relax, socialize and enjoy an array of fun and educational activities. With Shintech and SE Tylose's help, the playroom is now stocked with enough games, toys, and electronic equipment for children of all ages to enjoy.

Community involvement is important to the longterm success of Shintech. It benefits the long-term well-being of our employees, our families, our friends and those who will both join us and succeed us as we continue to grow. As a recognized good neighbor, it is our privilege to be located in our community, and we work hard to support those around us.



The Shin-Etsu Group's Activities

■ [The Shin-Etsu Group's Activities](#)

Key Issue 8: Accurate and timely information disclosure and communication with stakeholders

Policy

The Group will use various opportunities to continue dialogues with stakeholders.

Information Disclosure

The Group believes the appropriate and timely disclosure of company information promotes stakeholder understanding, and also leads to proper evaluations of the market.

We therefore implement fair and transparent information disclosure by posting information on the Company's website and publicizing it to stock exchanges and the news media. We also publish the Annual Report, financial statements and other reports for shareholders.

■ [Financial & IR Information](#)



Presentations to individual investors (October 2017, Shin-Etsu Chemical Head Office)

Dialogue with Stakeholders

The Group, through a variety of methods and opportunities, is carrying out an active dialogue with stakeholders. We believe that this effort contributes to a sustainable growth of the Group and increases corporate value.

Major communication method and opportunity

Shareholders and Investors
General Shareholders' Meeting Earnings presentations for analysts and institutional investors One-on-one meetings with analysts Small meetings and conferences hosted by securities companies Presentations to individual investors. Information provided by the homepage, annual report, etc.
Customers
Day-to-day communications by sales representatives Information provided by the homepage, exhibitions, etc.
Business partners
Day-to-day communications by the purchasing department Supplier Hotline
Local communities
Dialogue with bodies such as local governments Participation in local events
Employees
Dialogue and consultation with Labor Unions Information provided by the company magazine and intranet



Small meetings and conferences hosted by securities companies (November 2017)

Participation in the Ministry of the Environment's Environmental Reporting Platform Development Pilot Project

The Company has participated in the Environmental Reporting Platform Development Pilot Project hosted by the Ministry of the Environment since 2013.

Following the global trend, it is expected that in Japan, too, ESG investments¹ will expand in the future. Today, however, companies disclose non-financial information which provide materials for investment decisions, at their own discretion, so it is difficult for investors to obtain and compare information equally. In 2013, in order to improve this situation, the Ministry of the Environment led the world in building a system to disclose non-financial information, particularly environmental information, and began verification tests of the system. This system is expected to allow companies to disclose non-financial information in a format that enables investors to compare it with information from others and promote active dialogues between companies and investors and other stakeholders.

We hope that investors and many other stakeholders will inspect the information disclosed under this project and obtain a deeper understanding of our CSR initiatives.

¹ ESG investment

An investment method in which investors pay attention to not only corporate financial information, but also to non-financial information, such as initiatives for the environment (E), society (S), and governance (G).

Reference

- [Participating companies in the Environmental Reporting Platform Development Pilot Project in FY2016 and invitation of applications from investors and the like](#)  (only Japanese available)
(Ministry of the Environment's news release dated June 20, 2016)
- [ESG dialogue platform for the Environmental Reporting Platform Development Pilot Project](#) 

Corporate Governance

Aspect	Classification	Scope	Unit	FY2015	FY2016	FY2017
Number of Board Directors	Directors	Non-consolidated	Persons	23	22	22
	Outside directors	Non-consolidated	Persons	5	4	4
	Women on the board	Non-consolidated	Persons	0	0	0
Number of Audit & Supervisory Boards	Audit & Supervisory Boards	Non-consolidated	Persons	5	5	5
	Outside Audit & Supervisory Boards	Non-consolidated	Persons	3	3	3
	Women on the Audit & Supervisory Boards	Non-consolidated	Persons	0	0	0
Structure of Officers' Remuneration Committee	Independent outside directors ratio	Non-consolidated	%	20	20	20
Remuneration of directors	Excluding outside directors	Non-consolidated	Millions of yen	1,531	1,539	1,615
Remuneration of Audit & Supervisory Boards	Excluding the Audit & Supervisory Boards	Non-consolidated	Millions of yen	40	40	40
Remuneration of Outside directors and the Audit & Supervisory Boards		Non-consolidated	Millions of yen	170	155	149
Payments of income taxes		Consolidated in Japan	Millions of yen	57,013	46,203	49,987
		Consolidated in overseas	Millions of yen	16,621	16,692	24,804
Amount of political contributions		Non-consolidated	Millions of yen	4	0	2

* Please refer to Financial and IR information for details on financial information.

The cornerstone of all activities: legal compliance, fair corporate activities

Aspect	Classification	Scope	Unit	FY2015	FY2016	FY2017
Number of violators of the Anti-Bribery Regulations		Consolidated	Persons	-	0	0
Total costs of penalties regarding corruption		Consolidated	Yen	-	0	0

Key Issue 1: Employees and contractor health and safety

Aspect	Classification	Scope	Unit	FY2015	FY2016	FY2017
Management	OHSAS18001 certification ratio ¹ (Employees)	Consolidated manufacturing companies	%	34	32	38
Occupational health and safety	Number participants in safety training (Total number of persons)	Non-consolidated	Persons	7,531	7,970	9,751
		Consolidated	Persons	-	22,166	24,829
	Lost-time incident rate ²	Group companies in Japan ³	-	0.17	0.17	0.13
		Industry average (JCIA)	-	0.29	0.33	0.36
	Rate of accidents not accompanied by an of absence a day ²	Group companies in Japan	-	0.22	0.82	0.50
	Lost-time injuries severity rate ²	Non-consolidated	-	0.00	0.05	0.00
		Industry average (JCIA)	-	0.007	0.009	0.035
	Number of work-related employee fatalities	Consolidated	Persons	0	0	0

1 OHSAS18001 certification ratio

The plants which does not have OHSAS18001 certification has a occupational health and safety management system the same level as OHSAS18001.

2 Lost-time incident rate and Rate of accidents not accompanied by an of absence a day and Lost-time injuries severity rate

These were calculated in calender year.

3 Group companies in Japan

This is subject to consolidated companies and some companies which are exempt from consolidation in Japan.

Key Issue 2: Energy-saving, resource-saving and the reduction of the environmental impact

Aspect	Classification	Scope	Unit	FY2015	FY2016	FY2017
Management	ISO14001 certification ratio ¹ (Plants)	Non-consolidated	%	100	100	100
		Consolidated plants	%	69	65	67
	Total costs of environmental fines and penalties	Shin-Etsu Chemical	Yen	0	0	0
		Consolidated in Japan	Yen	-	0	0
Response to climate change	GHG Scope1 emissions	The Group ²	Thousand tons of CO ₂ e	1,593	1,650	1,734
	GHG Scope2 emissions	The Group	Thousand tons of CO ₂ e	3,040	3,264	3,510
	GHG Scope3 emissions ³	The Group	Thousand tons of CO ₂ e	4,409	14,803	16,754
Water resource conservation	Water use ⁴	Non-consolidated	Million m ³	463	414	429
		The Group	Million m ³	2,263	2,154	2,222
	Water withdrawals	Non-consolidated	Million m ³	18	19	20
		The Group	Million m ³	188	189	196
	Water recycle	Non-consolidated	Million m ³	444	396	410
		The Group	Million m ³	2,076	1,965	2,026
	Water recycle ratio	Non-consolidated	%	96	96	95
		The Group	%	92	91	91
	Water discharge	Non-consolidated	Million m ³	20	19	20
		The Group	Million m ³	180	179	187
Air emissions	Soot	Non-consolidated	t	14	11	13
		The Group	t	31	19	47
	NO _x	Non-consolidated	t	693	512	541
		The Group	t	1,202	1,010	1,046
	SO _x	Non-consolidated	t	26	20	30
		The Group	t	166	130	154
	VOC ⁵	Non-consolidated	t	198	193	268

¹ ISO14001 certification ratio

The plants which does not have ISO14001 certification has a occupational health and safety management system the same level as ISO14001

² The Group

This is subject to consolidated companies and some companies which are exempt from consolidation.

³ GHG Scope3 emissions


The total GHG Scope 3 emissions has considerably increased because the Group has started disclosing GHG emissions in the downstream supply chain from FY2016.

⁴ Water use

Amount of water withdrawals and water discharge

⁵ VOC

VOC emissions increased since revised estimated object substance from FY2017.

* Please refer to the Environmental Data for more details on [Environmental Data](#). 

Key Issue 3: Product quality improvements and product safety control

Aspect	Classification	Scope	Unit	FY2015	FY2016	FY2017
Product safety training	Number participants (Total number of persons)"	Non-consolidated	Persons	7,531	7,970	9,751
		Consolidated	Persons	-	22,166	19,593

Key Issue 5: Respect for human rights, the development of human resources and the promotion of diversity

Aspect	Classification	Scope	Unit	FY2015	FY2016	FY2017
Employees	Number of employees by region	Japan	Persons	7,975	8,020	8,160
		Asia/Oceania	Persons	6,420	7,026	7,623
		Latin America	Persons	0	0	0
		United States	Persons	2,625	2,738	2,916
		Europe	Persons	1,387	1,422	1,456
		Consolidated	Persons	18,407	19,206	20,155
	Number of employees (male)	Consolidated	Persons	13,593	14,188	14,695
	Number of employees (female)	Consolidated	Persons	4,814	5,018	5,460
	Turnover rates	Non-consolidated	%	-	-	0.6
		Consolidated	%	-	-	11.1
	Voluntary turnover rates	Non-consolidated	%	0.5	0.8	0.4
		Consolidated	%	-	9.6	10.6
Human rights	Number of child labour	Consolidated	Persons	0	0	0
	Number of forced labour	Consolidated	Persons	0	0	0
Diversity	Employment rate of persons with disabilities	Non-consolidated	%	2.12	2.03	2.08
	The number of women in managerial positions including junior manager level	Non-consolidated	Persons	-	-	33
		Consolidated	Persons	-	-	324
Work-life balance	Number of employees who have taken childcare leave ¹ (female)	Non-consolidated	Persons	6	9	8
		Consolidated	Persons	73	72	69
		Consolidated in Japan	Persons	36	35	31
		Consolidated in overseas	Persons	31	28	30
	Number of employees who have taken childcare leave (male)	Non-consolidated	Persons	0	0	0
		Consolidated	Persons	44	68	77
		Consolidated in Japan	Persons	2	0	0
		Consolidated in overseas	Persons	42	68	77
	Number of people obtaining nursing care leave	Consolidated in Japan	Persons	3	1	2

¹ Number of employees who have taken childcare leave

The length of childcare leave differs from country to country, as the program is based on local law.

Key Issue 6: Respect for and protection of intellectual property

Aspect	Classification	Scope	Unit	FY2015	FY2016	FY2017
Patents acquired	Japan	Main group companies ¹	Number of patents	616	697	591
	Overseas	Main group companies	Number of patents	1,163	1,325	1,591
	Asia/Oceania	Main group companies	Number of patents	602	642	724
	North America	Main group companies	Number of patents	282	220	265
	Europe	Main group companies	Number of patents	270	458	595
	Other	Main group companies	Number of patents	9	5	7
	Total	Main group companies	Number of patents	1,779	2,022	2,182
Patents held	Japan	Main group companies	Number of patents	7,027	7,355	7,562
	Overseas	Main group companies	Number of patents	10,102	10,951	12,007
	Asia/Oceania	Main group companies	Number of patents	4,190	4,707	5,314
	North America	Main group companies	Number of patents	2,850	2,924	3,077
	Europe	Main group companies	Number of patents	3,035	3,286	3,578
	Other	Main group companies	Number of patents	27	34	38
	Total	Main group companies	Number of patents	17,129	18,306	19,569

¹ Main group companies

This is subject to main manufacturing companies and some manufacturing companies which are exempt from consolidation.

Key Issue 7: Contribution to industry and social initiatives

Aspect	Classification	Scope	Unit	FY2015	FY2016	FY2017
Total Amount of donations		Consolidated	Millions of yen	-	98	82



「信越化学CSRレポート2018」

第三者検証 意見書

2018年6月20日

信越化学工業株式会社
代表取締役社長 斉藤 恭彦 殿

一般社団法人 日本化学工業協会
レスポンシブル・ケア検証センター長

永松 茂樹



■ 検証の目的

本検証は、信越化学工業株式会社が作成した「信越化学CSRレポート2018」(以後、報告書と略す)を対象として、下記の事項について、レスポンシブル・ケア検証センターが化学業界の専門家の意見を表明することを目的としています。

- 1) パフォーマンス指標(数値)の算出・集計方法の合理性及び数値の正確性
- 2) 数値以外の記載情報の正確性
- 3) レスポンシブル・ケア活動の内容
- 4) 報告書の特徴

■ 検証の手順

- ・ 本社において、各サイト(事業所、工場等)から報告される数値の集計方法の合理性、及び数値以外の記載情報の正確性について調査を行いました。調査は、報告書の内容について各業務責任者及び報告書作成責任者に質問すること、並びに彼らより資料提示と説明を受けることにより行いました。
- ・ 武生工場において、本社に報告する数値の算出方法の合理性、数値の正確性、及び数値以外の記載情報の正確性の調査を行いました。調査は、各業務責任者及び報告書作成責任者に質問すること、資料提示・説明を受けること、並びに現地での現物確認を含む証拠物件との照合により行いました。
- ・ 数値及び記載情報の調査についてはサンプリング手法を適用しました。

■ 意見

- 1) パフォーマンス指標(数値)の算出・集計方法の合理性及び数値の正確性について
 - ・ 数値の算出・集計方法は、本社及び武生工場において、合理的な方法を採用しています。
 - ・ 調査した範囲において、パフォーマンスの数値は正確に算出・集計されています。
- 2) 数値以外の記載情報の正確性について
 - ・ 報告書に記載された情報は、正確であることを確認しました。原案段階では表現の適切性あるいは用語の整合性等に関し、若干問題があることを指摘しましたが、現報告書では修正されており、現在修正すべき重要な事項は認められません。
- 3) レスポンシブル・ケア活動の内容について
 - ・ グループ全体のCSRの重要課題を特定し、「法令遵守、公正な企業活動」をベースとして掲げ、安全・環境・品質・社会貢献などに継続してグループ全体で取り組み、その状況についての的確に報告していることを評価します。
 - ・ 年2回実施している環境保安監査では、各職場の環境保安管理計画に基づいた活動状況や本社で決めた特別テーマ(非定常作業の見直し・安全対策)の実施状況を確認しており、着実にリスク低減の取組みが実行されていることを評価します。
 - ・ 武生工場では、年間計画に基づき、継続してプロセス及び作業のリスクアセスメントを実施し、設備及び作業の改善、マニュアルの見直しを行っていることを評価します。また、「安全設備研修センター」を設置し、体感型学習を重視した教育を実施しており、その成果に期待をしています。
- 4) 報告書の特徴について
 - ・ ESG活動強化の紹介、持続可能な開発目標SDGsに対する取組みと貢献する製品の紹介、また、CSRマネジメントや重要課題毎の取組みの実態紹介など、全体の構成が分かり易く、読み易くなっています。本レポートは、信越化学グループのCSR活動の取組みをWeb版として発行しています。一方、PDF版のダウンロードも可能にしています。

以上