

Shin-Etsu Polymer

# Sustainability Report 2018



## 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.

The Shin-Etsu Group places safety and fairness first in its business and targets becoming a group of companies that develops together with society.



### Basic CSR\* Policy

- 1 We will do our best to increase the Group's corporate value through sustained growth and make multifaceted contributions to society.
- 2 We will carry out all of our company activities by making safety always our utmost priority.
- 3 We will constantly pursue energy-saving, resource-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 We 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 We will strive to respect human dignity, assure equality in employment opportunities and support and self-fulfillment of our employees.
- 6 We will appropriately disclose information in a timely manner.
- 7 We will carry out trustworthy corporate activities that are based on the integrity if the Group's ethical values.

\*Corporate Social Responsibility

### Corporate Action Policy

- 1 We have pride and awareness as employees of Shin-Etsu Polymer Co., Ltd. and its Group companies and do our best to become a company trusted by society by always maintaining a law-abiding spirit, complying with laws, regulations, internal codes and rules and conducting fair and highly transparent corporate activities.
- 2 We disclose a comprehensive range of corporate information where necessary and appropriate and promote communication with society as well as stockholders, investors, customers, and communities as an "open company."
- 3 We respect the histories, cultures, customs, etc. of individual countries and regions, work at developing business based on mutual trust, and make efforts to coexist with communities.
- 4 We recognize global environmental preservation as one of our first priority challenges and, by fulfilling social responsibilities required, actively participate in the establishment of a recycling-oriented economic society aiming for sustainable development.
- 5 Through business activities, we try to develop and manufacture environmentally friendly products with high performance, contribute to an affluent society and preservation of the environment. Furthermore, we implement green procurement, properly control chemical substances, and comply with regulations on substances contained in products.
- 6 We commit ourselves to meet the requirements of customers and consumers and make efforts to provide attractive, safe, and quality products and services that are highly satisfactory. Furthermore, we carefully handle personal information associated with customer's privacy and strictly control such information so that no information leakage or illegal use should occur.
- 7 We respect the principle of free competition and always promote fair trade. We also build transparent, fair, and healthy relations with customers and consumers.
- 8 We respect human rights, personality, and diversity of employees, realize fair treatment, and establish a working environment where they can exert their abilities, skills, and vitality. We comply with occupational laws and regulations and conduct no inhumane labor practice such as child or forced labor.
- 9 We maintain healthy and normal relations with governments and their administrations.
- 10 We confront antisocial groups and organizations that threaten social order and security with a resolute attitude.
- 11 We, as "good corporate citizens" carry our social action programs in a positive manner.

## Editorial Policy

The Shin-Etsu Polymer Group began publishing annual sustainability reports in 2001. These reports show our group's CSR activities for the purpose of achieving a sustainable society. The editorial principles of the 2018 version are as follows:

- 1 This Report conforms to the "Environmental Reporting Guidelines (Fiscal Year 2012 Version)" of the Ministry of the Environment in its reporting.
- 2 In the Special Feature article, we cover the product groups related to our new business development.
- 3 The CSR Report sums up the group's organization and activities in relation to engagement with "governance," "customers," "employees," "communities," "environment" in a configuration that is easy to read and understand.
- 4 The information in this Report (including the English Version) and details of environmental data are all disclosed on our website. We also provide additional information on our website.
- 5 We received third-party comments from Mr. Kozuma, Professor of Sophia University, as was the case with previous editions, and  
**Web site URL: <https://www.shinpoly.co.jp/environment/index.html>**

- **Period subject to report**

April 2017 – March 2018

- **Issued**

September 2018 (Next issue: September 2019 (Scheduled))

- **Organizations subject to report**

Shin-Etsu Polymer Group

\*For further detail, please refer to page 4. There have been structural reforms since April 2017.

- **Field of reporting**

This Report covers the fields of environmental conservation and social activities. For the overview of our business, please refer to our Corporate Profile.

- **Contact**

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URL <http://www.shinpoly.co.jp/english/>

## Editors' Note

The Shin-Etsu Polymer Group has established a CSR promotion system to achieve a sustainable society, and as one part of that, we have introduced our value chain map in this report. We also cover some of our new products to reduce environmental burden, products and efforts to achieve SGDs, and a joint-development project with the East Japan Railway Company. We will continue to actively participate in the establishment of a recycling-oriented economic society aiming for sustainable development and commit to information disclosure.



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# Business Overview of Shin-Etsu Polymer Group

### •Company profile

Trading name: Shin-Etsu Polymer Co., Ltd.

Founded: September 15, 1960

Headquarters address: Sotetsu Kandasudacho Building 1-9  
Kanda-Sudacho, Chiyoda-ku, Tokyo  
101-0041 Japan

Paid-in capital: 11,635,950,000 yen

Employees: Total for all group companies:

4,407 (1,859 male employees, 2,548 female employees)

Independent:

1,019 (805 male employees, 214 female employees)

(as of March 31, 2018)

Domestic production bases: Tokyo Plant, Nanyo Plant,  
Kodama Plant, Shiojiri Plant,  
Itoigawa Plant

Consolidated subsidiaries: 14 companies

### Domestic Production Bases

Shin-Etsu Finetech Co., Ltd.

### Overseas Production Bases

Suzhou Shin-Etsu Polymer Co., Ltd.

Dongguan Shin-Etsu Polymer Co., Ltd.

Shin-Etsu Polymer (Malaysia) Sdn.Bhd.

PT. Shin-Etsu Polymer Indonesia

Shin-Etsu Polymer India Pvt. Ltd.

Shin-Etsu Polymer Hungary Kft.

### Overseas Non-Production Bases

Shin-Etsu Polymer Shanghai Co. Ltd.

Shin-Etsu Polymer Hong Kong Co., Ltd.

Shin-Etsu Polymer (Thailand) Ltd.

Shin-Etsu Polymer Singapore Pte. Ltd.

Shin-Etsu Polymer America, Inc.

Shin-Etsu Polymer Europe B.V.

Shin-Etsu Polymer Vietnam Co., Ltd.

\*In FY2017, we had six domestic production bases, but following the merger on April 1, 2017, Shinano Polymer Co., Ltd. became Shiojiri Plant, Niigata Polymer Co., Ltd. became Itoigawa Plant, and Urawa Polymer Co., Ltd. was integrated with Tokyo Plant.

### •Main Business Activities

We were established as a polyvinyl chloride (PVC) processing manufacturer in 1960 and have continued to work on the development and application of basic technologies, such as materials and composition, design, manufacturing processes, and evaluation and analysis, of various resins including silicone rubber.

We support various customer needs in a comprehensive range of fields from automobiles and information equipment to semiconductors and construction.

### Electronic Devices Business

#### •Input devices

Automobile key switch, laptop PC touch pad, remote control input device, electronic home appliance switch

#### •Display-related devices

Electronic device connector, privacy filters prevention film for ATMs / PCs

#### •Component-related products

Waterproof products for smartphones, parts inspection connectors, wiper blades

### Precision Molding Products Business

#### •OA equipment parts

Various rollers for printers, faxes, and PPCs

#### •Silicone rubber molded products

Medical catheter, silicone plug, adhesive plate, fire-proof gasket

#### •Semiconductor-related containers

Wafer case, Semiconductor-related containers

#### •Carrier tape-related products

Emboss carrier tape, top cover tape

### Living Environment and Life-Related Materials Business

#### •Wrapping films and other packaging material related products

Wrapping film for fresh food, self-adhesive film

#### •Functional Compounds

Items for various electrical cables (communication cable, robot cable etc.), interior and exterior equipment for automobiles

#### •PVC pipe-related products

Water supply and sewerage piping, general drain piping, agricultural piping, piping joints

#### •Exterior material-related products

PVC / PolyCarbonate corrugated sheets

### Others

#### •Construction

Commercial facilities, interior and exterior design and construction of bathrooms, etc.

#### •Packaging Materials

Industrial trays, packaging for fruits, agricultural materials, shopping bags, container washing

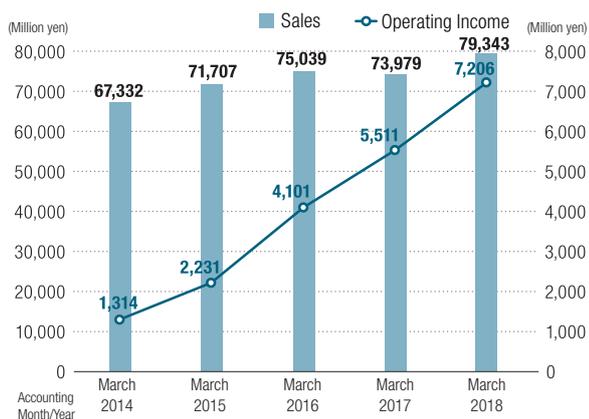
## Summary of Key Performance Indicators

Regarding the business environment surrounding our group in recent years, the semiconductor market continues to grow and demand in automobile-related fields remains high.

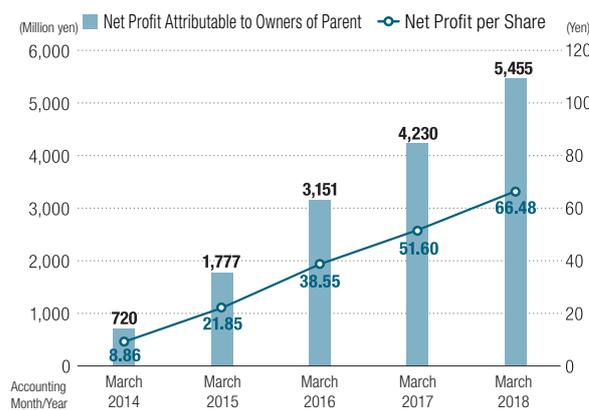
Under these circumstances, we have conducted domestic and international sales activities to expand sales volumes of growth products.

In the beginning of the fiscal year, we merged with four of our domestic production subsidiaries to consolidate our management resources. To increase productivity and operational efficiency, we have been proactively investing to increase production capacity.

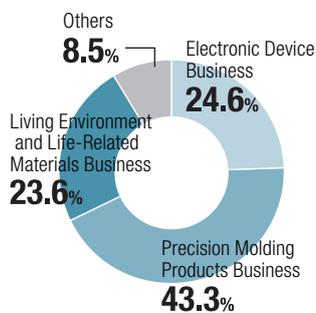
### Changes in Sales / Operating Income (Consolidated)



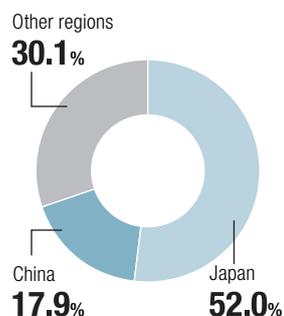
### Changes in Net Profit Attributable to Owners of Parent / Net Profit per Share



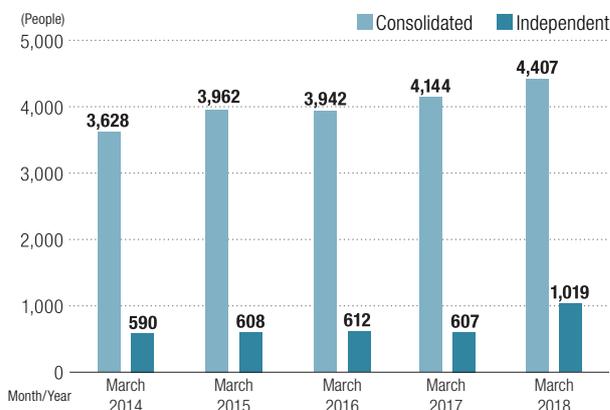
### Distribution of Consolidated Sales by Business Segment



### Composition Ratio of Consolidated Overseas Sales and Shipping Destinations



### Changes in the Number of Employees



\*For a split by male and female employees see page 24.  
\*Figures in March 2018 are post-merger.

### Changes in Key Indicators

Period (Fiscal Year End)	54th Period (Ending in March 2014)	55th Period (Ending in March 2015)	56th Period (Ending in March 2016)	57th Period (Ending in March 2017)	58th Period (Ending in March 2018)
Net Sales (Million Yen)	67,332	71,707	75,039	73,979	79,343
Operating Income (Million Yen)	1,314	2,231	4,101	5,511	7,206
Total Assets (Million Yen)	88,644	93,889	92,845	96,061	103,667
ROE (%)	1.1	2.6	4.4	5.9	7.3
Domestic Basic Units of CO <sub>2</sub> Emissions against Produced Weight (t-CO <sub>2</sub> /t)	0.7063	0.7061	0.6887	0.6833	0.6820
Overseas Basic Units of CO <sub>2</sub> Emissions against Produced Weight (t-CO <sub>2</sub> /t)	6.836	7.038	6.730	7.054	6.548
Emission Rate (%)	0.22	0.29	0.39	1.03	0.15
Number of Accidents (including number of lost time accidents)	8(3)	11(1)	6(4)	17(9)	9(4)

\*Sales do not include consumption tax.

\*For other key management indicators etc., please refer to our financial report.

\*Emission rates refer to domestic production sites of the group.

\*The accident frequency ratios refer to domestic and overseas production sites of our group in a calendar year.

## Top Commitment

# Aiming for Sustainable Growth in Any Economic Environment by Improving Collective Strength

President *Yoshiaki Ono*



Shin-Etsu Polymer was established in 1960 as a processing company of Shin-Etsu Chemical Co., Ltd. and has developed raw materials with Shin-Etsu Chemical Group and provided high value-added products for silicone rubber and various plastics. We also have manufacturing and sales offices around the world to meet a wide range of customer needs across fields such as automobiles, information devices, office automation equipment, semi-conductor related products, life materials and housing related products.

## CSR-Based Management

In November 2017, we launched a CSR Committee to further enhance our CSR management. The committee will work on various activities based on Shin-Etsu Chemical Group's Basic CSR Policies (see page 2) and eight Key Issues (see page 9). This year, we, at

Shin-Etsu Polymer, are primarily focusing on following key issues, valuing our corporate mission statement: Strictly complying with all laws and regulations and conducting fair business practices.

### Promoting CSR procurement and diversification of supply resources

- Sharing our Basic CSR Policies with partner companies
- Investigating CSR actions by partner companies

In recent years, CSR has become more significant not only for our company but also for the entire value chain. Cooperation with partner companies in particular, is one of the most important factors. Through the activities mentioned above, we will implement proper CSR procurement and tackle our key issues.

(See the page 23: Together with Our Business Partners)

**Respect for human rights, the development of human resources and the promotion of diversity**

- Thoroughly promoting Basic CSR Policies within our group
- Conducting surveys on human rights and labors

By understanding the current situation of our group and partners, we will avoid the risks of several issues on human rights and labors. (See the page 24-27: Together with Employees)

**Employees and contractor health and safety**

We aim to achieve zero labor accidents, occupational diseases, and environmental accidents. (See the page 27: Together with Employees)

**Energy-saving, resource-saving and the reduction of the environment impact**

We set the 6th mid-term goal for Green Activity to implement our measures for global warming and effective utilization of resources. (See the page 30-42: Together with Environment)

**Product quality improvements and product safety**

We will continue to improve customer satisfaction based on our quality policy. (See the page 22: Response to Customers)

**Accurate and timely information disclosure and communication with stakeholders**

We will continue to improve our corporate governance and disclose necessary information in an appropriate manner to our stakeholders. (See the page 18-20: Governance)

## Solving Management Issues for Sustainable Growth

In order to achieve sustainable growth of the company, we are focusing on the following two objectives.

**•Expand and increase competitiveness of existing businesses**

We are using our basic technologies, such as materials and composition, design, manufacturing processes, and evaluation and analysis, to expand our existing businesses. Previously, we introduced our adhesive technologies in the FY2016 report and thin film technologies in the FY2017 report. We will continue to increase our competitive edge with top-notch technologies.

**•Develop high value-added products and create new businesses**

To achieve our sustainable growth, we are focusing primarily on new development and new business creation. In this year's report, we will introduce our technologies in the infrastructure and maintenance field.

(See the page 12-16: Special Feature)

Meeting our customers' needs, we will continue to provide products that solve social issues and contribute to society by using our basic technologies as well as developing new technologies.

Some important issues have been mentioned above. The details of these will be explained in this report along with the targets and results of our Key Performance Indicators (KPI). We would very much appreciate any feedback, opinions or comments from our stakeholders. We received third-party comments from Mr. Yoshinao Kozuma, Professor of Economics Department, Sophia University, as was the case with previous editions, and we shall take advantage of them for our future efforts and initiatives.

Our group will actively promote efforts and initiatives to contribute to the realization of a sustainable, safe and secure society. We appreciate your continued guidance and support.

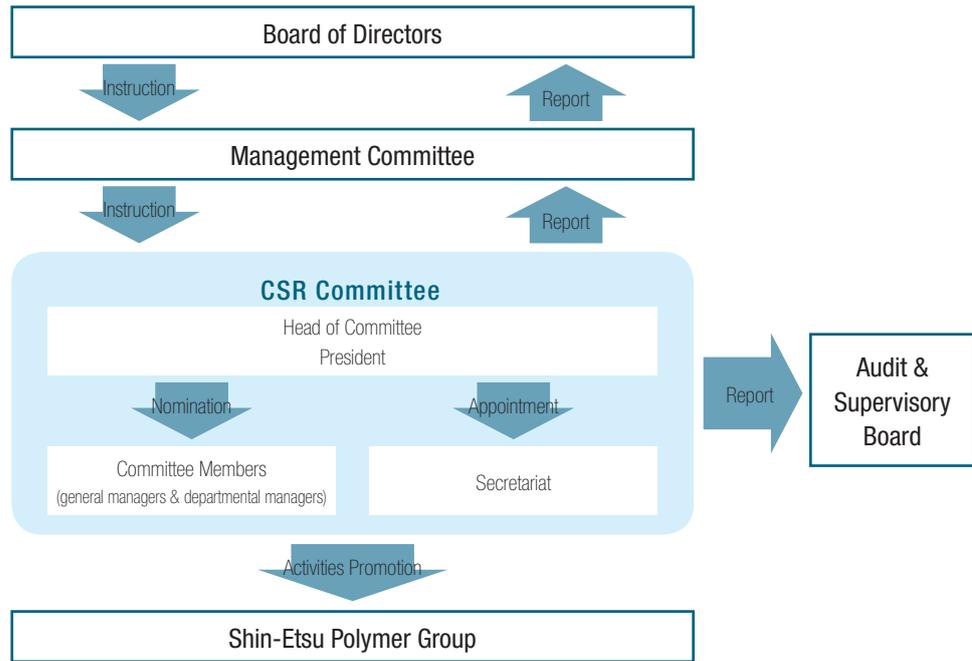
## CSR Activities: Objective and Framework

A CSR Committee was established in November 2017 to further improve our CSR activities.

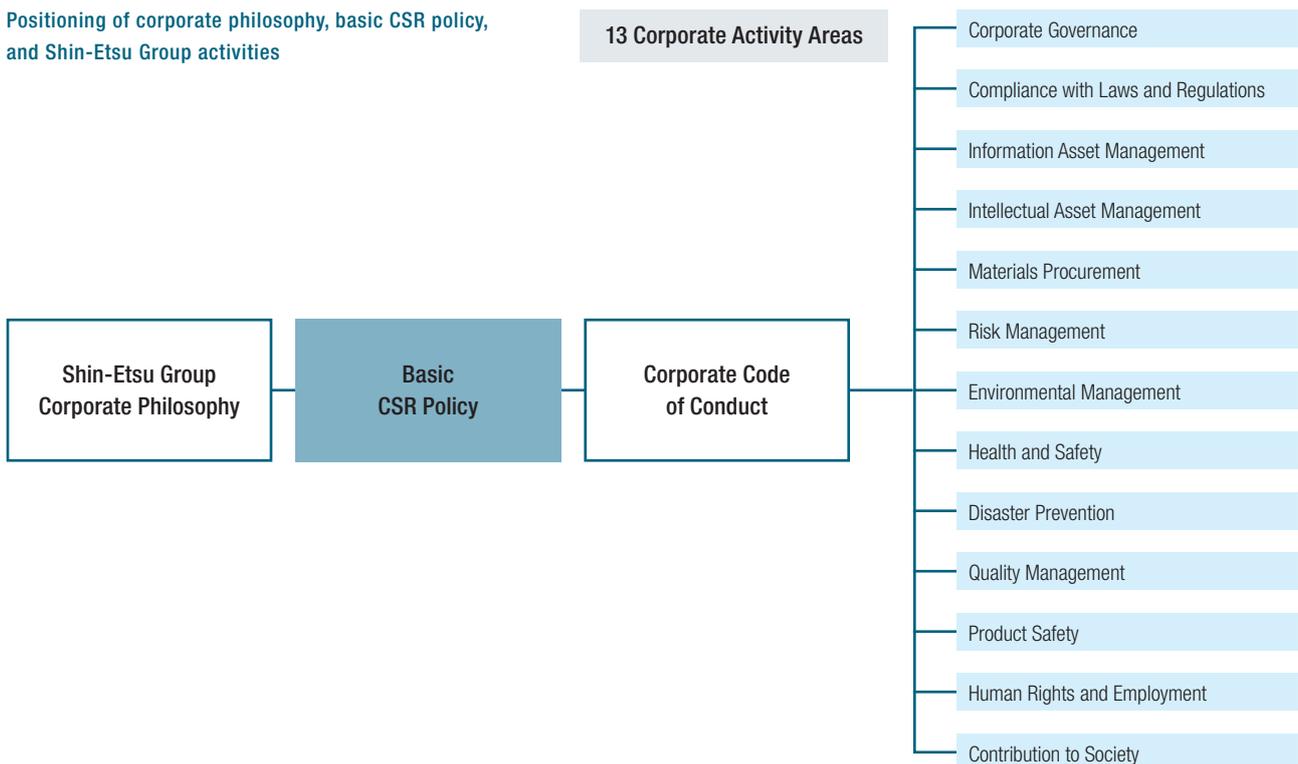
### Objective

Fulfilling our social responsibility by enhancing our CSR activities through the establishment of a clear CSR activity policy and company-wide framework.

### Framework



Positioning of corporate philosophy, basic CSR policy, and Shin-Etsu Group activities



## Key CSR Issues

### 1. Identifying key CSR issues

- 1 Reconfirming and prioritizing stakeholders
- 2 Identifying key issues using ISO26000's core subjects
- 3 Assigning scores based on importance to the group and importance to stakeholders

As a member of the Shin-Etsu Chemical Group, we also identified key issues.

### 2. Prioritizing key CSR issues

Shin-Etsu Chemical Co., Ltd. created a scatter diagram based on issues and scores submitted by each department and company. The majority of the issues were categorized as 'extremely important.' These issues were then further prioritized and a draft plan for key CSR issues was created.

This plan was reviewed by the outside directors, the CSR Committee, and the Managing Committee, and finally, eight key issues were selected.

### 3. Consideration of key CSR issues in Shin-Etsu Polymer Group

Our CSR Committee has reviewed the key issues. Although our products are different, many of the issues identified apply to our business activities, so we judged them necessary for CSR activities and will apply them with some modifications.

#### • Key CSR Issues

#### The foundation of all activities: legal compliance, fair corporate activities

	Issues
1	Employees and contractor health and safety
2	Energy-saving, resource-saving, and reduction of environmental impact
3	Product quality improvements and product safety control
4	Promoting CSR procurement and the diversification of supply sources

	Issues
5	Respect for human rights, the development of human resources and the promotion of diversity
6	Respect for the protection of intellectual property
7	Contribution to industry and social initiatives
8	Accurate and timely information disclosure and communication with stakeholders

### Tokyo Principles For Strengthening Anti-Corruption Practices

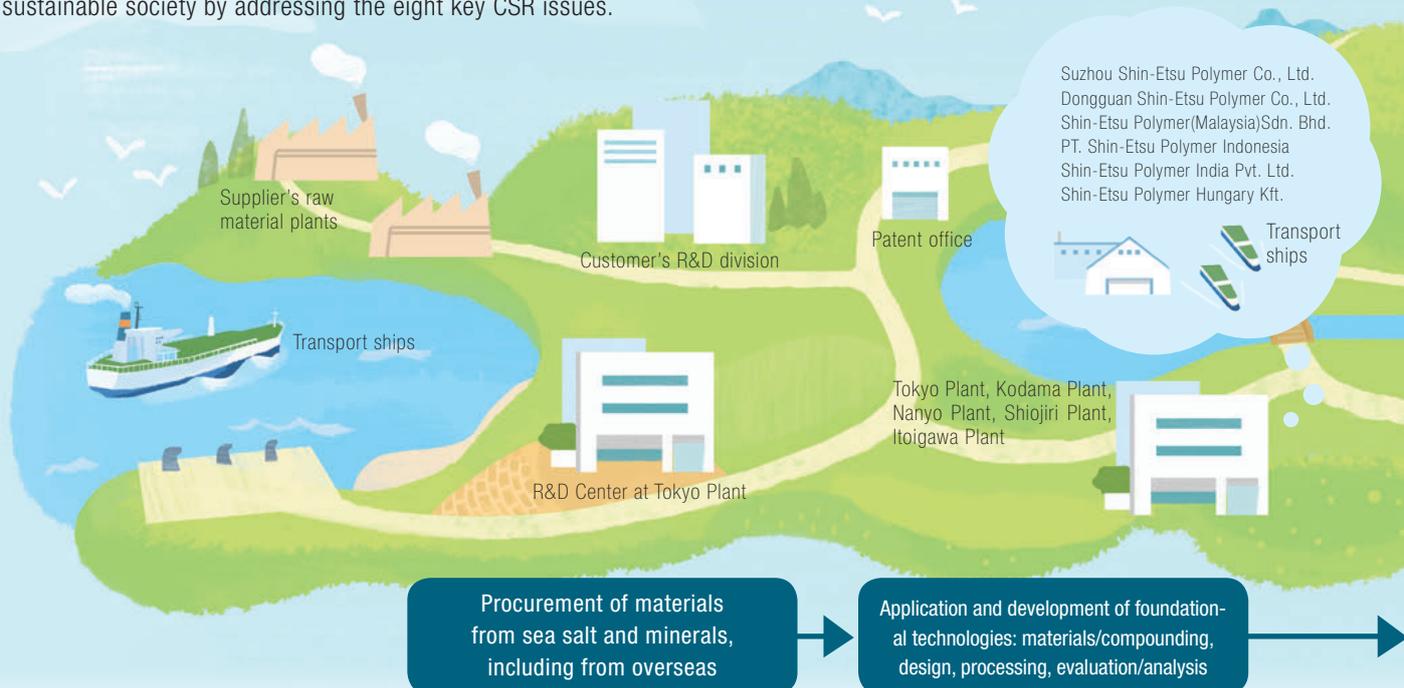
In February 2018, the Shin-Etsu Chemical Group was the first company to sign the "Tokyo Principles for Strengthening Anti-Corruption Practices" established by Global Compact Network Japan. Supporting these principles also contributes to SDG #16: Peace, Justice, and Strong Institutions. As a member of the Shin-Etsu Chemical Group, our group will comply with the principles established by Global Compact Network Japan and further raise awareness of corruption prevention practices as an important element of corporate activities.

Based on the Shin-Etsu Polymer Group's mission statement of "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 will continue to grow along with society.

\*Please see the following website for more details about Shin-Etsu Chemical Group's ESG (CSR) activities: <https://www.shinetsu.co.jp/jp/csr/>

## Shin-Etsu Polymer's Value Chain

This fiscal year, Shin-Etsu Polymer has formulated a value chain map for business activities. We will contribute to the realization of a sustainable society by addressing the eight key CSR issues.



Procurement of materials from sea salt and minerals, including from overseas

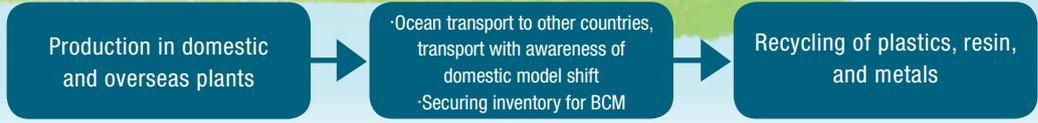
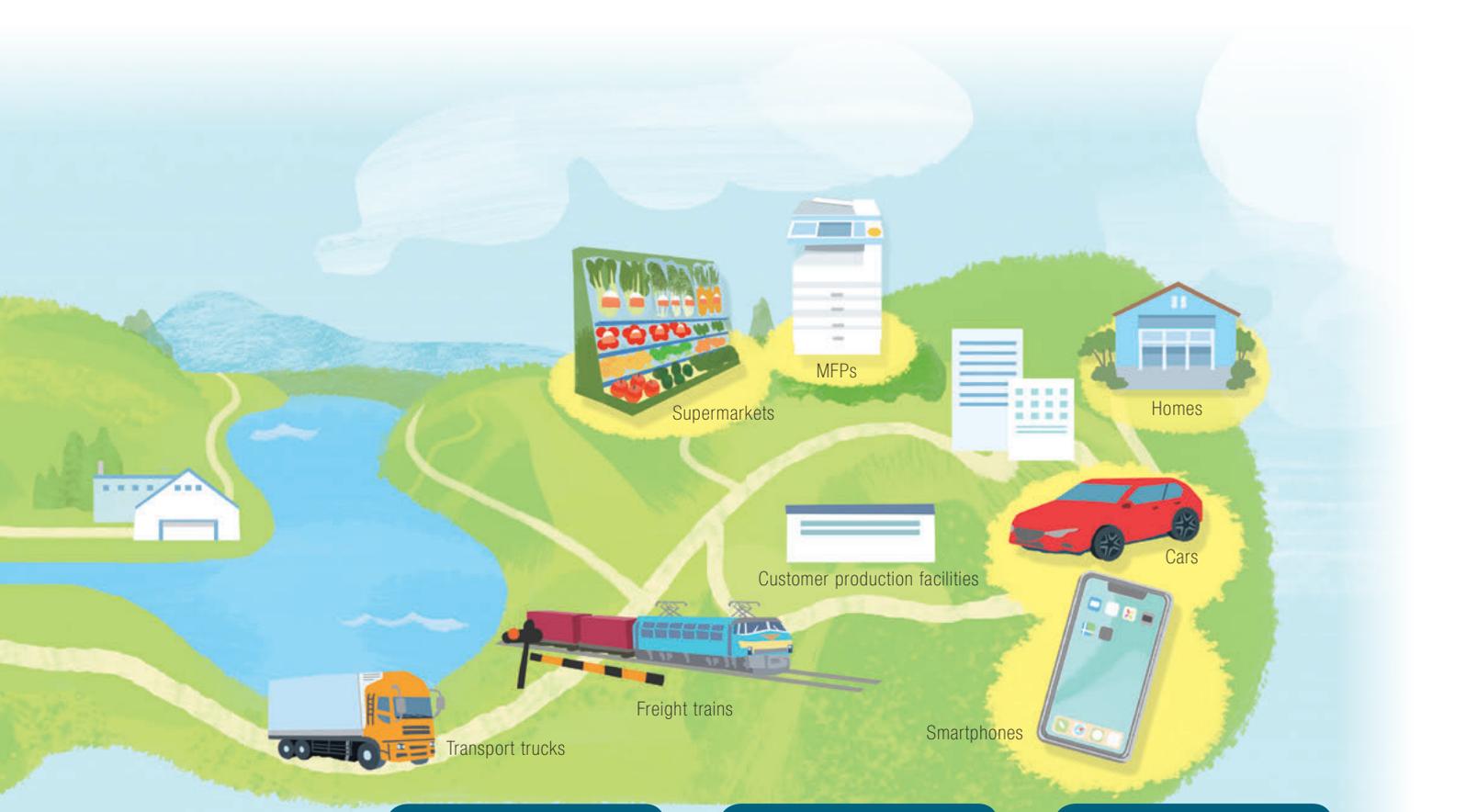
Application and development of foundational technologies: materials/compounding, design, processing, evaluation/analysis

Eight Key CSR Issues
Employees and contractor health and safety
Energy-saving, resource-saving, and reduction of environmental impact
Product quality improvements and product safety control
Promoting CSR procurement and the diversification of supply sources
Respect for human rights, the development of human resources and the promotion of diversity
Respect for the protection of intellectual property
Contribution to industry and social initiatives
Accurate and timely information disclosure and communication with stakeholders

Procurement of raw materials
Issues
<ul style="list-style-type: none"> <li>Preventing health risks from chemical substances</li> <li>Ensuring a safe working environment</li> </ul>
<ul style="list-style-type: none"> <li>Handling all rules and regulations for chemical substances</li> <li>Depletion of petroleum-derived resources</li> <li>Risk of indirect impact on biodiversity and water</li> </ul>
<ul style="list-style-type: none"> <li>Procuring raw materials of stable quality</li> </ul>
<ul style="list-style-type: none"> <li>Procuring price competitive raw materials</li> <li>Stable purchasing</li> <li>Sustainable procurement</li> </ul>
<ul style="list-style-type: none"> <li>Human rights risks at suppliers</li> </ul>
<ul style="list-style-type: none"> <li>Risks of patent infringement for raw materials and parts</li> </ul>
<ul style="list-style-type: none"> <li>Suppliers</li> </ul>

Research & Development
Issues
<ul style="list-style-type: none"> <li>Securing and improving occupational health and safety</li> </ul>
<ul style="list-style-type: none"> <li>Environmental risks such as climate change and resource constraints</li> <li>Increasingly diverse and complicated environmental issues</li> </ul>
<ul style="list-style-type: none"> <li>Identifying customer needs</li> <li>Use of prohibited/restricted chemical substances</li> </ul>
<ul style="list-style-type: none"> <li>Risks of petroleum-derived materials</li> </ul>
<ul style="list-style-type: none"> <li>Securing high-level R&amp;D personnel</li> </ul>
<ul style="list-style-type: none"> <li>Protecting intellectual assets</li> <li>Acquiring patents</li> <li>Managing trade secrets</li> </ul>
<ul style="list-style-type: none"> <li>Solving social issues through our products</li> </ul>
<ul style="list-style-type: none"> <li>Partners</li> <li>Universities / Research organizations</li> </ul>

Reporting on initiatives through sustainability reports and our website, improving transparency of business activities, stakeholder engagement



Eight Key CSR Issues	Production	Logistics / Supply	Using / disposing / recycling
	Issues	Issues	Issues
Employees and contractor health and safety	<ul style="list-style-type: none"> <li>• Securing and improving occupational health and safety</li> </ul>	<ul style="list-style-type: none"> <li>• Risk of transport accidents</li> </ul>	
Energy-saving, resource-saving, and reduction of environmental impact	<ul style="list-style-type: none"> <li>• Understanding and reducing environmental impact</li> <li>• Environmental risks: climate changes, resource</li> <li>• Conserving biodiversity</li> </ul>	<ul style="list-style-type: none"> <li>• Reducing CO<sub>2</sub> / energy consumption</li> </ul>	<ul style="list-style-type: none"> <li>• Identifying customer needs that we can contribute to</li> <li>• Identifying and reducing environmental impact</li> </ul>
Product quality improvements and product safety control	<ul style="list-style-type: none"> <li>• Enhancing quality assurance systems</li> <li>• Ensuring and improving quality</li> </ul>	<ul style="list-style-type: none"> <li>• Securing good logistics</li> </ul>	<ul style="list-style-type: none"> <li>• Ensuring safety in usage</li> <li>• Contamination by harmful chemical substances</li> </ul>
Promoting CSR procurement and the diversification of supply sources	<ul style="list-style-type: none"> <li>• Occupational accident risks at partner companies</li> </ul>		
Respect for human rights, the development of human resources and the promotion of diversity	<ul style="list-style-type: none"> <li>• Human rights risks in the workplace</li> <li>• Accumulating and passing on skills</li> <li>• Promoting diversity</li> </ul>		
Respect for the protection of intellectual property	<ul style="list-style-type: none"> <li>• Outflow of production technology / know-how</li> </ul>		<ul style="list-style-type: none"> <li>• Product improvements</li> <li>• Innovation</li> </ul>
Contribution to industry and social initiatives	<ul style="list-style-type: none"> <li>• Contributing to regional development</li> <li>• Contribution to solving social problems</li> </ul>		
Accurate and timely information disclosure and communication with stakeholders	<ul style="list-style-type: none"> <li>• Employees / partner companies</li> <li>• Areas surrounding bases / local governments</li> </ul>	<ul style="list-style-type: none"> <li>• Shipping companies</li> </ul>	<ul style="list-style-type: none"> <li>• Customers / society</li> </ul>
	Reporting on initiatives through sustainability reports and our website, improving transparency of business activities, stakeholder engagement		

## Product Development for Sustainable Infrastructure Maintenance



### Akiyoshi Satou (center)

Department Chief(Machichine)  
Maintenance Division  
Sendai Branch Office  
East Japan Railway Company

Responsible for the installation plans, construction management, maintenance etc., of station facilities including escalators, air conditioners, ticket machines and ticket gates across the three prefectures of Miyagi, Fukushima and Yamagata.

### Toru Ito (right)

Team Leader  
North Tohoku Sales Branch  
Asahi Sangyo Kaisha, Ltd.

Provides superior technology and high-quality service as a member of a specialized technical trading company by supplying the finest products, including residential environment products and pipe machinery materials, across the three prefectures of Iwate, Aomori and Miyagi. He is also engaged in sales activities of the JR East Group in all regions.

### Kosuke Shirakata (left)

General Manager  
Business Development Unit, Sales Unit

Engaged in the development of new products and the market of sales division cross-sectional products as a member of a department established two years ago to promote the new business.

### Part 1

## Cultivating New Markets Triggered by Customer Opinions

### Employing existing products with a whole new perspective

**Ito:** As a specialized technical trading company, we have a long association with both Shin-Etsu Polymer and JR East. During separate meetings, Shin-Etsu Polymer introduced a self-adhesive silicone, self lock bantage, which I then suggested to Mr. Sato to see if there were any areas in facility

Our connection with the East Japan Railway Company (JR East) began with an introduction from Mr. Ito of Asahi Sangyo Kaisha, Ltd., a company with which we have had a long-standing relationship. The expansion in the use of our existing products and development of new products has led to the inception of a new market, “Infrastructure Maintenance.” This time, we invited Mr. Sato of JR East and Mr. Ito of Asahi Sangyo Kaisha, Ltd., to discuss the features and future of our products in the infrastructure maintenance market.

management at JR East where this product could be utilized. This was the beginning of the relationship between our three companies.

**Shirakata:** Yes, that was about three years ago. At the time, we did not have any experience in developing products or applications for use in the infrastructure industry, so talking with Mr. Sato and Mr. Ito gave rise to so many new ideas.

**Sato:** As for me, I was actually engaged in maintenance management and the installation of station facilities and wondered if this exceptionally durable and flexible silicone could be applied here. When I heard about self lock bantage, I was very surprised to find that the silicone was able to be attached firmly by simply pulling and winding it as necessary, without the need for an adhesive.

### Trialing the product on-site

**Sato:** At the time, our company was doing its best to find preventative measures against the corrosion of facility piping. As the self lock bantage material is a highly weather resistant silicone, I wondered whether it could be used on exposed sections of the metal pipes or the areas where pipes connect, and so conducted an experimental trial on-site. Afterwards, some said it was “hard and difficult to handle” while others noticed that they “couldn’t visually confirm its effects due to the gray color,” at which point we met with Shin-Etsu Polymer to discuss our opinions and ideas.

**Shirakata:** After hearing the opinions of those on-site, I felt a strong need for new product development. It was extremely beneficial for product development to be able to refer to the application trials JR East conducted.

### Coming together to bring about speedy development

**Shirakata:** Through the cooperation of our three companies, we have made substantial developmental progress. To ensure that we keep in mind the ideal image JR East has for our product, our company technicians and engineers also participated in meetings. Furthermore, as a result of conducting actual field tests and being able to see our product in use, we were able to come up with a detailed image of the ideal product, increasing the motivation to “make it a reality.”

**Ito:** I am responsible for bridging the two companies and while involved in this development, I really appreciated the promptness of Shin-Etsu Polymer’s responses. In my opinion, Shin-Etsu Polymer proved to be unparalleled in its speed, from consultation to trial production, sample evaluation, and production.

**Sato:** I agree. The prompt attitude with which Shin-Etsu

Polymer approached every aspect of their work was apparent. As Mr. Shirakata mentioned, even those from the Shin-Etsu Polymer technical department participated in the meetings, which helped align everyone’s ideas and prevent discrepancies. Everything just progressed so quickly and I believe the reason developments moved forward so smoothly is because they were very clear about what was possible and what was not.



**Shirakata:** Thank you for your kind words. Looking back on our shared development, I believe we were able to make such successful progress because both Mr. Sato and Mr. Ito understood the basics of silicone and therefore were able to convey product requests without demanding anything impossible.

**Ito:** Indeed. I’m glad the specialized silicon for corrosion prevention, “Sabi goyo,” based on self lock bantage, was able to be commercialized.

**Shirakata:** Yes. I am very pleased that we were able to firmly reflect the opinions of those on-site in our product. Moreover, your suggestions for application are ideas that companies like us could not have come up with alone, and I would very much like to maximize this experience in future development.

### Taking on new application development considering the possibilities of silicone

**Sato:** On another note, regarding the confirmation of each tool used in railway construction, JR East has been promoting the digitization of tasks that have heretofore been conducted by visual inspection. One idea was to introduce a management method that involved sticking RFID tags\* to each tool, but we could not come up with a way to attach the tag. So, I consulted Mr. Ito and Mr. Shirakata.

\*A type of electronic tag. Data can be remotely read and written into the IC chip using radio waves.

**Shirakata:** When Mr. Sato asked me if RFID tags could be attached using our self-adhesive silicone “Polymer Ace,” I was quite surprised by the idea. Over the 20 years since its development, this was the first time such applications had even been considered. The aim was to attach an RFID tag to each tool in a way that would ensure it would not fall off or get in the way when in use. So, based on our existing “Polymer Ace,” we made some modifications to attach the tags while making sure to keep in mind the opinions of JR East.

**Ito:** As the original color of “polymer ace” is gray rather than transparent, it did not allow anyone to visually confirm whether the tag had actually be attached properly.

**Shirakata:** Yes. So, we revised the formulation until we achieved transparency, and eventually commercialized “Polymer Ace TG,” which now comes in two different lengths.

**Sato:** Despite being a solid seal material, it can be molded and fixed according to the shape of the tool and protects the tags from impact, making it very useful. Additionally, as with “Sabi goyo,” “Polymer Ace TG” requires no adhesive and maintains its quality through the manufacturing process, making it very easy to manage once made transparent.

**Ito:** This experience made me realize just how versatile silicone can be. It doesn’t take much to be put into practice and subsequently, does not take a long time to apply. Additionally, silicone is also used to improve safety at medical sites, so it seems that silicone still has so many potential uses.

**Shirakata:** Yes, indeed. I am absolutely delighted that our past products, like “Polymer Ace,” will once again become a prominent product as it takes a completely different form. In addition to developing new products and technologies, we



have also been focusing on developing applications for existing products. Through these collaborations with JR East and Asahi Sangyo Kaisha, we learned that our products and technologies can also be utilized in the field of infrastructure maintenance. Do you have any expectations for Shin-Etsu Polymer in future?

**Sato:** You have already introduced an existing product and developed it into a new product according to our application needs and the opinions of our employees. In future, I would very much like to hear more about the technology that has supported Shin-Etsu Polymer for such a long time and become one of your companies major strengths. In doing so, I believe Shin-Etsu Polymer will not only be able to extend the application of existing products, but also make use of their amassed expertise to create entirely new products.



**Ito:** This time, we dealt only with the development of products made from silicone, but I think Shin-Etsu Polymer is well versed in the characteristics of a variety of materials. Therefore, I sincerely hope there will be more initiatives to convey the excellence of these materials to the public. As a trading company specializing in technology, I also believe that we can continue to cooperate together to respond to the various needs of customers.

**Shirakata:** Thank you both very much. I understand JR East is also currently working on solving issues with the development of new products. Based on the opinions you have given us this time and the experiences we have accumulated through joint development; my hope is that we can contribute society through sustainable product creation. Thanks again and I look forward to working with you in future.



# Our Products for Use in Maintenance Work

Our products are used for maintenance work in fields such as infrastructure and living environments. In this section, we are going to introduce several products with new functions for expanded versatility.

## Polymer Ace TG



The sheets are 2mm thick, 25mm wide, with a length of either 75mm or 150mm. Additionally sheets can be added for more length.

RFID tags are seeing increased usage on construction sites to prevent human error. Polymer Ace TG is a type of silicone adhesive sheet used for attaching RFID tags to tools. These sheets are placed on the tools and then covered with the RFID tags. They begin hardening once exposed to the moisture in the air, and over the course of about a week, fully harden and achieve a rubber-like consistency.



Greatly contributing to efficiency in infrastructure development

Kensuke Kanto

Project General Manager, 3rd Group  
Sales & Marketing Division II, Sales Unit

Large-scale infrastructure development was conducted in the Tokyo metropolitan area leading up to the Tokyo Olympic Games held in 1964. Large portions of that infrastructure now require maintenance, and RFIDs are being introduced to improve tool management efficiency for this work. Previously, double-sided tape or cable ties were used to attach the RFID tags, but these methods take time and lack durability. So, we came up with the idea of using Polymer Ace silicone, which is highly durable and can take on different shapes. In collaboration with the East Japan Railway Company, we developed a sheet of this silicone for attaching RFID tags. We are planning to also market this product overseas and are currently conducting PR activities to that purpose.

## Agriputty Aqua



A 5kg set of the resin (A-component) and a hardener (B-component). It can be used to fill in cracks and gaps and will not be washed away by water due to its clay-like consistency. At an outside temperature of 23°C, it hardens in about 45 minutes with a solidity of 80°C.

Agriputty Aqua is a sealant for the purpose of repairing cracks in Japan's irrigation canal network, which is estimated to have a total length of 420,000 km. Made of epoxy resin, it is easy to handle due to its putty-like consistency and can even harden underwater. Additionally, it does not require a primer. The resin (A-component) and a hardener (B-component) are mixed together in a 1:1 ratio and then applied to the damaged area.



A highly versatile product that can be used underwater

Toshihiko Mochizuki

Manager  
Fukuoka Branch

It is estimated that irrigation canal repairs done with this product will last 20-30 years. And since it does not harden unless you mix the resin and the hardener, you can save the portion that you do not use. We are currently marketing this product towards agricultural businesses due to its underwater properties, but we hope to expand into other fields in the future.

## Self lock bandage, Anti-Rust Tape, Mega Punch



This self-adhesive silicone rubber tape is used to repair leaking pipes and connectors. Simply wrap it around the damaged area, and the tension in the rubber holds it in place. Since adhesive and plasticizing agents are not used, it doesn't leave a mark after being peeled off.

This silicone rubber tape is used for preventing corrosion of connector parts in piping. Softer than the self lock bandage, it is transparent, leaving the connector part visible. Highly durable, it can be used for outside piping and is estimated to last 20-30 years.



This repair sealant is used for waterproofing and preventing mold in wet areas such as bathrooms and sinks. It comes in a small disposable bag and can be easily applied simply by squeezing, making it ideal for work in narrow places.

### User-friendly products that take advantage of our technology



#### Satoshi Izawa

General Manager  
Fourth Group, Construction Materials  
Sales & Marketing Division IV,  
Sales Unit

Highly user-friendly, the silicone self lock bandage and Mega Punch are two of our companies' few BtoC products. They currently being marketed at home centers. The anti-rust tape was launched in April. We have begun showing it off at exhibitions and have received some very positive feedback from customers. I would like to take advantage of these business opportunities to develop new BtoC products and product applications.



The Kodama Plant workers who support the manufacturing of these products

### From the Office of Products Development Management

#### Responding to needs and contributing to society with our technology

Until now, we have established core technologies through product development to meet customer needs, allowing us to offer a wide range of products. However, we need to be constantly anticipating future needs and developing new products alongside our stable businesses. The Office of Products Development Management is cooperating with the Sales Unit to search for new markets and customer needs. We are focusing on creating a structure to determine what kind of products we need to develop in the future. This spring, we established an Advanced Development Group within the Office of Products Development Management. This group will optimize technology, resources, and marketing information within the company to establish a structure for accelerating development.

This time, we were able to utilize our products for railway maintenance, which revealed the major need for waterproofing products in the maintenance market. Railways, roads, and bridges throughout the country are falling into a state of deterioration. Given the decreasing population in Japan, we suspect that maintenance will take priority over new construction in the future and that the maintenance market is likely to expand. Since our products are useful for repairing piping and performing 'first-aid' for ship damages, I believe that we will be able to contribute to infrastructure-related fields.

We are also searching for other markets that can take advantage of the waterproof, heat resistant, and heat dissipating properties of our products. We will continue to collaborate with Sales to ascertain needs from a global perspective and combine those needs with our technologies to contribute to society.



#### Hiroto Komatsu

Manager, Office of Products  
Development Management,  
Development Unit



## Supply of Environmentally Friendly and Contributing Products

# Creation of Environmentally Friendly and Contributing Products

Based on our Basic Environmental Principles (page 30) and Basic CSR Policies, we are promoting an eco-friendly product system to develop products that reduce environmental burden and solve social issues, thus contributing to the sustainability of our society. We are also developing products to help achieve SDGs.

### • Concept of our environmentally friendly and contributing products

The concept of environmentally friendly and contributing products within our group based on Corporate Action Policy is as follows.

**Concept** Environmentally friendly and contributing products in our Group are new or existing products that solve customers' challenges and, upon confirmation that they are required by society and the environment (social needs), are evaluated and certified for seven items.

### • Evaluation standards of environmentally friendly and contributing products

These standards evaluate as to whether we can reduce the environmental burdens caused by our Group and also contribute to a reduction in operational and environmental burdens for our customers.

We have a total 97 evaluation criteria in place for seven categories: (1) Resource saving, (2) Energy saving, (3) Waste reduction, (4) Recycling, (5) Environmental pollutants, (6) Safety and (7) Protection of biological diversity. Since April 2013, we started internal certifications of environmentally friendly and contributing products by assigning grades on these evaluation items.

### • Shin-Etsu Group products and technology contributing to the United Nations Sustainable Development Goals (SDGs)

United Nations Sustainable Development Goals (SDGs)	Our Group products and technologies contribute to solutions	Description of contributions
<b>Goal #2: Zero Hunger</b> End hunger, achieve food security and improved nutrition and promote sustainable agriculture	• <b>Biodegradable runner clips</b> *also applied to Goal #12 and #15	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.
<b>Goal #3: Good Health and Well-being</b> Ensure healthy lives and promote well-being for all ages	• <b>Medical catheters</b>	In certain cases, treatment and examinations can be conducted by using catheters without the need for surgery.
	• <b>Food wrapping films</b>	Good sanitary conditions can be maintained when food and other items are stored. Long-term storage is also possible
<b>Goal #7: Affordable and Clean Energy</b> Ensuring access to affordable, reliable, sustainable and modern energy for all	• <b>Separators for fuel cells</b>	Used as a key component in clean and low-energy fuel cells.
<b>Goal #9: Industry, Innovation and Infrastructure</b> Building resilient infrastructure, promoting inclusive and sustainable industrialization and foster innovation	• <b>Vinyl chloride tubes and joints</b>	By using highly durable vinyl chloride for tubes and joints, replacements of water supply and sewerage pipes are unnecessary for more than 50 years.
	• <b>Shin-Etsu self lock bantage</b>	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.
<b>Goal #11: Sustainable Cities and Communities</b> Making cities and human settlements inclusive, safe, resilient and sustainable	• <b>Toilet booths</b>	Reduces risks, such as getting fingers caught. Furthermore, should any accident (sudden illness, unexpected change in condition) occur while using a booth, the door is easily released from the outside. Such functions create a safe toilet space.
	• <b>Functionality compounds EXELAST SX series</b>	This product is lighter than the previous rubber glass runs, contributing to lower fuel consumption for vehicles
	• <b>Shin-Etsu TWSS</b>	Jig for attaching semiconductor silicone. As sticky materials are used, adhesive processes and organic adhesive solvents are not required.
	• <b>Embossed carrier tapes</b> *also applied to Goal #13	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.
	• <b>HSP</b>	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.
	• <b>Shin-Etsu polycar toff</b>	Materials recycled from polycarbonate are used for at least 50% of the product.
	• <b>Conductive polymer SEPLEGYDA</b>	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.
<b>Goal #13: Climate Action</b> Taking urgent action to combat climate change and its impacts	• <b>Silicone roller for printers</b>	Particularly with the development of rollers with a smaller outer diameter, it contributes to power consumption reduction for printers.
	• <b>Resin tape frames for wafers</b> • <b>Resin tape frame cassettes</b>	As the weight is less than half of existing metal products, CO <sub>2</sub> discharged during transportation can be reduced.
	• <b>Touch switches (Input devices)</b>	While conventional mechanical switches are built using buttons, frames and many other parts, a touch switch is a single sheet, enabling energy saving and weight reduction. When used in car-mount switches, this weight reduction leads to improved mileage.
	• <b>Shupua</b>	Shupua consists of glass made from silicon rubber. It can be manufactured using a smaller amount of energy than glass.
	• <b>Wafer Cases</b>	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.
<b>Goal #15: Life on Land</b> Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and biodiversity loss	• <b>Fumigation sheets</b>	Sheets covering damaged pines when being fumigated. As the material is biodegradable, it contributes to environmental conservation even after use.

\*Products in blue are added in FY2017.



As a global company that is trusted by and carries the expectations of various stakeholders, including our shareholders, the Shin-Etsu Polymer Group fully recognizes that improving corporate value is the basis of management. With such an awareness, we are continually working to enhance corporate governance through prompt decision-making and transparent management, while also strengthening risk controlling systems, internal control functions and compliance systems. We are also focusing on business continuity management to ensure stable supply of our products.

# Governance

## Corporate Governance

### Basic Principles

#### 1 Ensuring shareholders' rights and equality

We strive to maintain an environment where shareholders can properly exercise their rights by respecting such rights and ensuring equality for all, including minority and overseas shareholders.

#### 2 Appropriate cooperation with all stakeholders, in addition to shareholders

We strive to uphold appropriate cooperation with all stakeholders other than just shareholders, while working towards creating sustainable growth and medium to longterm corporate value for the company.

#### 3 Ensuring disclosure and transparency of appropriate information

We strive to ensure that all information is useful and easy for users to understand, while making sure details are properly disclosed based on relevant laws and regulations. We also independently provide various other information.

#### 4 Responsibilities of the Board of Directors

We strive for the appropriate implementation of the roles and responsibilities of the Board of Directors based on our fiduciary responsibility to shareholders.

#### 5 Dialogue with shareholders

We strive to make constructive dialogue with shareholders, and understandably explain our management policies in order to make sure they are properly understood.

### Corporate Governance System

We adopt an auditor system where all three auditors are outside auditors. Two organizations, the board of directors and the board of auditors, supervise and audit in regard to business execution in a multi-layered way. Whereby, we maintain a functional and effective function of management supervision and an audit function of secured objectivity and neutrality.

### Management decision-making and business execution/supervision

The board of directors makes important decisions in management together with supervising business execution of directors properly. As of June 26 2018, the Board of Directors is comprised of 12 members, two of whom are outside directors (both are independent directors). Outside directors have extensive experience and deep insights over the years as company owners and specialists in accounts/tax affairs and supervise our company's management from an overall view in an objective, proper manner.



## Audit system

Three outside auditors (one is an independent outside auditor) comprise the Board of Auditors all of whom conduct audits totally independent of business execution (As of June 26, 2018). Auditors as a function to monitor management attend various meetings including the board of directors etc, and hold board of auditors meetings, needed to discuss important issues regarding an audit based on reports provided from each auditor.

As for internal audits, the Office of Internal Auditing audits the control/operation system and status of business execution from the view of legality, rationality and efficiency.

With regard to accounting audits, we have quarterly reviews where, from time to time, advice regarding accounting is received.

At audits by auditors, internal audits and accounting audits, they exchange information etc. closely based on mutual cooperation and collaboration to improve audits.

## Relationship with the parent company

Our parent company, Shin-Etsu Chemical Co., Ltd., is a controlling shareholder that holds 52.6% of the total number of our issued shares (excluding treasury shares). We maintain independence in business activities and properly decide trading conditions based on market prices in trades when we purchase materials, etc. from the parent company.

## Directors' remuneration

Directors' remuneration is decided within the range of an amount approved at the General Assembly of Shareholders in consideration of their roles, etc., through discussions at Board of Directors meetings for directors and at Board of Auditors meetings for auditors.

### •Directors

Remuneration for directors includes "Bonuses" and "Stock options" that are a reflection of annual results, in addition to a "Basic remuneration," in order to reflect company performance and share price and clarify their management responsibility in improving corporate value. Remuneration for outside directors is a "Basic remuneration" corresponding to their roles in consideration of their responsibilities.

### •Auditors

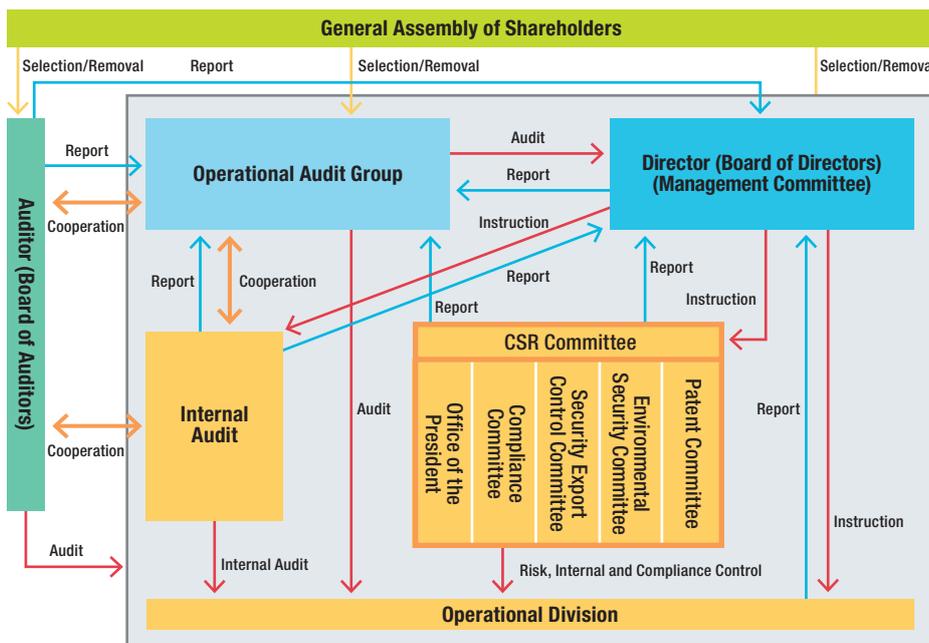
Remuneration for auditors is a "Basic remuneration" in order to place an emphasis on objectivity regarding performance and based on their roles.

## Support System for Outside Directors (Outside Corporate Auditors)

The General Affairs Department and Legal Department provide support to outside directors, while the Auditors' Office supports outside auditors.

We inform outside directors and outside auditors of the schedule and agenda of important meetings, such as the Board of Directors meeting in advance. In 2016, frequency and quality of information supplement were improved by holding a liaison meeting for outside directors and auditors every month.

### Shin-Etsu Group corporate governance system



### Office of the President

Manages corporate-wide challenges and risks, comprehends management policies, measures all situations of the entire company and takes the appropriate measures. Furthermore, cooperates with other departments and operates as a contact center in case of an emergency.

### Compliance Committee

Involves deliberation and resolution of matters related to compliance policy and situational awareness.

### Security Export Control Committee

Involves deliberation and resolution of matters related to compliance with export control laws and regulations.

### Environmental Security Committee

Involves deliberation and resolution of matters related to environmental security, disaster management, in addition to occupational health and safety.

### Patent Committee

Involves deliberation and resolution of matters related to industrial property rights.



## Information disclosure system

We are always bearing in mind to enhance corporate governance and secure transparency of management and making efforts for fair, timely and proper information disclosure to shareholders/investors in accordance with applicable laws and regulations in relation with financial instruments trades, etc. and rules of the Tokyo Stock Exchange.

For our information disclosure system, based on “Basic Information Disclosure Policies,” an information disclosure officer is appointed, and an Information Disclosure Committee meeting chaired by said officer takes place. The Information Disclosure Committee is made up of personnel from the Office of the President (In charge of IR/PR), the Accounting Department and the Legal Department as well as other related departmental personnel. The meeting is held when considered appropriate, striving to disclose information in a flexible and prompt manner.

## Communication with shareholders/Investors

We hold explanatory meetings for analysts, investors and media at the time of announcements of financial statements of the end of each fiscal year and the 2nd quarter to explain our business status to shareholders/ investors. We also offer information such as news releases, summaries of accounts, materials for explanatory sessions of accounts, annual reviews, notices for General Meeting of Shareholders, notices of resolution etc. using the web site as speedy and fair information disclosure methods to shareholders/investors.

Described below are the current status of our efforts towards the invigoration of the General Assembly of Shareholders and a facilitation of exercising voting rights:

- **Early delivery of convocation notices for the General Assembly of Shareholders**  
To be sent three weeks prior to the day of the General Assembly of Shareholders
- **General Meeting of Shareholders to be held on a day other than a day general meetings of shareholders for other companies are taking place**  
58th General Assembly of Shareholders: June 26, 2018
- **Exercise of voting right using an electromagnetic method**  
Exercise of voting rights using an electromagnetic method via the Internet adopted
- **Effort to improve environment to exercise voting rights**  
Participation in electronic voting platform

Please visit our web site for a “Report on corporate governance.”

- <https://www.shinpoly.co.jp/company/corporate.html>

## Risk management

### Risk management and maintenance/ promotion of internal control and compliance system

Recognizing that risk management is a crucial issue for the sustainable group of a company, our group takes all necessary measures by promoting information sharing of critical risks across the entire group, especially driven by the Office of the President, and take necessary measures.

Additionally, we strive to operate and maintain a more appropriate and efficient internal control system positioning the construction, improvement and operation of said internal control system as an important management responsibility.

Furthermore, based on the idea that for our group to obtain trust as a member of society, it is essential to “Sincerely act, respecting values and ethics that are required as a member of society, not to mention complying with laws and regulations,” our group promotes thorough compliance and excludes any relationships with antisocial forces.

### Risk Management Regulations

Our group established “Risk Management Regulations” for the purpose of contributing to the smooth operation of our business by upgrading to a management system that is aimed at total risk prevention and one that responds to risks that do arise.

#### Risks as defined in Risk Management Regulations

##### 1 Risk factors relating to business activities

- |                                    |                                      |
|------------------------------------|--------------------------------------|
| 1) Management risks                | 11) Intellectual Property risks      |
| 2) Sales and marketing risks       | 12) Information risks                |
| 3) Customer risks                  | 13) Finance and accounting risks     |
| 4) Production risks                | 14) Personnel and labor risks        |
| 5) Purchasing risks                | 15) Publicity and reputational risks |
| 6) Logistics risks                 | 16) Social risks                     |
| 7) Quality risks                   | 17) Business infrastructure risks    |
| 8) Technology risks                | 18) Legal risks                      |
| 9) Environment and safety risks    | 19) Country specific risks           |
| 10) Research and development risks | 20) Others                           |

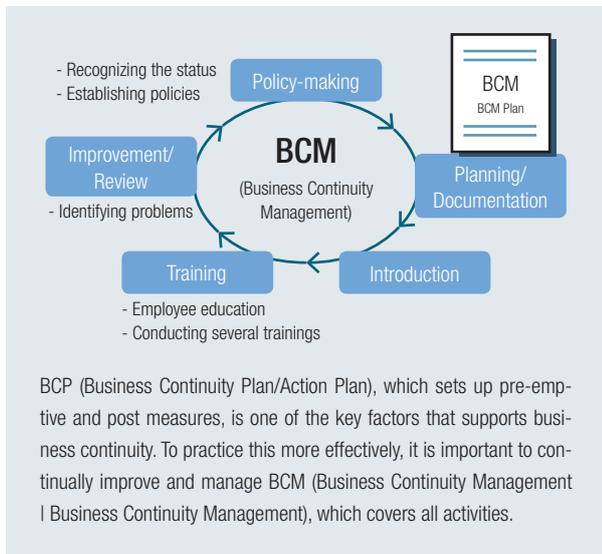
##### 2 Risks due to factors outside business activities

- 1) Risks due to economic factors
- 2) Risks due to social factors
- 3) Risks due to political factors
- 4) Risks due to scientific and technical factors
- 5) Risks due to natural environment and disaster factors
- 6) Others



## Business Continuity Management (BCM)

Based on the lessons learned from the Great East Japan Earthquake that occurred in March 2011, our group developed the BCM project and a related basic system to recover and resume our businesses promptly. This helped to minimize the impact on important operations when unforeseen circumstances, such as natural disasters occurred. The project itself was dissolved in December 2016, but the president's office has taken over the BCM in order to fulfill our responsibility of ensuring the stable supply of products to customers.



## Updating the BCM manual

Our “Disaster countermeasures and business continuity manual (BCM manual),” established in December 2015, includes an outline of the business continuity plan and states our aim for the continuation and early recovery of business for employees, their families, neighboring residents, and customers. At each site, nine standard documents are updated according to “Basic BCP Policy,” and managed by the president's office.



“Disaster countermeasures and the business continuity manual (BCM manual)” written in Japanese, English and Chinese.

### Basic BCP Policy

1. Ensuring reliability and safety of employees, their family members, and local residents.
  - 1) Ensuring workplace safety.
  - 2) Improving the safety of employees and their family members.
  - 3) Offering reliability to employees and their family members.
  - 4) Offer support to local residents.
2. Aiming for continuation and early recovery of business for customers and employees
  - 1) Ensuring our customers' trust

## BCM Trainings

Once a year, we conduct a BCM training to check the functions of the Group-wide Measurement Headquarters. During our second training held in December 2017, we conducted a training in the semiconductor-related product business.



A BCM training was held in cooperation with three bases: headquarters, Itoigawa Plant, and Tokyo Plant where our production division is located.

Number	Date	Plant	Contents
1st	December 2016	Shiojiri Plant	The plant produces automotive related products. By using a satellite phone, we conducted a joint training that simulated a big earthquake hitting Nagano Prefecture, where the plant is located, and the state of the few days that would follow.
2nd	December 2017	Itoigawa Plant	The plant manufactures semiconductor-related products. We conducted a training that simulated the flooding of the river around the Itoigawa Plant due to heavy rain, blockading major roads. The training was conducted in cooperation with three bases: headquarters, Itoigawa Plant, and Tokyo Plant.



The Shin-Etsu Polymer Group believes it is important to have high quality and stable supply so that our customers can use our products with confidence. To that end, we aim to improve customer satisfaction by building and strengthening the quality assurance system of the entire group.

## Responding to Customers

### Initiatives for Quality Control

The Group is working to strengthen our quality assurance system so that customers can use products with peace of mind.

#### Shin-Etsu Polymer Group Quality Policy

Through manufacturing, we will contribute to society by providing high-quality products that are trusted by customers.

- 1 We will always incorporate market needs into our products and strive to improve customer satisfaction.
- 2 We will continue efforts to improve quality and hone our technology as we aim to become the “preferred company of choice.”
- 3 We will conduct thorough field management to continue to provide a stable supply of high-quality products.

#### Quality month

In order to improve quality awareness, the first quality month was implemented in November 2017 to unify the entire company.

We have been focusing on improving the mindset of employees through our articles, including Message from the President, plant diagnosis by the Head of the Production Division (three domestic plants), recruitment and recognition of quality slogans for domestic factories, and quality feature reviews in our internal newsletter. During the next fiscal year, we are planning to expand the scope and enhance the articles even further.

#### The 2nd Global Quality Meeting (top right photo)

Quality managers from 13 domestic and overseas production bases and 55 others participated in the second quality conference held in April. This time we held a QC method study group and product analysis meeting. We also reiterated our stance on dishonest correspondence related to recent quality control issues and gave the regular reports on our group quality policy and the quality records of FY2017. 12 overseas local employees also participated, making for lively discussions and reports in both Japanese and English.



#### Comments from Mr. Makoto Kojima, Manager, Office of Quality Assurance

After the reorganization of our head office system in 2014, we established the unification of our change management databases and have been promoting the introduction of concepts and rules that should be shared throughout the entire company while making the most of the best aspects of our traditional products. Currently, we are focusing on acquiring and utilizing QC method, and are developing them not only in the production factory but also in the technical section.

### Initiatives to secure product safety

#### Product safety activities

When we receive information from our customers that present a high risk, such as information that threatens product safety, we promptly notify management and ensure those in charge inform the Office of Quality Assurance so the appropriate response can be taken.

\*Website: [Quality Management https://www.shinpoly.co.jp/technology/index.html](https://www.shinpoly.co.jp/technology/index.html)



We have cooperated with our business partners to conduct initiatives for environmental problems based on our original green procurement standards. However, the stock market and ratings agencies have begun to place an emphasis on CSR as a criteria for corporate evaluation, so in the event of an environmental problem on our supply chain, we face increased likelihood of risks like boycotts. Therefore, CSR procurement is a key issue for the CSR Committee.

## Together with Our Business Partners

### • CSR procurement subcommittee

Promoting CSR procurement and the diversification of supply sources is one of the key policies formulated by the Shin-Etsu Chemical Group. The CSR Committee has a subcommittee to focus on solving this issue. As our group has similar risks and opportunities to Shin-Etsu Chemical Group, we employ the same basic procurement policy as Shin-Etsu Chemical Co., Ltd. The purpose is to promote CSR activities together with our business partners.

#### Basic Procurement Policy (Abstract from the Basic Procurement Policy of Shin-Etsu Chemical Group)

- 1 Abiding by the law**  
The Company conducts all of its business activities in a law-abiding spirit. In its purchase and procurement activities, the Company acts in good faith and in a fair manner, and does not practice favoritism, nor make improper demands.
- 2 Promotion of corporate social responsibility**  
For the promotion of CSR, the cooperation of all the Company's suppliers is essential, and we ask them to comply with the Company's CSR policies in the areas listed below. At the same time, we will strive to maintain mutual trust and close, friendly relationships.
- 3 Selection of vendors**  
The Company follows an open-door policy regarding its transactions and globally seeks suppliers based on open, fair, impartial and equal-opportunity principles.
- 4 Meeting the needs of the suppliers, conducting performance reviews**  
The Company provides suppliers with the essential information necessary for transactions and also cooperates with suppliers' VA and VE improvement activities as well as in activities related to the maintenance and improvement of product quality. The Company also routinely or as necessary promotes evaluation and review of suppliers' performance in areas that reflect on the Company's basic procurement policy and "Green" procurement standards.

### • CSR Procurement Guideline

To realize a sustainable society, we believe that sharing environmental awareness in the supply chain and promoting activities is effective, so we employ the same guidelines as Shin-Etsu Chemical Co., Ltd. The purpose of this guideline is promoting CSR activities together with our business partners by getting the Shin-Etsu Chemical Group's CSR activities across to business partners and promoting initiatives for suppliers' upstream supply chains.

### • Countermeasure against Conflict Material

#### Shin-Etsu Polymer Group Conflict Material Policy

The Shin-Etsu Polymer Group expresses the following in relation to conflict materials:

- The Shin-Etsu Polymer Group agrees with and supports the objectives of the Wall Street Reform and Consumer Protection Act on conflict minerals.
- The Shin-Etsu Polymer Group has no intention to participate in human right violations or environmental destruction by procuring raw materials, parts, components and products using such conflict minerals.
- The Shin-Etsu Polymer Group will continue to work with customers, business partners, and industry organizations to proceed with efforts to avoid such participation.
- If any conflict materials are found in raw materials, parts, components, or products the Shin-Etsu Polymer Group procures, the group will promptly take the necessary measures.



The Shin-Etsu Polymer Group believes that safety and environmental preservation are the foundation of all corporate activities and one of the most important issues for management. We are proactively working on activities to realize a human- and environment-friendly workplace with goal of eliminating workplace and environmental accidents. In addition, we are working toward creating a work environment where each and every employee can be themselves but also develop and grow at the same time.

## Together with Employees

### Respect for Human Rights

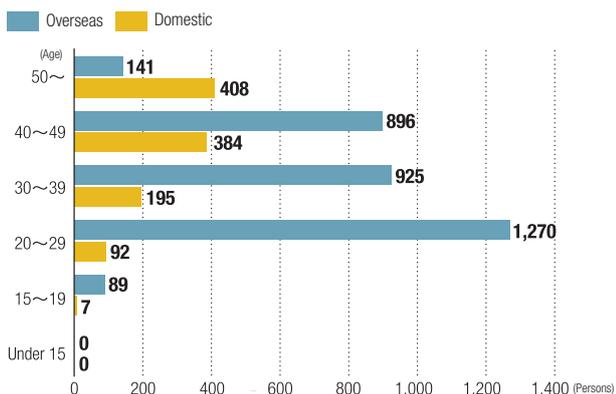
#### • Raising awareness for human rights

Based on a respect for human rights, the Shin-Etsu Polymer Group does not discriminate in terms of race, gender, academic background, disabilities, place of birth, ethnicity or religious beliefs. We conduct human rights awareness training for all employees as part of our efforts to promote an understanding of social integration and prevent problems such as sexual or power harassment.

#### • Elimination of child and forced labor

In accordance with global laws and regulations related to labor, our Group prohibits child and forced labor in all countries and regions. We have surveyed all group companies including the ones overseas and confirmed that there is no child or forced labor.

### Labor distribution by age group (Our group)



### Current Employment Situation

#### Changes in number of employees

(Unit: people)

End of FY	Personnel (Non-Consolidated)			Personnel (Consolidated)		
	Male	Female	Total	Male	Female	Total
2013	488	102	590	1,601	2,027	3,628
2014	501	107	608	1,678	2,284	3,962
2015	504	108	612	1,694	2,248	3,942
2016	498	109	607	1,742	2,402	4,144
2017	805	214	1,019	1,859	2,548	4,407

\*Employees refers to full-time employees

#### Managerial positions

(Unit: people)

End of FY	Managers		Officers	
	Male	Female	Male	Female
2013	245	4	17	0
2014	251	4	16	0
2015	293	4	15	0
2016	314	5	15	0
2017	304	7	15	0

\*FY 2016 and earlier figures are pre-merger.

\*FY2017 figures are post-merger.

#### Number of new graduates hired

(Unit: people)

End of FY	University graduates		High school/other graduates	
	Male	Female	Male	Female
Joined in April 2014	6	0	0	0
Joined in April 2015	6	2	2	0
Joined in April 2016	7	2	1	0
Joined in April 2017	6	1	6	1
Joined in April 2018	8	2	11	6

\*FY 2016 and earlier figures are pre-merger.

\*FY2017 figures are post-merger.



## Work-Life Balance

All domestic group companies strive to create environments where all employees can work comfortably and thrive.

### •Child care

Our Group revised the rules for childcare leave in October 2016. The revised rules allow employees to take childcare leave until the child reaches the age of three and/or work shorter hours until the child reaches third grade in school. This particular revision was based on opinions that were collected through interviews conducted with employees who raised or are currently raising children. In FY2017, 19 employees took childcare leave and 13 employees used the reduced working time system to care for children. Working hours were also reduced from 30 - 120 minutes based on the needs of the individual. Male employees are also encouraged to take sick/injured childcare leave, and of the employees who took did took this leave, 35% were male. We will continue to cooperate with employees to create environments that are conducive to working while raising children and where employees can easily maintain their employment status.

### •Nursing care

We revised our standards for nursing care leave in October 2016 prior to the official legal amendment in 2017. For example, in addition to 93 days of nursing care leave, employees can also opt for shorter working hours. As the system dealing with nursing care is expected to become increasingly important, we will strive to create environments where employees involved in nursing care can work in the most comfortable manner possible.

### •Promoting usage of these systems

Following revisions to rules and systems, we carry out briefing sessions at all sites to explain the changes. In addition to explanations of new systems, we also monitor usage of existing systems. Should usage begin to stagnate, we once again provide explanations and encourage employees to take advantage of these systems.

## Usage of maternity leave, childcare leave, and nursing care leave End of FY

End of FY	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Number of employees who took maternity leave	2	3	5	7	7
Number of employees who took childcare leave	6	3	4	10	19
Number of male employees who took childcare leave	0	0	0	0	0
Number of female employees who took maternity leave (Leave takers / number of births x 100)	100	100	100	100	100
Number of employees who used the reduced working time system to care for children	4	1	3	4	13
Number of employees who took nursing care leave	0	0	0	1	0

\*This data is applicable to Shin-Etsu Polymer Co., Ltd. only.

## Usage of annual paid leave

End of FY	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Average annual paid leave granted (days)	19.6	19.6	19.2	19.2	19.1
Usage of annual paid leave	10.3	10.8	11.1	10.8	11.8
Annual paid leave taken (%)	52.6	55.1	57.8	56.3	61.8

\*FY 2016 and earlier figures are pre-merger.

\*FY2017 figures are post-merger.

## Diversity of Working Styles

### •Act on Promotion of Women's Participation and Advancement in the Workplace

At our company, average years of service are 18.9 years overall, indicated a corporate culture of long-term employment. By gender, average years of service are 14.7 years for female employees and 20 years for male employees.<sup>\*1</sup> In 2018, there were 50 female employees<sup>\*2</sup> in managerial positions, up from 27 in 2016, indicating more women rising to leadership positions and thriving in the workplace. We will continue to work on creating systems to further develop our human resources.

\*1 As of the end of March 2018.

\*2 This includes 10 female managers who joined us as a result of the merger.



## Together with employees

### • Initiatives to employ people with disabilities

We actively encourage employment of people with disabilities. In 2017, we accepted several interns from a special needs school. These interns were able to gain practical experience, learn more about our work, and experience the workplace atmosphere, which hopefully eased some of their concerns relating to joining the workforce. As a result, some of them elected to join our staff on a permanent basis. With the support of the Employment and Living Support Center for Persons with Disabilities, we are working on creating a comfortable working environment for them.

End of FY	FY2013	FY2014	FY2015	FY2016	FY2017
Number of employees with disabilities	15	15	14	17	23
Employment rate of people with disabilities	2.22	2.25	2.02	2.34	1.98

\*FY2017 figures are post-merger.

\*The employment quota for people with disabilities for private companies was 2.0% in 2017.

### • Re-employment system

In accordance with the Amendments to the Act for Stabilization of Employment of Older Persons that came into effect in April 2013, our group has updated our re-employment system to allow retired employees to return to work if they wish to do so. These older employees possess knowledge, expertise, and experience cultivated over long years of regular employment and can pass down valuable skills to the next generation. We will continue to update our systems in accordance with all laws and regulations to enable employees of all age groups to play active roles.

### • Career self-assessment system

We have begun implementing a career self-assessment system for employees aged 50 years and older to help them reassess the challenges and knowledge required to continue working after reaching retirement age and to improve their motivation. Additionally, we invite outside instructors to conduct Pension Seminars to improve understanding of financial planning after retirement.

## Human Resources System

Our Group is continually working on personnel systems to facilitate any challenges being faced by employees. Following a revision to the personnel system for managerial staff in 2015, we revised the personnel system for general staff members in FY2016, thereby establishing a consistent system for all employees. We have also adopted a track-based personnel system consisting of three tracks for managerial staff (based on their expected roles) and three tracks for general staff (based on their duties and/or work locations). In conjunction with this, we have revised the personnel evaluation system, placing a higher importance on fairness and persuasiveness. This new personnel evaluation system focuses not only on achievements but also on the underlying abilities and attitudes that drive employees toward greatness. In addition to personal achievements, it also acknowledges contributions made to the organization and teamwork. We will continue to focus on creating systems that facilitate any and all employee challenges.

## Training and Development

We believe that helping our employees grow contributes to business continuity. In addition to OJT, we offer a variety of programs to support employees at major career turning points such as promotions.

### • Tutor System

Each new hire is assigned a one-on-one tutor who focuses on training them for their new position. These tutors serve as role models and confidantes for new employees joining the workforce for the first time. The tutors themselves also grow and develop through working with the new employees.

### • Management Training

Since FY2015, group employees have participated in rank-specific training (managerial level, senior staff level) conducted by Human Create Co., Ltd., an education and training institution belonging to Shin-Etsu Chemical Group, to learn the concepts and techniques of group-wide management.

Also, within our group, we provide promotion training for employees newly elevated to managerial positions to give them additional support for growth.

## Physical and Mental Health Care

### • Physical and mental health care

The Shin-Etsu Polymer Group has introduced the Employee Assistance Program (EAP) to help employees and their families lead healthy lives, both physically and mentally. Through this program, employees can consult professionals in various fields on a variety of topics including mental and physical health, raising children, nursing care, and legal and financial matters. Toll-free calls and e-mail are used to maintain privacy. We also have a consulting service for sexual harassment. In addition, we regularly deliver useful health-related information via our in-house network to raise awareness about mental health and health management.



Together with employees

## Environmental Security Management System

### •Environmental Security Policy

Our Group recognizes that safety, disaster management, and global environmental protection are top priority issues. Consequently, as a group, we work on: (1) creating safe, comfortable and eco-friendly workplaces with the aim of eliminating occupational accidents, occupational diseases, and environmental accidents, (2) observing all relevant laws and regulations, (3) preventing disasters and environmental accidents by promoting risk management and minimizing risks (promotion of risk assessments) (4) raising awareness of safety, disaster prevention and environmental conservation via education and (5) obtaining trust from society by openly disclosing information about the current status of all our environmental security activities.

### •Eliminating workplace accidents

In addition to performing regular risk assessments of our facilities and operations based on our occupational health and safety management system, we promote safety proposals, near-miss elimination activities, and risk prediction training. We aim to completely eliminate workplace accidents by establishing safety as part of our corporate culture and creating workplaces with a high level of safety awareness.

After analyzing the causes of workplace accidents, we have determined that the majority (approx. 60%) are a result of human factors such as human error, lack of awareness, and rule violations, followed by managerial factors such as procedural inadequacies and lack of training, and physical factors such as equipment and working environment issues. In 2018, we are working on reinforcing safety procedures and encouraging employees to point out safety problems to reduce human error.

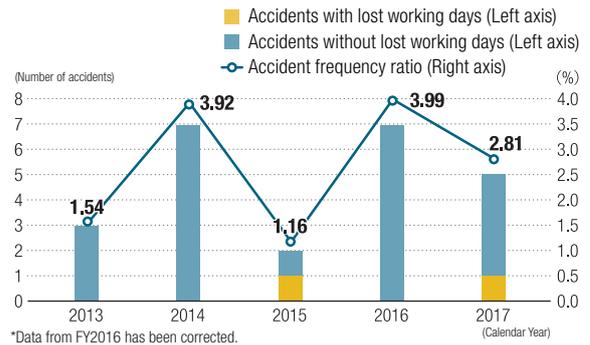
### •Environmental security audits

We regularly conduct environmental security audits to confirm whether environmental security activities (safety, disaster prevention, environment, and compliance) at each business office are being properly implemented. As part of these audits, compliance with all applicable laws and regulations and the current status of environmental security management activities are confirmed. During the audit in FY2017, we conducted awareness training to eliminate accidents and shared preventative measures across the organizations.

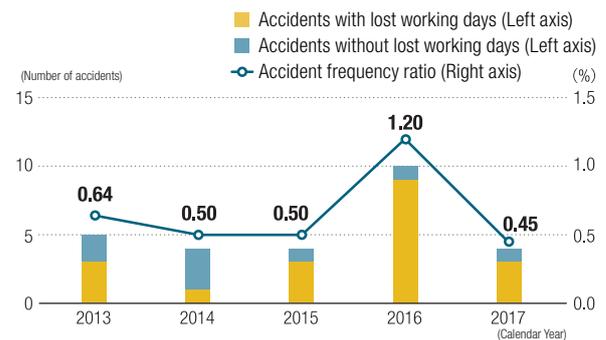
### •Reports on work time accidents in 2017

In Japan, in addition to awareness training and safety suggestion activities, we conducted accident prevention activities to reduce human error. Overseas, we saw a reduction in the number of accidents compared to the previous year. This is mainly due to one of our production sites going from four accidents to zero. Due to the large number of accidents in 2016, we established a new safety system in August that year, including reinforcement of awareness training and safety patrols and a new accident reduction award system. As a result, there were no accidents in the following two years, proving the efficiency of the new system.

#### Number and frequency of workplace accidents (domestic plants)



#### Number and frequency of workplace accidents (overseas plants)



### •Regular environmental security audits at overseas production sites

Every year, Shin-Etsu Polymer (Malaysia) Sdn. Bhd., Suzhou Shin-Etsu Polymer Co., and Ltd., Dongguan Shin-Etsu Polymer Co., Ltd. and undergo environmental security audits to confirm that environmental security activities are being executed properly. In addition to these three regular audits, Shin-Etsu Polymer India Pvt. Ltd was also audited in FY2017. Shin-Etsu Polymer Hungary Kft. will be audited in FY2018, thus accounting for all six of our overseas production sites.



Safety patrol at Dongguan Shin-Etsu Polymer Co., Ltd.



Based on the concept of “making efforts to coexist with local communities,” we carry out health and safety, communication with communities, humanitarian and disaster relief, and environmental protection activities. In relation to the implementation status of such activities, we openly disclose all relevant information.

## Together with Local Communities

### Communication with Communities

#### •Acceptance of workplace experience participants

Each production site offers opportunities for local students to gain on-the-job experience. This year, five sites accepted a total of 70 students.

Tokyo Plant	6 People
Kodama Plant	3 People
Shiojiri Plant	2 People
Itoigawa Plant	6 People
Shin-Etsu Polymer (Malaysia) Sdn. Bhd.	53 People



#### Shiojiri Plant

Two second year students from Okaya Technical High School spent three days learning about the inspection process by using image inspection equipment.



#### Itoigawa Plant

Two second year students from Itoigawahakurei High School spent two days learning about the inspection process for semiconductor-related containers.

#### •Acceptance of plant tour participants

Production sites regularly welcome plant tour participants. This year, three different sites accepted 135 people in total.

Tokyo Plant	27 People
Suzhou Shin-Etsu Polymer Co., Ltd.	52 People
Shin-Etsu Polymer (Malaysia) Sdn. Bhd.	56 People



#### Tokyo Plant

Third year students from Urawa Technical High School

#### •Beautification activities

All production sites conduct beautification activities in their local areas. This year, 261 employees from four bases participated.

Tokyo Plant	21 People
Kodama Plant	63 People
Shiojiri Plant	112 People
Itoigawa Plant	65 People



#### Kodama Plant

Operation: Industrial Park Cleanu



#### Shiojiri Plant

18<sup>th</sup> Eco Walk Shiojiri



## Health and Safety

### •Blood donation

Every year, we host blood donation drives at both our domestic and overseas sites. This year, 234 employees at five different sites participated. The breakdown is as follows:

Tokyo Plant	20 People
Kodama Plant	24 People
Shiojiri Plant	17 People
Suzhou Shin-Etsu Polymer Co., Ltd.	81 People
Shin-Etsu Polymer (Malaysia) Sdn. Bhd.	92 People

On July 28, 2017, we received an award from the Japanese Red Cross Society for the many blood donation drives hosted at the Tokyo and Kodama plants over the years. The Tokyo Plant has been doing blood donation drives for over 40 years and the Kodama Plant for over 20.



#### Tokyo Plant

On a blood donation bus at Saitama Prefecture Red Cross Blood Donors Center



#### Kodama Plant

On a blood donation bus at Saitama Prefecture Red Cross Blood Donors Center



#### Shiojiri Plant

A pre-blood donation test in the canteen

### •Traffic safety

#### Shiojiri Plant

We participated in the Summer Traffic Safety Drive held by Nagano Prefecture to remind drivers about traffic safety. Three employees from Shiojiri Plant participated.



Warning drivers about drunk driving and speeding violations on a street in Shiojiri city

#### Shin-Etsu Polymer India Pvt. Ltd. (SD Company)

A traffic safety drive was held by the Chennai City Japanese Chamber of Commerce and Industry on a local road near Elliot's Beach. Eight employees from SD participated. Under the guidance of local police officers, we urged drivers and motorcyclists to wear seatbelts and helmets and to not talk on the phone while driving. The rate of seat-belt and helmet usage in India is very low, but when requested by the participants, drivers and motorcyclists immediately complied.



SD staff that took part in the traffic safety drive



Based on its Basic Environmental Principles, the Shin-Etsu Polymer Group addresses challenges such as global warming protection, energy saving, resource saving, waste reduction and recycling, positioning them as action items of the group-wide Green Activities and promoting environmental protection by reducing environmental burdens.

## Together with environment

### Basic Environmental Principles

#### • Basic Policy

Shin-Etsu Polymer group recognizes that the work for environmental conservation is one of the highest priority issues for our operation. Therefore we are working hard to become a part of building a recycling economic society through our responsibilities required.

#### • Action Policy

- 1 We are rebuilding the organization and systems to work for efficient and continuous environmental activities.
- 2 We observe law and regulations for resource conservation, energy saving, waste reduction, recycling and the proper handling of environmentally harmful substances. In addition, we set challenging goals and try to achieve it within our own manner in technical and economic resources.
- 3 We evaluate the environmental impacts of all phases from purchase and production through usage and disposal during the new product development stage and thus reduce its environmental impact.
- 4 We strive for the conservation and sustainable use of biological diversity by understanding and evaluating the impact on ecosystems from business activities, and by reducing this impact.
- 5 We provide internal education programs to achieve understanding and awareness of basic environmental policies for all employees.
- 6 We disclose the information of our environmental activities and make efforts to coexist with the community.

### Environmental Management System Diagram



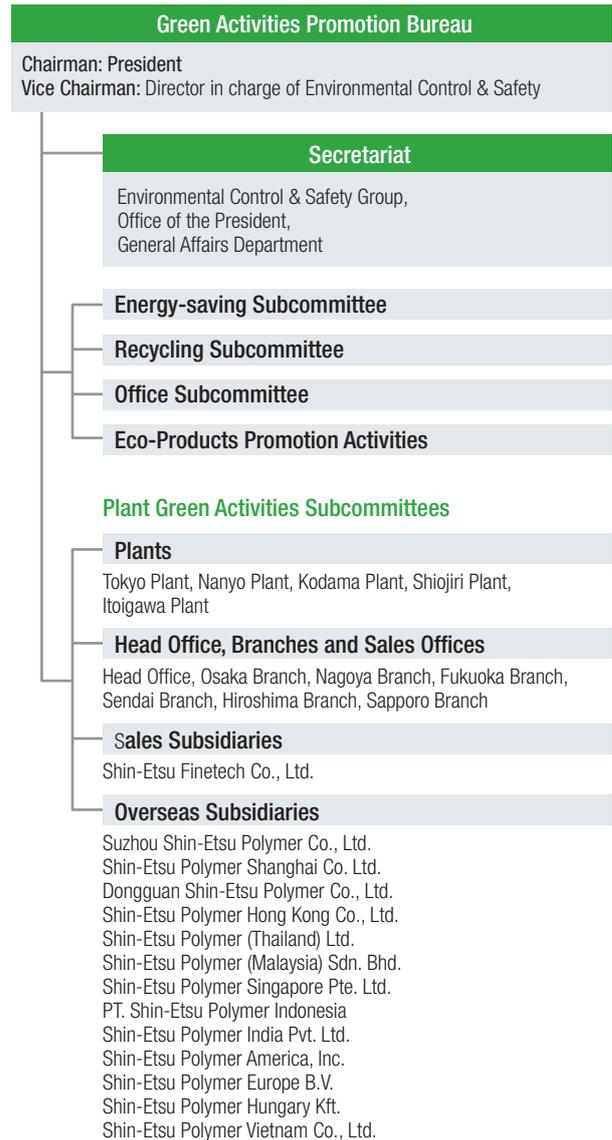
Activity: Green Activities	
Environmental management system	Acquired certification for environmental management system
Environmental performance	Countermeasures against global warming
	Measures for effective use of resources
	Measures to reduce environmental load substances
	Creation of environmentally friendly and contributing products
	Bio-diversity protection
Publicity	Sustainability report
	Environment accounting
Education / training	Environmental education
	Auditing
	Company-wide briefing



## Green Activities Organization

Green Activities refer to activities including the acquisition of an environmental management system certificate, understanding and support of “Environmental Performance” such as countermeasures against global warming and measures for the effective use of resources, public relations as represented by environmental and social reports, and education and training in the form of corporate-wide briefings. We also formulate mid-term plans every three years, with FY2017 being the final year of our 5th Mid-Term Plan.

### Green Activities Organization (As of March 31, 2018)



## Certifications of Environmental Management System

We have been awarded with ISO14001 certifications at all domestic Japanese and overseas production sites. Based on a concept of reducing environmental burdens and complete compliance with all environment laws and regulations, we will continue to be engaged in environment improvement activities by efficiently utilizing the management system we have in place.

\*Please visit our website for further information on registration card numbers, certification bodies and various other data.

## List of Plants & Subsidiaries approved by the Sony Green Partner Environmental Quality Approval Program

### Shin-Etsu Polymer Co., Ltd. ID: 410A

Factory Code	MC Name	FC Name	Expiry Date
FC014187	Dongguan Midas Electronic Co., Ltd.	Dongguan Midas Electronic Co., Ltd.	2019/8/31
FC007726	Shin-Etsu Polymer Co.,Ltd.	Itoigawa Plant	2019/8/31
FC002586	Shin-Etsu Polymer Co.,Ltd.	Kodama Plant	2019/8/31
FC002584	Shin-Etsu Polymer Co.,Ltd.	Shiojiri Plant	2019/8/31
FC007742	Shin-Etsu Polymer Co.,Ltd.	Tokyo Plant Production Department I	2019/8/31
FC014180	Shin-Etsu Polymer Co.,Ltd.	Tokyo Plant Production Department II	2019/8/31
FC013450	Suzhou Shin-Etsu Polymer Co.,Ltd.	(No Factory Name)	2019/8/31

\*Approval date: June 12, 2017

\*Each name is compliant with the Notification of Green Partner Certification.



## The 5th Mid-Term Targets of the Green Activities of the Shin-Etsu Polymer Group Results for FY2017

(As of April 1, 2018)

In FY2017, the final year of the 5th Mid-Term Plan, we will investigate the cause of target shortfalls and execute countermeasures. Afterwards, we will begin working toward the 6th Mid-Term Plan targets.

### Countermeasures against Global Warming

	Indicator	FY2017			FY2018 Target
		Target	Results	Achievement	
Reduction of CO <sub>2</sub> emissions (Domestic plants)	Basic unit of production weight (t-CO <sub>2</sub> /t) Reference: FY2008	9% reduction	23.0% reduction	Achieved	1% reduction compared to FY2017
		0.8059	0.6820		0.6751
Reduction of energy converted to crude oil (Domestic plants)	Basic unit of production weight (kℓ/t) Reference: FY2014	3% reduction	Max. increase: 11.6% Max. reduction: 21.4%	Achieved at 4 plants Not achieved at 2 plants	1% reduction compared to FY2017

**FY2017 Activities** • Promoted investments made in the renewal of forming facilities and utilities.

**FY2018 Challenges** • Promoting company-wide activity to improve productivity

	Indicator	FY2017			FY2018 Target
		Target	Results	Achievement	
Reduction of energy converted to crude oil (Domestic non-plant business bases)	Basic unit of used area (kℓ/m <sup>2</sup> ) Reference: FY2014	3% reduction	14.4% reduction	Achieved	1% reduction compared to FY2017
		0.0571	0.0504		0.0499

**FY2017 Activities** • Implementation of energy saving measures in the summer and winter.

**FY2018 Challenges** • Implementation of energy saving and power saving measures in the summer and winter (in cooperation with building management company).

	Indicator	FY2017			FY2018 Target
		Target	Results	Achievement	
Reduction of energy consumed for logistics	Basic unit of transportation compared to the previous year (kℓ/1,000tkm)	1% reduction	1.3% reduction	Achieved	1% reduction compared to FY2017
		0.0465	0.0464		0.0460

**FY2017 Activities** • Upsizing of vehicles for transportation between warehouses.  
• Modal shifts (change to railway and ship transportation): Rail transportation: 10.1%; Sea transportation: 10.5%

**FY2018 Challenges** • Promoting upsizing of vehicles for transportation purposes between sites and modal shifts (change to railway and ship transportation).  
• Responding to urgent shipments.

\*In order to accurately reflect initiatives such as the modal shift and enlargement of vehicles, we have changed the basic unit from kℓ/t to kℓ/1000tkm starting in FY2017.

### Effective Use of Resources

	Indicator	FY2017			FY2018 Target
		Target	Results	Achievement	
Emission rate (Group domestic plants)*	Less than 1%	Less than 1%	0.15%	Achievement	Less than 1%
Emission rate (Domestic plants)	Less than 1%	Less than 1%	Minimum 0.00% Maximum 0.46%	All plants achieved	Less than 1%

\*Emission rate = (amount of landfill + simple incineration)/total waste emissions x 100 (%)

**FY2017 Activities** • Promoting further segregation and recycling.

**FY2018 Challenges** • It is necessary to consider how best to respond to unexpected incidents and non-recyclable items.

	Indicator	FY2017			FY2018 Target
		Target	Results	Achievement	
Reduction of waste emissions (Group domestic plants)	Basic unit of production weight (kg/t) Reference: FY2014	3% reduction	6.8% reduction	Achieved	1% reduction compared to FY2017
		57.8kg/t	55.5kg/t		54.9kg/t
Reduction of waste emissions (Domestic plants)	Basic unit of production weight Reference: FY2014	3% reduction	Between 33.5% increase and 21.2% reduction	Achieved at 4 plants Not achieved at 2 plants	1% reduction compared to FY2017

**FY2017 Activities** • Activities involved improving process yields. Due to urgent events such as closing down the recycling company, these targets were not achieved.

**FY2018 Challenges** • Further improvement of process yields while eliminating defects.



Control value achievements for 2016 are shown in the table below.  
We worked toward year-on-year reductions in FY2017.

	Indicator	FY2017			2018年目標
		Target	Result	Achievement	
Creation of environmentally friendly and contributing products	Compared with the number of certified products in FY2014	To be doubled in FY2017	Doubled	Achieved	To be tripled by FY2020

**FY2017 Activities** •Evaluated productivity improvement through change in manufacturing method of conventional products and certified.

**FY2018 Challenges** •It is not possible to evaluate the degree of contribution being made by new products if measurements are difficult when used by customers.

## Control of Chemical Substances

Control Item	Indicator	FY2017		
		Control Value	Result	Achievement
PRTR registration	Registered amount	2,016kg	192kg (1,824kg reduction)	90% reduction compared to previous year
	Basic unit of production weight	0.053kg/t	0.005kg/t	91% reduction compared to previous year
	Class I Specified Chemical Substance	95kg	136kg (41kg increase)	43% increase compared to previous year
VOC 20 substances (target substances of 4 organizations in the electronics industry)	Emissions into atmosphere	16.7t	Emissions: 13.8t (2.9t reduction)	17% reduction compared to previous year
	Basic unit of production weight	0.44kg/t	0.357kg/t	19% reduction compared to previous year

**FY2017 Activities** •Promoted replacement of cleaning solvents.

**FY2018 Challenges** •Evaluations by risk assessments and the study of alternative materials.

## Water Resources

Control Item	Indicator	FY2017		
		Control Value	Result	Achievement
Domestic use of industrial water	Total amount of use by all domestic plants	487m <sup>3</sup>	503m <sup>3</sup> (16m <sup>3</sup> increase)	3% increase compared to the previous year
	Total basic unit of production weight by all domestic plants	13m <sup>3</sup> /kt	13m <sup>3</sup> /kt	Same as the previous year
Domestic industrial water drainage	Domestic industrial water drainage	437m <sup>3</sup>	455m <sup>3</sup> (17m <sup>3</sup> increase)	4% increase compared to the previous year
	Basic unit of production weight by all domestic plants	12m <sup>3</sup> /kt	12m <sup>3</sup> /kt	Same as the previous year
Amount of overseas industrial water used	Total amount of use at overseas plants	192m <sup>3</sup>	199m <sup>3</sup> (7m <sup>3</sup> increase)	4% increase compared to the previous year
	Basic unit of production weight at overseas plants	36m <sup>3</sup> /kt	33m <sup>3</sup> /kt	8% reduction compared to the previous year
Overseas industrial water drainage	Total amount of drainage at overseas plants	161m <sup>3</sup>	160m <sup>3</sup> (1m <sup>3</sup> reduction)	1% reduction compared to the previous year
	Basic unit of production weight at overseas plants	30m <sup>3</sup> /kt	26m <sup>3</sup> /kt	12% reduction compared to the previous year

**FY2017 Activities** •Promoted switching to circulating water both in Japan and overseas.

**FY2018 Challenges** •Investigate water risks at each plant and also study countermeasures.

**From the 6th Mid-Term Plan, our 6 overseas plants will also begin setting targets and working toward them.**

Items	Contents	Goals for 2020
Countermeasures against global warming	Production weight, basic unit of energy converted to crude oil	3% reduction compared to FY2017
Effective use of resources	Production weight, basic unit of waste emissions	3% reduction compared to FY2017



## Together with environment

### Green Activity: 6th Mid-Term Plan and Long-Term Goals



**Tsutomu Miyauchi**

Front row, 1st from the right

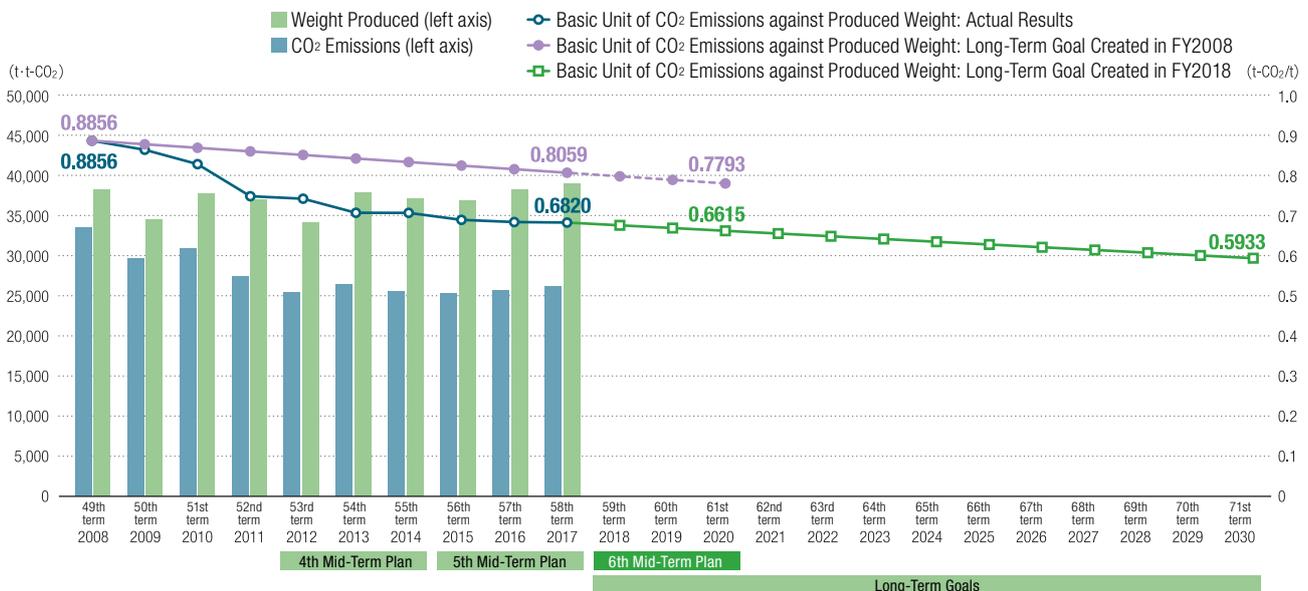
Production Unit

The Shin-Etsu Polymer Group Green Activity began in FY2003 with the first mid-term plan, amassing results every three years until FY2017, the final year of the 5th mid-term plan.

Moreover, since FY2008 we have also created long-term goals, which we hope to achieve by FY2020.

Based on Shin-Etsu Polymer Group's Basic Policy to recognize global environment conservation as one of the most important management issues and actively participate in the establishment of a recycling economic society," we recently reviewed our long-term goals and made them a little more ambitious. Our target index is the basic units of CO<sub>2</sub> emissions against produced weight (t-CO<sub>2</sub>/t). The long-term goal set in FY2008 was to achieve a 12.0% reduction by FY2020. However, in FY2017 we managed to exceed our goal for FY2020 by achieving a reduction of 23.0% when compared to FY2008. Using this accomplishment as our guideline, we decided to set the ambitious long-term goal of reducing a further 13% by FY2030. In line with this long-term goal, we launched the 6th Medium-Term Plan from FY2018.

### Green Activity: 6th Medium-Term Plan and Long-Term Goals (Indicators are the basic unit of CO<sub>2</sub> emissions against produced weight)



### Environmental issues and SDGs



**Naoyuki Minabe**

Front row, 2nd from the left

Office of the President

In 2000, we introduced "eco-products," which we highly proclaimed as environment-friendly products, but at the time the majority of our business scope consisted of BtoB and the concept of eco-products did not permeate well. Since then, we have been promoting our company-wide campaign, Green Activity, through related activities including Energy Conservation Law Reform, 3R, LCA and CFP. The need to conduct a multitude of activities related to eco-products has also increased with requests of customers.

Therefore, in 2013, to evaluate the environmental performance of our products, we began independently certifying environmentally friendly and contributing products that were produced in our company. Members of the certification committee discussed what should be in the criteria and established seven categories.

The number of certified products is increasing every year, but this process has been greatly influenced by the Paris Agreement and the United Nations' Sustainable Development Goals (SDGs). Last year, we matched our products and technologies to the 17 SDGs. We continued the process this year and cover our additional products on page 17.

We will continue to conduct new activities with the recognition that the key to the continuous growth of our company and the creation of a sustainable society depends on how well our original products, technologies, new products and new businesses can contribute to these 17 SDGs.



## Countermeasures against Global Warming

In order to contribute to the prevention of global warming, we have been promoting energy conservation at all business sites. In terms of logistics, we have also been working hard to save energy through modal shifts and more efficient site operation. In order to grasp the effect of energy conservation, we regularly check the basic units of produced weight energy (transport ton-kilometer) and basic units of CO<sub>2</sub> emissions against produced weight (transport ton-kilometer).

### •Domestic Plants

#### All Domestic Plants

The basic unit of produced weight energy in FY2017 was reduced by 4.2% compared to that of FY2014. The basic units of CO<sub>2</sub> emissions against produced weight declined by 23.0% compared to the reference year (FY2008) and achieved the targeted 9% reduction.

#### Each Plant

The target for basic units of produced weight energy in FY2017 was a 2% reduction compared to the reference year (FY2014). Four plants managed to achieve this, but unfortunately two did not.

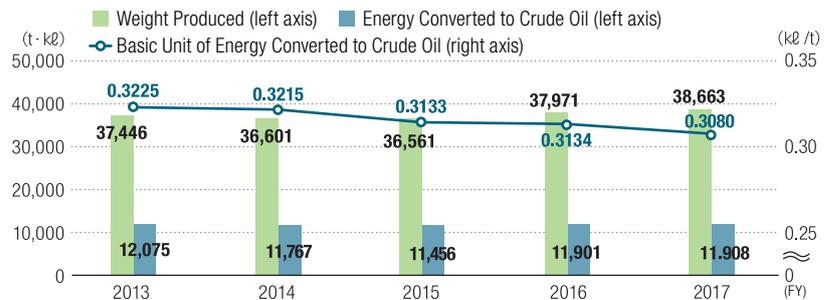
We will continue to develop our measures against global warming by improving process yield, investing in high-efficiency equipment including LED lighting and air conditioning, etc.

### •Overseas Plants

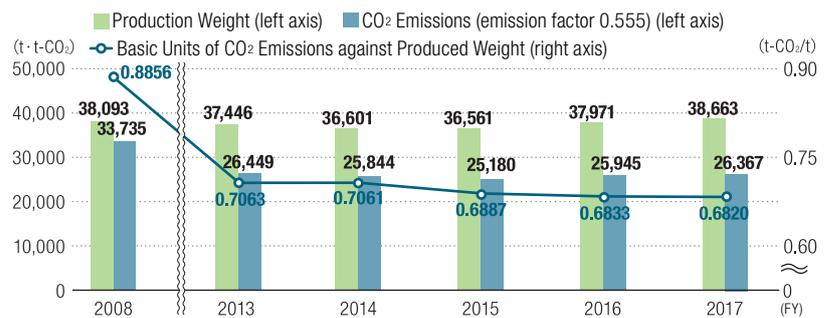
The basic units of produced weight energy in FY2017 was 6.8% lower than that in FY2014 while the basic unit of CO<sub>2</sub> emissions against produced weight in FY2017 was 7.0% lower.

We will continue to promote energy conservation through improvements in process yield and, with the results of FY2017, the revision of our medium-term goals regarding the basic units of produced weight energy which newly began in FY2018.

**Transition of Energy Converted to Crude Oil and Basic Unit of Energy Converted to Crude Oil (domestic plants)**

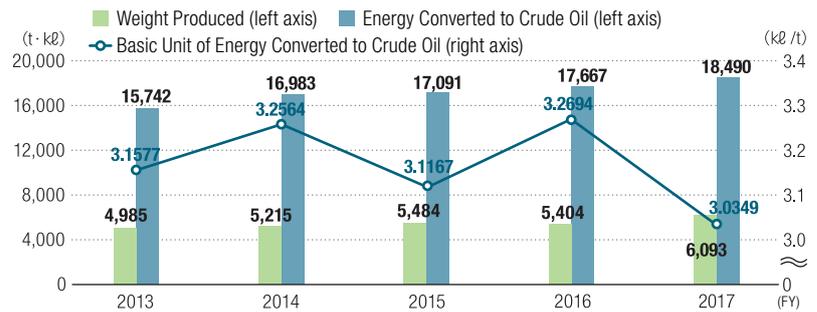


**Transition of CO<sub>2</sub> Emissions and Basic Units of CO<sub>2</sub> Emissions against Produced Weight (domestic plants)**

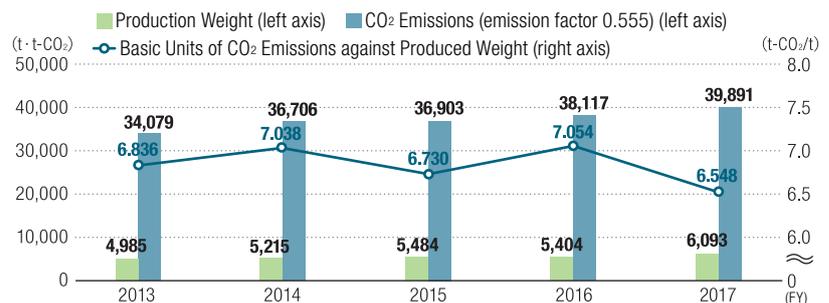


\*CO<sub>2</sub> emissions are calculated with the emission factor set to a fixed value.

**Transition of Energy Converted to Crude Oil and Basic Unit of Energy Converted to Crude Oil (overseas plants)**



**Transition of CO<sub>2</sub> Emissions and Basic Units of CO<sub>2</sub> Emissions against Produced Weight (overseas plants)**



\*CO<sub>2</sub> emissions are calculated with the emission factor set to a fixed value.



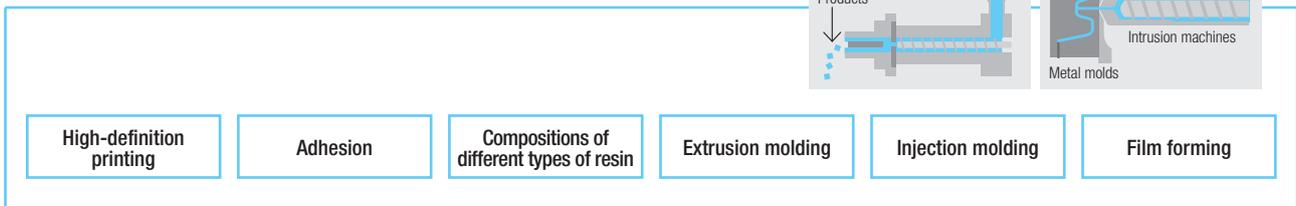
## Environmental Burdens Accompanying Our Business Activities

We believe that accurately understanding the environmental burdens associated with our business activities is the basis of environmental conservation activities. We used relevant figures to formulate plans to effectively and continually promote environmental conservation activities.

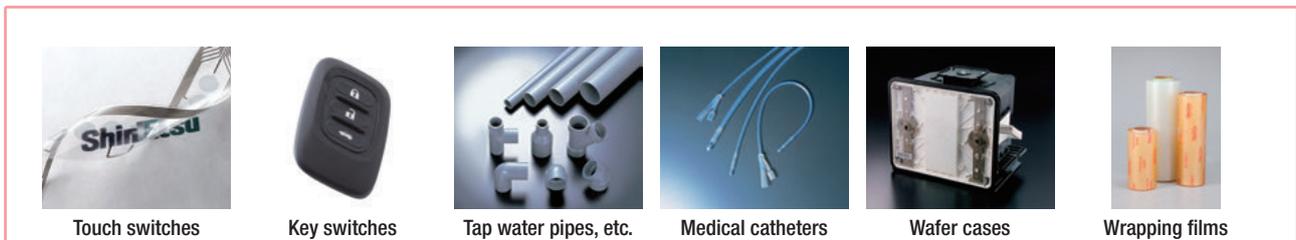
### INPUT

Resources and Energy		() Figures within brackets show the percentage against the previous year		Raw Materials
Usage Amount	Domestic production locations	Overseas production locations	Group Total	
Energy (converted to crude oil) (kℓ)	11,908kℓ (no change) (non-production locations: 282 kℓ (1% increase))	18,490kℓ (5% increase) (non-production locations: 38 kℓ (3% increase))	30,719kℓ 103%	<ul style="list-style-type: none"> <li>• Polyvinyl chloride</li> <li>• Silicone rubber</li> <li>• Other synthetic resin</li> <li>• Other materials</li> </ul>
Water consumption (1,000 m <sup>3</sup> )	503 (3% increase)	199 (4% increase)	702 103%	
Chemical substances subject to PRTR (t)	98.5 (2% decrease)	-	-	

### Shin-Etsu Polymer Group



### OUTPUT



### To the environment

() Figures within brackets show the percentage against the previous year

		Domestic production locations	Overseas production locations	Group Total
CO <sub>2</sub> emissions (*1) (t-CO <sub>2</sub> )		26,367t-CO <sub>2</sub> (102%) (non-production locations: 569t-CO <sub>2</sub> (96%))	39,891t-CO <sub>2</sub> (105%) (non-production locations: 84t-CO <sub>2</sub> (104%))	66,910t-CO <sub>2</sub> (103%)
Waste	Total emissions (t)	2,146 (99%)	2,569 (112%)(*2)	4,715 (106%)
	Recycled amount (t)	2,143 (99%)	-	-
	Non-recycled amount (t)	3.14 (14%)	-	-
	Emission rate (%)	0.15 (0.88 point decrease)	-	-
Waste water (1000m <sup>3</sup> )		455 (104%)	160 (99%)	615 (103%)
PRTR emissions (Reported amount of subject substances)		0.19t (9%)	-	-

\*1. Aggregated value based on Group emission factors (0.555kg-CO<sub>2</sub>/kWh).  
\*2. Aggregated value based on Group standard.

\*Figures of overseas plants are aggregated based on the calendar year.



●GHG Scope 3 emissions

Our group calculates the Scope 3 emissions based on the guidelines by the Ministry of Environment and compares the values to the previous year. Scope 3 emissions in FY2017 saw a 13% increase from the previous fiscal year at 178,700 t-CO<sub>2</sub>, which accounted for 72% of the total supply chain. Category 1 (purchased raw materials) and Category 4 (transportation) are pressing issues.

Category		FY2016	FY2017	Compared to previous FY
Our Group	(Scope 1) Direct emissions	2.8	1.4	-50%
	(Scope 2) Indirect emissions from energy sources	64.7	66.9	3%
1	Purchased products / services	55.7	65.3	17%
2	Capital goods	0.0	5.4	-
3	Energy-related activities outside of Scope 1, 2	4.3	4.4	2%
4	Transportation, shipping (upstream)	43.7	54.3	24%
5	Business waste	1.2	1.1	-8%
6	Business trips	1.7	1.8	6%
7	Employee commute	3.0	2.0	-33%
8	Lease assets (upstream)	-	-	-
9	Transportation, shipping (downstream)	3.9	5.3	36%
10	Processing of products sold	-	-	-
11	Use of sold products	-	-	-
12	Disposal of sold products	37.9	39.1	3%
Subtotal of Scope 3		151.4	178.7	18%
Total		218.9	247.0	13%
Percentage (Scope 3)		69%	72%	

\*1 Category 1-8 belong to upstream in the supply chain, and Category 9-12 belong to downstream  
 \*2 If not indicated, the unit for figures is 1,000t-CO<sub>2</sub>

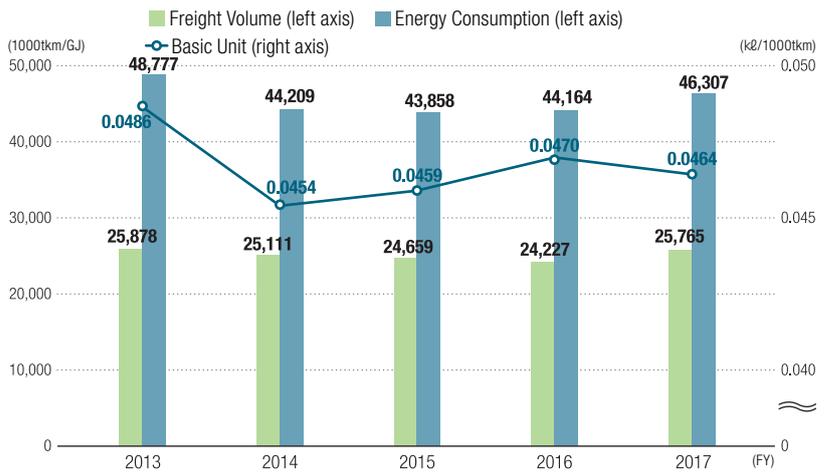
●Energy-saving activities related to transportation

Freight volume increased by 4.9% from the previous fiscal year, while energy consumption decreased by 1.3% as a result of using larger vehicles for transportation between warehouses.

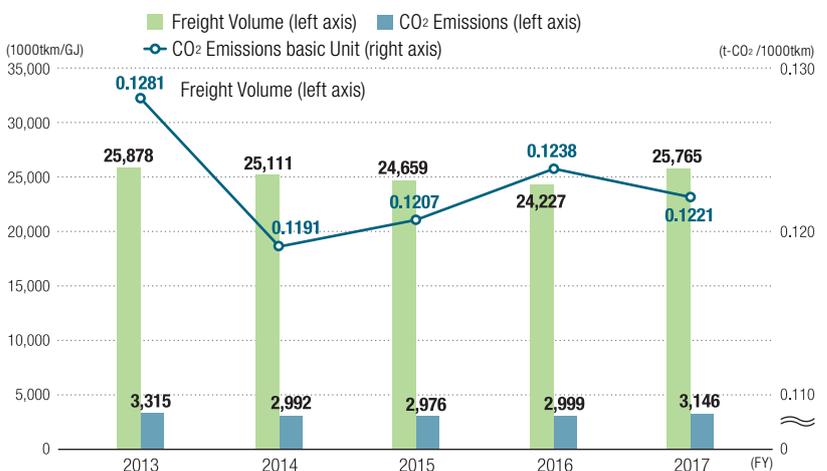
Due to modal shifts (change to railway and ship transportation), railway transportation is now at 10.1% and sea freight at 10.5%. We will continue to implement model shifts to reduce the basic units of energy consumption.

In order to accurately reflect initiatives such as the model shift and enlargement of vehicles, we have changed the basic unit from kℓ/t to kℓ/1000tkm starting in FY2017. Past data has been retroactively updated.

Transition in Basic Unit of Heat and Energy Consumption for Freight Volumes



Transition in Basic Unit of CO<sub>2</sub> Emissions Rate and CO<sub>2</sub> Emissions for Freight Volumes





## Waste Reduction and Recycling

In the 5th Mid-Term Plan (FY2015-2017), we are promoting activities with the goal of “maintenance and continuation of zero emission” and “3% reduction of basic unit of waste emissions against produced weight compared to FY2014.”

### •Approaches to waste reduction and recycling

With our keywords “zero landfills and simple incineration by promoting waste recycling,” we are engaged in activities to achieve and maintain zero emissions (less than 1% emission rate) with control indicators 1) basic unit of waste emissions and 2) emission rate.

### •Key initiatives

In terms of waste reduction activities, we tackle the improvement of pass rates and the reduction of start-stop losses, while also working on waste disposal in the form of deterioration preventive measures of inventory, and recovery and reuse of liquid silicon material residue.

### •Results for FY2017

#### Domestic plants

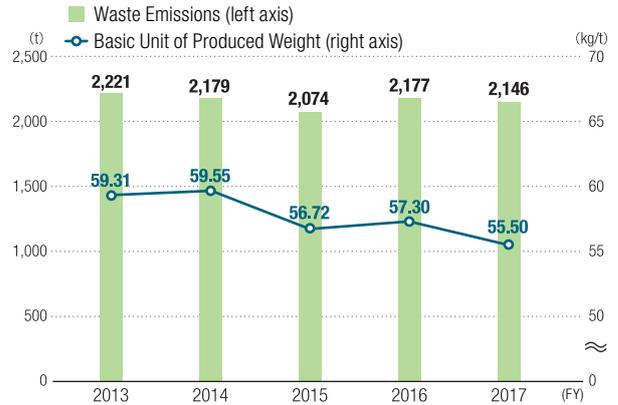
The total volume of waste in FY2017 was 2,146 tons, which was a 31-ton decrease from the previous fiscal year. The basic unit of waste emissions against produced weight was 55.50kg/t, which achieved the targeted amount with a 6.8% decrease from the previous fiscal year. In addition, the emissions rate was 0.15%, achieving the target of less than 1.0% and marking the smallest emissions rate since FY2008's 0.39%. This was achieved thanks to the measures for preventing contamination, in addition to the thermal recycling of chemical wastes, which started from FY2017 at the Tokyo Plant.

Specially controlled industrial waste mainly consists of waste acid, waste alkali and waste oil. We are properly treating them with neutralization, incineration and other methods, while recycling them as much as possible.

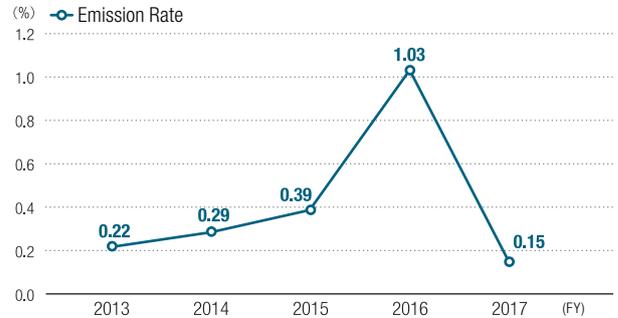
#### Overseas plants

The total volume of waste in 2017 was 2,569 tons or a 275-ton increase from the previous year. The basic unit of waste emissions against produced weight was 421.7kg/t, which was a 1% decrease from the previous year.

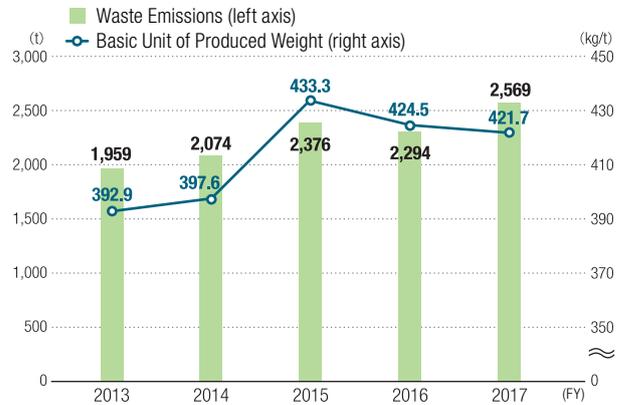
### Annual Transition of Waste Emissions (domestic Plants)



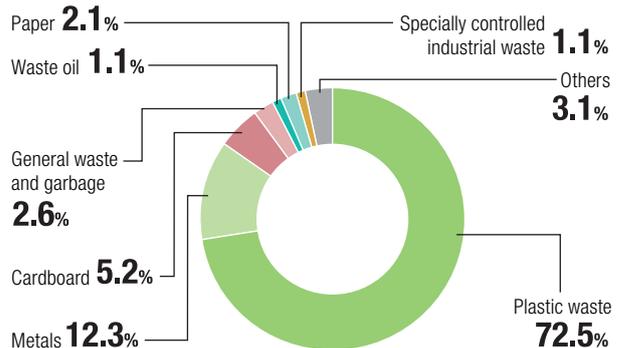
### Annual Transition of Emission Rate (domestic plants)



### Annual Transition of Waste Emissions (overseas plants)



### Sorting Category (58th Period in FY2017)

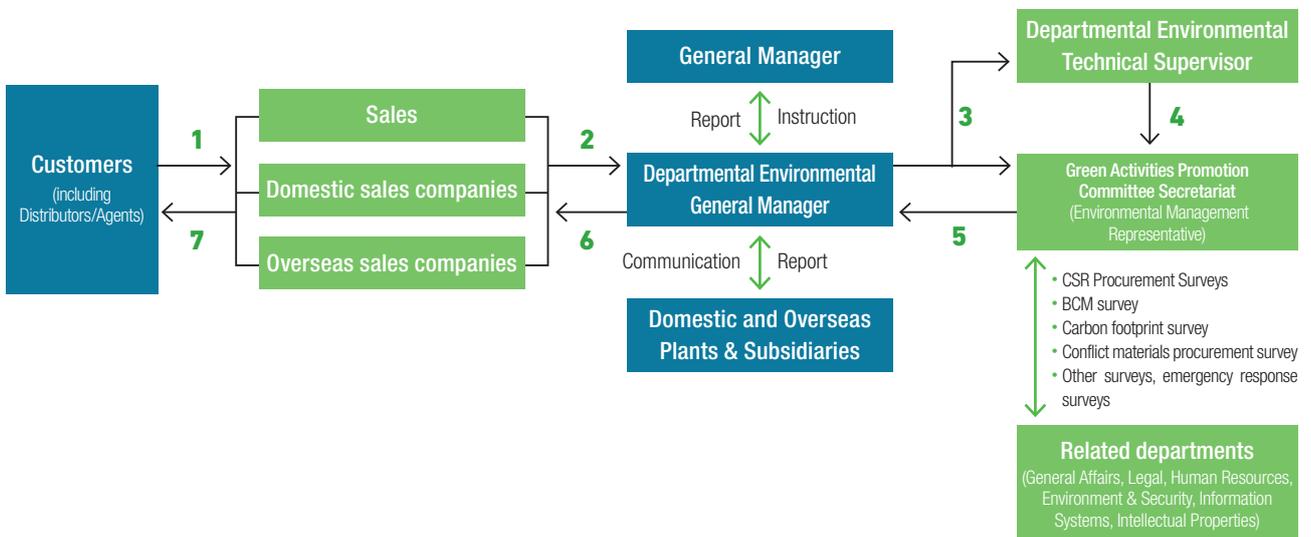




## Control of Chemical Substances

### •Global Environment Communication System (G-Environment System)

- 1 The “Environmental Management Representative” of our Group is appointed, and the Representative represents our Group with regard to customer’s requirements in relation to the environmental quality of our products.
- 2 The “Environmental General Manager” and the “Environmental Technical Supervisor” are appointed at each division and respectively manage issues associated with the environmental quality of products of the division.
- 3 Submissions of such documents as Green Procurement Survey Responses, Certificate of non-use of environment-related substances, Conformation Form of the Changes in Management or Analysis Data are conducted in accordance with the rules set forth in the Global Environmental Communication System.
- 4 Materials with low environmental burdens (raw material, parts/components, packing material, etc.) are purchased from suppliers that promote environmental considerations in accordance with “Green Procurement Guidelines” and “Control Standards of Chemical Substances Contained in Products.”
- 5 Part of this system is applied to customer’s “CSR Procurement Survey (Supplier CSR Promotion Status Survey)” on human rights/labor, safety and welfare, environment, fair trade and ethics, quality and safety, information security and social contribution.



### •Control Standards of Chemical Substances Contained in Products

Based on Control Rules of Chemical Substances Contained in Products, our Group stipulates Control Standards of Chemical Substances Contained in Products. Under these standards, we target reducing chemical substances in all finished products and purchased materials. In Version 3.0 of the Shin-Etsu Polymer Group’s Control Rules of Chemical Substances Contained in Products, we established new regulations for prohibited and controlled substances as per the following details. (Table-1).

Prohibited substances	Controlled substances
<b>(1) Chemical Substances Control Law:</b> Class I Specified Chemical Substance <b>(2) Industrial Safety and Health Law:</b> Hazardous substances prohibited for production, etc. <b>(3) Poisonous and Deleterious Substances Control Law:</b> Specific poisons <b>(4) POPs regulation:</b> Annex 1	<b>(1) RoHS Directive:</b> Designated substances <b>(2) ELV Directive:</b> Designated substances <b>(3) REACH Regulations:</b> Annex XVII <b>(4) REACH Regulations:</b> SVHC <b>(5) IEC62474</b>

**Table-1:**  
Standards of prohibited and controlled substances

△: Acceptable if below threshold  
 ×: Unacceptable

	Prohibited substances	Controlled substances
Intentional use	×	×
Contained in the form of impurities	×	△

\*Please visit our website for further details. ([http://www.shinpoly.co.jp/environment/pdf/standard\\_3.0.pdf](http://www.shinpoly.co.jp/environment/pdf/standard_3.0.pdf))

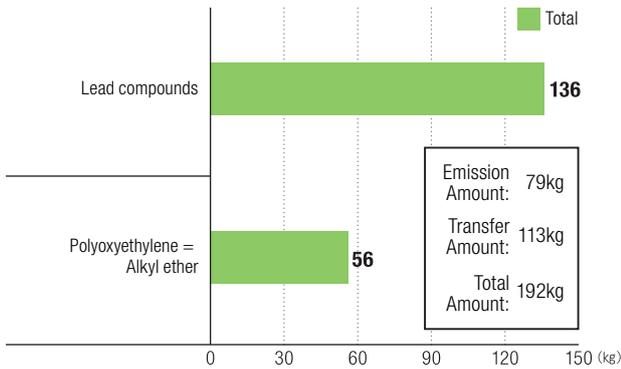


●FY2017 PRTR registration

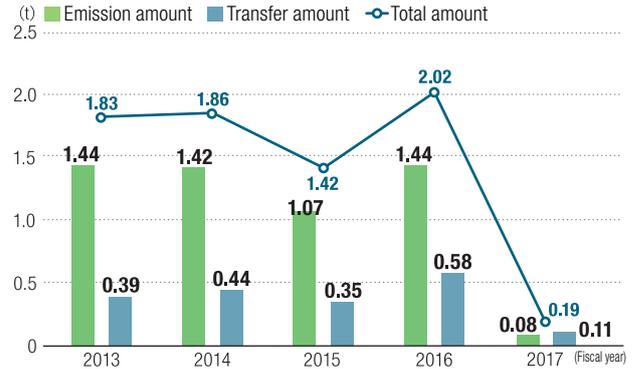
Tokyo Plant and Nanyo Plant made PRTR registrations. In FY2017, we made registrations for 192 kg of 2 substances (79kg for emissions and 113kg for transfer). In relation to Class I Specified Chemical Substances, we registered the 136 kg (40 kg for emissions and 96 kg for transfer) of lead compounds (lead-based stabilizer for PVC products).

In FY2017, thanks to the review of the company's products, the amount of use of the four substances (toluene, diallyl phthalate resin, triphenyl phosphate and organotins) decreased to less than 1,000 kg. Following this, these substances were excluded from the subject of registration, which largely helped decrease the amount of the entire PRTR registration of our company.

FY2017 PRTR Registration Results



Substances Subject to PRTR (details of emission and transfer amounts)



●FY2017 VOC emissions into the atmosphere

The domestic VOC emission amount into the atmosphere (t/year) was 13.8 tons, a 17.4% decrease from the previous year (16.7 tons). Substances containing a large amount of emissions, included ethanol, butyl acetate, isopropyl alcohol and toluene.

(Unit: t/year)

		Tokyo Plant	Nanyo Plant	Kodama Plant	Shiojiri Plant	Itoigawa Plant	Total
Facilities	1. Painting	0.0	0.0	2.7	0.3	0.0	3.0
	2. Adhesion	0.0	0.0	0.1	0.0	0.0	0.1
	3. Printing	0.0	0.0	0.0	0.8	0.0	0.8
	4. Chemical products production	0.0	0.0	0.0	0.0	0.0	0.0
	5. Industrial cleaning	0.0	0.0	0.0	0.0	0.0	0.0
	6. VOC storage	0.0	0.0	0.0	0.0	0.0	0.0
6. Other facility categories		0.6	0.0	5.6	1.5	2.2	9.9
<b>Total Amount</b>		<b>0.6</b>	<b>0.0</b>	<b>8.4</b>	<b>2.6</b>	<b>2.2</b>	<b>13.8</b>

\*Subject VOCs are the 20 substances of four electrical and electronic organizations.

Annual Transition of VOC20 Emission Volumes





## Activities for Bio-diversity Protection

To protect bio-diversity, our group understands how our business activities affect the ecosystem, and promotes activities to reduce environmental burdens, such as global warming countermeasures, management of chemical substances, effective use of water resources, and pollution preventions.

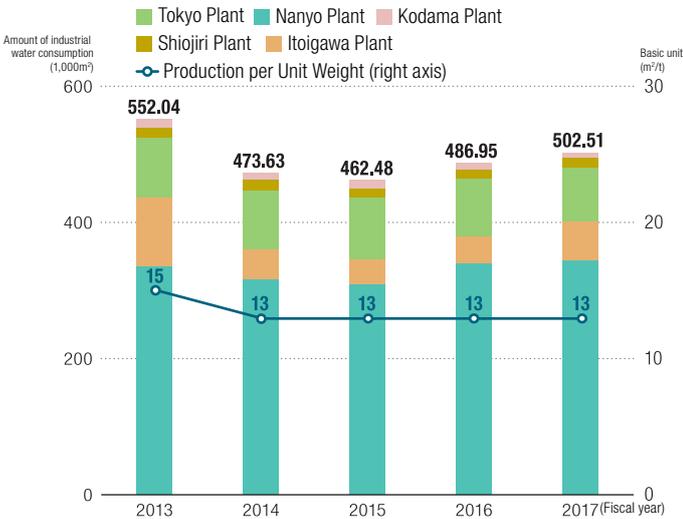
### •Efficient use of water resources

Due to the increase in the amount of production, the industrial water consumption at domestic sites has increased from the previous year. The basic unit remained at the same level. Despite the increase in the amount of production at overseas sites, the basic unit decreased thanks to the efficient use of water. We will continue to ensure we have a grasp on the amount of basic unit at each site and promote the efficient use of water resources.

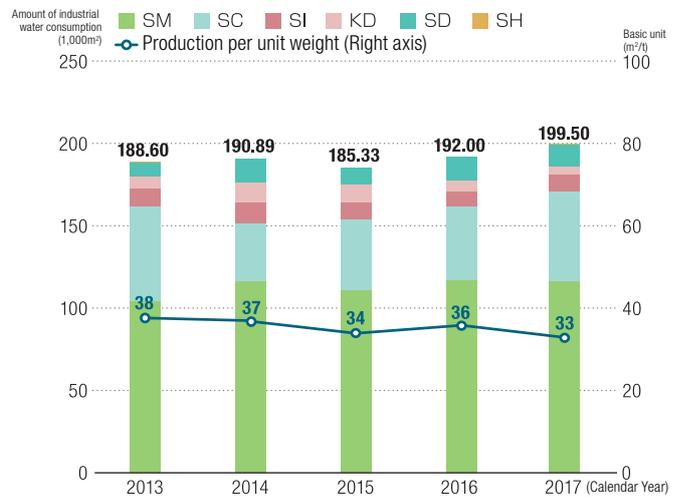
### •Responding to water stress

We have been measuring the use and possibility of water outage for the industrial water, as well as the drainage water quantity and quality. We will continue to investigate the vulnerability of water intake at overseas sites, as well as the concerns on water resources with local communities, and water risks.

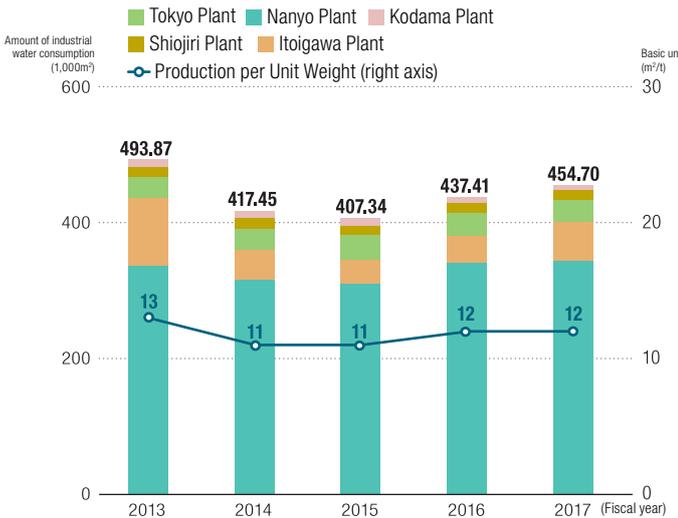
#### Water Waste Use Status (five domestic plants)



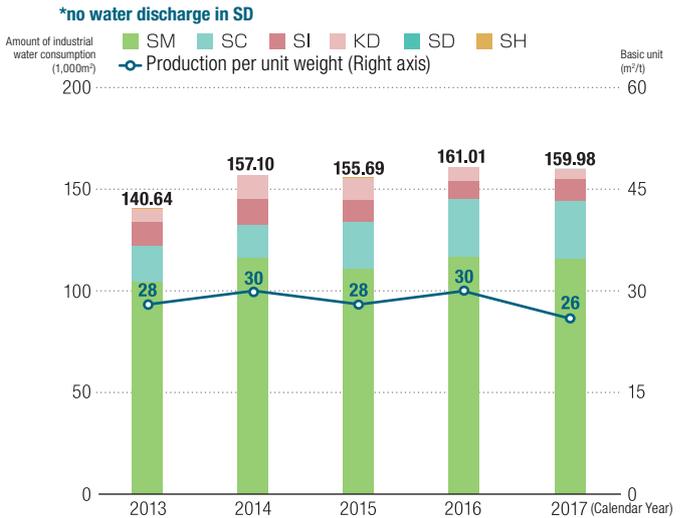
#### Waste Water Use Status (six overseas plants)



#### Water Discharge Status (five domestic plants)



#### Water Discharge Status (five overseas plants)



\*Number of domestic plants has been changed from six to five following the merger in April 2017. After the merger, Shinano Polymer became Shiojiri Plant, and Niigata Polymer became Itoigawa Plant. Since Urawa Polymer was integrated with Tokyo Plant, the amount shown is the sum of their previous data.

SI:PT. Shin-Etsu Polymer Indonesia  
SM:Shin-Etsu Polymer (Malaysia) Sdn.Bhd.  
KD:Dongguan Shin-Etsu Polymer Co., Ltd.

SD:Shin-Etsu Polymer India Pvt. Ltd.  
SH:Shin-Etsu Polymer Hungary Kft.  
SC:Suzhou Shin-Etsu Polymer Co., Ltd.



## Together with Environment

### •Air pollution prevention

We have no equipment that is subject to regulations, but we stipulate self-control standards when it is considered necessary and work on reducing emission amounts. We periodically measure the emission concentration of VOC in order to confirm the value is below the standard.

### •Water pollution prevention

We voluntarily (or in accordance with laws and regulations) test the water quality of discharged water to satisfy the standard specified in the Water Pollution Prevention Act. We are also working on reducing the basic units of water use and conducting conversion to circulated water.

### •Soil contamination prevention

We conduct monitoring based on the Soil Contamination Countermeasures Act. We also conduct surveys on soil and underground water where necessary to confirm there is no contamination.

## Environmental Accounting

### Cost for environmental conservation

(Unit: Million yen)

Category	Main initiatives	Investment amount	Cost <sup>1</sup>	
1. Costs within business are as follows	1-1. Pollution prevention cost	Regular inspections of equipment, noise measurements, etc.	73.1	13.7
	1-2. Global environmental conservation cost	High-efficiency air conditioners, LED lighting, etc.	137.2	53.5
	1-3. Recycling cost	Collection and recycling of resources, conversion into raw materials or fuel, etc.	7.4	24.7
Total		217.7	91.9	
2. Upstream and downstream cost <sup>2</sup>	Costs related to the control of chemical substances contained in products, etc.	0.0	2.2	
3. Control activity cost	EMS maintenance, education, greening of plants, etc.	3.4	34.0	
4. R&D cost <sup>3</sup>	Development of eco-friendly and eco-contributing products, etc.	142.3	—	
5. Social activity cost	Donations, etc.	—	0.7	
6. Environmental damage prevention cost	N/A	0	0	
<b>Total</b>		<b>363.4</b>	<b>128.8</b>	

\*1. Cost = Actual cost – cost in the case of not conducting the activity. When the total difference  $\leq 0$ , 0 is the assumed value.

\*2. Registration costs for recycling agreements are not included.

\*3. R&D cost is calculated based on our own standards.

### Environmental conservation effects

Items for reduction of environmental burdens	Unit	Annual reduction amount
A. Energy consumption t-CO <sub>2</sub>	t-CO <sub>2</sub>	559
B. Waste discharge amount	t	1,605
C. Chemical substances consumption	t	0.0
D. Amount of purchased paper	1,000	34
E. Others	-	-

### Economic effects in accordance with environmental conservation measures

Items for reduction of environmental burdens	Unit	Cost
A. Energy cost	Million yen	13.6
B. Waste disposal cost	Million yen	1.7
C. Material purchase cost (Raw materials + subsidiary materials)	Million yen	17.5
D. Gain on the sale of valuables	Million yen	22.4
E. Others	Million yen	0.0
<b>Total</b>	<b>Million yen</b>	<b>55.2</b>

## Opinion of Third Person

For this report, we received opinions and comments from third parties to help further enhance our group's environmental and social activities.



### Comments from a Third Party Regarding our "Sustainability Report 2018"

Professor, Economics Department,  
Sophia University

**Yoshinao Kozuma**

In relation to the environmental and social efforts and initiatives by the Shin-Etsu Polymer Group, I am providing my comments after reading the same Group's "Sustainability Report 2018" and after interviewing certain people involved.

#### 1. Structural reform of CSR management

Initially, Shin-Etsu Polymer Group's CSR management focused on addressing environmental issues, but this has been steadily evolving over the last ten years with gradually strengthened efforts to address social issues, achieving a more balanced approach to overall efforts and information disclosure. Substantial changes were also made to the organizational structure this fiscal year. In November 2017, the CSR Committee was newly established directly under the Management Committee. This committee is a group-wide association at the core of CSR management, with the president as chairman, the heads of each department and managers making up the committee members, and the president's office as the secretariat. Furthermore, in terms of operations, there are continued efforts to improve CSR management through structural reforms, which includes the identification of key issues that Shin-Etsu Polymer Group should prioritize, based on Shin-Etsu Chemical Group's "Basic CSR Policy" and "8 Key Issues."

#### 2. Establishment of CSR Procurement Subcommittee

There were also some significant advancements made in CSR procurement, which was a matter of concern this fiscal year. One such advancement was the establishment of the CSR Procurement Subcommittee within the CSR Committee. With the improvement of the organizational structure for promoting CSR procurement, the supply chain CSR management system has been strengthened, so I have great expectations for the results of future activities. The direction of CSR procurement was also clarified through the application of Shin-Etsu

Chemical Group's basic procurement policy and CSR procurement guidelines. On the downstream end of the value chain, checks are already being carried out on the conformity of products and technologies to SDGs targets. As efforts on the upstream end progress, I believe the goal of achieving total CSR management that overlooks the entire value chain, is fast approaching.

#### 3. Issues surrounding the Employment Rate of People with Disabilities

The merger of four domestic production subsidiaries in April 2017 resulted in a sharp drop in the employment rate of people with disabilities, making it significantly lower than the statutory employment rate. While Shin-Etsu Polymer alone has maintained a very good employment rate of those with disabilities, the integration of subsidiaries has prompted the company to once again become aware of the importance of group management. In future, I would like to see further efforts to strengthen initiatives aimed at reaching the statutory employment rate. However, some data from the merged subsidiaries is yet to be included in the employment-related indicators, so I am hoping this will be addressed at the same time.

#### 4. Scope of Respect for Human Resources

Among the newly identified CSR issues is the topic of "respect for human resources." This includes not only employment sites in the business area, but also respect for human rights in the supply chain. However, whilst awareness training on human rights is being implemented for all employees within the company, there seems to be little effort in the supply chain. So, for the time being, I would like to see proper evaluation of human rights risks in the supply chain with regards to CSR procurement, and more conscious efforts to come up with effective preventative measures.



Senior Director,  
Assistant Chairman,  
Green Activities  
Promotion Bureau

**Toru Takayama**

### In Response to Third-Party Comments

With guidance from Professor Kozuma, we have been progressively advancing our CSR activities. As he pointed out above, we have begun strengthening efforts in terms of activities aimed at social issues rather than focusing solely on activities for environmental issues. We established a new CSR Committee to achieve results and develop company-wide activities that include overseas offices within our CSR activities, as was done with our environmental activities like the global warming countermeasures. Going forward, I would like to further improve awareness of corporate social responsibility at the management level, which will hopefully lead to the development of companywide activities.

Regarding the low employment rate of people with disabilities, our statutory employment rate was down 0.02 points

in FY2017 and to add to this, the required rate was raised to 2.2% in April 2018. We will continue to implement various measures and work on achieving the statutory employment rate. I believe it is also essential that our working methods offer every individual the opportunity to reach their potential so that they can become the power behind our business.

Regarding "respect for human rights in terms of CSR procurement," we are carrying out survey questionnaires within the CSR procurement subcommittee, which we intend to respond to accordingly. Currently, we have completed a CSR procurement survey questionnaire and are in the process of evaluating and follow-up on the answers. We are aiming to implement any necessary changes this fiscal year.



Shin-Etsu Polymer Group

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## About the symbol mark

The symbol mark expresses our feelings of creating our brilliant value in a “green environment” with the green leaf and bright morning dew.



The combination of indigo water, green trees and blue sky symbolizes our commitment to “continuously develop vitality,” while the Shin-Etsu colors provides an image of the development of Shin-Etsu Polymer.



## About the design

The Shin-Etsu Polymer Group is striving to take action to a sustainable society with the community a reality. Like the 2017 Sustainability Report, the cover design consists of endangered species within a circle that represents the Earth, with an “S” for Shin-Etsu wrapped around it. The last year’s report featured grassland animals based on a spring theme. This year, we have used sea creatures based on a summer theme.

