



# Shin-Etsu Polymer Sustainability Report 2009



Greetings

# Promoting a radical review of our business structure and corporate culture toward new

In June of this year, the government announced that the mid-term target of Green House Gas (GHG) emissions in 2020 is a reduction of "15% when compared with emissions in 2005 (an 8% reduction against that in 1990.)" Different from the targets of the EU (13% reduction against that in 2005) and the USA (14% reduction against that in 2005), this figure does not include any emissions credit purchased, so it means Japan has turned toward a low carbon society with a target higher than the EU and the USA.

At the same time, even in the second year of the first five-year commitment period of the Kyoto Protocol, Japan still needs as much as a 15% emissions reduction to achieve its reduction commitment. It is necessary to take GHG emissions reduction as a nation-wide effort, and stringent policies and measures for companies have been promoted such as the introduction of energy use and CO<sub>2</sub> emissions reporting by individual operators based on the revised Law Concerning the Promotion of the Measures to Cope with Global Warming and the revised Energy Conservation Law; higher voluntary action plan targets; and the pilot implementation of a domestic emissions trading scheme.

Paying attention to such global trends in the global environment, we comply with domestic and foreign laws and regulations, taking the appropriate measures. We have seen, however, no end to corporate scandals that shake the foundation of society, drawing criticism from the general public. With a strong recognition that compliance with social rules and fulfilling social responsibilities is an imperative for the survival of the company, we continue to make further efforts to gain trust from stakeholders by establishing a Group-wide internal control system to achieve thorough compliance.

## Cost Half Plan

In order to maintain sustainable growth regardless of business conditions, we are making efforts to build corporate strength with a philosophy of "setting high targets and being certain to achieve them," which is something shared by all Group employees.

The Cost Half Plan promoted since fiscal 2003 is to establish

such strength, and the Green Activities driven for its realization has greatly contributed to the elimination of waste, improvement of efficiency and strengthening of our competitive edge, along with the Six-Sigma and TPS initiatives.

## The Green Activities

We position Green Activities as "an effort to improve productivity from the viewpoint of the environment," and ever since its start in fiscal 2000, we have achieved substantial results, driven by global environment conservation and improvements in productivity.

In the Second Mid-term Plan (fiscal 2006-2008) of Green Activities, we worked with the energy-saving target of a "25% reduction of CO<sub>2</sub> emission per basic unit of energy when compared with that of the reference year or fiscal 1994." However, the result was a 22.7% reduction when compared with that of the reference year. On the other hand, our waste reduction target of "zero emission (emission rate of less than 1%)" was achieved at all sites (corporate average of 0.39%) thanks to these company-wide efforts.

In the Third Mid-term Plan (fiscal 2009-2011) of the Activities, we have set a targets of a "35% reduction of CO<sub>2</sub> emission per basic unit of energy when compared with that of the reference year or fiscal 1994," "maintenance and continuance of zero emission" for waste reduction and a "3% reduction of emissions per basic unit of waste when compared with that of fiscal 2008," making fully committed efforts to achieve these targets.

## Initiatives for customer's green and CSR procurement

Our Group has established a system for the management of chemicals contained in products at each production site in response to customer's green procurement requirements and created the "Global Environmental Communication System" to centrally control the entire Group, including overseas sites.

We also apply the above mentioned Global Environmental

# development

President

*H. Akagawa*

September 2009



Communication System to customer's CSR procurement surveys that began in fiscal 2007 or a questionnaire on human rights and labor; occupational health and safety; environment; fair trade and ethics; quality and safety; information security; social contribution, etc.

To assure compliance with the European REACH Regulation that was enforced in June 2007, Environmental Management Representatives from headquarters collaborate with divisions and subsidiaries in Europe.

## Product development in consideration of the environment

Recognizing that new product development is an absolute requirement for corporate growth, the Group has a cross-functional development structure throughout the company in order to develop new products in domains beyond the framework of divisions, along with the development of relevant new products from divisions engaged in operations closely with markets and customers.

## Sustainability Report 2009

This Report conforms to the "Environmental Reporting Guidelines: Towards a Sustainable Society (Fiscal Year 2007 Version)" of the Ministry of the Environment and reports on the initiatives of the "triple bottom line" (environment, economics and society.) In this year's edition, however, we have completely renewed the editing content, aiming to create an easy-to-understand report featuring employees independently addressing their jobs, emphasizing environment-friendly products, case studies of environmental conservation activities and an introduction of overseas sites.

We received third-party comments from Mr. Kozuma, Professor of Sophia University, as was the case with last year's edition, and we shall take advantage of them for our future efforts and initiatives.

By contributing to the development of society through providing high quality products, technologies and services and by carrying out this growth with a balance of economic, environmental, and social aspects, we positively participate in the formation of a society toward sustainable development.

# Risk Management / Compliance

Taking into consideration the management of risk surrounding companies, compliance with social rules and fulfilling corporate social responsibilities as an absolute requirement for corporate survival, we continue to maintain and improve risk management and compliance frameworks that win trust from stakeholders.

## Attitude to risk management and compliance

For a company, the occurrence of an event that hampers the accomplishment of business operations or the uncertainty of an outcome that affects business profit, defines risk as an element that hinders the achievement of an objective. In order to prepare for this, our Group has established a structure to prevent risk, promoting the smooth management of business and operations.

Based on the view that in order for a company to obtain trust as a member of society, it is essential to “take action by respecting the values and ethics as a member of society, in addition to complying with laws and regulations,” our Group continues to thoroughly observe compliance.

## Risk management and compliance framework

Our Group established the General Risk Management Committee chaired by the President to (1) promote and manage corporate-wide risk management, (2) supervise risk-related committees under it, (3) generally manage individual risk management, (4) establish BCM (Business Continuity Management), (5) control emergency response manuals, etc.

The Committee appoints general managers, site/office managers (domestic and overseas) and managers of administrative departments at headquarters as risk managers and promotes risk management in close collaboration with individual committees under its control.

## Risk management and response

Our Group makes it a rule to have an “emergency response manual” for risk management at each department and site.

For example, the FI Division and Niigata Polymer Co., Ltd. that have sites in Niigata Prefecture have set up “BCP (Business Continuity Plan) Policies” as well as a “Business Continuity Manual” based on the internationally-recognized British standard on business continuity management (BCM), BS25999, establishing a mechanism to free customers from trouble in the case of an accident or disaster.

In the event that an emergency takes place, causing substantial interference to our Group’s operations requiring a Group-wide response, a task force is established in the General Risk Management Committee to address the issue.



Scene from a meeting of the Secretariat of the General Risk Management Committee

## Internal control initiatives

Our Group set up the “Basic Policies on Internal Control System,” running an established internal control system based on Company Law and the rules to enforce the Law. In addition, in response to the internal control reporting system in accordance with the Financial Instruments and Exchange Law and to secure the reliability of our financial reports, we have effectively and efficiently established and operated internal control in relation to the relevant financial reporting.

## Strengthening information security

In order to protect personal and customer information, we take the following safety management measures for systems, data, etc.:

- (1) restriction of authorized personnel with access to databases;
- (2) entry control to server rooms with IC cards, etc.;
- (3) data storage in integrated file servers;
- (4) encryption of PCs and USB memory;
- (5) updates of antivirus software and continuous monitoring of unauthorized access to networks;
- (6) entry control by identification of employees and visitors, zoning of areas by application, and IC cards;
- (7) planning and implementation of business continuity plans regarding information security by, for example, establishing backup centers;
- (8) conducting information security training;
- (9) regular security auditing of customers and improvement activities; etc.

No critical information security incident occurred in fiscal 2008.

## Personal information protection

Establishing “Personal Information Protection Policies” and “Personal Information Protection Rules,” our Group takes every measure for the protection of personal data.

# Management Philosophy / Environmental Policy

## Corporate Action Policy

**Unlimited challenges and growth!**  
We work to become a company full of creativity and vitality by realizing hopes and visions toward the future.

- 1 We serve as a strong and reliable partner with companies challenging to grow in their markets through innovative products and services.
- 2 We always consider and make proposals from the viewpoint of our customers and globally provide products and services that contribute to their value creation and growth.
- 3 We assume our corporate responsibilities toward shareholders, customers, employees, communities and the global environment.

## Basic Environmental Principles

### Basic Policy

Shin-Etsu Polymer group recognizes that the work for environmental conservation is the one of the highest priority issues for our operation. So that we are working hard to become 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 products development stage and thus reduce its environmental impact.
- 4 We provide internal education programs to achieve understanding and awareness of basic environmental policies for all employees.
- 5 We disclose the information of our environmental activities and make efforts to coexist with the community.

## Corporate Action Policy

- 1 We have a 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 required social responsibilities, actively participate in the establishment of 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 customers' 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.



**Director**  
(Technology, Environmental Control & Safety, Quality Assurance, Business Planning and Information Systems)

**Yutaka Kawamura**



**Environmental Control & Safety Group Manager**

**Ikuo Kawanishi**



## Customer Supply Chain

# To meet the demands of CSR

One of the major areas of focus at present is supplier engagement (joint participation) or supply chain CSR management, should be done to meet requirements with the staff of head office administration groups, responding to a customer CSR

**Moderator Ishii (hereinafter referred to as moderator)** In the 2008 Report, there were third-party comments from Mr. Kozuma, Professor from Sophia University. He pointed out that we should improve our CSR initiatives (corporate social responsibility), especially supply chain CSR management. Please firstly explain what CSR is.

**Furukawa, Manager (hereinafter referred to as Furukawa)** We understand that "CSR is a voluntary and autonomous initiative that a company conducts for the purpose of continuous development in fields other than financial activities such as compliance with laws and regulations, consumer protection, environmental protection, labor, respecting human rights and community contribution" (METI). In April 1997, we established our "Corporate Action Policy" and stated in Item 3, "We assume our corporate responsibility toward shareholders, customers, employees, communities and the global environment." I believe this was the first step of our CSR initiative.

**Moderator** Currently we respond to CSR procurement surveys of customers. When did this trend start?

**Nakamura, Manager (hereinafter referred to as Nakamura)** Among CSR "environmental protection" requirements, customer surveys about the "management of chemicals contained in products" started around 2000. They were green procurement surveys conducted by customers. In relation to CSR procurement surveys, FX Company attended a CSR Procurement Seminar held in March 2007, representing our company, and it became an opportunity to refresh our awareness that corporate quality is constituted by social and human values in addition to conventional economic values. This was the beginning. (Refer to the chart on the right.)

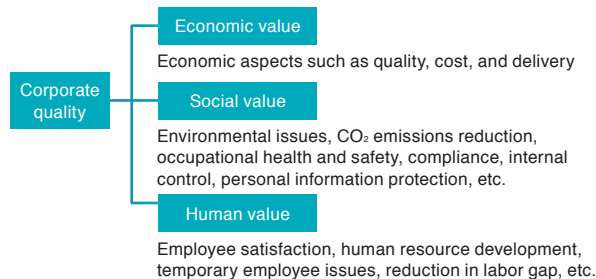
**Moderator** While customer green procurement is widely known CSR procurement does not seem to be so well recognized.

**Furukawa** The beginning of CSR procurement surveys probably started with a "questionnaire on supplier's compliance with codes of conduct" by Company S in June 2007. When the Secretariat of the General Risk Management Committee studied the rules to respond to the survey, they felt it would be desirable to centrally manage such surveys through the "Global Environment Communication System" with operational records through customer green procurement surveys and requested the Engineering Group to handle the matter.

**Moderator** Please explain our response system to customer CSR surveys.

**Nakamura** When a CSR procurement survey sheet is submitted from sales to an environmental management manager at a Division, it is then sent to the Engineering Group. The sheet is filled out by the relevant administrative department at Head Office, followed by a summary preparation and sent to the environmental management manager, and is then finally submitted to the customer. This is a case of the "Head Office" version of the response system, but in

**Chart 3 values constituting corporate quality**



Source: CSR Procurement Seminar material, March 1, 2007, FX Company



Technology Group  
Manager  
**Akio  
Nakamura**



Human Resources  
Group  
Manager  
**Seiji  
Nagano**



Internal Auditing Group  
Manager  
**Moritoshi  
Okazaki**



Information  
Systems Group  
Manager  
**Mitsukazu  
Hara**



Legal Group  
Manager  
**Haruya  
Furukawa**



Administration &  
Public Relations Group  
Senior Staff  
**Sachiko  
Ishii**



# management

and we arranged an opportunity to discuss what procurement survey.

individual "Site" versions of the system, environmental technology staff at Divisions and sites reply, referring to the responses in the "Head Office" version. (See flowchart on the next page.)

**Moderator** What check items exist for CSR?

**Nakamura** Each customer requires us to establish a "Supplier Code of Conduct" in compliance with the "Supply-Chain CSR Deployment Guidebook" which was established by JEITA (Japan Electronics and Information Technology Industries Association) and demand compliance and response to the "CSR Check Sheet." The CSR check items are comprised of (1) human rights and labor, (2) health and safety, (3) environment, (4) fair trade and ethics, (5) quality and safety, (6) information security, and (7) social contribution.

**Moderator** The "Corporate Code of Action" was established last year. Please tell us about its purpose.

**Furukawa** In order to build up a corporate culture to comply with laws, regulations and rules as a Group, we considered it necessary to establish a comprehensive set of corporate ethics, and positioned above the "Compliance Manual" (set up in March 2004,) we established the "Corporate Code of Conduct" and the "Code of Ethics" in April 2008.

**Okazaki, Manager (hereinafter referred to as Okazaki)** This shows we have a set of rules and codes to guarantee internal control, but how to disseminate and settle them among employees is our next challenge.

**Moderator** By responding to customer CSR procurement surveys, we have been able to identify our strengths and weaknesses, so I would like to pose item-by-item questions. First, for "human rights and labor," issues such as forced or child labor and discrimination are listed, and though our company has no issues in this regard, what

instruction do you give to overseas sites and international suppliers?

**Nagano, chief senior staff** We have overseas sites submit a "general labor condition inquiry sheet" once a year to check wages, number of holidays, working environments, etc. When an overseas corporation establishes its "Employee Handbook," we check if it complies with labor laws and regulations of the relevant country and if our corporate philosophy is incorporated. Control of overseas suppliers is at the discretion of individual Divisions for full management.

**Moderator** For "health and safety," please tell us about workplace safety, labor accidents and emergency measures.

**Kawanishi, Manager** Labor accidents that happen in our company are caused by lack of awareness rather than facilities, so we put emphasis on raising the awareness of workers. To create a zero-accident corporate culture, management systems are effective, but in the case of sites that lack sufficient capacity, we think it is better to promote the efforts based on ISO9001 and ISO14001 mechanisms rather than OHSAS18001. With regards to business continuity management (BCM), individual divisions and sites make independent efforts, so we plan to organize them into a corporate wide BCM system.

**Moderator** For the "environment" item, customers have requested the auditing of the environmental quality of products of secondary suppliers (original equipment manufacturers) as part of supply chain CSR management. What is the current situation?

**Nakamura** Company R, our customer, first paid attention to the importance of secondary supplier auditing. This company began the "CMS (Chemical-substances Management System) auditor system" in 2005, and Mr. Arai, Manager of the Kodama Plant, and I are qualified for this. Ever since, we have instructed environment staff at individual sites to check the audit systems for the environmental quality of products of their suppliers, and we received reports from overseas sites that they have implemented local "supplier RoHS audits." Our group also has five sites qualified as green partners of Company S, and the company has instructed us to conduct update auditing (once every two years) using Head Office governance function. This year, we toured five sites in May and June and checked evidence for the details given in Company S's audit sheets. In mid-July, we visited Suzhou Shin-Etsu Polymer Co., Ltd. (Wujiang City, Jiansu) and

Customer Supply Chain

To meet the demands of CSR management

conducted the first audit of the environmental quality of products at an overseas production site.

**Okazaki** We have several original equipment manufacturers in China, and we really hope that audits of the environmental quality of products will be conducted, using the Head Office governance function.

**Nakamura** Initially, we want to conduct an audit of one or two major companies. We also hope to audit CSR procurement.

**Moderator** What internal rules were set up for “fair trade and ethics?”

**Furukawa** The Rules of Ethics are defined as the “prohibition of corruption and bribery” and the “prohibition of offering and receiving illegal profits.” The “abuse of a superior bargaining position (supplier bullying)” is stipulated in the Compliance Manual, the “prohibition of anti-competitive practices” in the Code of Conduct and Compliance Manual, and the “prohibition of corrupt practices” in the Code of Conduct as well as Internal Information & Trade Control Rules. “Proper export control” is provided in Security Export Control Rules, and the Technology Group assumes the role of Security Export Control Committee Secretariat.

**Moderator** In relation to “quality and safety,” we do not have any quality department at Head Office, and entrust everything to Quality Assurance departments at Divisions and Plants. Though we have successfully passed customer quality audits, were there any problems?

**Kawamura, Director (hereinafter referred to as Kawamura)** Once a year we have Quality Assurance departments of individual Divisions give us reports on quality policies, customer complaints and other information, and the Quality Management Committee handles issues that cannot be handled by Divisions, so we do not think it necessary to have a formal organization. As the Technology Group that I am responsible for takes care of quality control education (corporate-wide SQC education), I do not think there is a problem.

**Okazaki** Quality control and other rules, however, serve as a paragon for Divisions and Plants, so I think it is necessary to regularly review them.

**Moderator** I have heard that the Information Systems Group reviewed our information security management system taking customer information security standards into consideration. Please tell us about some other cases.

**Hara, Manager** Security comes from “National Security,” but what customers mostly require from suppliers is protection against technical

information leakage. In our Group, we have conducted 27 information security training courses participated by a total of 1,067 information assets staff since 2007 and confirmed the degree of achievement using an information security check sheet. One of our customers, Company P, has strengthened its information security since 2006, and as we learned that their check sheet was based on ISO27001, we updated our check sheet to meet these requirements. There are still many more things to handle such as management of USB memory devices and information security training for overseas sites.

**Moderator** Finally tell us about the basic stance toward “social contribution.”

**Furukawa** The basic stance is to contribute to society through business operations. We also actively promote activities such as donations to research institutes, disaster recovery aid, and local volunteer activities.

**Moderator** I would like to hear a comment from the Operations Auditing Group and then some concluding remarks from Mr. Kawamura.

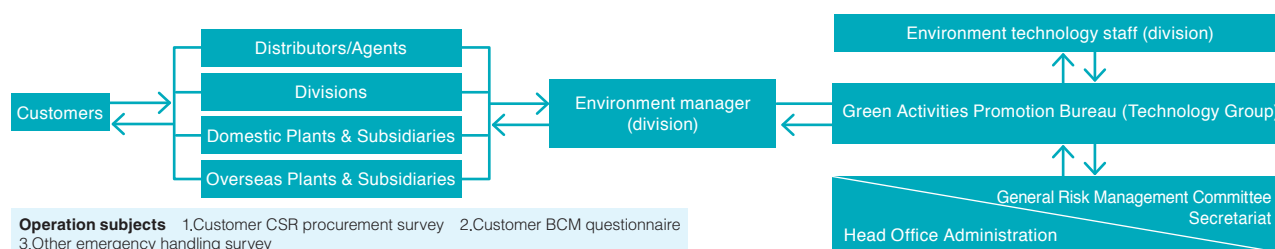
**Okazaki** I am concerned with the issue of corporate governance. The Technology Group inputs customer CSR procurement surveys into the “Global Environment Communication System,” but top management must authorize this operation system and let the entire Group know about it. Though how to handle green procurement surveys is well known, CSR procurement surveys remain rather obscure.

**Kawamura** The concept of “always thinking from the viewpoint of customers” has already been established at our company. I think we have properly responded to customer requirements in terms of the environmental quality of products and information security. For some of our suppliers, communication and auditing of requirements have been made, but CSR check items in general mentioned today are our future challenges.

The J-SOX Law contains “development assessment” and “operations assessment.” For CSR, we developed the “Code of Action” and other rules, but it is important to thoroughly implement them in the company and identify how we should operate them for suppliers. Please review operations from the viewpoint of responding to customer CSR requirements.

**Moderator** This was a very significant dialogue, listening to divisions and departments concerned with CSR management from the viewpoint of our customers. Thank you very much.

Chart Operational flow of “Global Environment Communication System” for supply chain CSR management





# Green Activities Overview

Our company has been promoting Green Activities on a Group-wide basis since fiscal 2000. Since fiscal 2003, we have set up and addressed three-year mid-term targets and completed the 2nd Mid-term Targets in fiscal 2008. We shall do our best to achieve the 3rd Mid-term Targets in place from fiscal 2008.

## Basic Policy

We recognize the Green Activities as those of productivity improvement from the viewpoint of the environment and have been promoting them as deeply rooted corporate activities.

## The 3rd Mid-term Targets of the Green Activities (fiscal 2009 to fiscal 2011)

Based on the results and a review of the 2nd Mid-term Targets (fiscal 2006 to fiscal 2008) we set up the 3rd Mid-term Targets toward fiscal 2011 to promote environmental conservation activities.

### 1. Mid-term Targets for Energy-saving

- ① We will achieve a 35% reduction of produced CO<sub>2</sub> emission units (against that of the reference year 1994) by fiscal 2011.
- ② Each plant will reduce its energy consumption when compared with actual units of fiscal 2008 by 3%.

### 2. Mid-term Targets for Waste Reduction and Recycling

- ① We will maintain a zero emission rate (less than 1% emission rate).
- ② We will reduce basic waste disposal units against that of results in fiscal 2008 by 3%.

※Emission rate = (amount of land fill + simple incineration)/total amount of waste x 100 (%)

### 3. Mid-term Targets for Office Sections

We will reduce energy consumption and CO<sub>2</sub> emissions when compared with actual results of fiscal 2008 by 10%.

## Complete Summary of 2nd Mid-term Targets and Achievements

### ● Energy-saving Activities

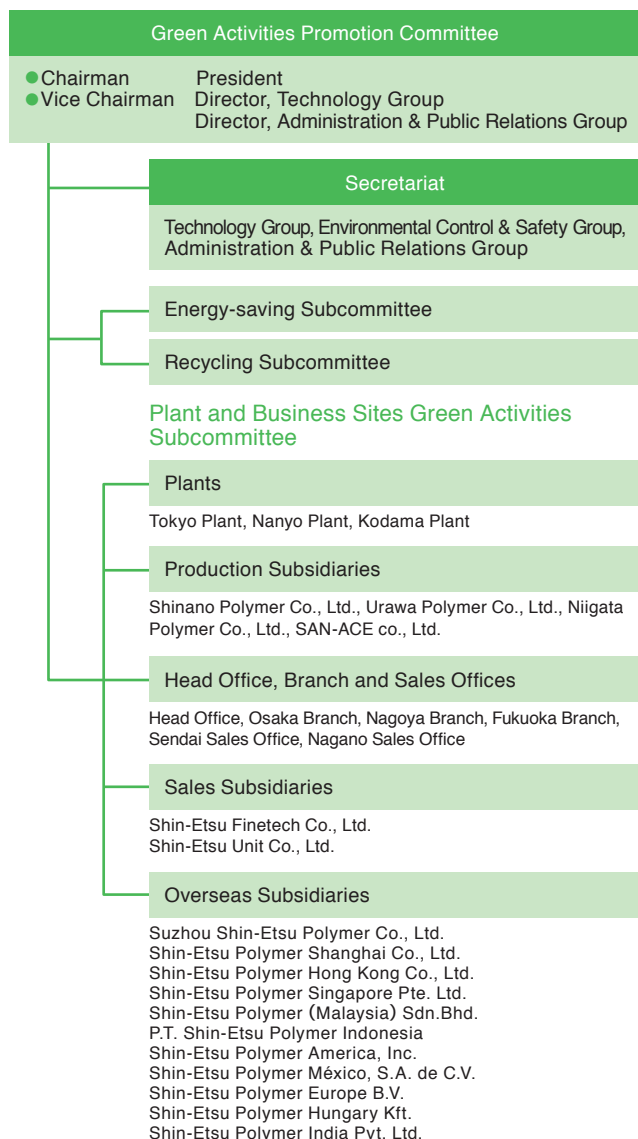
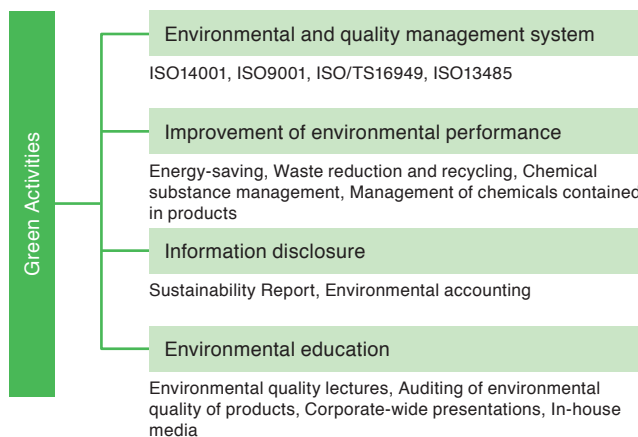
For the 2nd Mid-term Targets, we aimed to ① reduce CO<sub>2</sub> emission units against that of the reference year 1994 by 25% and ② reduce energy consumption when compared with actual units of fiscal 2005 by 7.5% and were able to achieve results that met targets until the first half of fiscal 2008 by implementing such measures as the introduction of energy-saving facilities, the reduction of fixed power consumption, and manufacturing methods reform (yield increases, production method conversions, facility improvements.) However, faced with the drastic decrease in production volumes since November 2008, and though we took an initiative to stop production at some plants, we could not achieve targets of CO<sub>2</sub> emission units (22.7% reduction against that of reference year) or basic units of energy consumption (1.7% reduction against that of fiscal 2005.)

### ● Recycling Activities

To achieve the 2nd Mid-term Targets, we addressed the recycling of plastic waste, recycling into raw material for cement and fuel, and thermal recycling with a target of "less than 1% emission rate" and actually satisfied the target (average 0.39% in the Group) at all plants.

### ● Chemical Management

Though no numerical targets were decided in the Mid-term Targets, we addressed the reduction of the use of substances subject to regulations of the PRTR Law and have reduced the amount to a level of 10% against that of fiscal 2000 when the Green Activities began.



## PIP MagneLoop

# Healthy daily support Development of PIP MagneLoop®

Countermeasures against environmental burdens in progress along with the development of better products

“PIP MagneLoop” is one of a limited number of products directly connecting us to end-users.

The product is popular among many consumers, “Soft and comfortable fitting” and

“More effective than ever.”

We interviewed Mr. Kawai and Mr. Nakagawa about the challenges they faced and in what way they addressed them.

## Realizing silicone rubber products taking advantage of our unique strength and technology

As an updated version of the necklace-shaped magnetic therapeutic device, PIP MagneLoop, which was launched in September 2004, a soft type PIP MagneLoop using silicone rubber as a material was released in February 2008. This product is softer than conventional models, offering a more comfortable fitting, allowing more users to feel the effects, winning popularity among consumers.

At the time of the initial release, PIP MagneLoop employed polyurethane as the outer layer material, but as customers wanted a “softer and more comfortable fit,” PIP-Fujimoto requested us to develop a soft silicone rubber product suitable for use against the skin. As we had two-layer extrusion molding technology to simultaneously mold the inner layer to embed magnetic powder into the outer layer that touches the skin, we were able to meet this development requirement.

## Solving all challenges we met with aggressive learning and an open-minded view

In order to achieve the strength of magnet required for necklace-shaped magnetic therapeutic devices or 55 milli-Tesla of magnetic induction, a rather large amount of conventional ferrite magnetic powder was required, resulting in a hard product. For this reason, it was decided to use magnetic powder of high-performance magnets that offer the required magnetic induction with a small amount. This is the difficulty we faced during development.

This magnetic powder falls into a combustible solid (a solid that can be easily ignited) of the 2nd Class Hazardous Materials,



PIP MagneLoop®

It is a necklace-shaped magnetic therapeutic device (medical equipment). MagneLoop radiates magnetism from the loop, enabling a wide range of treatments.

so in order to produce MagneLoop, permission from the Wide Area Fire Department of Kodama County and City was necessary. Another significant challenge was improving production facilities, storage rooms, and the treatment plan of dangerous articles. In addition, it was pointed out as an aesthetic issue of the product that magnetic powder gathers into clumps.

In particular, we had to be certain to eliminate the risk of ignition at the time of kneading that may cause accidents. At first, we had little information about this magnetic powder, so we learned from a case of the magnet plant of Shin-Etsu Chemical Co., Ltd. and solved the problem by building a 2nd Class Hazardous Material warehouse and treatment plan for dangerous articles and modifying the equipment to knead the magnetic powder (pressurized kneader) into an explosion proof one using a nitrogen purge method. In relation to the clumps of magnetic powder, we employed the solution of installing strainer equipment to remove foreign objects





Kodama Plant  
SR Development and  
Production Management  
Department  
SR Development Group  
Manager

Takashi Kawai



Kodama Plant  
SR Development and  
Production Management  
Department  
SR Development Group

Mikio Nakagawa

and having kneaded materials pass through a screen mesh.

### Challenges of product development led to reduced energy consumption

PIP Magneloop was a product already on the market. We needed to complete an updated device quickly for the sake of PIP-Fujimoto and its consumers. We were able to start up production in a comparatively short period of time after receiving the request, though we came across many challenges.

We did come across, however, a rather big problem, which was the issue of after-treatment at the time of silicone rubber molding. Normally, silicone rubber undergoes after-treatment of more than two hours at 200°C to vaporize unrelated material. With this product, there was a problem in that the physical property deteriorated with this heat treatment. So, we switched to a vulcanization system so that no unrelated material would remain and verified that magnetic induction and physical strength (tensile strength, elongation, etc.) would not be affected without after-treatment. Thanks to this, we were able to reduce the power consumption of driers for after-treatment, and the development of a better product led to a reduction in the environmental load. We started manufacturing in July 2007 after receiving approval from the customer.

On the other hand, polarization of Magneloop was part of the customer's process, so there was a concern that feedback of defects would be delayed as to whether the mixing of magnetic powder had been done properly, as this is judged after delivery to the customer. In January 2009, we introduced the polarization equipment to inspect the process for quality assurance.

This product is one of a limited number of our products delivered to end-users. Hearing comments from consumers leads to an increase in our motivation. According to PIP-Fujimoto, the

recognition ratio of PIP Elekiban is 94% while PIP Magneloop is 33%, and that sales are proportional to this ratio. Consumers commented, "The product alleviated the stiffness in my neck," and "It is comfortable with a soft fitting." There have also been some requests for improvement.

Going forward, we hope to meet the expectations of customers by keeping the viewpoint of consumers in mind, giving consideration to environmental burdens and addressing new challenges.



### Maintaining quality while paying attention to the environment

Pip-Fujimoto Co., Ltd.  
Products Development Department  
Ms. Tomomi Akasaka

With the management principle of being "a company that contributes to people's physical and mental well-being," we have provided products contributing to the health of many people for over a century. In the meantime, while placing top priority to product quality and safety, we have positively addressed product development and improvement based on feedback from customers. One such product is "PIP Magneloop" and about a year and a half ago, we reviewed the material, released the "soft fitting type" as an updated product, winning a favorable response from customers, thanks to the improved comfortable fit.

Following that, we mutually agreed that if the physical properties could be secured by mixing, then the secondary processes could be omitted, and we proceeded with product development with a maintained quality while contributing to saving energy.

Our mission is to "continue to develop products that customers can use with a sense of safety and pleasure." While paying attention to the environment, we are committed to developing products that maintain effects as medical equipment and with a high standard of quality.

Production activities and human resources development at Suzhou Shin-Etsu Polymer Co., Ltd.

## Creating a rewarding place of work with a highly transparent and fair personnel system

Women account for **more than 55%** of managerial jobs (department manager or higher)

### People's Republic of China

- **Population:** 1,321,290,000 persons (as of December 31, 2007)
- **Area:** 9.6 millionkm<sup>2</sup> (26 times that of Japan)
- **Capital:** Beijing
- **Language:** Chinese (official language)
- **Religion:** Buddhism, Islam, Christianity, etc.
- **GDP per capita:** US\$2,483 (2007)

Source: Japan External Trade Organization (JETRO)

### Suzhou Shin-Etsu Polymer Co., Ltd.

- **Address:** No.652 Dong Gang Road, Foho Economic Development Zone, Wujiang City, Jiangsu Province, China
- **TEL:** +86-512-6327-0704



### Fen Hu Economic Development Zone, Wujiang City

This is an economic development zone in LuXu Town, Wujiang City (consolidated with LuXu Town, etc. in June 2006) in Jiangsu. Wujiang City has a population of about 600,000, while Fen Hu Town is about 190,000. The zone is 50km from Shanghai Hongqiao Airport (40 minutes by car) and 90km from Shanghai Pudong International Airport (1 hour, 40 minutes by car). The zone accommodates such Japanese affiliates as Furukawa Electric, ASICS, and Yagi Textile in addition to our company.



Suzhou Shin-Etsu Polymer Co., Ltd. President

Naoki Kobayashi

### Production base capable of manufacturing dies and jigs in China

Suzhou Shin-Etsu Polymer Co., Ltd. (hereinafter referred to as SC) was established as a joint venture between three parties, namely, Shin-Etsu Polymer Co., Ltd., Mitsubishi Corporation, and the Fen Hu Group Asset Management Company (municipality) and began production and shipment in January 1995. Shin-Etsu is represented by Shin-Etsu Polymer Shanghai Co., Ltd. (established in 1999) and Shin-Etsu Polymer Hong Kong Co., Ltd. in China (Hong Kong Branch established in 1994 was reorganized in 2005), with these three bases covering China.

SC has three factory buildings; the first manufactures keypads for automobiles while the second and third factory produce keypads for cellular phones. In the past few years, the company introduced numerically controlled machine tools (machining center, NC milling machines, etc.) enabling the company to manufacture dies and jigs in house.

The number of employees was less than 300 at the time of foundation in 1995, but in 2007, the company grew to more than 2,000 employees. Due to this drastic growth, 80% of employees have been with Shin-Etsu for less than three years. 15% of employees, however, have more than a decade of experience with the company, and these original members provide strong support to the company. The male to female ratio is 1 to 9, with many women actively working at the company.

### Locally employed female employees playing active roles

SC is characterized by the fact that locally employed female employees take leadership. There are seven departments, and all managers except Engineering are women, with many people working for them. The percentage of female managers or above (including President, Vice President, and Advisor) is 55%, while it is 45% or more for section managers.

The ratio of female employees has been high since foundation, and in over ten years, each female employee has accumulated experience. Furthermore, in the process of the localization of managers, we have promoted locally employed employees to managerial roles, with the ratio of female managers becoming high. China is a country with equal employment for both sexes and with no job discrimination.

The pillars of the personnel system of SC are a performance target system and annual training (inviting external lecturers). Employees are entitled to take a promotion test based on evaluation results of the former and whether the standard of the latter is satisfied or not. The promotion test consists of a written test and an interview, and transparency and fairness is perfectly maintained. Test scores are publicly announced, and interview results are fed back to interviewees, which is accompanied by discussions that continue until all parties are satisfied.

## Awareness of participation in management strengthened through local manager meetings

Manager of  
General Affairs  
and Secretary  
to President

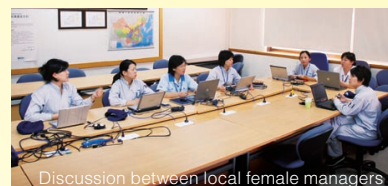
Zhang Hong  
Lan



Taking advantage of my command of Japanese of which I majored in a foreign language university, I assume the role of a facilitator of communication between top management and employees. As the manager of internal control

promotion, I promote a compliance mechanism and a risk management system in addition to internal control in relation to financial reporting.

Since 2007, local employees at SC, satisfying the general standard of corporate localization, assume more than 70% of managerial positions. As an opportunity to solve important challenges of the company, SC launched a "local manager meeting" in which only local assistant managers or higher managerial employees (about 20 people) can participate. This is recognized as one of the five major regular meetings. During meetings, urgent issues are reviewed in the context of



Discussion between local female managers

the Chinese situation to make proposals to top management. Our executives highly evaluate our proposals awarding us trust. In this manner, further localization is established, strengthening our motivation to voluntarily change our company and do our best.

## Doing our best to be the No.1 company in the world

I joined the company in 1995, and am responsible for quality control. Since 2007, I have been in charge of document management, improvement, and internal auditing to maintain compliance with four standards of quality, environment, health and safety including ISO/TS16949 and OHSAS18001 as manager of the ISO Group. I also conduct monthly quality and environmental safety inspection tours in collaboration with the Quality Assurance Group. In relation to customer products environmental auditing, I also handled on-site auditing of four companies and submissions of audit check lists

to 15 companies in fiscal 2008.

In addition I have been responsible for the TPS Secretariat since 2006. TPS presentation meetings are held once a month, and in fiscal 2008, the number of improvement proposals were as high as 1,300. Thanks to the support from the Technology Group of Shin-Etsu Polymer Co. Ltd., we launched Six-Sigma Activities. We host black belt education activities using Chinese textbooks, promoting original activities to SC across all departments.

Going forward, to be the number-one manufacturing company in the Shin-Etsu

Manager of ISO  
Group and TPS  
Secretariat

Zhang Xin  
Yun



Polymer Group and also in the world, we want to work together with Sales Companies of the Group within China to improve our production and sales capabilities.

All employees are regular. In the People's Republic of China, the amendment of the Labor Agreement Law in 2008 stipulates that a job contract will become a lifetime one after a renewal for the third time. In other words, the first contract is for one to three years; the second for three to five years; and the third for life. When a renewal is declined, a retirement payment called economic compensation must be paid.

As part of employee benefits and welfare facilities, the company has a dormitory for single employees. Just 10 minutes by foot, the facility accommodates 600 single employees from rural areas. Other employees commute to the company using shuttle buses from Shanghai and other means of transportation. The plant has a canteen operating around the clock where employees can have two meals a day free of charge.

In addition, health checks for all employees are conducted, and a doctor from the 1st Citizen Hospital of Wujiang City regularly visits the plant for medical examinations of women. There is a doctor's surgery in the facility with a resident nurse to protect the health of employees.

## Promoting process improvement and rationalization activities

Though SC previously had process improvement activities, in 2006, it started new process improvement and rationalization activities to meet customer requirements for cost reductions in the

form of TPS Activities. In addition, SC requested the Technology Group of Shin-Etsu Polymer Co., Ltd. for guidance to introduce Six-Sigma Activities as a DMAIC-based logical problem solution method in April 2008. With such purposes as the realization of cost reduction and actual profit (real savings), operational reform and human resource development, the Six-Sigma Activities aim for customer satisfaction (CS), business satisfaction (BS), and employee satisfaction (ES), and not only Production and Operations but also Administration is addressing the challenge. As a result, in Administration, Operations reduced the cost of purchasing parts and materials while General Affairs reduced the cost of consumable purchases.

SC has also been engaged in the Green Movement since 2000, and in fiscal 2008, addressed the Movement with such targets as a 3.15% reduction of unit energy consumption (compared with the previous year), a 0.02% reduction of waste disposal units (compared with the previous year), and 100% compliance with RoHS directives. In order to stabilize power supply, SC introduced power generators with a capability of 100% supply in fiscal 2003 and 2004. At present power supply from the local power station is stable, but the power station notifies SC of an approximate 30% cutoff in the commercial supply once a month, which the company handles with its in-house power generation system.

SC plans to evolve and grow in all aspects and fulfill its role to support the Group's production activities in China.

# Environmental & Quality Management System

All domestic and overseas production sites of the Shin-Etsu Polymer Group have been awarded with the ISO9001 and the ISO14001 certification. In order to further enhance customer satisfaction, two divisions (Electronic Device Business Unit and FI Division) were certified on a divisional basis.

## Environment Management System

To promote ISO14001 across the organization, each general manager appoints an environmental management representative based on corporate-wide environmental policies, and heads of departments serve as departmental environmental conservation representatives to promote environmental management.

Environmental management implementation plans of individual departments are prepared on the basis of the environmental objectives and targets of all the sites set forth at the beginning of each fiscal year and approved after a review by the plant manager. The general manager reviews the progress and extent of accomplishment of the implementation plan through submissions of interim and final reports. Furthermore, an annual inspection by the Environmental Conservation Committee is held for an improvement and enhancement of environmental conservation.

## Quality Management System

To promote ISO9001 across the organization, each general manager in the role of an executive manager sets forth quality policies and appoints a quality representative to establish and maintain the total quality management system. Each department builds and operates an operational system and by implementing PDCA cycles, improves the effectiveness of the system, quality of products and efficiency of operations. Each general manager

reviews the progress of improvement through monthly reports, achievement review sessions and management reviews and provides the necessary instructions.

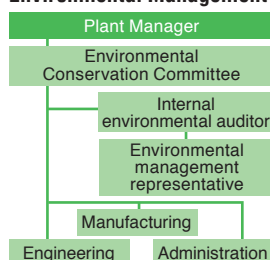
## ISO/TS16949 Automobile Sector Quality System Standards

ISO/TS16949 is a standard comprising ISO9001 requirements and additional technical specifications (TS) unique to the automobile industry, and it is imperative for manufacturers of automobile parts and components to obtain this certification. In our Group, the Shiojiri and Hotaka Plants of Shinano Polymer Co., Ltd. as well as Shin-Etsu Polymer (Malaysia) Sdn. Bhd. and Shin-Etsu Polymer Hungary Kft. have been certified with this certification, following Shin-Etsu Polymer Mexico, S.A. de C.V. and Suzhou Shin-Etsu Polymer Co., Ltd.

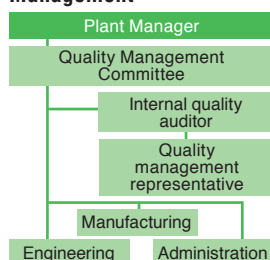
## ISO13485 Medical Device Quality Management System

ISO13485 omits some ISO9001 requirements, and adds requirements unique to medical devices for the remaining ISO9001 requirements. In our Group, Shin-Etsu Polymer (Malaysia) Sdn. Bhd. as well as the Nagano and Miyabuchi Plants of Shinano Polymer Co., Ltd., manufacturing medical parts and components obtained the certification in fiscal 2007.

### Organization of Environmental Management



### Organization of Quality Management



### List of ISO14001 Certification

	Plants & Subsidiaries	Approval Date	Registration Number	Expiry Date	Authority	Applied Specification	
Domestic Plants & Subsidiaries	Tokyo Plant	2001.07.23 2007.07.23	JCQA-E-0270	2010.07.22	Japan Chemical Quality Assurance Ltd.	ISO14001:2004	
	Nanyo Plant	2001.02.26 2007.02.26	JCQA-E-0232	2010.02.25	Japan Chemical Quality Assurance Ltd.	ISO14001:2004	
	Kodama Plant	1999.01.11 2008.01.11	JCQA-E-0040	2011.01.10	Japan Chemical Quality Assurance Ltd.	ISO14001:2004	
	Shinano Polymer Co., Ltd.	1999.04.05 2008.04.05	JCQA-E-0056	2011.04.04	Japan Chemical Quality Assurance Ltd.	ISO14001:2004	
	Urawa Polymer Co., Ltd.	2001.04.23 2007.04.23	JCQA-E-0252	2010.04.22	Japan Chemical Quality Assurance Ltd.	ISO14001:2004	
	Niigata Polymer Co., Ltd.	2001.11.26 2007.11.26	JCQA-E-0304	2010.11.25	Japan Chemical Quality Assurance Ltd.	ISO14001:2004	
	Shin-Etsu Finetech Co., Ltd.	2005.08.01 2008.08.01	JCQA-E-0679	2011.07.31	Japan Chemical Quality Assurance Ltd.	ISO14001:2004	
	Overseas Plants & Subsidiaries	Suzhou Shin-Etsu Polymer Co., Ltd.	2001.11.16 2009.09.18	E3020	2012.09.18	Shanghai NQA Certification Co., Ltd.	ISO14001:2004
		Shin-Etsu Polymer (Malaysia) Sdn.Bhd.	2004.01.30 2007.03.08	207067	2010.01.29	Bureau Veritas Certification Malaysia	ISO14001:2004
P.T.Shin-Etsu Polymer Indonesia		2002.01.12 2008.01.12	GB02/54090	2011.01.12	SGS United Kingdom Ltd. Systems & Services Certification	ISO14001:2004	
Shin-Etsu Polymer México, S.A.de C.V.		2002.07.02 2008.07.01	A11098	2011.07.01	Underwriters Laboratories Inc.	ISO14001:2004	
Shin-Etsu Polymer Hungary Kft.		2006.11.29	205859	2009.11.28	Bureau Veritas Certification Hungary	ISO14001:2004	

## List of ISO9001 Certification

Plants & Subsidiaries	Approval Date	Registration Number	Expiry Date	Authority	Range of Products and Services	Applied Specification
Tokyo Plant	1998.01.12	JCQA-0295	2010.01.11	Japan Chemical Quality Assurance Ltd.	Design, development and manufacturing of multi-layered sheet products, calendar sheet products, wrapping film and plastic material switch products; manufacturing of plastic corrugated plates; manufacturing and control over outsourced manufacturing of plastic compounds	ISO9001:2000
	2007.01.12					
Nanyo Plant	2000.03.13	JCQA-0662	2012.03.12	Japan Chemical Quality Assurance Ltd.	Development, manufacture and order receipt of hard vinyl chloride and related products; manufacture of hard vinyl chloride corrugated plates	ISO9001:2000
	2009.03.13					
Kodama Plant	1997.03.03	JCQA-0193	2012.03.02	Japan Chemical Quality Assurance Ltd.	Development and manufacture of silicone rubber roll products, blade products for OA equipment and silicone rubber products for medical, science and chemical industries	ISO9001:2000
	2009.03.03					
Electronic Devices Business Unit Related divisions: Technical and Production Division	2003.06.23	JCQA-1277	2012.05.21	Japan Chemical Quality Assurance Ltd.	Development, design and manufacture of electronic device related products (rubber contacts and related products); manufacturing control for subsidiaries	ISO9001:2008
	2009.05.22					
Shinano Polymer Co., Ltd. Hotaka Plant, Shiojiri Plant Nagano Plant, Miyabuchi Plant	1996.12.25	421497	2011.04.14	Bureau Veritas Japan Co., Ltd.	Manufacture of inter connectors and rubber contacts	ISO9001:2000
	2007.01.15	353905	2010.07.05	Bureau Veritas Japan Co., Ltd.	Manufacture of silicone rubber products for medical, scientific and chemical industries	ISO9001:2000
1998.07.06						
Urawa Polymer Co., Ltd.	2007.07.09	JCQA-0196	2012.03.02	Japan Chemical Quality Assurance Ltd.	1. Development and manufacturing of carrier tapes 2. Development and outsourcing management of cover tapes	ISO9001:2000
	1997.03.03					
FI Division Subsidiary company: Niigata Polymer Co., Ltd.	2009.03.03	JCQA-0190	2012.03.02	Japan Chemical Quality Assurance Ltd.	Development, manufacture, marketing and sales of injection molded wafer cases as well as parts and components for electronic equipment	ISO9001:2000
	1997.03.03					
Shin-Etsu Finetech Co., Ltd.	2002.07.29	JCQA-1131	2011.07.28	Japan Chemical Quality Assurance Ltd.	Design, development, management of contract manufacturing, supply and sales of manufactured goods of various synthetic resins and rubber (polystyrene, vinyl chloride, silicone rubber, etc.)	ISO9001:2000
	2008.07.29					
Suzhou Shin-Etsu Polymer Co., Ltd.	1997.12.31	33102	2012.09.18	Shanghai NQA Certification Co., Ltd.	Manufacture of silicone rubber products (including contacts, plastic keys, connectors and OA equipment)	ISO9001:2008
	2009.09.18					
Shin-Etsu Polymer (Malaysia) Sdn. Bhd.	1996.10.16	208295	2012.05.07	Bureau Veritas Certification Malaysia	1. Manufacture of plastic key-related products including silicone rubber contacts (silicone elastomer switches) and silicone elastomer connectors for electric and electronic equipment 2. Manufacture of silicone rubber products for medical, electric and electronic industries and for seal packing materials 3. Manufacture and development of embossed carrier tapes for electric and electronic parts and components 4. Manufacture of silicone elastomer rolls for automation equipment	ISO9001:2008
	2009.05.07					
P.T.Shin-Etsu Polymer Indonesia	2001.01.03	ID04/0381	2010.01.02	SGS United Kingdom Ltd. System & Services Certification	Manufacture of injection molded wafer cases	ISO9001:2000
	2007.01.11					
Shin-Etsu Polymer México, S.A.de C.V.	2001.03.15	A9031	2011.01.27	Underwriters Laboratories Inc.	Manufacture of silicone rubber keypads	ISO9001:2000
Shin-Etsu Polymer Hungary Kft.	2008.01.28	205859	2009.11.28	Bureau Veritas Certification Hungary	Manufacturing of keypads for electronic devices and associated operations	ISO9001:2000
	2005.11.16					
Shin-Etsu Polymer India Pvt. Ltd.	2006.11.29	IND97257	2010.11.15	Bureau Veritas Certification (India) Pvt. Ltd.	Manufacture and supply of plastic and rubber components	ISO9001:2000
	2009.07.04					

## List of ISO / TS16949 Certification

Plants & Subsidiaries	Approval Date	Registration Number	Expiry Date	Authority	Range of Products and Services	Applied Specification
Shinano Polymer Co., Ltd. Shiojiri Plant	2008.04.15	(IATF) 66569 (BVC) 222544/1	2011.04.14	Bureau Veritas Certification	Development, design and manufacture of inter connectors	ISO/TS16949:2002
Shinano Polymer Co., Ltd. Hotaka Plant	2008.04.15	(IATF) 66572 (BVC) 222544/2	2011.04.14	Bureau Veritas Certification	Development, design and manufacture of rubber contacts	ISO/TS16949:2002
Suzhou Shin-Etsu Polymer Co., Ltd.	2005.09.10	(IATF) 0089143 (NQA) T2358	2012.09.25	Shanghai NQA Certification Co., Ltd.	Manufacture of silicone rubber keys and connectors for automobiles	ISO/TS16949:2002
Shin-Etsu Polymer México, S.A.de C.V.	2009.09.26	A9031	2011.01.27	Underwriters Laboratories Inc.	Manufacture of rubber contacts	ISO/TS16949:2002
Shin-Etsu Polymer (Malaysia) Sdn. Bhd.	2005.03.07	(IATF) 71109 (BVC) MYS-233097	2011.08.15	Bureau Veritas Certification	Manufacture of rubber contacts	ISO/TS16949-Second edition (ISO/TS 16949 :2002)
Shin-Etsu Polymer Hungary Kft.	2008.10.27	(IATF) 73668 (BVC) HUN-233257	2011.10.26	Bureau Veritas Certification	Manufacture of silicone rubber components	ISO/TS16949-Second edition

## List of ISO13485 Certification

Plants & Subsidiaries	Approval Date	Registration Number	Expiry Date	Authority	Range of Products and Services	Applied Specification
Shinano Polymer Co., Ltd. (Nagano Plant and Miyabuchi Plant)	2007.08.22	DNKFR218647A	2010.06.18	Bureau Veritas Certification	Manufacturing of silicone rubber products for medical equipment	DS/EN ISO13485:2003
Shin-Etsu Polymer (Malaysia) Sdn. Bhd.	2007.04.17	(BVC) 2009001	2010.04.17	Bureau Veritas Certification Malaysia	Manufacturing of silicone rubber products for medical use	ISO13485:2003

## List of ISO/IEC17025 Certification

Plants & Subsidiaries	Approval Date	Registration Number	Expiry Date	Authority	Range of Products and Services	Applied Specification
Shin-Etsu Polymer Co., Ltd. (Chemical Analysis Center)	2001.04.11	RTL00870	2013.04.10	The Japan Accreditation Board for Conformity Assessment	Chemical tests, Infrared spectroscopy of paint resin Qualitative (JISK0117, JISK5551 2002 Appendix 1)	JIS Q17025:2005 (ISO/IEC17025:2005)
	2009.04.11					

## Volume of use, emissions and movement of substances subject to PRTR in fiscal 2008

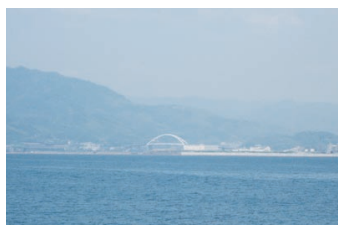
(Unit: ton)

Substance number	Substance name	Volume of use	Emissions into atmosphere	Emissions into river system	Movement as waste
9	bis-(2-ethylhexyl) adipate	4.613	0.008	0.000	0.048
13	2,2'-azobisisobutyronitrile	1.395	0.000	0.000	0.000
23	1-allyloxy-2,3-epoxypropane	0.009	0.009	0.000	0.000
25	antimony and its compounds	2.584	0.000	0.000	0.037
30	polymer of 4,4'-isopropylidenediphenol and 1-chloro-2,3-epoxypropane; [bisphenol A epoxy resin]	0.001	0.000	0.000	0.000
40	ethylbenzene	0.320	0.210	0.000	0.000
43	ethylene glycol	0.014	0.005	0.000	0.000
63	xylene	3.922	3.611	0.000	0.181
64	silver and its water-soluble compounds	0.149	0.000	0.000	0.000
68	chromium and chromium (III) compounds	2.504	0.000	0.000	0.005
132	1,1-dichloro-1-fluoroethane	0.200	0.200	0.000	0.000
172	N,N-dimethylformamide	0.469	0.469	0.000	0.000
176	organic tin compounds	5.691	0.010	0.000	0.059
227	toluene	3.355	3.032	0.000	0.323
230	lead and its compounds	40.485	0.018	0.001	0.039
242	nonylphenol	0.006	0.000	0.000	0.001
243	barium and its water-soluble compounds	0.148	0.000	0.000	0.001
266	phenol	0.012	0.000	0.000	0.001
272	bis (2-ethylhexyl) phthalate	0.588	0.001	0.000	0.100
273	n-butyl benzyl phthalate	0.011	0.006	0.000	0.003
304	boron and its compounds	0.004	0.000	0.000	0.002
307	poly (oxyethylene) alkyl ether (alkyl C=12-15)	34.876	0.042	0.000	0.007
311	manganese and its compounds	0.004	0.000	0.000	0.000
	Total	101.358	7.620	0.001	0.805

## Activities associated with biodiversity

### Waste industrial water treatment

- The domestic production sites of our Group use industrial water for cooling equipment facilities and cooling towers and pay close attention to the preservation of eco-systems in nearby rivers by installing waste water treatment equipment to drain the water to sewage treatment works. Type B in the table indicates that aquatic life preservation items (reference: all lead) is 0.03mg/liter or less and "waters where carp, crucians and other aquatic life that prefer comparatively warm areas and their food organisms live."
- At the Nanyo Plant that drains industrial water used for cooling in PVC pipe manufacturing and other processes via oil separators is mixed with the overflow from industrial water pools, visual inspections are conducted daily. Also, twice a



Tokuyama Bay (with a distant view of Shunan Bridge)

year, analyses of hydrogen ion and lead concentration, paying close attention to water preservation or the preservation of the ecosystem in the neighboring sea area takes place (Tokuyama Bay).

### Initiatives of Shin-Etsu Polymer México

- Shin-Etsu Polymer México located in Reynosa, Mexico hosts events mainly for the local children to consider the environment, and provides nursery trees for a greening of the area.
- The company also participates in the US-Mexico Water

## Topics on regulated chemical substances

### PFOS (Perfluorooctane sulfonate)

- In the "Stockholm Convention on Persistent Organic Pollutants" POPs COP4, (May 2009) it was decided to add PFOS to restricted substances in Annex B to the Stockholm Convention on Persistent Organic Pollutants (POPs).
- Following the decision, PFOS was designated as a Class I Specified Chemical under the Amended Chemical Substances Control Law. However, the Law permits its "application with no risks to humans or animals in living environments" (essential use).

### Communicating chemical substances risks in Saitama Prefecture

The Environment Department of Saitama Prefecture has sponsored meetings for case presentations and information exchanges regarding chemical substances risks communications between companies and local citizens since fiscal 2002. In fiscal 2008, the "Environmental Communication in Kodama Industrial Estate" (Honjo City, Kodama Cultural Center, January 22, 2009) took place, and Yukio Arai, manager of the Environmental Preservation Group of the Kodama Plant represented our company and gave a case study presentation on the "Management of chemical substances contained in products and activities for the conservation of the environment." The material is accessible at the Saitama Prefecture website

(<http://www.pref.saitama.lg.jp>).



Mr. Arai, Manager, beginning his presentation

### List of industrial water and drainage destinations

Plants & Subsidiaries	Water classification	Drainage destination	Designation of organism type in drainage basin
Tokyo Plant	Groundwater	Sewage treatment works in the southern basin of the left bank of Arakawa River in Saitama Prefecture	—
Nanyo Plant	Industrial water (river water)	Tokuyama Bay	—
Kodama Plant	Service water	Onnabori River	Not specified
Shinano Polymer Co., Ltd.	Shiojiri Plant	Service water	Sewage treatment works in Narai River Basin, Nagano Prefecture
	Miyabuchi Plant	Service water	Sewage treatment works in Sai River Basin, Nagano Prefecture
	Hotaka Plant	Service water	Sewage treatment works in Chikuma River Basin, Nagano Prefecture
	Nagano Plant	Service water	Sewage treatment works in Chikuma River Basin, Nagano Prefecture
Urawa Polymer Co., Ltd.	Service water	Obori Drainage → Naka River	Type B
Niigata Polymer Co., Ltd.	Ground and service water	Mae River	Not specified

Environment Forum and picks up waste on the riverbed of the Rio Grande on the border of the two countries.

Cleanup of the Rio Grande River





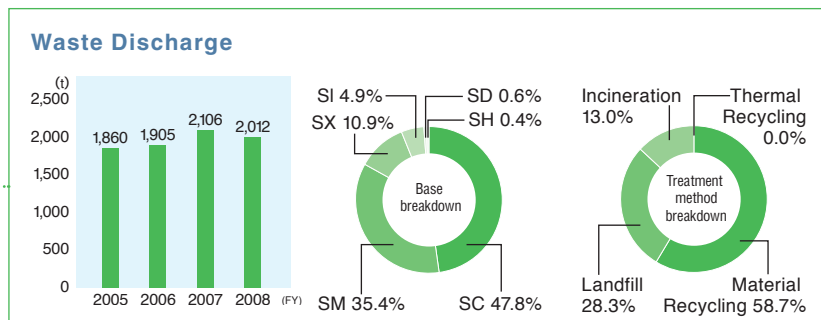
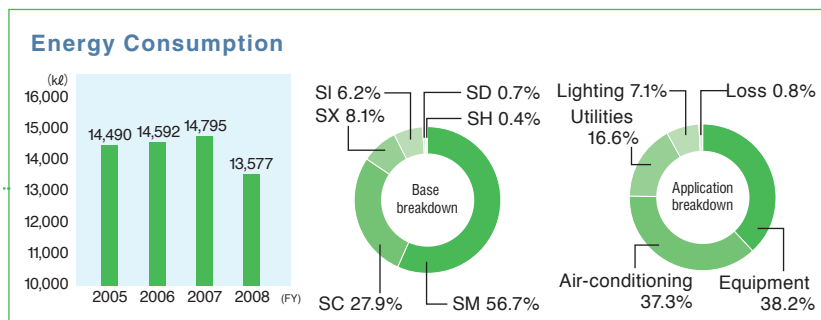
# Environmental Efforts of Overseas Production Plants & Domestic Offices

Energy consumption at our six overseas production plants was equivalent to 92.5% of that of domestic production plants, while waste discharge was 56.2% compared to domestic production plants. In addition, domestic office energy consumption was 1%.

## Environmental Data of Overseas Production Plants (fiscal 2008)

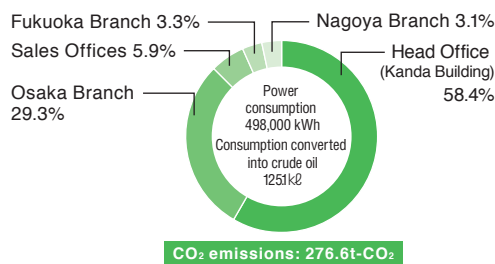
SC: Suzhou Shin-Etsu Polymer Co., Ltd.  
 SM: Shin-Etsu Polymer (Malaysia) Sdn.Bhd.  
 SI: P.T.Shin-Etsu Polymer Indonesia  
 SX: Shin-Etsu Polymer México, S.A. de C.V.  
 SH: Shin-Etsu Polymer Hungary Kft.  
 SD: Shin-Etsu Polymer India Pvt. Ltd.

Energy Consumption	<b>13,577kl</b>
Specific energy consumption in production	<b>74.7 liters / thousand dollars</b>
CO <sub>2</sub> emissions	<b>30,021 tons of CO<sub>2</sub></b>
Specific CO <sub>2</sub> emissions in production	<b>165.1kg / thousand dollars</b>
Waste Discharge	<b>2,012 tons</b>
Specific waste discharge in production	<b>11.1kg /thousand dollars</b>

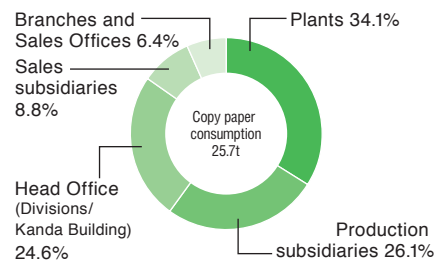


## Environmental Data of Domestic Offices (fiscal 2008)

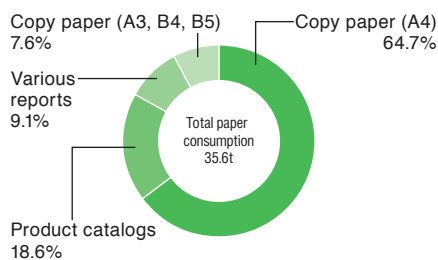
### Energy (power) consumption



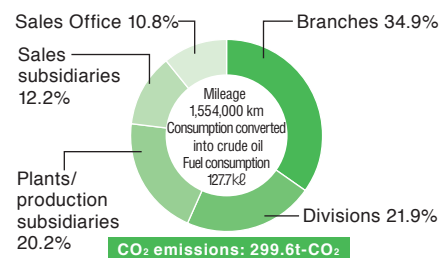
### Copy paper consumption (plants + offices)



### Total paper consumption (plants + offices)



### Official vehicle mileage in fiscal 2008



1) Data of offices located in plants are included in data of plants. 2) Data of domestic sales subsidiaries are included in data of domestic offices.

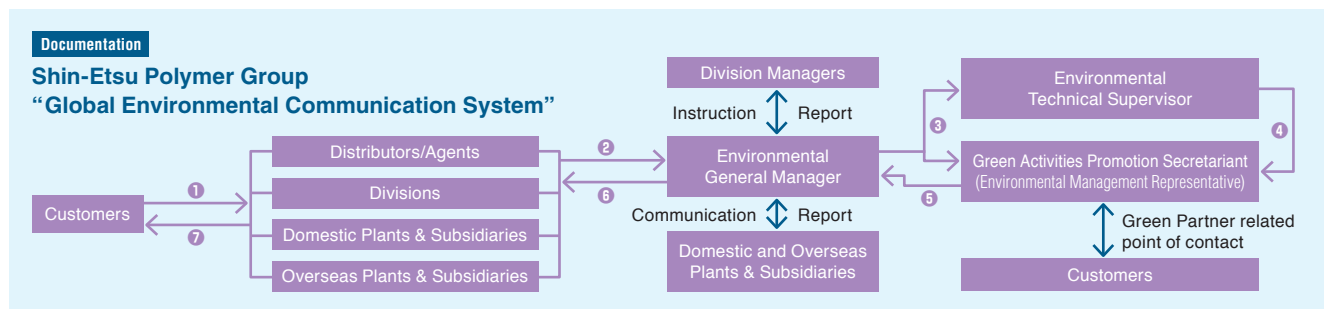
# Engagement with Customers

In order to meet the requirements for the management of chemicals contained in products by customers, the Shin-Etsu Polymer Group created the “Global Environmental Communication System” to centrally manage all the Group companies including overseas plants. We also apply this system to CSR procurement surveys by customers.

## Global Environmental Communication 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) Material with low environmental burdens (raw material, parts/components, packing material, etc.) are purchased from environment-friendly suppliers 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.



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

Partner Name	Corporate ID	Plant Name	Plant ID	Original Date of Plant ID Issuance	Current Validity Period
Shin-Etsu Polymer Co., Ltd.	410A	Tokyo Plant	7742	2005.06.30	2009.09~2011.08
		Kodama Plant	2586	2003.08.01	
		Shinano Polymer Co., Ltd. (Shiojiri Plant)	2584	2003.08.01	
		Urawa Polymer Co., Ltd. (Kurihashi Plant)	2585	2003.08.01	
		Niigata Polymer Co., Ltd.	7726	2005.11.17	
Shin-Etsu Finetech Co., Ltd.	-		6553	2007.09.21	2009.07~2010.05

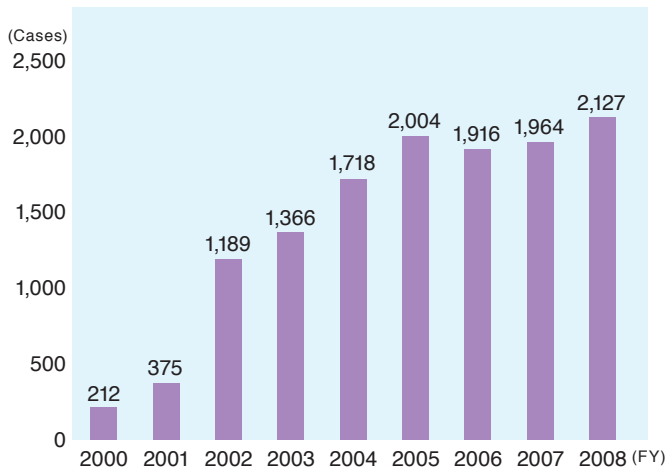
### Environmental Quality Assurance Setup Audit Results by Customers (FY 2008)

Audit Date	Customer	Audited Plants & Subsidiaries
2008.05.28	Hakodate Ndk Co., Ltd.	Urawa Polymer Co., Ltd. (Kurihashi Plant)
2008.09.17	Epson Logistics Corporation	Urawa Polymer Co., Ltd. (Kurihashi Plant)
2008.10.27	Yazaki Parts Co., Ltd.	Shinano Polymer Co., Ltd. (Shiojiri Plant)
2008.11.24	Stanley Miyagi Works Co., Ltd.	Shinano Polymer Co., Ltd. (Shiojiri Plant)
2008.12.15	NEC Nagano, Ltd.	Shinano Polymer Co., Ltd. (Shiojiri Plant)
2009.01.22	Hitachi Displays, Ltd.	Shinano Polymer Co., Ltd. (Shiojiri Plant)
2009.01.28	Panasonic Mobile Communications Co., Ltd.	Shinano Polymer Co., Ltd. (Hotaka Plant)

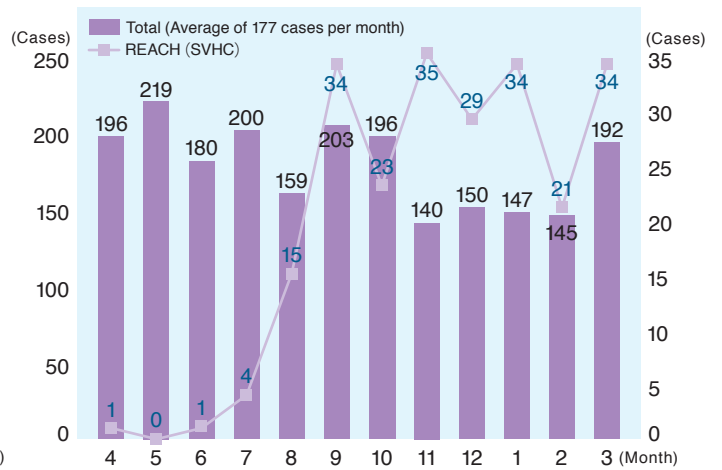
### CSR Setup Audit Results by Customers (FY 2008)

Response Date	Customer	Audit Name
2008.04.28	STANLEY ELECTRIC CO., LTD.	CSR Self-check Sheet
2008.05.30	Nikon Corporation	Procurement Partner CSR Survey Sheet
2008.06.27	Panasonic Mobile Communications Co., Ltd.	Information Security Voluntary Check-list
2008.06.30	Hynix Semiconductor Inc.	Survey on the actual condition
2008.07.15	Alpine Electronics, Inc.	Information Security Survey Check Sheet
2008.07.31	Renesas Technology Corp.	CSR Implementation Check Sheet
2008.10.28	DENSO CORPORATION	Accident Prevention Diagnosis Check Sheet
2008.10.30	New Japan Radio Co., Ltd.	Response System Survey Questionnaire at times of Wide-scale Disaster
2008.11.14	Fuji Xerox Co., Ltd.	FY2008 CSR Procurement Self-check List
2009.01.16	KYOCERA Corporation	Supply Chain CSR Survey Sheet
2009.01.30	Taiyo Yuden Co., Ltd.	Supply Chain CSR Survey Sheet
2009.02.18	TOPPAN PRINTING CO., LTD.	Current Situation Survey of CSR Procurement Standard
2009.02.27	CASIO COMPUTER CO., LTD.	The 2nd Corporate Social Responsibility Performance Questionnaire

**Annual transition of green procurement surveys**



**Monthly transition (fiscal 2008)**



**Documentation Shin-Etsu Polymer Group “Control Standards of Chemical Substances Contained in Products”**

- We set the permissible density (threshold level) of Cd, Pb, Hg, Hexavalent Cr, PBB and PBDE as shown in Table 1. Our control value is based on the strictest values set forth by domestic customers in the electric/electronic industry.
- We guarantee that there is no intentional use of any “Level A chemical substances” in products supplied to customers and that their percentage content as impurities is less than the threshold level shown in Table 2. We also guarantee that the percentage content of any “Level B chemical substances” in products is less than the threshold value shown in Table 3. However, products for customers in the field of construction materials are not covered by this guarantee. The above categories correspond to the Declarable Substance Criteria 1-A (Regulated), 2-A (For Assessment Only), and 3-I (For Information Only) of Annex A “JIG Declarable Substance List” to JIG-101 Version 2.0 (April 2009).

**Table 1 Control values of RoHS hazardous materials**

Substance	Permissible density		At our Chemical Analysis Center, analysis method (quantitative lower limit)
	Thresholds of RoHS Directive	Our control values	
Cd	100ppm	5ppm	ICP-OES (5ppm)*1
Pb	1,000ppm	100ppm	ICP-OES (10ppm)
Hg	1,000ppm	100ppm	ICP-OES (5ppm)
Beryllium oxide	1,000ppm	100ppm	Colorimeter method (10ppm)*2 or ICP-OES (5ppm at all Cr)
PBB	1,000ppm	100ppm	XRF (30ppm) or GC-MS (30ppm)
PBDE	1,000ppm	100ppm	

ICP-OES : Inductively Coupled Plasma Optical Emission Spectrometry  
 XRF : X-ray Fluorescence Spectrometry  
 GC-MS : Gas Chromatography-Mass Spectrometry

\*1:As the conventional name of AES was identical to the abbreviation of Auger Electron Spectroscopy, in the international standard IEC 62321, Ed. 1.0 was issued in December 2008 (Procedures for the Determination of Levels of Six Regulated Substances in Electrical and Electronic Products), and OES was formally adopted.

\*2:Name in IEC 62321, identical to Diphenylcarbazide Absorptiometry.

**Table 2 Level A chemical substances (Standard 1-R)**

Chemical substance / category	Standard	Threshold level
Asbestos	R	Intentionally added
Azocolourants and azodyes which form certain aromatic amines	R	30 ppm of the product
Cadmium / cadmium compounds	R	100 ppm of homogeneous materials
Chromium VI compounds	R	1,000 ppm of homogeneous materials
Diarsenic Pentoxide	R	1,000 ppm of the product
Diarsenic Trioxide	R	1,000 ppm of the product
Fluorinated greenhouse gases (PFC, SF <sub>6</sub> , HFC)	R	Intentionally added
Formaldehyde	R	Intentionally added
Hexabromocyclododecane (HBCDD) and all major diastereoisomers	R	1,000 ppm of the product
Lead / lead compounds	R	1,000 ppm of homogeneous materials or has threshold level for each laws and regulations
Mercury / mercury compounds	R	Intentionally added or 1,000 ppm of homogeneous materials
Nickel	R	Intentionally added where prolonged skin contact is expected
Ozone Depleting Substances	R	Intentionally added
Perchlorates	R	0.006 ppm of the product
Perfluorooctane sulfonate (PFOS)	R	Intentionally added
Phenol,2-(2H-benzotriazol-2-yl)-4,6-bis (1,1-dimethylethyl)	R	Intentionally added
Phthalates (DEHP, DBP, BBP)	R	1,000 ppm of the product
Phthalates (DINP, DIDP, DNOP)	R	1,000 ppm of plasticized material
Polybrominated Biphenyls (PBBS)	R	1,000 ppm of homogeneous materials
Polybrominated Diphenylethers (PBDEs)	R	1,000 ppm of homogeneous materials
Deca-Bromodiphenylether (Deca-BDE) (PBDE)	R	Intentionally added
Polychlorinated Biphenyls (PCBs) and specific substitutes	R	Intentionally added
Polychlorinated Terphenyls (PCTs)	R	Intentionally added
Polychlorinated Naphthalenes (more than 3 chlorine atoms)	R	Intentionally added
Radioactive substances	R	Intentionally added
Shortchain Chlorinated Paraffins (C10 – C13)	R	1,000 ppm of the product
Certain Tributyl Tin (TBT) and Triphenyl Tin (TPT) compounds	R	Intentionally added
Tributyl Tin Oxide (TBTO)	R	Intentionally added or 1,000 ppm of the product

For a detailed list of chemical substance by category, please refer to Annex B of JIG-101 Ed. 2.0.

**Table 3 Level B chemical substances (Standard 2-A, Standard 3-I)**

Chemical substance / category	Standard	Threshold level
Tris (2-chloroethyl) phosphate (TCEP)	A	1,000 ppm of the product
Beryllium Oxide (BeO)	I	1,000 ppm of the product
Brominated flame retardants (other than PBBS, PBDEs, or HBCDD)	I	1,000 ppm of the product

We received third-party comments to further improve the environmental and social activities of our Group.

## Third-party comments

# Third-party comments on the “Sustainability Report 2009”

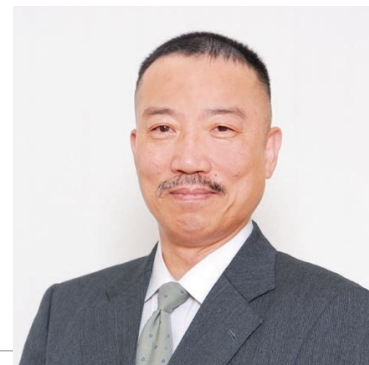
In relation to the environmental, social efforts and initiatives of the Shin-Etsu Polymer Group, I am providing my comments after reading the same Group's “Sustainability Report 2009” (hereinafter referred to as Report) and after interviewing those concerned.

### 1. Supply Chain CSR Management

Supply chain management in the manufacturing industry has become more and more important in terms of not only the control of chemical substances contained in products complying with RoHS and REACH but also for CSR procurement. The Shin-Etsu Polymer Group has already established an information network for green procurement to centrally manage all Group companies, including overseas bases (Global Environmental Communication System) and applied it to CSR procurement. However, going forward it is expected that CSR management will need to be strengthened to cover the entire supply chain, including OEMs and other suppliers. This Report contains an article covering a round-table discussion of people from relevant in-house departments and offices about how to address CSR procurement for customers. The article includes acute observations and raises questions about the current situation only applicable to those concerned as well as remarks grasping supplier CSR management as future challenges, showing that this issue is being given serious consideration throughout the company. The future development of this is worth paying attention to.

### 2. Improvement of Environmental Information

The Shin-Etsu Polymer Group's Reports have been traditionally characterized by rich environmental information. For example, more than 20% of the Report details quantitative environmental information such as green activities results by site with quantitative evaluations, climate change information with chronological data spanning 15 years since the reference year (fiscal 1994), and detailed waste disposal data, including commissioning information



Economics Department,  
Sophia University

Professor  
**Yoshinao  
Kozuma**

of the recycling of containers and packages.

This year's Report contains new information: information on biodiversity preservation and improved material balances. Information on biodiversity has not been widely disclosed in Japan, and I felt the strong intention to promote its disclosure in this small article. Furthermore, the material balance information is now complemented with quantitative and qualitative material and product data that was missing in previous Reports and has been revised to the ideal form showing a balance between input and output in terms of quantity and quality. I hope that such high quality environmental reporting be maintained in the future.

### 3. Challenge of Social Information

Unfortunately, there has not been too much development seen in terms of disclosure with respect to social issues. There are just two pages of employment information regarding employees, and occupational health and safety are substantially dedicated to social information, showing a sharp contrast with the rich environmental information. In the case of Suzhou Shin-Etsu Polymer Co., Ltd., China in the special feature, fair and flexible employment policies at the overseas base is described in detail, such as the localization of employment and the promotion of female employees, but descriptions on the pages of employee information that should show such information are very simple, and the amount of information is somewhat limited. Of course, though there are limitations in terms of space, more attention needs to be paid to the method and contents of the disclosure of social information by, for example, graphic presentations of data showing transitions over the years and an expansion of the range of data collected and summaries.



## In response to third-party comments

Director  
Vice Chairman, Green Activities  
Promotion Committee  
**Yutaka Kawamura**

This is the second time to receive comments from Professor Kozuma, who specializes in environmental accounting and CSR reporting. Our company recognizes the importance of supply chain CSR management through supporting customers but it is still at a very early stage. In relation to CSR procurement, Professor Kozuma pointed out that the key will be what we do about upstream of the supply chain, so we will start with one or two

companies from major suppliers.

Yet again this year, there was a severe comment that “the social reporting does not compare favorably at all.” We plan to learn from other company reports and will make contrivances for labor breakdowns, including overseas sites and graphic presentations of data regarding work life balance.

During the discussion with Professor Kozuma, he referred to the US EPEAT (Electronic Product Environmental Assessment Tool) and the Waxman-Markey Bill, saying, “Climate changes yield business chances.” Our Group is committed to a further development of environmentally friendly products.