

SEKISUI CHEMICAL CO., LTD.

#### Our Philosophy for CSR

We aim to contribute to sustainable society through its business with our Mission Statement "Create social value while fulfilling stakeholders' expectations".

Our desire is to make contributions toward building a better society with recognition, at all times, of what society demands over the short and long terms.

As globalization of our businesses advances and the stakeholders grow more diverse, we have prepared this CSR Report to communicate to all stakeholders around the world our lasting philosophy and efforts.

#### **Evaluations**

#### CSR in General

- · Earned RobecoSAM Bronze Class sustainability rating
- Earned selection to Dow Jones Sustainability Indexes (DISI)
- · Earned selection to FTSE4Good Index
- Earned selection to Ethibel PIONEER and Ethibel EXCEL-LENCE indices
- Earned selection to the Morningstar Socially Responsible Investment Index
- Ranked 103rd in Nikkei NICES ranking system
- Ranked 77th in Toyo Keizai CSR Ranking

#### Environment

 Ranked 25th in Nikkei Environmental Management Ranking

#### CS and Quality

 Ranked 28th in Nikkei Quality Management Ranking

#### Human Resources

 Ranked 49th in Nikkei Ranking of Best Companies to Work For









#### Company Profile (As of March 31, 2013)

Established: March 3, 1947 Capital: 100.002 billion yen Employees: 22,202 Domestic Subsidiaries: 119 Overseas Subsidiaries: 91 Affiliated Companies: 19

Net Sales: 1,032.4 billion yen Operating Income: 59.6 billion yen Net Income: 30.1 billion yen

About cover photo Shiga Prefecture's Lake Biwa, which has the largest surface area and water reserves of any lake in Japan, serves as a "water jug" for the Kyoto, Osaka, and Kobe areas. It also boasts a diverse ecosystem, serving as a habitat for more than 1,000 species of plants and animals.

The vicinity of Lake Biwa is home to three Sekisui Chemical plants as well as numerous affiliates and model home centers.



Sekisui Chemical Co., Ltd.
Shiga-Ritto Plant
Shiga-Minakuchi Plant
Taga Plant
Sekisui Heim Kinki Co., Ltd.
Sekisui Fami S Kinki Co., Ltd.
Sekisui Board Co., Ltd.
Sekisui Kanzai Technics Co., Ltd.
Ritto Sekisui Industry Co., Ltd.
Sekisui Minakuchi Kako Co., Ltd.
Sekisui Taga Kako Co., Ltd.

#### **About Our Report**

- The pages of this Report are structured in line with Sekisui Chemical Group's concept of its Corporate Social Responsibility (CSR) in terms of Three Prominences — in the Environment, CS & Quality, and Human Resources along with Three Attitudes of Sincerity: in Compliance, Risk Management, and Disclosure & Communication.
- This Report employs separate chapters reporting in greater detail on matters such as the relationship between business activities and CSR and the specific initiatives of each of the three division companies, whose business characteristics differ from each other.
- We have decided on the information that should be covered in this Report through consideration of its importance both to society and to Sekisui Chemical Group, based on inputs including surveys conducted within and outside the Group and independent review.
- A separate Data Book has been established to ensure that the report is both comprehensive and easy to read.
- Continuing efforts for which there was not enough room in the Report are covered on the Sekisui Chemical Group website.
- Information about Sekisui Chemical Group's business is disclosed publicly through this report and the Annual Report, which reports financial information concerning the Group.
- To ensure the reliability of this report, its environmental and social reporting have been subjected to independent practitioner's review.

#### Guidelines Complied with or Referred to

- This report complies with the Global Reporting Initiative's (GRI) Sustainability Reporting Guidelines ver.3.1 (G3.1), at the B+ application level as defined in those guidelines. A GRI Guidelines comparison table is available on the Sekisui Chemical Group website.
- In preparing this report, we also have referred to the Ministry of the Environment's Environmental Reporting Guidelines (2012 Edition).

#### Scope of This Report

Entities Encompassed by this Report: The basic function of this report is to comment on the activities of Sekisui Chemical Group, focusing chiefly on the business facilities that play key roles in those activities.

Timeframe Encompassed by this Report: April 2012-March 2013 (including examples of activities through May 2013).

#### Scope of Independent Practitioner's Review (Verified)



The environmental and social information in this report has been subjected to an independent practitioner's review for the appropriateness of calculation methods and the accuracy of the results of calculation. The "Verified" logo is used to indicate that each item of such subject information has been reviewed.

#### Disclaimer

Readers are requested to note the following: The information in this report includes not only past and present facts concerning Sekisui Chemical Co., Ltd, and its affiliates but also future forecasts based on current plans and projections and management plans and management policies as of the time of publication. Changes in various factors could cause the results of business activities in the future and other circumstances to differ from these forecasts. Also, since the figures in the tables and graphs contained in this report have been adjusted through rounding off and other means, in some cases total figures may not be equal to the sums of their parts. In addition, for some items data for past fiscal years has been revised in connection with expansions in scope, revision of calculation methods, and changes to environmental load coefficients.





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#### Three Prominences

Environment

Our Philosophy / Environment-Contributing Products / Climate Change / Resource Efficiency / Air, Water & Soil / Biodiversity

CS & Quality Our Philosophy / Customer Satisfaction / Quality

**Human Resources** 

Our Philosophy / Group Human Resources Capabilities / Global Talents / Decent Work and Diversity / Safety and Security

#### **Business and CSR**

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Top Message

To be a Company Sustainable for the Next 100 Years by Creating Businesses for the Next Generation and Contributing to Society



#### **Steady Growth Amid Severe Changes** in the Business Environment

Fiscal 2013 is the final year of the five-year midterm management plan GS21-SHINKA!, which started the same time I took office as President. Looking back on the four years through fiscal 2012, they were a time of severe fluctuations in the business environment, from the slowdown that followed the collapse of Lehman Brothers through the sluggish economy in Europe, the rising value of the yen on international currency markets, the Great East Japan Earthquake, and new risks in China.

However, Sekisui Chemical Group has continued to steadily increase its operating income through reforming its business models in pursuit of sustainable growth.

In the housing business, we introduced the Shin Smart Heim Homes that realize both ecological and economic performance through use of solar power, HEMS, and storage cells, and we have strived to promote the use of homes that realize environmental performance, economic performance, and comfort, as our sales of homes equipped with solar power systems reached a cumulative total of 120,000 homes since their introduction in 1997. In the infrastructure business, we demonstrated our presence domestically, for example with the SPR pipeline rehabilitation method winning the Okochi Memorial Prize. It can greatly reduce waste when treating aged sewer pipe compared to traditional excavation construction method. Furthermore, we have secured the top share in the important resin pipes market with the acquisition of the pipe materials business of Mitsubishi Plastics, Inc. Also, we set a new record high in profits overseas for the third consecutive year since adopting the division companies system in 2000, thanks to the results of progress in market development in strategic businesses such as the IT field, including products for use in mobile devices.

As the recovery from the Great East Japan Earthquake finally is approaching the stage of revival, we will continue demonstrating the combined strengths of the Group to help build safe and secure homes and cities and, furthermore, to build a sustainable society, not just in Japan but globally.

#### **Reviewing Fiscal 2012**

Sekisui Chemical Group's CSR management efforts are based on the principles of the Three Prominences in the Environment, CS & Quality, and Human Resources and the Three Attitudes of Sincerity of Compliance, Risk Management, and Disclosure & Communication.

Once again in fiscal 2012, a major result was the expansion and growth of Environment-Contributing Products. We define Environment-Contributing Products as those that can contribute to reducing society's environmental



load instead of just incorporating the perspectives of consideration for the environment. Our target for fiscal 2013 is to increase sales of Environment-Contributing Products to a share of 40% of net sales, and in fiscal 2012 we grew this share to the 38% level. We also reduced carbon-dioxide emissions from production activities in Japan by 9% from the previous fiscal year, as environmental investment in production equipment gradually has begun to demonstrate results. These emissions reductions and the reductions in carbon-dioxide emission from increased sales of Environment-Contributing Products have demonstrated steady progress toward the target of carbon-negative status called for in our vision for 2030.

At the same time, in the area of compliance the year also saw some problems arise such as mistaken entry of certification numbers related to homes built using parts from certified manufacturers, such as certified residential components. This resulted in considerable inconvenience and concern for related parties including those living in the affected homes. Responding to this matter with the utmost seriousness, we will strive to prevent its reoccurrence through raising awareness and strengthening management systems.

#### Further Groupwide Enhancement and Thorough Implementation of CSR Management

Under the CSR Midterm Plan, we have deployed CSR management on a Groupwide basis, focusing our efforts on strengthening CSR management and achieving its permeation throughout the organization and on global deployment. In fiscal 2012, as an addition to the existing system, we established a Risk Management Group inside the CSR Department, with the goal of strengthening risk management and crisis management. We worked to complete disaster-prevention structures at individual sites together with risk analysis and drafting of solutions in each organization. We now address CSR through deployment of the business policy of having each division company and department establish and address its own CSR topics and priorities, all based on discussion and consideration in the CSR Committee and individual subcommittees.

However, amid progressive diversification and globalization of our businesses accompanying growth, we still cannot be said to have achieved firm permeation of CSR management in areas such as sharing of the Group's thinking and values and coordinated efforts to address common topics in individual areas overseas.

In fiscal 2013, the final fiscal year of the midterm management plan, we will work to further deploy and achieve thorough permeation of CSR management throughout Sekisui Chemical Group as a whole, reflecting matters such as the business characteristics of each division company and the characteristics of each area overseas.

In addition, we will continue supporting the United Nations Global Compact as a platform for deploying CSR management on a global basis.

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#### To be a Company Sustainable for the Next 100 Years by Creating Businesses for the Next Generation

In fiscal 2013, I would like us to steadily capture growing demand as interest increases in full implementation of earthquake-recovery activities and in addressing deteriorating infrastructure in Japan, and orders for homes increase in advance of the increase in consumption tax planned for 2014, among other developments. At the same time in overseas, I believe that we can expect to be able to capture demand in the promising markets of auto parts, functional resins, and housing since we have established an overseas production structure for growing markets, together with favorable developments in exports in the IT field, which had been impacted by the high value of the yen on international currency markets.

In the segments of the environment, energy, and building stock, which are expected to experience future growth, I believe that since Japan is one of the first countries in the world to face these issues, if we can develop a Japanese model for addressing them, then we will be able to develop next-generation businesses that can contribute to the world. For this reason, we in Sekisui Chemical Group need to continue to execute SHINKA ("evolution") ourselves, by reforming our business model through being sensitive to changes in the external environment. As the globalization of business accelerates and the human resources who can thrive in such business grow more diverse, we will continue in the future aiming to be a sustainable company that can continue to demonstrate its presence for 100 years, as we work to increase our corporate value and evolve CSR management Groupwide through achieving an environment in which individual employees can grow through improving their own skills and taking the initiative to take on challenges; growing our businesses with a focus on the environment and contributing to society by expanding and creating Environment-Contributing Products; and supplying truly satisfying products and services that reflect customer feedback, through improving their basic and attractive qualities.

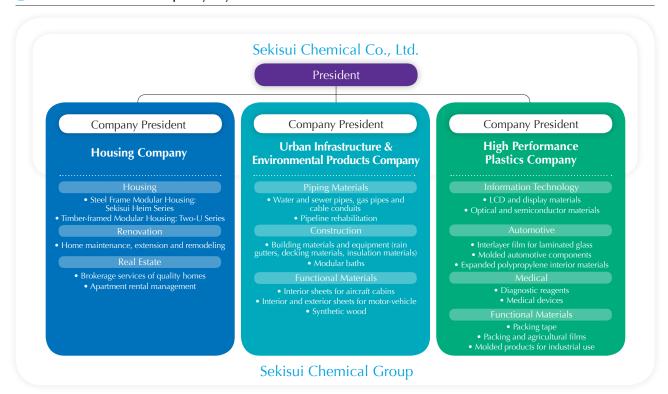
Naafumi Negistii Naofumi Negishi

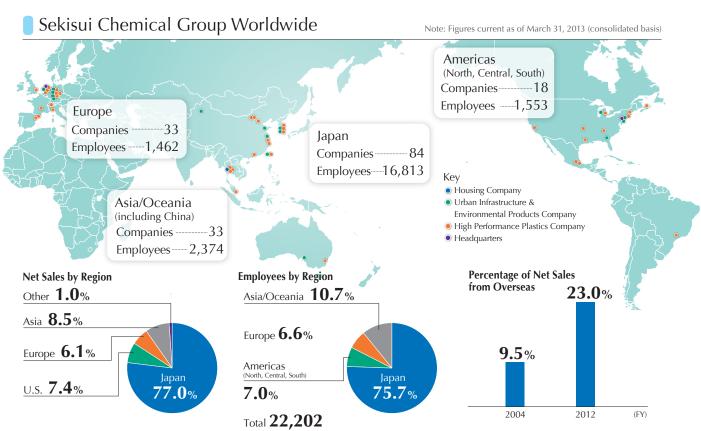
Naotumi Negishi President





#### The Division Company System and Business Areas





#### Sekisui Chemical Group's Company Creed and Company Principle

#### The "3S Principle"

Sekisui Chemical Group does business in line with the "3S Principle" describing its fundamental principles of service to society; originality, ingenuity, and the pioneer spirit; and quality improvements.

#### Service

We enhance the well-being of the world community through our global business network



#### **Speed**

We surge ever forward into new fields of development with the power and vitality of a mighty waterfall

#### **Superiority**

We obtain the trust of our customers through superior operational performance and the highest quality standard

#### The Company Badge:

Our company badge comprises the three S's of the company's original name, adopted at the time of its foundation, "SEKISUI SANGYO" enclosed in a hexagonal shape resembling a tortoise shell (the chemical symbol for benzene), symbolizing the Chinese character meaning "water."

#### Mission Statement

and the Environment."

"Create social value while fulfilling stakeholders' expectations" Sekisui Chemical Group will provide new value to society through a variety of aspects of our business activities, seeing as our key stakeholders our "Customers," "Shareholders," "Employees," "Business Partners," and "Local Communities

- Satisfy customer needs to the fullest extentProvide the best possible services to customers
- Strive for the sustained growth of corporate value

  Customers

  Deepen relationships with business partners and
- Ensure the clear and timely disclosure of information

   Information

  associated companies

  Promote coexistence and co-prosperity through fair transactions.



- Establish a culture that encourages employees to set their own goals and take on new challenges
- Assure the validity of performancebased evaluation
- Contribute to society and the environment with our products
- Build harmony with local communities as a good corporate citizen

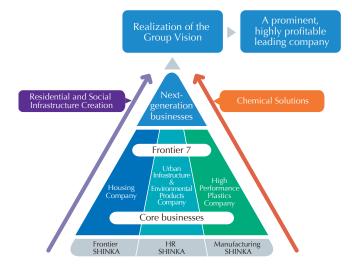
#### Group Vision

In 2009, Sekisui Chemical Group formulated its group vision, identifying the ideal form the group would aim to achieve over the medium to long term. To realize this group vision, it develops management strategies centered on midterm management plans.

#### Midterm Management Plan GS21-SHINKA!

In fiscal 2009, Sekisui Chemical Group formulated the midterm management plan GS21-SHINKA! covering the period through the 2013 fiscal year. Under this plan, with the goal of being a prominent, highly profitable leading company, we are implementing our Frontier SHINKA efforts through global deployment, deployment across the value chain, and developing new growth segments, along with innovations in production (Manufacturing SHINKA) and human resources (HR SHINKA). Our business strategies call for establishing what we call the Frontier 7 — seven high-growth fields including the IT, automotive, medical fields, the pipe rehabilitation and residential environment businesses — and focusing our efforts on these as leading businesses of the future.

Through prominence in technology and quality, Sekisui Chemical Group will contribute to improving the lives of the people of the world and the earth's environment, by continuing to open up new frontiers in residential and social infrastructure creation and chemical solutions.





## Increasing Corporate Value and Promoting CSR Management Groupwide



#### Corporate Governance

To maximize corporate value, Sekisui Chemical Group has built its management structure based on a system of three division companies. Believing that increasing the transparency and fairness of management and pursuing swift decision-making are important to continually increasing corporate value amid a changing business environment, it implements a variety of efforts related to corporate governance.

#### Strengthening the Business Execution Function

Together with assigning to each division company operating officers specializing in business execution, an Executive Committee has been established to serve as the top decision-making body in each division company. As such, a broad range of authority has been transferred from the Board of Directors to the Executive Committee. The Board of Directors strives to achieve continual improvements in corporate value as an organization responsible for decision on basic policies of Sekisui Chemical Group's management as well as high-level management decision-making and supervision of business execution.

#### Compliance Surpassing the Requirements of Japanese Law

- Appointment of external directors
- Operating officer system (term: one year)
- Early issue of notices of general meetings of shareholders
- Exercise of voting rights electronically in general meetings of shareholders
- Formulation of rules on corporate information disclosure

#### Respect for International Norms

Sekisui Chemical Group respects international norms and standards regarding CSR. It announced its support for the United Nations Global Compact\* in March 2009. Since then, it has been advancing CSR efforts on a global basis.

We also refer to ISO 26000, an international social-responsibility guideline issued in November 2010, in enhancing internal efforts and in the editing of this CSR Report.



\* United Nations Global Compact A voluntary program in which top management of firms around the world pledge to comply with 10 principles on subjects such as human rights, labor standards, the environment, and anti-corruption efforts within the scopes of influence of their firms and participate in building a global framework for realizing sustainable growth.

#### **Corporate Governance System**



Note: See the Corporate Governance Report for details.



#### R&D, Intellectual Property, Procurement

We strive to increase the value of our products and services through addressing from a CSR perspective the various aspects of activities such as R&D, which is a foundation for revenues and growth, intellectual property, which is one of the outcomes of R&D, and procurement of the raw materials, parts, and other materials needed in manufacturing development.

#### R&D

Each division company, Headquarters, and each key affiliate has an R&D section that handles a broad range of R&D such as basic research through product development and production technologies, working to increase the speed of technological development in growth areas and create outstanding technologies.

The Invention Grand Prize has been established as one part of efforts to ensure outstanding researchers and engineers receive the evaluations and treatment they deserve. The Invention Grand Prize establishes monetary rewards for inventors of inventions assessed and recognized to be especially unique in the market and to make major contributions to profits.

#### Intellectual Property

Under the basic policy of securing business competitive strength through obtaining strong patents, we are striving to improve quality and raise awareness in development through efforts including introduction of a system of "P Badges" awarded to employees who have obtained a certain number of patents and providing training on intellectual property.

#### **Procurement**

Sekisui Chemical Group procures materials based on the five fundamental concepts of openness; fairness and equity; legal compliance; mutual trust; and consideration for the environment. In addition to quality and delivery times, suppliers are requested to give consideration to the environment, comply with laws, regulations, and societal norms, and ensure health and safety in their own companies. From 2007 onwards, we are conducting surveys on CSR efforts targeting suppliers and working to ascertain the results.

Sekisui Chemical Group's Procurement Policy

http://www.sekisuichemical.com/suggestion/index.html

#### **Lumber Procurement**

For structural lumber materials, which account for the bulk of lumber used in homes, we use certified lumber (for example, lumber certified by the Forest Stewardship Council, or FSC). Such certified lumber is procured lawfully from properly managed forests.



#### CSR Management

#### The CSR Committee, with Participation by Top Management and Employee Representatives

As venues for deliberation on CSR management, we have set up the CSR Committee and five subcommittees: the Environmental Subcommittee, the CS & Quality Subcommittee, the Human Resources Subcommittee, the Compliance Subcommittee, and the Safety Subcommittee. (See the "Data Book," p. 20.)

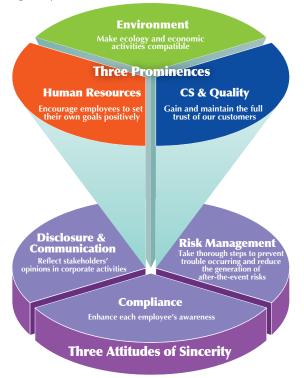
Chaired by the President, the CSR Committee's membership also includes the president of each division company and three representatives of employees, all working to improve committee deliberations and measures.

#### Progress in CSR Midterm Plan

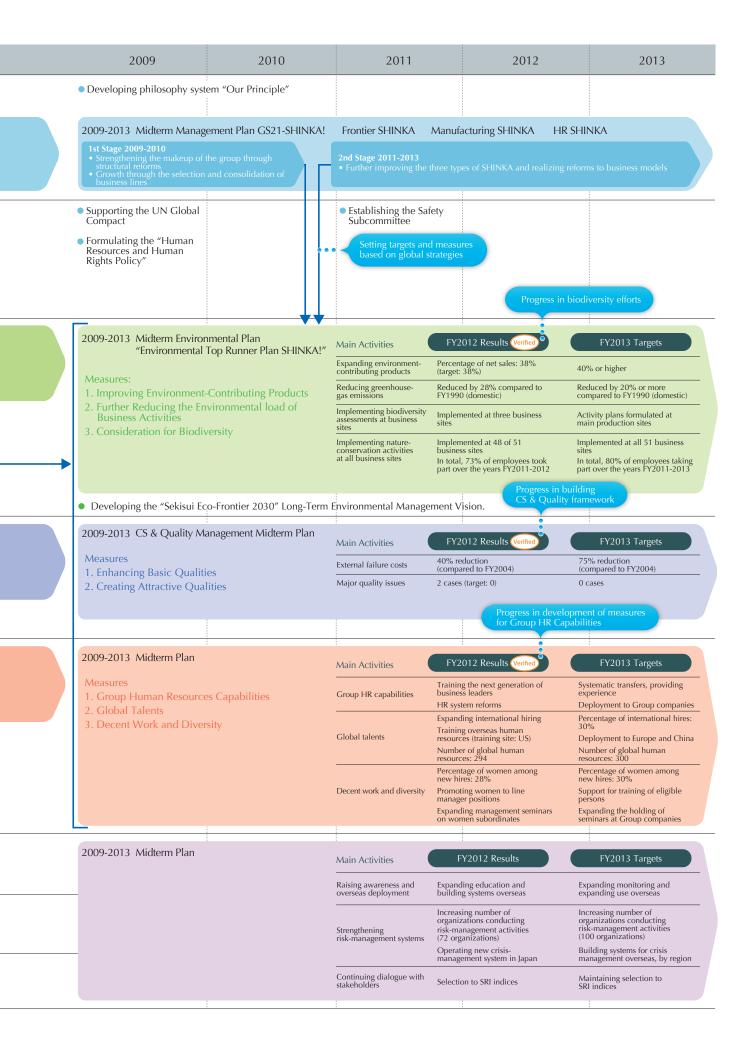
We have formulated the Environmental Top Runner Plan: SHINKA! as a midterm environmental plan under which we are striving to expand sales of Environment-Contributing Products and cut carbon-dioxide emissions from our business activities.

As we enter the final fiscal year of the midterm management plan in 2013, we expect to meet the goals of the midterm plan on both the percentage of sales that corresponds to Environment-Contributing Products, at 40% or more, and reductions in carbon-dioxide emissions, by 20% from the fiscal 1990 level.

The carbon-dioxide emissions of production sites in Japan largely is compensated by the reductions resulting from sales of Environment-Contributing Products, as we demonstrate steady results toward achievement of carbon negativity.



Transitions i	n C	SR Efforts	2008
Groupwide Developments			2006-2008 GS21 Go! Frontier Midterm Management Plan
CSR Management	Three Prominences	Overall	<ul> <li>CSR policies established and revised</li> <li>Global deployment, partnership with supply chain</li> <li>Promoting efforts in each section (formulating CSR implementation plans)</li> </ul>
		Environment	2006-2008 Midterm Environmental Plan "Environmental Top Runner Plan Part 1"
			Formulating midterm plans linked to management plans
		CS & Quality	2004-2008 CS & Quality Management Midterm Plan  Start of Attractive Qualities Screening
		Human Resources	System  2006-2008  Midterm Human  Resources Plan
	Three Attitudes of Sincerity	Compliance	
		Risk Management	
		Disclosure & Communication	





#### CSR Efforts in Japan and Overseas

Reflecting its global business development, Sekisui Chemical Group is proactively advancing CSR efforts overseas as well as in Japan.

Since fiscal 2010, we have held Presidents Meetings for overseas affiliates in the five territories of Europe, the Americas, Asia/Oceania, China, and South Korea, to discuss matters such as issues in each area and solutions to them as well as creation of synergies.

Moreover, discussion of the content of these Presidents Meetings with top management in Japan is incorporated into the schedule of the strategic plan meeting held in Japan in March of each year.

Examples of the results of these Presidents Meetings include updating the website of the area headquarters company in the Americas to make it easier to access individual companies. In addition, information on employment with affiliates in the Americas was added as well. In Europe, leaflets were prepared and distributed to all employees to ensure their thorough understanding of matters such as the CSR efforts of each Group company. In Asia/Oceania, discussions were held on creating synergies in each individual country, and decisions were made on pursuing individual synergies in Thailand and Australia in particular in the future. The meetings in China discussed human resources development in particular, while those in South Korea focused on the environment and risk management.

Since fiscal 2010, CSR Staff Meetings have been held in order to further spread CSR efforts across and throughout the organizations of business facilities and affiliated companies in Japan.

Both in Japan and around the world, Sekisui Chemical Group aims to ensure each individual member company fulfills its social responsibilities and to evolve Group management, through cooperation among companies that have differing lines of business and learning together about best practices.

In addition, in FY2012 briefings were held for plant managers and core management from overseas on priority CSR themes that should be addressed by members of the Sekisui Chemical Group in common, such as quality and safety.

Presidents Meeting



The website of the area headquarters company in the Americas



#### ∢€ voice

The Presidents Meeting held in Kyoto was a nice opportunity to meet with other global Sekisui Chemical colleagues and in particular the Presidents from the other North American subsidiary companies. I felt we had open and direct conversations regarding the issues each company has and what can be learned from other companies' best practices. Also we talked about how each company may be able to leverage these best practices in order to grow.



Jerome Casey COO Sekisui Diagnostics, LLC.

As follow up to this recent meeting, Sekisui Diagnostics will consider incorporating website links to Sekisui America and Sekisui Chemical into our plans for revisions to our website.

Longer term, I see the ongoing discussion and sharing of best practices in certain areas such as leadership development, talent management and succession planning as important and valuable to successfully growing and expanding our business.



#### Recovering from the Great East Japan Earthquake

Sekisui Chemical Group's business is to provide housing and the infrastructure essential to support living. Utilizing the characteristics of these businesses, it is carrying out a variety of activities to support recovery from the Great East Japan Earthquake.

#### Contributing to Affected Areas through Various Infrastructure Construction Work and Other Projects

As a recovery from the Great East Japan Earthquake, since FY2011, the Urban Infrastructure & Environmental Products Company has continued to deliver materials for restoration work on sewer pipes that had their gradients damaged in the earthquake. While this is urgent work because damaged roads cannot be restored until the sewer pipes are repaired, it is moving forward at a slower pace than expected due to labor shortages at local construction companies. For this reason, Sekisui Chemical Group member Nippon No-Dig Technology Co., Ltd. (NNT) is contributing to the restoration work by accepting sewer construction directly from the city of Sendai.

In addition, Sekisui Chemical is studying use of sewage heat under a feasibility study on making Sendai a model city for use of sewage heat, under contract to the Ministry of Land, Infrastructure, Transport and Tourism of Japan. This project involves a system for collection and use of heat from sewage during pipe rehabilitation construction using Sekisui Chemical's pipeline rehabilitation method, a technology for rehabilitation and seismic retrofitting of deteriorated culverts.

At the same time, NNT is moving forward with preparations for forming a joint venture with a local firm in the city of Ishinomaki, Miyagi Prefecture, in preparation for future recovery-related demand.

In addition to the above efforts, Sekisui Aqua Systems Co., Ltd. is contributing to earthquake recovery through installation of vinyl greenhouses on a strawberry growing complex for recovery purposes and rebuilding of aquaculture facilities in the town of Watari, Miyagi Prefecture.

Sewer construction



Rebuilding a salmon and trout hatchery in Iwate Prefecture



#### Contributing to Improving the Living Environment of Emergency Temporary Housing

Immediately after the Great East Japan Earthquake struck, the Housing Company built a total of 1,160 units of emergency temporary housing in the three prefectures of Iwate, Miyagi, and Fukushima. Later, due to delays in restoration work, the period of residence in temporary housing was extended from two to three years, and the need arose to improve the residential environment for residents. Accordingly, the Housing Company continues to support recovery in affected areas by carrying out additional construction work as requested by each prefecture.

Examples of such additional construction include installation of wind shelters approximately 3.3 square meters in area in front of the front doors to individual residence, to help residents endure the cold winters of the Tohoku region by blocking out cold air. Other efforts to help fight the cold included additional installation of heated toilet seats and, in temporary housing in the particularly cold city of Kesennuma and town of Minamisanriku, distribution of heating equipment.

Since temporary housing facilities are constructed on sites such as unused land and athletic grounds, many are on sites with poor drainage, and some residents have reported that puddles form in pathways and elsewhere. In response, we carried out rainwater drainage construction by installing water-permeable pipes beneath the paths between buildings. In addition, since many residents are elderly, we paved the spaces between units and the parking lots with asphalt, so that residents can move in safety around the temporary complexes.

Furthermore, as the period of residence lengthens, residents' belongings increase, filling up the small temporary housing units. As such, we installed storage sheds next to the front entrance to each unit, contributing to improving the living environment for residents in the temporary housing.

Installing storage sheds in emergency temporary housing



Installing wind shelters in emergency temporary housing



## **Environment**

We aim to be an environmental leader, pursuing both ecological and economic goals

Pioneering a New Future with Balance between Ecology and the Economy

**Toward** 

being a leader

environmental

management

**Environmentally Creative Organization** 

Contributing to the

society through

business activities

and products

Reducing environmental <mark>load</mark>

in all business

**Products** 

**Business** 

processes

#### **Our Philosophy**

Based on its environmental philosophy of aiming to be a Global Environmental Top Runner that contributes to the realization of a sustainable society by enabling the continuous growth and co-existence of ecology\*<sup>1</sup> and the economy\*<sup>2</sup>, Sekisui Chemical Group aims to be a company whose growth is built around the axle of the environment, by developing products and providing services that will facilitate environmental contributions by society in addition to lessening the environmental load of its business activities.

In addition, we will contribute to the prevention of global warming, the preservation of biological diversity and the construction of a sound material-cycle society in all countries and regions where we operate, in order to leave this beautiful earth for our children in the future. We also will aggressively work on social contribution activities such as nature conservation activities in each region.

\*1. Ecology

Caring for and contributing to the global environment, and living in symbiosis with the local environment

\*2. Economy Ensuring economic benefits for both customers and businesses The Environmental Management Policy and System



Contributing to the

society through

nature conservation

activities

Activities by

all employees

oncerted efforts of

Global

environment

Local

communities

See "Data Book" p. 20, 21

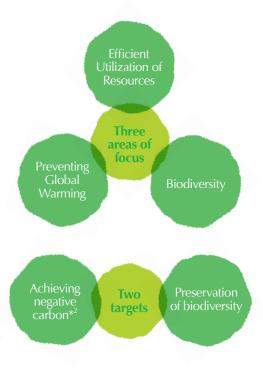
### Environmental Management Vision for 2030

In fiscal 2009, Sekisui Chemical Group established the "Sekisui Eco-Frontier 2030" as a vision to make clear the courses of action and achievement levels of environmental management and serve as a guidepost to sustainable growth. This vision depicts the type of society that Sekisui Chemical Group aims to achieve as a society on the environmental frontier. This refers to a society in which environmental awareness and environment-friendly lifestyles become broadly and firmly established among people and both businesses and governments recognize the environment to be one of their most important values. To realize this vision, we have identified three areas of focus and two targets.

Sekisui Chemical Group is carrying out the Midterm Environmental Plan: Environmental Top Runner Plan SHINKA!, formulated based on back-casting\*<sup>1</sup> from the Sekisui Eco-Frontier 2030 goals.

\*1. Back-casting
 A method of considering steps that should be taken at present by envisioning a goal for the future
 and working backward to the present state.\*2. Negative Carbon

When the offsetting reductions in greenhouse-gas emissions during product use exceed greenhouse-gas emissions attributable to business activities such as raw materials and production.



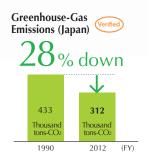




#### **Environmental Midterm Plan**

The Midterm Environmental Plan: Environmental Top Runner Plan SHINKA! (FY 2009 – 2013) establishes four key themes. In fiscal 2012, sales of Environment-Contributing Products and reducing greenhouse-gas emissions went as planned, but the targets for reducing volumes of wastes generated were not achieved.

## Ratio of Sales of Environment-Contributing Products (verified) 23% up 38% 2007 2012 (FY)







#### Environmental Management System

In an effort to carry out environmental management effectively, we have developed our environmental management system (EMS) in accordance with the ISO 14001 international standard and are working to expand use of this system. As of March 2013, 64 business sites in Japan and 25 sites overseas had obtained certifications such as ISO 14001. The number of employees at these business sites represents 66% of all Sekisui Chemical Group employees.

## System for Environmental Consideration in Products

Sekisui Chemical Group is advancing the Three Greening Steps intended to incorporate consideration for the environment in three stages of its value chain: development, procurement, and manufacturing. For this purpose, we are implementing systems including Product Assessments for Environmental Impact, Green Procurement, and Prior Assessment of Capital Expenditure. (See "Data Book," p. 8). Forms related to green procurement and other materials are available on the Sekisui Chemical website:

Web

http://www.sekisuichemical.com/suggestion/index.html



#### Group Topics

#### Commemorating the 65th Anniversary of Sekisui Chemical's founding Global Children's Eco Summit 2012



In August 2012, Sekisui Chemical Group held the Global Children's Eco Summit 2012 for children of Group employees.

Eighty-five children from business sites in 14 countries and regions took part in this Summit, which was larger than the last Summit, held five years ago in 2007 to mark the company's 60th anniversary. Through a variety of programs based on the theme "Envisioning a future where we can live together with nature," the children learned about Sekisui Chemical Group's environmental efforts and the wonderful blessings human beings gain from nature. Then, they split into 10 groups to discuss subjects such as what actions they should take themselves.





The children in each group made a declaration of what they would do for the environment and prepared recommendations to adults (Sekisui Chemical), which they presented on the final day of the Summit. In response to the children's recommendations, the President of Sekisui Chemical announced plans to implement "a system of awarding the people who have carried out the greatest ecological activities" and holding an annual "Sekisui Environment Week," in which all Sekisui Chemical Group employees take part in environmental activities.

The Outstanding Eco Contributor Award was conducted in fiscal 2012, with the winner chosen based on voting by all employees and by the children who took part in the Eco Summit.

Plans call for implementing Sekisui Environment Week beginning in fiscal 2013.

#### Children's Environmental Declaration

- We will raise environmental awareness and treasure the planet
- We will conserve water
- We will separate and recycle wastes etc.

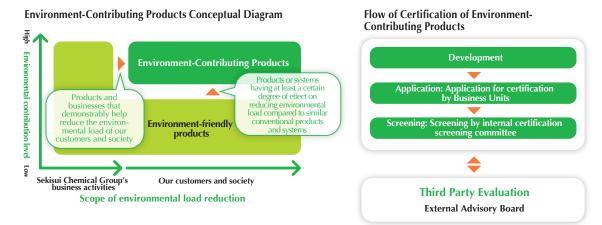
#### Environmental recommendations to adults (Sekisui Chemical)

Main session of the Summit

- Prepare teaching materials with content about protecting living things
- Produce a commercial about water conservation
- Protect the forests etc.

## Contributing to Minimizing the Environmental Load of Our Stakeholders and Society through Our Products and Businesses

The meaning of Sekisui Chemical Group's CSR is to contribute to a sustainable society through business. To contribute to minimizing the environmental load of society, it is essential that businesses create and promote widespread use of products that will make active contributions to the environment. In fiscal 2006 Sekisui Chemical Group established Environment-Contributing Product Standards calling for an even higher level of contribution to the environment than before, and since then it has managed such products through a certification system. (See "Data Book," p. 8)



#### Expansion of Environment-Contributing Products

One of the targets of Sekisui Chemical Group's Midterm Environmental Plan is that of growing the ratio of sales of Environment-Contributing Products to total consolidated net sales to 40% or higher in fiscal 2013. (See "Data Book," p. 8)

In fiscal 2012, strong sales of houses with solar energy generation systems and an increase in the lineup of Environment-Contributing Products led to growth in net sales of these products to 392.5 billion yen, achieving the target for the fiscal year of a ratio of 38% of total net sales. When converting their results to carbon-dioxide emissions reductions, these Environment-Contributing Products have resulted in offsetting reductions in carbon-dioxide emissions much greater than the amount of carbon-dioxide emissions generated in Sekisui Chemical Group production activities in Japan (according to Sekisui Chemical estimates).

#### External Advisory Board

To increase the reliability and transparency of the Environment-Contributing Product certification system, in fiscal 2010 Sekisui Chemical Group established the External Advisory Board, a third party organization from which it receives advice and recommendations on the certification system as a whole.

During fiscal 2012, the External Advisory Board met in September 2012 and March 2013, providing opinions on individual Environment-Contributing Products. Advisors also provided a variety of opinions and recommendations concerning this system as well as Sekisui Chemical Group's environmental management, on topics including environmental capital\* and efforts targeting the supply chain. Attendees from Sekisui Chemical included responsible Directors down to the environmental personnel of each division company and Corporate Headquarters. We are utilizing the opinions received in our environmental management.

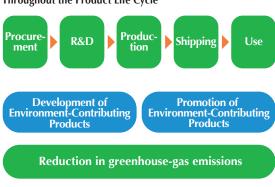
<sup>\*</sup> Environmental capital:

A term that refers to the blessings of nature such as soil, air, water, and flora and natural resources such as metals, petroleum, and natural gas.

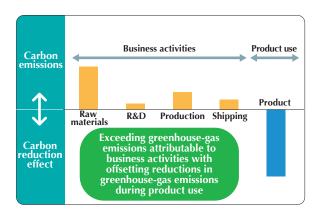
#### Efforts to Achieve Carbon Negative Status Throughout the Product Life Cycle

Achieving carbon negative (see p. 13) status requires both development and promotion of Environment-Contributing Products and controlling greenhouse-gas emissions from business. Sekisui Chemical Group continues related efforts throughout the entire product life cycle.

#### Reducing Greenhouse-Gas Emissions Throughout the Product Life Cycle



#### Conceptual Diagram of Carbon Negative

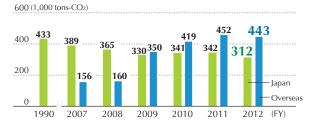


#### GHG Emissions

Activities at the Production Stage (in Japan and Worldwide) We have established the target for fiscal 2013 of reducing greenhouse-gas emissions generated at the production stage in Japan by at least 20% compared to the fiscal 1990 level. In fiscal 2012 we realized a reduction of 28% compared to the fiscal 1990 level, thanks in part to the results of measures to promote investing in the environment\*. Since Sekisui Chemical Group's production sites overseas are subject to considerable changes in areas such as product lineups as the overseas business grows, the Group has established guidelines calling for achieving in fiscal 2013 a reduction of at least 5% from fiscal 2008 in energy consumption per unit of output. Each site is setting targets based on its own circumstances.

\* Measures to promote investing in the environment Measures under which Corporate Headquarters helps division companies cover the costs of investment for the purpose of controlling greenhouse-gas emissions in accordance with the resulting reductions. In fiscal 2009 investment in making energy use visible so its actual conditions could be ascertained was added to the subject of these measures, which originally were adopted in fiscal 2007.

#### Greenhouse Gas (Emissions from the Production Stage) (Verified



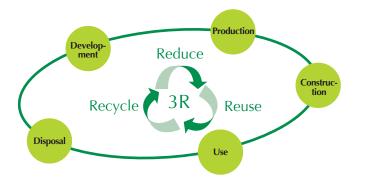
Notes: Overseas data cover carbon-dioxide emissions only. Overseas figures have increased since fiscal 2009 in connection with an increase in the number of overseas sites due to acquisitions, etc. Overseas data were collected on a calendar-year basis through fiscal 2011, and from April 1 through March 31 since fiscal 2012.

#### Efforts in Stages Other Than Production Verified

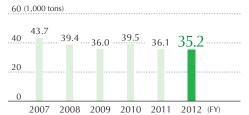
Total greenhouse-gas emissions in fiscal 2012	Typical efforts	Resulting reductions
R&D 13,000 tons-CO2	Continued thorough energy management	33% reduction vs. fiscal 2007
Shipping 43,000 tons-CO2	Reduced emissions through use of joint shipping and modal shifts	17% reduction vs. fiscal 2007
Offices 16,000 tons-CO <sub>2</sub>	Energy-conservation activities including regularly turning off lights and using restraint in air-conditioner settings	14% reduction vs. fiscal 2007

#### Pursuing the Three R's (Reduce, Reuse, and Recycle) Throughout the Product Life Cycle

Sekisui Chemical Group aims to thoroughly reduce, reuse, and recycle throughout the product life cycle. In addition to Zero Waste Emissions Activities intended to reuse as resources all the waste it generates from its business activities, it also is striving to preserve water resources.



#### Total Waste Generated (Production Facilities in Japan) Verified



#### Waste Emissions

#### **Reducing Wastes Generated**

To utilize resources efficiently, Sekisui Chemical Group is focusing in particular on restraining waste generation and reusing wastes. In fiscal 2012, its production sites in Japan achieved a 19% reduction in total waste generated vs. fiscal 2007 through efforts to improve the stability and efficiency of production, such as zero-defect activities. They also reduced waste per unit of output by 11%.

While new housing construction sites originally have generated low volumes of waste, in fiscal 2012 efforts such as measuring wastes on a per-residential-unit basis, reducing excess material use through activities including adoption of a system of authorization of waste transportation covering broader areas, and activities to reduce scrap and packaging materials succeeded in reducing total waste generated per home by 27% vs. fiscal 2000 for steel frame modular housing and by 48% over the same period for timber-framed modular housing.

#### **Zero Waste Emissions**

We are carrying out Zero Waste Emissions Activities, which began in 1998, toward our goal under the Midterm Environmental Plan (see "Data Book," p. 3) of achieving zero waste emissions at all subject facilities by fiscal 2013. In fiscal 2012, the percentages of facilities that had achieved this goal were 98% in Japan and 21% overseas.

In December 2012, Sekisui S-Lec Mexico S.A. de C.V. achieved zero waste emissions.

#### **∢**∉ **voice**

I am confident that the Zero Emissions Activities are the beginning of a new consciousness. Our task from now on is to let this new way of thinking Luis Gonzalez Technical Service Department Sekisui S-Lec Mexico S.A.de C.V.



reach our families and friends in order to spread these programs.

I am also very proud to be part of the Sekisui Chemical Group because I have realized that one of their main goals is to help our planet by making a commitment with our environment.

#### **Conservation of Water Resources**

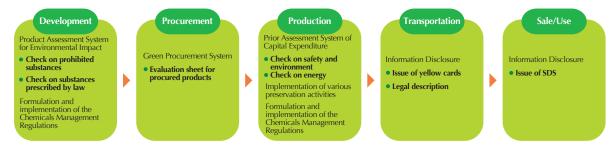
Sekisui Chemical Group is striving to reduce water use through means including cyclic use of cooling water. Water intake for the entire Group in Japan in fiscal 2012 fell by 7% in comparison with the fiscal 2007 level. (See "Data Book," p. 11)

#### Minimizing Environmental Impact through Proper Control of Chemical Substances

While chemical substances make people's lives more convenient, they also could have harmful effects on the environment or on human beings. Therefore, we believe that consideration of product safety, occupational safety and health, and environmental impact through proper management of chemical substances is an important responsibility of an enterprise.

Since fiscal 1999, Sekisui Chemical Group has set and worked toward its own targets for reducing discharge and transfer of chemicals in addition to implementing efforts such as the Product Assessment System for Environmental Impact<sup>\*1</sup> and the Green Procurement System<sup>\*2</sup>. We also review periodically chemical substances that are candidates for control or regulation of use, in accordance with the establishment and amendment of relevant laws and regulations.

#### System for Control of Chemical Substances throughout the Product Life Cycle

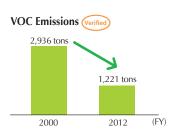


- \*1. Product Assessment System for Environmental Impact
  A system for assessment of the environmental impact of product development all the way from raw material procurement through manufacture, use, disposal, transport, and all other stages (see "Data Book," p. 8).
- \*2. Green Procurement System
  A system of giving priority to choosing raw materials, parts, etc. with lower levels of environmental impact when procuring them.

#### VOC & HCFCs

Since fiscal 2006, we have aimed for the target of a reduction of at least 60% in discharge of VOCs into the atmosphere in fiscal 2013 compared to fiscal 2000. In fiscal 2012 we achieved a 58% reduction compared to fiscal 2000 (see "Data Book," p. 13).

In fiscal 2008 we ended all use of HCFCs.



#### Soil Surveying

In fiscal 2011, we completed surveys of all business sites for which they were planned. In the future, we will conduct soil surveying at times such as when closing a business site or acquiring land for business-site use.

#### PCBs

Stored transformers and condensers that contain PCBs are being disposed of steadily, beginning with sites for which acceptance at PCB treatment facilities is available.

Machines and equipment in storage that contain PCBs are managed strictly and thoroughly, through means including locked storage and periodic inspection.

#### Air and Water

Sekisui Chemical Group complies with the regulatory values under laws and ordinances for the various types of equipment it uses in connection with exhaust gases and drain water. We also strive to control discharge of pollutants through appropriate maintenance and management, including periodic inspections.

#### Striving to Preserve Biodiversity through Both Business Activities and Social Contributions

In April 2008, Sekisui Chemical Group incorporated items on biodiversity to its Environmental Management Policy. Since then it has strived to preserve biodiversity through both environmentally conscious business activities and deploying nature conservation activities around the world.

#### Approach to Biodiversity Preservation

Environmental Management Policy (revised April 2008)



Environmentally conscious business

Nature conservation activities around the world



Declaration of Biodiversity and Action Policy by Nippon Keidanren (March 2009)



In March 2011, Sekisui Chemical Group established guidelines for preserving biodiversity. In accordance with these guidelines, in fiscal 2012 we continued from last year assessment of activities to preserve biodiversity at three business sites in Japan. The results brought to light issues such as the fact that the trees planted at some business sites consist of single species only and spatial structure with variation achieved through a mixture of tall and short trees is limited. In the future, we will address these issues to make progress on creating business sites that can coexist with a diverse range of creatures and work to raise the level of these activities across the whole of Sekisui Chemical Group.



#### Preservation of Biodiversity

Located in Ritto City in southern Shiga Prefecture, Sekisui Chemical's Shiga-Ritto Plant is surrounded by many precious natural woodlands.

In fiscal 2012, as part of its efforts to preserve biodiversity, the plant built an artificial floating island planted with aquatic plants in the pond where plant wastewater ultimately is discharged. This can be expected both to provide habitat for the freshwater fish living in the pond and to purify the water through the action of the aquatic plants. The floating island was made using the Eslon Neo Lumber fiber-reinforced foamed urethane (FFU) material produced at the plant, and it was designed to be an optimal environment for the growth of aquatic plants. Carex thunbergii, bur-reed, Manchurian wild rice, and other species native to the surrounding watershed were chosen for planting on the island, with employees' families taking part in the planting as well.



## CS & Quality

Pursuing quality always specified by customers, through maximizing the quality of human resources, products, and systems

# Quality always specified by customers Use of Customer Feedback Creating Attractive Qualities Enhancing Basic Qualities Collecting information Resolving complaints and claims Construction, sales, Construction, sales, Construction, sales, Products, and systems Maximizing the quality of human resources, products, and systems Mass production

#### Our Philosophy

Since 1999, Sekisui Chemical Group has employed CS management focused on customer satisfaction (CS). In 2004 we began CS & Quality Management focusing on products and services quality innovations in all of our businesses. The aim is to progress and grow together with customers, by constantly delivering value so that they will choose our products and services repeatedly. Based on the motto "We consider customer feedback as the beginning of our manufacturing," we improve the "Attractive Qualities" and "Basic Qualities"

provided to customers through improving the "Quality of People," "Quality of Products," and "Quality of Systems," utilizing a variety of feedback and other information received from customers.

Sekisui Chemical Group is working together to pursue quality that will always be specified by customers.

The CS & Quality Management See Policy and System



#### CS & Quality Midterm Plan

Sekisui Chemical Group has identified two key performance indicators for CS & Quality Management. One of these is external failure costs\*1 and the other is the number of major quality issues\*2. The Midterm Plan (fiscal 2009 – 2013) sets as goals for fiscal 2013 eliminating major quality issues and cutting external failure costs by 68% vs. fiscal 2004.

In fiscal 2012, two major quality issues arose and we decreased external failure costs by 40% from fiscal 2004. In the future, we will improve the quality of our design review (DR) activities to prevent major quality issues. To do so, we will prepare "DR Implementation Guidelines" and "Design Change Guidelines" and apply these as rules for the entire Group.

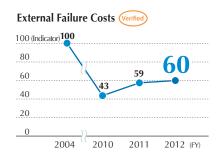
Together with preventing issues from arising while improving these guidelines as needed, we aim to further cut external failure costs through enhancing group-wide quality-assurance systems and deploying activities to reduce quality-related risks.

\*1. External failure costs

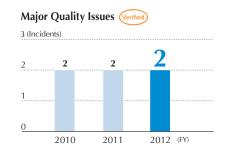
Costs arising from responding to product-related complaints and claims.

\*2. Major quality issues

Problems related to product and service quality that could cause significant damage to customers, society, or Sekisui Chemical Group if not thoroughly resolved on an urgent basis.



Production



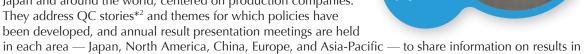
#### CS & Quality Management Roadmap

	2009	2010	2011	2012	2013	
	"Creation School" training to Session 1	o improve product planning al Session 2	Dilities Session 3	Session 4	Session 5	
Attractive Qualities			Second Attractive Qualities Screening System (Held every three years)		-	
	"The Story of Attractive Qualities" begins on the intranet					
	Telephone information service	training			National telephone information service contest	
	Manufacturing Development SI	HINKA! Activities (1) Zero defects a	and doubled productivity (2) Halvi	ng energy use (3) Renewing manu	facturing development overseas	
Basic Qualities	Global Group KAIZEN Activ Start of China tournament	vities	Start of European tournament	Start of Asia-Pacific tournament		
			Second Program of Seminars on Everyday Management	First Development/Design Seminar	Second Development/Design Seminar	
Common	"STAR 55 Bulletin" on CS & Quality Management case studies published					
Measures	CS & Quality seminars					

#### Group Topics

#### Group KAIZEN Activities Around the World

Group KAIZEN activities\*1 are an initiative in which employees in each workplace form small groups to make improvements in production and operational efficiency and product quality improvements. These activities are underway at business sites in Japan and around the world, centered on production companies. They address QC stories\*2 and themes for which policies have been developed, and annual result presentation meetings are held



Team from

Piping Co., Ltd.

In the 47th Sekisui Chemical Group KAIZEN Activities Presentation meeting held in January 2013, a group from Sekisui Industrial Piping Co., Ltd. was honored as the first team from an overseas business site to win the gold prize. The winning team achieved its lofty goal of improving ball valve productivity by 1.6 times (vs. the previous level) as a result of improvements made on various issues from a workplace perspective, utilizing the industrial engineering methods\*3 that all members had learned.

- Activities that began in 1966 as Quality Control (QC) groups and later evolved into small group activities before taking the form they have today. \*2. QC story:
- Improvement procedures advanced step by step to ascertain problems accurately and resolve them with certainty. \*3. Industrial engineering methods:
- Methods of analyzing existing work processes in detail and making improvements in areas of waste and loss, to improve production efficiency.

#### **Quality Education**

each workplace and improve each other.

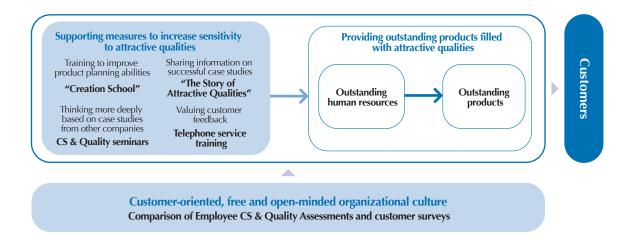
Sekisui Chemical Group has rebuilt its quality education structure at each level to promote the spread of quality education in all workplaces, from office staff to job sites. The new structure took effect beginning in fiscal 2013. It also employs QC certification\* effectively to measure levels of quality knowledge, and as of March 2013 1,300 members of the organization had attained QC Certification.

Sekisui Chemical Group will continue focusing its efforts on human-resources training to improve its "Quality of People."

\* QC Certification: A certification system conducted by the Japanese Standards Association and certified by the Japanese Society for Quality Control.

## Advancing Development of Systems, Human Resources, and a Culture Enabling Creation of Attractive Qualities

Based on the motto "We consider customer feedback as the beginning of our manufacturing," Sekisui Chemical Group is working on building a customer-oriented, free and open-minded organizational culture to create "Attractive Qualities" that customers will continue to ask for by name.

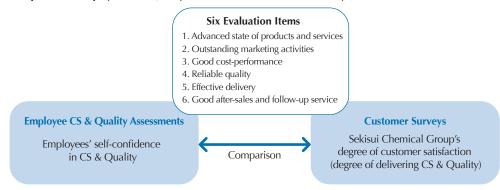


## Comparison of Employee CS & Quality Assessments with Customer Surveys

In fiscal 2012 Sekisui Chemical Group newly employed a CS & Quality Assessment (survey) program for employees in Japan, intended to ascertain the degree of permeation of CS & Quality Management and identify any related issues through measuring employees' awareness of CS & Quality and related activities. This program clearly identified issues by grading CS & Quality Management efforts in areas such as business strategy, organizational management, and organizational culture along with self-confidence in CS & Quality, as the resulting overall assessment, for each division company and business division. Self-confidence in CS & Quality tended to be somewhat low in production sections and similar sections that had little contact with customers, and clearly one issue for the future is that of developing a CS & Quality culture in such sections.

Furthermore, we compare the results of this program with the overall assessments from customer surveys conducted at the same time to check for any differences in awareness of CS & Quality between customers and employees. Comparison on six evaluation items that impact customer satisfaction (i.e., degree of delivering CS & Quality) shows that in many business divisions the items customers see as important differ from those that employees see as important. These results have been used to identify new issues to address.

#### Comparison of Employee CS & Quality Assessments with Customer Surveys, Based on Six Evaluation Items



#### HR Development for Attractive Qualities

Sekisui Chemical Group has developed four HR development systems intended to improve sensitivity to creating attractive qualities.

#### "Creation School"

This is a program of joint industry-academy training to improve product planning abilities. From its start in fiscal 2008 through the end of fiscal 2012, a total of 54 trainees have taken part in this training. Since fiscal 2011, "Creation School" teams have been made up of members from the same businesses, in order to make the training better suited to the realities of businesses.

In fiscal 2012, three teams from the Housing Company, Sekisui Hometechno Co., Ltd., and Sekisui Film Co., Ltd. took part in this program. In February 2013, each team made a presentation on product planning to top management. These presentations have led to some moves in the direction of product and business development, such as patent applications and specific proposals to suppliers.



#### ∢ voice

Using in our business the systematic product-planning process of the Seven Product Planning Tools has been highly successful by leading the way to new development ideas.

I was strongly impressed by the way this method serves as one pattern for success in generating hit products. It showed me the importance of listening to what the customers who actually use products have to say and anticipating their needs and making



Takahisa Chito
Technology and
Development Department
Sekisui Film Co., Ltd.

proposals to distributers who were in between. Industry-academy cooperation with students also was an enjoyable experience that helped me to become aware of new points of view.

In future development activities as well, I would like to aim to be an industry leader by creating strongly competitive products using this method.

#### **CS & Quality Seminars**

Begun in fiscal 2001, these seminars, intended to raise awareness of CS & Quality, invite people from a variety of fields outside the company to give lectures. A total of 30 seminars had been held from the start of the program through the end of fiscal 2012.

In fiscal 2012, lecturers invited to speak on topics including development, quality management, and CS gave four lectures at Sekisui Chemical's Tokyo Headquarters and Kyoto Research & Development Laboratories, attended by approximately 350 people in total.



#### "The Story of Attractive Qualities"

This intranet content providing behind-the-scenes stories on product development is intended to increase the motivation of product-planning and development personnel. It provided an introduction to the KAITEKI AIRY year-round air-conditioning/ ventilation system, which won the grand prize in the FY 2011 Attractive Qualities Screening System.



"The Story of Attractive Qualities"

#### Telephone Service Training

We have been conducting telephone service training, intended to improve the service level of contact points for inquiries, continuously since fiscal 2008. In fiscal 2012, this training was conducted

200

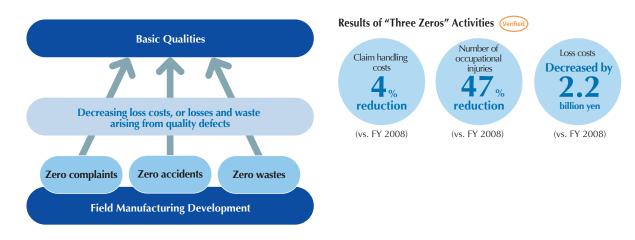
FY 2012 Number

of Trainees

a total of 21 times at 13 business sites, with a total of 200 employees taking part.

## Pursuing the "Three Zeros" of Complaints, Accidents, and Wastes

Recognizing that it is the fields of manufacturing development that supports quality, since fiscal 2006 Sekisui Chemical Group has focused its efforts on innovation in production. Based on its belief that quality defects lead to higher costs arising from handling complaints or increased wastes, we are trying to reduce costs by targeting the "three zeros" of complaints, accidents, and wastes.



#### **Quality Management**

Sekisui Chemical Group has developed quality-control systems covering every process from production through product use by customers. Each section has developed a quality-assurance system, and in each process we promote controls on a daily basis following the PDCA\* management cycle. In developing products and making improvements to quality, we conduct screening from a variety of perspectives, such as those of quality assurance and safety. Our business sites also made progress on becoming certified under the ISO 9001 standard, as the total number of Sekisui Chemical Group business sites and departments certified under this standard rose to 102 in fiscal 2012. The number of employees at these ISO 9001-certified business sites and departments represents 59% of all Sekisui Chemical Group employees.

In fiscal 2013, we will continue to focus on development of quality-assurance systems suited to the globalization of business.

\* PDCA

P = Plan (planning), D = Do (implementation, operation), C = Check (checkup, corrective action), A = Action (improvement, review)

#### Seminars on Day-to-day Management

Every year, we hold seminars on everyday management for managers in each production workplace, to encourage thorough controls on everyday management.

In fiscal 2012, a seminar was held on the topic of strengthening development and design abilities, with 40 persons in attendance, including design, development, and engineering leaders and production-section personnel from various business sites in Japan. Participants discussed how to conduct design review as well as issues and countermeasures based on prior surveys concerning prevention of reoccurrence of complaints. They also received practical advice from a management perspective, from an outside auditor.

#### **Advancing Production Innovations in Overseas**

Sekisui Chemical Group began activities to renew manufacturing development overseas in fiscal 2009, with the goal of strengthening the manufacturing-development foundation and production capacity at production sites overseas. Through these efforts, we have advanced production innovations at such sites. In fiscal 2012, we conducted these activities with a focus on improvement abilities and safety abilities. As examples, in the area of improvement abilities we held guidance meetings at plants overseas and KAIZEN Activities Presentation meetings.



#### MONOZUKURI Workplace Leader

Sekisui Chemical Group holds "MONOZUKURI Workplace Leader Development/Training Courses" for production site leaders, on the subject of everyday management at production sites. These serve as excellent opportunities for participants who work at different sites to gain awareness and knowledge together through activities including exercises, group discussions, and experiences of senior colleagues.

In fiscal 2012, three sessions were held, with 51 personnel from various business sites taking part. Together with these courses, plant tours were provided at Okayama Sekisui Industry Co., Ltd., Tokyo Sekisui Heim Industry Co., Ltd., and the Sekisui Film Co., Ltd. Nagoya Plant.

#### **Electrical Safety Workshop**

In response to the MJS II fire in fiscal 2011, Sekisui Chemical Group has begun an electrical safety project. This project involves surveying the current status of electrical products, holding events such as study meetings on relevant standards, and considering measures to ensure safety, together with preparing product-safety checklists and guidelines.

In August 2012, as part of this project, an Electrical Safety Workshop was held for staff in charge of design of electrical products. Participants learned about the concepts of safety design and the content of basic standards, by looking at actual products that had been the causes of problems.



#### **Energy Saving Activity**

Since fiscal 2009, Sekisui Chemical Group has been advancing activities to cut energy consumption in production.

In fiscal 2012, we deployed these activities at all main business sites in Japan, as planned. In response to this progress in Japan, we also began deployment of these activities at overseas business sites as well.

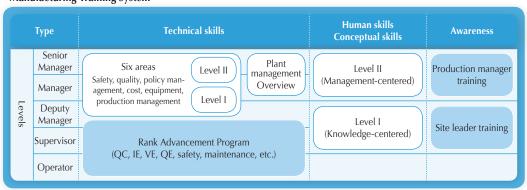
In addition, as we did last year we continued to respond to requests from power companies for energy conservation, achieving reductions in power consumption of approximately 26% during the summer and approximately 21% during the winter—levels higher than the requested savings—at sites served by power companies that set target figures for cuts. These savings were achieved through means including adoption of private power generators and engine compressors, and leveling of production. Furthermore, we have formed a subcommittee that has begun study of building a stable energy supply system over the medium to long term.



#### **New System for Manufacturing Education**

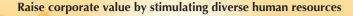
In the areas of training related to manufacturing, through now Sekisui Chemical Group has carried out a Rank Advancement Program whose main theme has been learning improvement and evaluation skills in quality control (QC), industrial engineering (IE), value engineering (VE), and quality engineering, for full-time employees. In fiscal 2012, we developed a new Manufacturing Manager Training program consisting of training on six areas at two levels, for manufacturing managers. Implementation of this new program began in fiscal 2013.

#### **Manufacturing Training System**



### **Human Resources**

Encouraging individual prominence and self-realization, and contributing to society through business



**Prominence in Business and CSR** 

Prominent Human Resources ←→ Self-realization

Business leaders High-quality, specialized human resources ilobal human resources Productivity at manufacturing sites Development, designing, production, construction sales, technical services,

Professional human resources, each with his or her own unique skills

Corporate culture fostering individual learning and growth

Opportunities to take on challenges on one's own

Growth and commitment

Workplaces where diverse human resources can thrive Rewarding workplaces

Employees are "precious assets bestowed on us by society"

#### Our Philosophy

As the globalization of its businesses accelerates, the employees who work at Sekisui Chemical Group are growing more diverse as well. Together with providing opportunities for diverse human resources to thrive globally and devoting efforts to human resources development, we also are making progress on building workplaces in which diverse human resources can thrive and do their jobs with peace of mind, respecting human rights and the cultures and values of each region.

For the Human Resources and Human Rights Policy and System

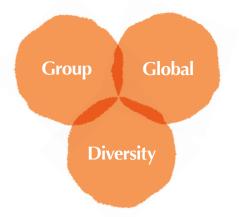


#### Our Concept of Human Resources Development

Based on our concept of enabling human resources to perform and grow, Sekisui Chemical Group supports employees' independent career development through providing a variety of opportunities for individuals to link their own desires to their careers.

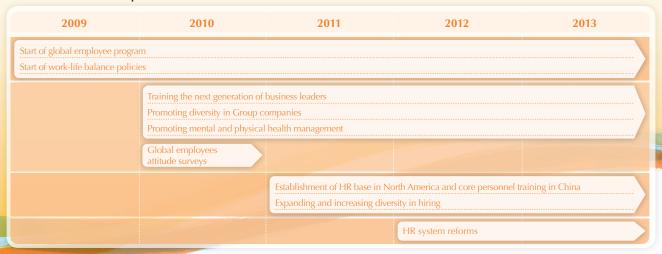
We are deploying human resources development measures from three approaches, all based on the concept of drawing out the potential growth abilities of each of the Group's diverse employees working in Japan and around the world and applying these abilities toward the sustainable growth of the company.

Three Approaches toward Realizing the HR Ideal





#### **Human Resources Roadmap**



#### Our Human Resources Development Measures

We are improving the Group's human resource capabilities through securing human resources and deploying human resources development measures with a focus on potential for personal growth.

In global human resources development, we are focusing on human resources development in Japan and around the world targeting global business growth.

To enable diverse human resources to thrive, we are promoting efforts that take advantage of the values and experiences of diverse human resources.

#### Results of Main Efforts in Fiscal 2012

Key theme	Main measures in fiscal 2012	Efforts
Group Human Resources Capabilities	Expanding hiring	686 persons (including 103 of Sekisui Chemical)
	HR management system improvements	Developed a business-leader training system
		Deployed measures to improve abilities in the workplace
		Measures to strengthen management
		Developed career paths for diverse human resources
	Career development & evaluation	Internal job posting: 15 positions
	Expanding training opportunities to Group companies	Group employee ratio: CSR training conducted for 67% of new employees in management positions
Global Talents	Training of overseas HR	U.S.: Provided training for top-management and management levels
		Europe: Started training for top-management level
		China: Provided management-level training, studied common HR measures
	Globalization of HR in Japan	Number of global human resources: 294
	Promoting women in the workplace	Percentage of women among new-graduate hires: 28%
Decent Work and Diversity		Expanded management seminars on women subordinates
	Opportunities for partner employees	Introduced a system for transfer to permanent, full-time employee status
	Opportunities for senior employees	Expanded hiring and training systems for lifetime careers
	Safety and security	Deployed mental health measures

#### Securing and Training Human Resources Aiming for Sustainable Growth

As it strives to empower Group human resources to achieve sustainable growth, Sekisui Chemical Group is advancing a variety of efforts to secure and train human resources.

In the area of securing human resources, we are not only growing numbers of new employees hired (see "Data Book," p. 16) but also implementing hiring in a variety of perspectives, such as diverse human resources (see p. 33) including global human resources (see p. 31) and women, to ensure an appropriate staffing structure.

On the subject of training of human resources, we are implementing a variety of efforts Group-wide, centered on areas such as providing human resources with broad-ranging experience based on consciousness of Group management and training human resources to support business management.

#### Training the Next Generation of Business Leaders

In order to systematically train the next generation of business leaders to empower Sekisui Chemical Group in the future, each year current business leaders recommend a number of human resources as candidates to succeed them in their own positions. The nominated candidates are trained and assigned systematically to encourage their growth into next-generation leaders through building up broad-ranging experience.

#### Group Internal Job Posting

Sekisui Chemical Group supports its employees' willingness to take on challenges and their career plans by providing opportunities to thrive within the Group through posting job openings internally.

Through Group internal job posting, any qualified employees can apply for jobs within the Group posted to the intranet, without needing the approval of their superiors.

In fiscal 2012, 15 job openings within the Group were posted internally and 17 employees began new careers inside Sekisui Chemical Group.

#### Education and Training Structure

To support its employees who make positive attempts to develop their own careers, Sekisui Chemical Group provides a variety of training programs corresponding to employees' levels and positions.

#### **Training Structure**

- (i) Skill and knowledge acquisition: training on coaching skills, sending employees to external business schools, etc.
- (ii) Career development support: career-plan training, superior training (for sections in which newly hired persons are assigned), etc.
- (iii) Medium-term priority themes: in-house business school, global training, manufacturing education, etc.
- (iv) CSR education: new-employee training, new-manager training, etc.

#### Human Resources Activities and Future Developments

In fiscal 2012, we provided more opportunities for education and training than ever before to the entire Sekisui Chemical Group. As a result, the Saijuku School, in-house business school intended to train the next generation of business leaders, increased the percentage of its students coming from Group companies from its previous level of roughly 10% to approximately 40%.

The Saijuku School aims to train human resources that are able to formulate business plans through growing on their own, by thinking deeply about the broad range of matters involved in Sekisui Chemical Group business management.

The CSR training provided for new core personnel (those in management positions), like the Saijuku School, saw an increase in participants from Group companies, who grew as a percentage of all trainees from a previous level of roughly 50% to approximately 70%. CSR training is intended to foster an awareness of the trainees' positions as leaders on the front lines of CSR, through sharing information on Sekisui Chemical Group's thinking on CSR and the status of various related measures and efforts.

Furthermore, in the program of Career Plan Training by Age, in which each individual employee (at the ages of 30, 40, 50, and 55 years) thinks about his or her own mediumto long-term career plan, group training, which until now had taken place only at Sekisui Chemical's Tokyo Headquarters and Kyoto Research & Development Laboratories, was held in Fukuoka as well, with many employees from Sekisui Heim Kyushu Co., Ltd. taking part.

#### 

When I took part in Career Plan Training by Age, I did not have a clear vision of my own future. While I felt very uneasy at first, I was able to analyze myself deeply through speaking with other participants from the same age category as me, using a variety of worksheets, and as a result I was able to get a vision of my future and draft an action plan for making it real. I also



Mika Urata North Sales Headquarters Sekisui Heim Kyushu Co., Ltd.

was able to increase my own motivation thanks to the opportunity to listen to the thoughts of participants from other job types and their own future visions as well.

Right now I am particularly conscious of time management. By organizing my thoughts while writing down action plans for next month, next week, and tomorrow in my notebook, prioritizing these on the train during my commute, and then putting them into action, I have reduced the amount of overtime work. On days when I go home earlier, I work out at the gym or dine with friends, making my days more fulfilling than before.

#### Training Global Talents in Japan and Worldwide

Drawing out and making the most of the growth potential of each individual employee leads to corporate growth. Sekisui Chemical Group is striving to train human resources with a global perspective and an awareness of their responsibility to contribute to society.

#### Global Talents Strategies

Sekisui Chemical Group has production facilities outside Japan as well. It also is expanding its businesses overseas, chiefly through mergers and acquisitions. The current midterm management plan includes the target of a percentage of 30% of sales overseas.

In fiscal 2012, the number of overseas employees in the group totaled approximately 5,400 – about 24% of all Sekisui Chemical Group employees. Sekisui Chemical Group faces a pressing need to secure and train "Global Talents" employees to ensure the Group's sustained growth in the future as well. Based on this concept, we are advancing the following "Global Talents" strategies:

- (i) Training of local managers overseas
- (ii) Training of domestic employees for globalization

# Overseas advancement of production facilities Securing global human resources to support and grow businesses overseas Training of local managers overseas Training of local for globalization Number of Employees Overseas Verified

## Approx. 24% overseas

#### FY 2012

#### **Training on Cross-cultural Communication**

In not a few cases, business is unable to proceed smoothly overseas due to differences in cultures and values. In training on cross-cultural communication, participants learn about subjects including methods of communication and ways of moving forward with work by understanding the differences between Japanese and Western cultures and their backgrounds, through lectures and discussion. In fiscal 2012 about 170 employees took part in this training, which has been evaluated highly for the way its practical case studies help to deepen understanding.

#### **Policy Management Training**

It is important that employees, as members of Sekisui Chemical Group, properly implement plans in accordance with policies and draft plans for the next period, so that they can work together toward the same goals. Policy management training is conducted at Group companies overseas as an opportunity for sharing information on the fundamentals of Sekisui Chemical Group policy management and deployment and on the organization and ways of working. In fiscal 2012, 85 employees took part in this training.



#### Globalization of Human Resources in Japan

#### **International Recruiting**

Sekisui Chemical Group aggressively hires human resources with experience living overseas, such as non-Japanese candidates and Japanese foreign exchange students.

In particular, we continue to hire large numbers of international students from Japan at the Boston Career Forum\*, one of the largest job fairs in the United States, where we have taken part since 2008.

In hiring of new university graduates in Japan as well, we clearly identify "Global Talents" employees as one of the ideal types of human resources we seek to hire. As a result, the percentage of new graduates joining the company in fiscal 2013 with experience living overseas was 21 percent.

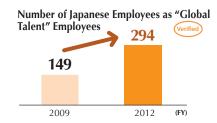
Boston Career Forum
A Japanese-English bilingual job fair begun in 1987. More than 5,000 people take part in this event each year.



#### **Training of Domestic Employees for Globalization**

#### **Global Employee System**

A total of about 1,600 Group employees in Japan have signed up for the Global Employee System intended to train "Global Talents" employees. These employees undergo training on different cultures and specialized training as needed for overseas assignment. Through this system, we aim to increase the number of Japanese employees immediately ready to serve overseas to 300 by fiscal 2013.



#### **Global Trainee Program**

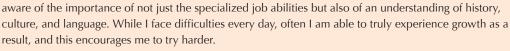
Sekisui Chemical Group has established the Global Trainee Program to enable participants to build up real-world experience overseas. This program sends applicants with sufficient levels of experience in specific positions such as sales, accounting, and development to actual positions at overseas affiliates.

#### 

I am on assignment at Sekisui Industrial Piping Co., Ltd. in Taiwan, under the Global Trainee Program.

Here I am responsible for a broad range of topics from improving efficiency in extrusion-molded products through development of new raw materials, joints, and resin valves.

When first assigned overseas, I realized the difficulty of communicating in a different culture. However, through working hard to do my job, I became



I think the Global Trainee Program is a good opportunity to improve not just one's specialized job abilities but also the language abilities and awareness needed as a global professional. I too would like to be a professional who can demonstrate leadership on the world stage in the future.



Daisuke Inosaka Sekisui Industrial Piping Co., Ltd.

#### Building Workplaces where Employees Can Thrive with Vitality

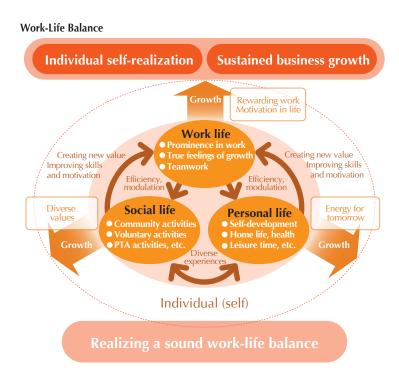
Sekisui Chemical Group is advancing efforts aimed at building workplaces where diverse human resources can work with peace of mind. This is intended to respond to rapid globalization of business and diversification of market needs and to continue the sustained growth of the group itself into the future.

We are carrying out activities to ensure that diverse human resources can do rewarding work with vitality while putting to use their own individual values and experiences, through enhancing relevant systems, holding training and seminars, and raising awareness via the intranet and Group bulletins.

#### Work-Life Balance

Sekisui Chemical Group believes that a sound work-life balance is an effort to realize personal growth and self-realization at the same time as company growth. Accordingly, we are advancing various efforts to realize a sound work-life balance, considering it important for employees to have enriching lives both on and off the job.

In fiscal 2012, we made progress on building systems for making time available outside working hours, and in fiscal 2013 a system began that requires application in advance for overtime work. Designating November as "Work-Life Balance Month," we promoted realization of a sound work-life balance through efforts including providing a work-life balance check on the intranet and encouraging employees to list the things they would like to do outside working hours.



#### Women's Empowerment

With the need to respond to diversifying market needs and a decreasing working population due to the aging of society in the background, Sekisui Chemical Group deploys a variety of efforts to enable highly motivated women employees to continue to work with vitality. These efforts include proactive hiring of women, various training programs, career support for women, and support for balancing work and various life events.

As a result, the number of women promoted to line manager positions has increased, as opportunities for women to thrive have grown steadily.

#### Supporting Raising the Next Generation Children

In fiscal 2012, in addition to support for employees who are working mothers, we also focused on support for younger women who will face various life events in the future and for their superiors.

Through activities including holding lunch meetings between young women researchers and senior colleague working mothers, preparing a guidebook on taking childcare leave, holding orientations on childcare leave, and providing support for career planning after returning from the leave, we are making progress from a variety of approaches on building an environment in which highly motivated women can balance work and raising children more smoothly.



#### **∢**∉ voice

Hearing about the experiences of mothers nicely balancing work and home life and those ready to return to the workplace after having children helped me to learn not only tips on how to work and use my time after starting a family, but also that there are things that I can and should do now when I can use my time freely, helping to increase my job motivation. Also, I think it was very fruitful being able to interact with people in my same generation from other business sites because I could connect with other participants who had the same concerns as me and could build relationships in which we can consult with each other.



Kaori Takemoto Core Technology Research Laboratory Urban Infrastructure & Environmental Products Company Sekisui Chemical Co., Ltd.

#### Supporting Young Employees to Thrive

Sekisui Heim Kyushu Co., Ltd., a sales company in the Housing Company, holds management seminars for superiors who have younger subordinates to enable them to support the success of younger employees who come from different generations. In these seminars, focused chiefly on lectures and group work, participating superiors learned about the backdrop of the times in which younger employees grew up, identified differences in values, analyzed results of survey responses from young people, reviewed their own growth and development processes, and took part in other activities as well, while drafting plans for helping their younger subordinates to grow.



#### Supporting Partner Employees to Succeed

Since fiscal 2012, partner employees working in workplaces and scopes of duties specified in advance have had the option of choosing to transfer to the status of permanent, full-time employees.

In fiscal 2013, 24 partner employees transferred to permanent, full-time status, in which they aim to grow as advanced professionals doing practical work in the future.

## Aiming to Build a Global Culture of Zero Workplace Accidents

Constructing a work environment in which employees can work with safety and security is one of the most important subjects for management. Sekisui Chemical Group is implementing total safety (i.e., zero occupational injuries, zero equipment-related accidents, zero commuting-related accidents, and zero extended sick leaves) activities based on five themes\*.

\* Five themes
Intrinsic safety of equipment, management using OHSMS, safety education of employees, risk prevention through KY activities and other
initiatives, and auditing of health, safety, and accident prevention.

Management

OHSMS

Equipment

Intrinsic safety of equipment

Risk prevention

Risk assessment
Risk detection (KY) efforts
Prevention of risky acts (HH) activities

55 activities

Auditing

Health, safety and accident-prevention auditing

Five Pillars of Occupational Health, Safety, and Accident-

For the Safety Policies and Management System See "Data Book," p. 20, 22

Midterm Plan (FY 2009 - 2013)

Midterm goal: Completing development of a corporate culture based on zero workplace accidents

- Sites in Japan: Completing development of a structure for zero workplace accidents by the end of fiscal 2012
- Overseas sites: Completing development of a structure for zero workplace accidents by the end of fiscal 2013

#### Safety Midterm Plan

#### Japan

In fiscal 2012, the number of occupational accidents fell by 16% from the previous fiscal year, thanks to the contributions of preventive activities such as efforts to prevent cases of accidents through employees getting their arms, legs, or bodies caught in machinery by enhancing the intrinsic safety of equipment. Efforts to raise employees' safety awareness, chiefly among site leaders, and measures to ensure equipment safety will continue toward the goal of building a structure for zero work-related accidents in fiscal 2013.

#### **Safety Audits**

At sites in Japan, second-party certification of OHSMS\* is being conducted, with 41 sites having been certified as of the end of March 2013. Also, results of the periodic self-auditing that began in fiscal 2010 showed that the number of sites that had not reached the base level (70 points) had decreased by 70% from 17 sites in fiscal 2010 to five in fiscal 2012. Furthermore, the results of safety audits of 28 sites in Japan identified the need for improvement as a tendency could be seen here and there toward problems such as the matters identified in internal auditing becoming mere formalities.

The safety investigations that began in fiscal 2010 at overseas sites had been conducted at a cumulative total of 54 sites through fiscal 2012.

<sup>\*</sup> OHSMS (Occupational Health and Safety Management System)
Activities to manage occupational health and safety and reduce risks through implementing risk assessment for the workplace as a whole and running through the plan-do-check-act (PDCA) management cycle, based on occupational health and safety policies.

### **Japan: Efforts at Production Sites**

#### **Safety Conference**

In July 2012, the Sekisui Chemical Group Safety Conference was held at the Kyoto Research & Development Laboratories. A total of 193 employees and members of management took part in activities including the annual safety awards and introductions to examples of safety activities by sites with superior safety performance, resolving as a group to building a culture of zero workplace accidents.

In addition, Hitoshi Ogura, a proponent of "Naze Naze Analysis"\*, lectured on methods of identifying causes of problems and the importance of doing so.

\* "Naze Naze Analysis"

A method of logically identifying the factors behind why problems occurred, through repeatedly asking "naze?" ("why?"), in order to draw out targeted



#### **Fires and Explosions Countermeasures**

Recent years have seen a succession of serious fires and explosions at Japanese firms' domestic chemical plants. Sekisui Chemical Group will continue its efforts already underway to identify risks related to internal plant equipment and facilities handling hazardous materials and make relevant improvements. In addition, we plan to begin drills in which the operators who actually handle production equipment gather together to think and make decisions together on responses to abnormalities identified by leaders, and to deploy these drills across business sites in Japan, in order to improve abilities to respond to a worsening situation after an accident has occurred.



#### **Japan: Efforts at Construction Sites**

#### **Enhancing Use of Construction Plans at Housing Construction Sites**

To ensure even more thorough safety in processes handling heavy machinery and other equipment at housing construction sites, we are revising the forms and use of construction plans. In fiscal 2012, we began use of a new construction plan form for construction involving demolition of existing structures.

#### **Overseas: Efforts at Production Sites**

#### **Occupational Safety Education Program**

Sekisui S-Lec (Suzhou) Co., Ltd. has introduced the occupational safety education program, Safety Training Halls used in safety training of employees at business sites in Japan, in order to prevent accidents at its facilities in China. Its training program, planned and set up under local leadership began in November 2012, led by local trainers. In the future it will be offered to employees of other business sites in China as well. In addition, Kydex, LLC. (in the U.S.), YoungBo Chemical Co., Ltd. (in South Korea), and Sekisui S-Lec Thailand Co., Ltd. have established and are using their own Safety Training Halls as well.

## Healthcare of Employees

Sekisui Chemical Group provides stress check-ups and e-learning through the intranet as self-care methods for employees in the area of mental health. As support for providing line care at business sites, counselors visit the sites to conduct mental health training for managers and counseling experience.

In addition, a survey takes place in September of each year to ascertain the state of health management at all business sites in Japan. In these ways, Sekisui Chemical Group is promoting efforts to build healthy, comfortable work environments in cooperation with outside mental health clinics and the Japan Industrial Counselors Association.

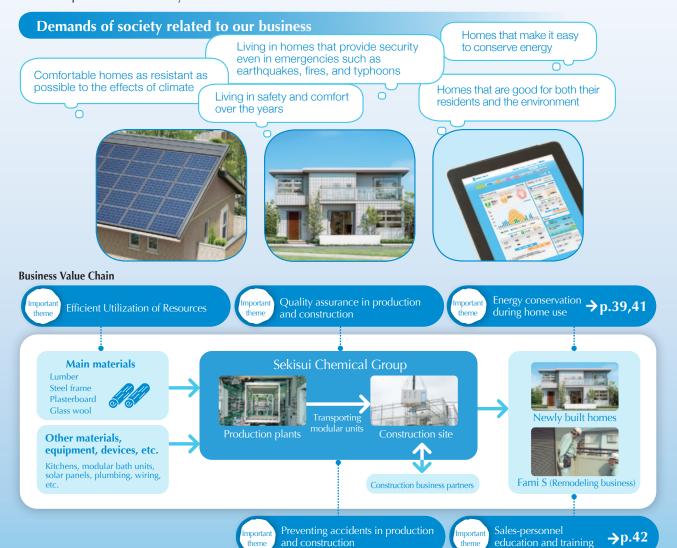
# **Housing Company**

Providing environmentfriendly homes that can be lived in safely and comfortably for more than 60 years.

#### To Realize Customers' Ideal Homes

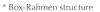
With high performance and reliable quality produced at plants, Sekisui Heim responds to the changing times and needs that vary in areas such as family structure, locale, and living environment – for those seeking budget-conscious homes that keep down utilities and repair costs, homes in which they can live in comfort year long with little change in temperature, homes that will protect their families and property from threats such as typhoons, earthquakes, fire, and crime, homes that will help resolve the uncertainties and burdens of raising children, homes in which they can live in peace of mind even in old age, and homes that give consideration to the future of the environment – by providing homes in which anybody can continue to live with peace of mind for years to come.



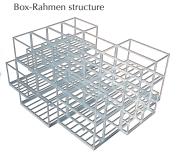


## **Building Reliable Homes**

Sekisui Heim is making progress on building strong homes that protect the families that live in them from damage resulting from earthquakes, typhoons, fires, and other causes. As part of these efforts in the area of seismic resistance, it builds strong homes capable of withstanding even a massive earthquake, through GAIASS, the first compound seismic isolation system in the residential industry, combining the Box-Rahmen structure\* that uses modular construction to absorb powerful shocks with high-performance exterior walls to distribute shocks. Through these activities in addition to others such as its consulting services combining experiments using actual buildings and a seismic-performance simulation system, we deliver homes that can give their residents true peace of mind.



A modular-unit structure in which pillars and beams are joined together in a box shape, so that even a single unit can demonstrate strength like that of a shelter against massive earthquakes.



Seismic empirical testing



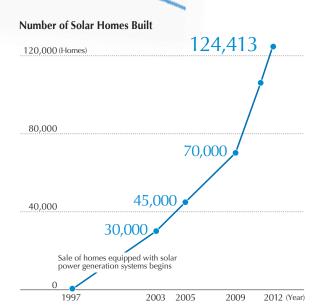
## Balancing Ecology with Economy

A look at the  $CO_2$  emissions during the entire life cycle of a home from procurement of materials through construction, living in the home, demolition, and disposal or recycling shows that  $CO_2$  emissions during living in the home account for a share of 60-80%\* of the total, and as such there is a strong need to reduce these emissions.

Together with its customers, Sekisui Heim has strived to reduce use of electricity in the home, for example by moving quickly to install solar power generation systems that put natural energy to use. The Zero-Utility-Cost House,

which greatly reduces CO<sup>2</sup> emissions from energy used for living and keeps down annual utility costs, can be described as a home that achieves balance between ecology and economy.

\* Source: Sekisui Chemical estimate

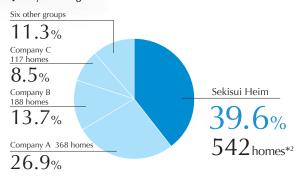


## Supporting Customers

Homes need to be able to maintain their functions and performance over time so that their residents can continue to live in them in comfort for a long time and leave them to the next generation as assets to society.

Sekisui Heim supports residents in living in their homes for 60 years from when they first move in, through detailed periodic inspections and diagnostics conducted six months, one year, two years, and five years after moving in and then every five years thereafter. In addition, through keeping records of home use including maintenance based on a resident database system distinctive of industrialized houses and of renovation to meet changes in family structure and lifestyle, Sekisui Heim increases the asset value of homes as residential stock.

## Homes Sold through the Brokerage of the Provision of Quality Housing Stock Association\*<sup>1</sup>



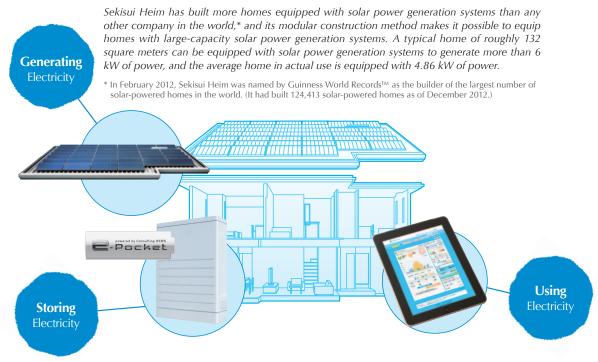
\*1. Graph figures are for the period of August 2008 – December 2012. \*2. Of the 1,368 homes sold through brokerage of the 10 members from

\*2. Of the 1,368 homes sold through brokerage of the 10 members from the Provision of Quality Housing Stock Association, 542 were sold by the Sekisui Heim real-estate group. (As of February 2012)

# Shin Smart Heim with Solar Power Generation, HEMS, and Storage Cells

Since the Great East Japan Earthquake, the way customers think of their homes has changed considerably, as they have come to demand not simply energy-conserving homes but ultra-efficient ones that are gentler on the environment and ready for power risks in an emergency.

To respond to such needs, Sekisui Heim began sale in April 2012 of Shin Smart Heim homes that bundle together three systems: solar power generation system, Smart Heim Navi home energy management system (HEMS), and e-Pocket large-capacity storage-cell system, to create, conserve, and store energy. Demonstrating its advanced ability to propose solutions using the Smart Heim FAN consulting service and other offerings, it delivers smart solutions to customers across Japan.



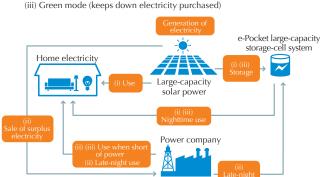
The e-Pocket stationary large-capacity lithium-ion storage-cell system developed independently by Sekisui Heim provides three modes that enable it to be used in different ways to suit residents' lifestyles and ways of thinking.

The Smart Heim Navi system stores data on the results of a survey of 16,000 homes equipped with solar power generation and 9,000 Smart Heim homes.\* This data is used to provide consulting services on the optimal electricity use for each home.

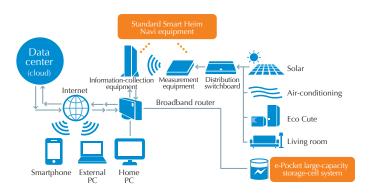
\* As of April 2013

#### e-Pocket's Three Modes

- (i) Emergency operation mode (during power failure)
- (ii) Economy mode (keeps down utility costs)



#### Overview of Smart Heim Navi



#### **Customer** Feedback

Since installing the Smart Heim Navi system we now are able to ascertain the days and times when each room and each piece of equipment uses a large amount of electricity. This is truly convenient. Since we can identify clearly where we use electricity and how much, we are thinking as a family about ways of saving energy more effectively, such as starting with the places where we use large amounts of electricity.

Customer N, Osaka Prefecture

## Sekisui Heim's Smart Heim City Subdivisions

Sekisui Heim is developing the new subdivision brand Smart Heim City across Japan, to make not just individual residences but towns themselves smarter. In 2013, it introduced the new "disaster mitigation" concept proposed by Prof. Yoshiaki Kawata of Kansai University. By incorporating auxiliary emergency power-supply functions, smooth evacuation routes, park facilities capable of use for emergency food distribution, and other elements to increase disaster-mitigation abilities in addition to using its existing energy-conservation and economic capabilities as well as the seismic resistance of the buildings themselves, Sekisui Heim is advancing the building of communities that can deliver even higher levels of safety and peace of mind in the event of an earthquake or other disaster.



Rendering of a completed Smart Heim City street scene

## New Plant in Thailand

The desire for comfortable, eco-friendly homes is not exclusive to Japan but is a dream shared the world over. In 2009, Sekisui Heim established a joint venture to produce and sell homes in Thailand as its first full-fledged move into overseas markets. In March 2013, it completed construction in an industrial park in Thailand of a plant to mass-produce modular homes, with the capacity to produce 1,000 homes per year.

This new plant will both make Sekisui Heim's home business in Thailand a full-fledged business and supply homes, parts, and materials to nearby countries as a base plant for Asia.

New plant in Thailand



## Sekisui Heim with Advanced Air-Conditioning and Ventilation Systems



Today, worries about the effects of air quality on health are increasing, as can be seen from the society's concern about pollutant particulate matter such as PM 2.5.

Under such conditions, 97% of customers using Sekisui Heim's exclusive KAITEKI AIRY (in steel-framed Heim series homes) and AIR WORKSHOP (in wooden GRAND+TO YOU homes) air-conditioning and ventilation systems have reported that since moving in they have "truly felt the cleanness of the air."\*1 Sekisui Chemical homes featuring KAITEKI AIRY and AIR WORKSHOP technologies have been evaluated highly too, as for example 92% of respondents in a survey of medical doctors, who can be described as health experts, reported that they themselves "would like to live in" such homes and 97% said that the homes "support healthy living." These are the first single-family residences to earn AskDoctors certification as products verified by doctors.\*2

In fiscal 2013, the Doctors' Air Models of homes supporting healthy living with clean air were introduced in April, bundling high-performance ventilation systems certified under the AskDoctors system as products verified by doctors together with a menu of other options to support good health.\*

The Doctors' Air Models are equipped with KAITEKI AIRY or AIR WORKSHOP systems as standard equipment. In addition to the adoption of safe building materials that keep down incidence of sick house syndrome, they also offer a varied menu of options that deliver readiness for health risks, for all kinds of residents including families raising children and active seniors. In the future as well, the Housing Company will continue making progress on supply of homes for comfortable, healthy living.\*4

- \*1. From a 2012 survey of residents in homes using AIR WORKSHOP systems, conducted one year after they moved in (sample size: 409) \*2. From a 2012 AskDoctors survey (sample size: 300). AskDoctors certification is valid through October 31, 2013.

- \*3. Excluding Hokkaido, Okinawa, and some other areas characterized by heavy snow and cold temperatures.
  \*4. While the Doctors' Air Model homes are intended to realize positive interior air conditions that support healthy living, no guarantee is provided concerning improvements in or maintenance of residents' health or other results or efficacy.

# Heat-Pump Heating, Cooling, and Dehumidifying Systems

## Dialogues with Customers



Since 2005, top management of the Housing Company and the subsidiary companies in each area have been holding CAT\* Meetings in which they listen to customers' views directly. In fiscal 2012, these meetings gathered feedback from a total of 3,258 customers and the number of customers met with in eight years of the program surpassed 28,000 persons. Opinions and proposals from customers help in developing new products and improving existing ones, improving informational tools, and enhancing after-sales service.

<sup>\*</sup> CAT: The term comes from the first letters of the words "Customer And Top management."

## Telephone Information Service Contest



The Housing Company organized the First Sekisui Heim Customer Center National Telephone Information Service Contest and held it in March 2013.

The goals of this contest are to improve response quality and staff motivation in all contact points with customers. It involved a competition in everyday telephone service skills among 18 persons who had undergone the telephone information service training conducted through now mainly by Customer Information & Consulting Services, chosen from Sekisui Heim sales companies across Japan.

Plans call for continuing to hold this contest in fiscal 2013 and later as well.



The National Telephone Information Service Contest



I think that when communicating on the telephone by voice alone, it is inevitable that the information available will be limited and it is very hard to judge accurately what customers want. I always try to listen to everything the customer has to say and make proposals that will lead to what the customer desires.



Riko Uchiyama
Mito Customer Information
& Consulting Services
CS Promotion & Quality
Assurance
Ibaraki Sekisui Heim Co., Ltd.

While I was nervous because this was my first contest, I felt very satisfied to be able to provide service as usual. I am very happy for my unexpected victory in the contest.

## After-Sales Service



The Housing Company's after-sales service (AS) system had been handled by the new-construction AS section for the period up to five years after delivery of a home to the customer and by Sekisui Fami S (remodeling) companies starting in the sixth year. However, a decision has been made to revise this division of responsibilities to consolidate all AS operations at Fami S. The goal is to increase customer satisfaction (CS) by building permanent relations of trust with customers through unified long-term communication beginning when the home is delivered.

The goal is to complete these changes to the AS system in fiscal 2015 after steps including making the relevant organizational changes and developing related management and operation rules in fiscal 2013.

## Sales Personnel Training

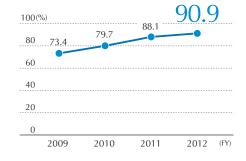


Since fiscal 2009 the Housing Company has continued to conduct a unique education program called Eco Heim Test for all sales personnel in charge of newly built homes.

This written test checks employees' levels of knowledge concerning topics chosen from a wide range of fields including Sekisui products and current events.

The program has become firmly established, and in fiscal 2012 the percentage of correct answers by test takers was more than 90%. A new goal is to introduce the Eco Heim Learning system to enable employees to take the test on the intranet beginning in fiscal 2013.

#### **Eco Heim Test: Percentage of Correct Answers**



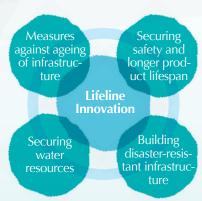
# Urban Infrastructure & Environmental Products Company

## "Lifeline Innovation for Our Future"

Contributing to building safe, comfortable infrastructure and water environments as an environment solutions company

#### Meeting Infrastructure Needs that Vary by Region, on a Global Scale

The demands placed on infrastructure are of infinite variety, as for example developing countries require securing stable water resources, developed countries need to address ageing of infrastructure, and earthquake-prone regions require development of infrastructure resistant to disaster. The Urban Infrastructure & Environmental Products Company uses the wealth of technologies and expertise it has accumulated centered on pipe systems to meet, on a global basis, infrastructure needs that are growing in both diversity and complexity. It contributes to development of safe, secure social environments through supplying a broad range of products, including plastic Eslon pipes characterized by light weight, high durability, and good workability, pipe rehabilitation systems with low levels of impact on the environment and society, and residential building materials that help create comfortable spaces for living.



#### **Demands of society related to our businesses**

Far-sighted development and renovation of social infrastracture

Reduction of the environmental load and traffic congestion resulting from construction

Keeping costs down using efficient methods

Acceleration of infrastructure restoration in disaster-struck areas

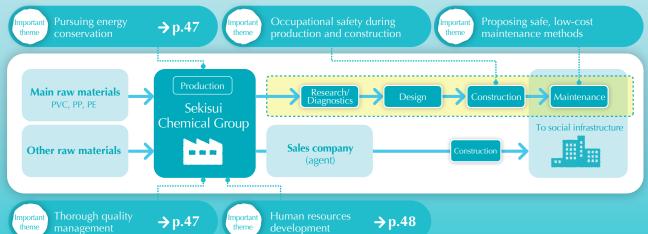
Securing the safety of contractors







#### **Business Value Chain**



# Deploying Value-Chain Businesses that Meet the Needs of Society

In addition to the collective strength to handle a diverse range of parts and materials, deploying business in connection with the water environment and infrastructure requires the expertise to control quality and costs in total, including not just the parts and materials themselves but also diagnostics services and construction.

The Urban Infrastructure & Environmental Products Company meets society's needs in a variety of aspects from increasing the reliability of infrastructure through cutting costs using overall optimization, consideration for the environment in areas such as reducing wastes, and consideration for the surrounding environment in terms of factors such as traffic congestion, noise, and vibration. It does so by using the strengths of its value chain from research and diagnostics through construction methods, system design, production of parts and materials, construction, and facility maintenance.

1. Research/Diagnostics

We carry out research and diagnostics on various pipelines, and when renovation is needed we propose solutions in accordance with the degree of wear and building properties, applying the most adequate method.

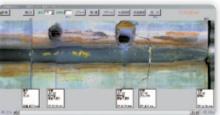
For example in a case of sewer line, we quantitatively analyze the degree of wear to sewer pipes using the impact elastic-wave exploration method that applies a light shock to the pipes to vibrate them and analyses the resulting wave profile. We also use imaging systems to obtain visuals of the inside of pipes by running an inspection robot equipped with a video camera through them, measuring pipe cracks and other defects and proposing appropriate priorities for repair and renovation.

2. Design

We propose the optimal designs for new construction and renovation based on the results of research and diagnostics.

Our sewer information management system manages information such as the years of diagnostics, pipe assessments and degree of wear at the time of diagnostics, records of cleaning and repairs, and records of incidents such as flooding, subsidence, and complaints. Based on this data, we provide information and proposals for systematic renovation.

Imaging system



Sewer information management system



#### 3. Construction

Based on our thorough environmental and safety measures, our highly experienced experts manage quality and processes. They also provide support for on-site adjustments and test runs after completion of construction.

A variety of methods are available for sewer construction, including the SPR method that does not require road excavation or stoppage or rerouting of sewer services and the Omega Liner Method that uses steam to reshape a pipe inserted inside a small-diameter pipe. Each of these contributes to solving environmental and social issues, for example by keeping down waste generation and shortening construction periods.

The SPR pipeline rehabilitation method



#### 4. Maintenance

We also develop flawless maintenance systems after beginning full operation. In addition to periodic inspections required under laws and regulations, we conduct thorough maintenance and inspections employing a diverse range of technologies. In these ways, we continue to provide responsible, long-term support for safe operation.

Inspecting equipment at a treatment facility



## **Topics**

#### The Omega Liner Method

The Hanamigawa Complex in Hanamigawa Ward in the city of Chiba has the largest population of any housing complex in the ward. Completed more than 40 years ago, recently it faced problems with its outdoor drainpipes.

Its underground drainpipes are reinforced concrete pipes (hume pipes) of 200 mm diameter, made by centrifugal casting and installed underground more than 40 years ago. Investigation showed that draining of water was blocked by tree roots that had penetrated the hume pipes, oil and other substances stuck inside the pipes from residential wastewater, and stoppage by dregs from miscellaneous household water getting stuck to the oil.

In consideration of the fact that a 20-meter excavation project on the complex's main street would present problems to the safety of residents and of the ability to carry out the construction without damaging the roots of trees along the street, the decision was made to use the Omega Liner Method, which would require no excavation. The construction, which would have taken two weeks using a traditional excavation method, was completed in two days, including prior studies.

#### **Customer** Feedback

When the residents' association of the Hanamigawa Complex asked us about repairs to its outdoor drainpipes, we decided to use Sekisui Chemical's Omega Liner Method which provides separate polyvinyl chloride pipeline inside the old pipeline.



Mr. Takuya Hiramatsu (left), President, and Mr. Yasuhiro Koiwai (right), Section Chief, Keihinkantetsu engineering Co., Ltd.

We were certain that the people in the complex will be quite satisfied with this method, since it not only realizes a short construction period but also delivers the same level of quality that could be attained by excavating and installing new pipes. The completed construction project was evaluated highly, and later the decision was made to repair all problems in the sewer drainpipes under the narrow roads in front of each building in the complex using the Omega Liner Method as well.

We place trust on Sekisui Chemical because they offer a wide range of pipe types from polyvinyl chloride pipes to polyethylene pipes, and deliver appropriate proposals suited to the conditions of condominiums and other properties.

## The SPR Non-Excavating Pipeline Rehabilitation Method

Today, shortages of domestic water and agricultural water are occurring in emerging countries and developing countries in particular.

In Japan, the legally specified useful life of water infrastructure is 40 years for water systems and 50 years for sewer systems. However, the problem of aging infrastructure is making itself felt as totals of approximately 170,000 km of water pipes and approximately 10,000 km of sewer pipes are past their useful lives\*1. Since worn pipes can lead to problems such as road subsidence and sewage leaking into ground water, urgent responses are needed.

Traditional pipe rehabilitation work has resulted in problems such as traffic congestion and large volumes of waste, since it requires excavation of roads and ground surfaces to get to underground pipes. The SPR method developed jointly by the Urban Infrastructure & Environmental Products Company, the Tokyo Metropolitan Sewerage Service Corp., and Adachi

Construction & Industry Co., Ltd. is a pipeline rehabilitation method that helps resolve these problems because it requires no excavation. From its introduction in 1986 through the end of fiscal 2012, the SPR method has contributed to a cumulative reduction in wastes of 8.42 million tons compared to construction methods involving excavation.

In addition, the SPR method won the 59th Okochi Memorial Prize\*2, awarded by the Okochi Memorial Foundation, making it the first winner from the construction and sewer industry.

The award ceremony



"Water Resources in Japan" (2012), Ministry of Land, Infrastructure, Transport and Tourism

The Okochi prizes are prizes for distinguished contributions related to production engineering, production technology R&D, and implementation of advanced production methods, established to commemorate the achievements of Masatoshi Okochi. The Okochi Memorial Prize is the most prestigious of the prizes.

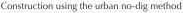
# Building a Society with Safe and Reliable Water Supply

Through means such as public and private sector cooperation in infrastructure development, we will contribute to delivering infrastructure that is best suited to the needs of each region and each project and is strong against earthquakes, floods, droughts, and other disasters and to safe, reliable water supply, through efforts including supply of highly earthquake-resistant flexible polyethylene water and sewer pipes and supplying technologies and systems related to water supply, such as those for water storage and purification.

In the area of wastewater projects for agricultural communities, the vacuum sewage system that enables a high degree of freedom in pipe placement and the urban no-dig method that installs pipes underground without digging up roads have been used in the first private-finance initiative (PFI)\* project in Japan.

Efficient development using these two technologies has succeeded in shortening the construction period to one-third that of a traditional method while cutting costs to three-fourths the previous level.

A new method of infrastructure development in which design, construction, and maintenance are all ordered from a private-sector firm.





## **Examples of Activities**

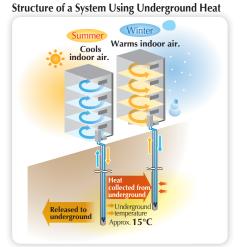
## Expanding Applications of Systems Using Underground Heat



At depths of roughly 10 meters or more, the underground temperature remains at approximately 15° C year-round. Systems using underground heat employ this stable source of thermal energy for purposes such as heating, cooling, and road defrosting. They are highly effective for conserving energy and saving electricity, and a study has shown that use of underground heat cut electricity usage by 49% annually compared to air heat in a central Tokyo office building.\*

The Urban Infrastructure & Environmental Products Company began efforts to use underground heat around 2010, and today it is expanding uses of the Eslo Hyper AW system using underground heat to a variety of applications including road defrosting and supplying heat to farms, in addition to air-conditioning use in large urban office buildings.

This system was accepted for the Environmental Technology Verification (ETV) Program of the Ministry of the Environment of Japan in 2012.



## Developing New Systems Using Wastewater Heat



The Urban Infrastructure & Environmental Products Company has developed the first system in Japan to collect and use heat from untreated wastewater inside pipes, using the pipe rehabilitation technologies it uses to repair and renovate worn sewer pipes. Use of heat collected by this system for air-conditioning, water heating, road defrosting, and other applications will enable energy conservation, cost savings and cutting carbon-dioxide emissions.

This system was selected for the 2012 Breakthrough by Dynamic Approach in Sewage High Technology (B-DASH) Project\* by the Ministry of Land, Infrastructure, Transport and Tourism based on an application submitted with Osaka City and Toa Grout Kogyo Co., Ltd., as a joint research team.

An example of heat collection technology installed inside pipes



\* B-DASH Project

A project intended to support massive reductions in the costs of sewer facilities by converting sewer sludge biomass as solid fuel, using wastewater heat, and increasing the efficiency of removal of nutritive salts; installation and testing of full-scale facilities using innovative technolo gies that can make massive contributions to conserving and creating energy; and overseas water business development by Japanese firms.

## **CSR Accreditation System**



The Urban Infrastructure & Environmental Products Company has developed its own rules on safety, quality, and compliance, called the Company CSR Accreditation System, and it is using this system to improve its activities.

Previously, affiliate companies had each used their own CSR accreditation systems. This new system, however, seeks to ensure more thorough application by standardizing basic matters related to safety, quality, and compliance.

This accreditation system applies to all employees including temporary staff from placement agencies, and employees are required to undergo the related training. In fiscal 2012, about 160 training sessions took place in Japan and around the world, and about 5,100 people, including roughly 550 employees overseas, took part in the training.

<sup>\*</sup> A study by the Geo-Heat Promotion Association of Japan

## **Customer Surveys**

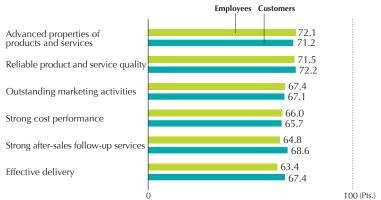


The Urban Infrastructure & Environmental Products Company has established a customer survey project, under which it has surveyed customer satisfaction together with employee CS & Quality assessment (see p. 23).

This survey of customers for each business, including public agencies, home builders, engineering firms, construction firms, and the construction industry, asked about satisfaction with sales, the organization, products and services, and overall satisfaction, and about intention to continue buying from us.

While satisfaction was high overall, this survey will be conducted on a continual basis in the future as well in order to implement business activities putting to use customer feedback and evaluations.





## HR Training for the Value Chain Business



The value-chain business, which provides total support from research and diagnostics through design of construction methods and systems, production of parts and materials, construction, and facility maintenance, requires broad-ranging knowledge surpassing the boundaries of job positions and business domains.

Accordingly, since fiscal 2011 the Urban Infrastructure & Environmental Products Company has rebuilt its training system to train human resources capable of designing urban communities as a whole and provided support for earning official national qualifications.

In fiscal 2012, it recruited trainees for training to learn wideranging knowledge and skills in the civil-engineering and construction fields, from among middle-ranking employees in particular, and recommended employees for participation. As a result, about 50 employees underwent the training program.

A scene from the training program



## **SEVOIGE**

I did not feel very confident in myself when I heard that the role of sales engineers would be important in the future. I do not have a large amount of experience in the field and I also lack a high level of knowledge. That was when I got the opportunity to take part in this training.



Tetsuya Osawa
Public Sector Value Chain Sales
Department
Kyushu Sales Headquarters
Urban Infrastructure &
Environmental Products Company
Sekisui Chemical Co., Ltd.

In the lectures, I learned about the flow

from the design stage in civil-engineering work, something with which I had not come into contact much before. I was able to acquire knowledge that I would not have been able to learn simply from work experience.

Through this training, I realized that what is most important is not one's performance in studying or aiming for official qualifications, but how one puts what he or she has learned to use in the workplace and how one creates sales through ideas from a new perspective. In the future, I will keep moving forward so that I can do my work with pride.

## High Performance Plastics Company

"Chemistry for Your Win"
Contributing to realizing a rich society with advanced technologies, centered on the IT, automotive, medical, and building materials fields

#### Pursuing the Limitless Possibilities of Plastics

Unlike other materials like metals, wood, and ceramics, plastics are capable of meeting a wide range of needs through transforming their material properties and processing them into various forms, such as sheets, foam, fine particles, and adhesives.

The High Performance Plastics Company utilizes its own unique precision molding and fine-particle technologies to supply high-performance materials and intermediate materials globally, targeting a wide range of business areas including the electronics materials (IT), automotive (AT), medical (MD), and high-performance materials fields. It will continue contributing to the realization of a more convenient, rich society through further expanding the business fields in which it operates together with advancing technological innovations and new-product development that meet with the needs of society.

# IT Field • Functional improvements • Realizing compact, lightweight products Chemistry for your win AT Field • Safety, comfort • Environmental performance IT Field • Functional improvements • Simplicity, swiftness

#### Demands of society related to our businesses

Full information of ingredients made available and use of them minimized

Keeping down CO2 emissions in using end products

Parts and materials useful for miniaturization and high performance

Expectations for development of new parts and materials that foster innovation

Timely, stable supply of parts and materials needed







Electronics Materials (IT) Field

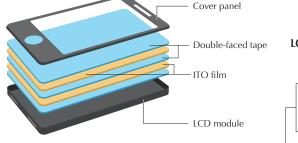
# Supplying a Broad Range of High-Performance Parts and Materials

In the electronics materials (IT) field, which is seeing performance improvements together with decreases in product sizes and weights, the functionality of materials is growing even more important. To respond to such needs, the High Performance Plastics Company supplies a wide variety of high-performance materials, employing technologies such as those for precision molding, fine particles, and adhesive tapes.

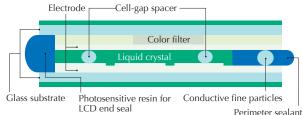
For example, we have secured a high market share in the field of LCD display panels through supplying products including spacers that keep uniform the space between the two glass plates that make up a display panel, sealing materials that prevent leaks of liquid crystal material avoiding contamination and conductive fine particles that transmit signals between narrow electrodes. We also contribute to high performance and miniaturization through supplying other parts and materials essential to IT devices, including thin films which make up the touch panels and tapes used to attach LCD panels to the main units of IT devices while also providing light-shielding and reflective performance. As an example, as mobile phones and smart phones become progressively thinner, a need has arisen for thinner cushioning sheet materials to protect the devices from shocks due to dropping and other impacts. In response, we developed protective materials suitable for use with such thinner mobile devices.

In addition to these, we also are advancing development of parts and materials for energy-saving LED light sources, as we aim to make further contributions to lessening society's load on the environment.

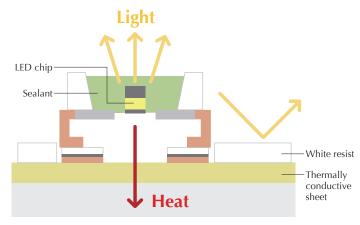
#### **Touch Panel Structure**



#### LCD Panel Structure



#### Cross-section of an LED Module



Automotive (AT) Field

# Contributing to Comfort and the Environment as well as Safety

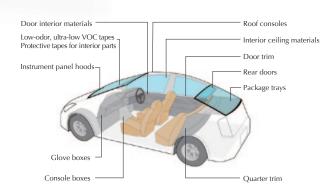
In recent years automotive markets have seen increasing needs for comfort, environmental performance, and other requirements in addition to the most important issue of safety. The High Performance Plastics Company responds to such needs using its film, foam, tape, molding, and other technologies.

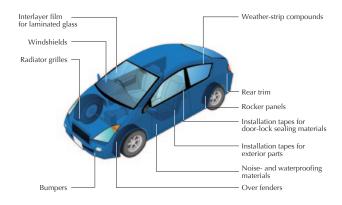
For example, its interlayer films used in windshields provide a variety of functions such as keeping down use of air-conditioning through solar control and making the vehicle interior more comfortable through sound insulation, in addition to increasing safety in the event of impact.

Furthermore, interlayer films for use in head-up displays, which display vehicle speed and other information on the windshield, greatly increase safety by eliminating the need for the driver's line of sight to move. Installation of solar control and sound insulation interlayer films on 10 million vehicles would enable annual reductions of about 1.2 million tons in CO<sub>2</sub> emissions (according to Sekisui Chemical estimates).

In addition to those described above, we supply globally a wide variety of other parts and materials as well. These include vehicle interior materials that combine design elements, such as the feel of materials, with strength and heat resistance along with energy-conservation effects from their light weight and safety and comfort thanks to their cushioning effects. They also include exterior materials that contribute to energy conservation through even lighter weights made possible by realizing thinner materials and application of resin foaming technologies, while still maintaining the quality feel of standard materials.

#### Parts and Materials Used in the Automotive Field





Medical (MD) Field

# Contributing to the Health of People the World Over from a Preventive Medicine Perspective

In recent years, together with improvements in the quality of life, conditions such as lifestyle-related illnesses and metabolic syndrome have become new topics of concern in society in developed countries. Early detection and treatment are important for lifestyle-related illnesses, and as interest in preventive medicine has increased, the roles of diagnostic reagents have grown.

Against this background, the High Performance Plastics Company is developing businesses focused on preventive medicine, with the goal of contributing to the realization of healthy, enriched lives for human beings. Through our lineup of analytical equipment and reagents covering varied and diverse medical fields, we are aiming to make it possible to conduct as many tests as possible in a short period of time by taking the smallest possible blood samples from patients. We contribute to improving the medical environment in Japan and around the world by delivering high-quality products and information, as a leading company in diagnostic reagents.

The Coapresta 2000 blood coagulation analyzer



Blood test reagents



High Performance Materials Field

## Supplying Advanced Resin Processing Technologies for a Wide Range of Uses



Hot-melt adhesive for packaging use

Resin processing technologies that improve the functions of plastics are the technology that marks the origin of Sekisui Chemical Group. Advancing these technologies in accordance with the changing times, the High Performance Plastics Company meets the diverse needs of customers by supplying products suited to a broad range of uses, including adhesives, packaging tape, packaging films, agricultural films, and plastic containers.



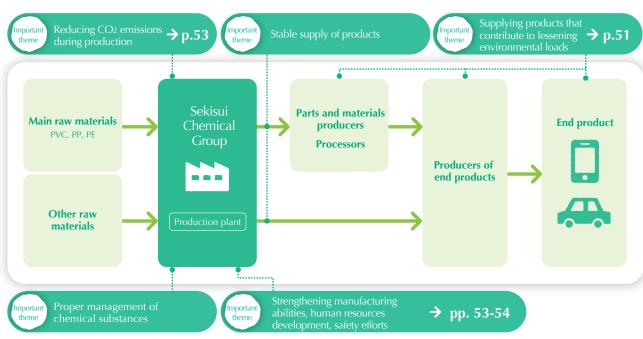
#### Producing Products that Have the World's Top Market Shares in Various Fields

The High Performance Plastics Company has the top market share in the world in a large number of high value-added products, such as LCD spacers and conductive fine particles in the IT field and high-performance interlayer films and cross linked polyolefin foam for interior use in the AT field. Based on this performance, the Company will continue responding to needs in state-of-the-art fields, which continue to advance and diversify.

Major leading products in which the High Performance Plastics Company has the world's top market share:

- Spacers for LCD use
- · Conductive fine particles for LCD use
- Interlayer film for automotive laminated glass
- Polyvinyl butyral resin
- Cross linked polyolefin foam
- Cholesterol diagnostic reagents

#### **Business Value Chain**



# Iwate Plant, Sekisui Medical Co., Ltd. Has Cut CO<sub>2</sub> Emissions by 11% through Adoption of an Integrated Energy-Conservation System



Iwate Plant, Sekisui Medical Co., Ltd. (in the city of Hachimantai) has introduced an energy-conservation system that includes conversion of its boilers to run on LNG.

The system is named as one of the Ministry of Economy, Trade and Industry's projects in support of rationalizing use of energy in fiscal 2011, since at the same time as converting the plant's boilers to use LNG, its advantages also include putting uncollected exhaust heat to effective use and reducing heat loss.

In addition to this system, the Iwate Plant also has introduced systems to put solar thermal energy to efficient use and to use exhaust heat to melt snow. Furthermore, its new boiler building uses skylights and LED lighting to greatly lessen its environmental load.

As a result of these activities, in fiscal 2012 the plant cut its  $CO_2$  emissions by 11% from their fiscal 2011 level.



## Deploying the "MONOZUKURI Doubling" Movement

CS & Quality

Issues faced by production sites in the High Performance Plastics Company include the effects of revisions to forms of production and an ageing workforce. In the face of these issues, it is striving to pass along manufacturing skills and to strengthen its *monozukuri* ("manufacturing") abilities.

Setting ambitious goals is essential to improving MONOZUKURI abilities. Accordingly, the Company is deploying activities under the title of "MONOZUKURI Doubling," setting targets in each manufacturing section, and focusing its efforts on achieving these.

First of all, autonomous activities at individual business sites began in fiscal 2012, and in February 2013 a meeting was held to report on the results of these activities. About one-half of manufacturing sections' targets related to quality. These included "doubling the quality level" and "cutting quality losses by one-half." In comparison with the benchmark period of the second half of fiscal 2011, these activities resulted in an average improvement of 128% in the first half of fiscal 2012. The activities have progressed smoothly, as for example 30% of sections achieved improvements of greater than 150% compared to the benchmark period. In light of these results, these activities will continue to move forward, with plans for 181% improvement in the second half of fiscal 2012 and aiming to achieve the goal of doubling by the end of fiscal 2013.

#### Definitions of "MONOZUKURI Doubling"

Category	Perspectives of MONOZUKURI ability	Details of improvements in MONOZUKURI ability
A	Quality level improved	Quality variation halved, process abilities improved     Growth in processes not requiring inspection
В	Losses stopped	Trouble losses, minor corrections halved Unavoidable losses, preparatory losses halved
С	Manufacturing (molding) problems eliminated	Incidents and time of stoppage due to trouble halved     Incidents and time of momentary stoppages halved
D	Equipment problems eliminated	Equipment failures halved
Е	Speed of starting, stopping, and switching increased	Non-stop switching     Time for switching in preparations halved
F	Now able to complete manufacturing using smaller numbers of people	Minimum production systems     Zero monitoring work (unmonitored, automated operation)
G	Now able to manufacture at fast speeds	Standard speed doubled     Preparatory and reaction time halved

Human



## Safety Efforts

Safety efforts are an important topic to Sekisui Chemical Group.

In the High Performance Plastics Company, all business sites in Japan and worldwide have identified the risks that could cause serious accidents in each of their sites and drafted countermeasures for them. As a result, they identified 509 risks (369 in Japan, 140 overseas). Plans call for implementing countermeasures against all of these risks during the first half of fiscal 2013.

Issues identified in these efforts include the need for uniformity in the risk evaluation standards of business sites, since they vary among individual sites, and the fact that uniform standards should be established for checking whether countermeasures taken are functioning effectively. At the same time, we recognize the fact that again a serious accident occurred during fiscal 2012 to be a serious problem.

Based on these efforts, in fiscal 2013 once again we will continue activities focusing on measures to reduce the risks of accidents involving employees getting caught or stuck in machinery.

## Human Resources Development Overseas

Sekisui Alveo A.G. (head office: Switzerland) encompasses three plants, 10 sales companies, and approximately 500 employees. In April 2004, it set up the Alveo Education Center (AEC) as a training center at its plant in Roermond, the Netherlands, one of its main plants, where it is focusing its efforts on human resources development.

The AEC has two full-time trainers and one member of training staff, who review employees' business performance in cooperation with outside instructors. It provides training for employees from manufacturing sites on the subjects of quality, the environment, health and safety, and manufacturing management, and training for clerical and administrative sections in areas including problem-solving methods and improving IT skills.

In fiscal 2012, a combined total of about 280 people underwent training at the AEC, from both manufacturing sites and clerical and administrative sections.

## ∢ voice

In 2006 I started as a Young Professional with an internal training program. The internal training was provided by the instructors of AEC and I was given the opportunity to learn all about the production process of Sekisui Alveo B.V. and get an external qualification for Process Operator.

After successfully completing the program in the beginning of 2009, I was given a permanent contract in the position of Process Operator and I still benefit from the knowledge and skills acquired during the internal training program in my everyday work. The guidance, support and advice of the AEC helped me in achieving all of this.

Mid 2010 I started an education to get an even higher external qualification which I hope to complete in June 2013.



Maurice Lardenoije LEN Production Department Roermond Plant Sekisui Alveo B.V.

# Aiming to Continue Being a Company Trusted by Society, through Deploying Compliance on a Global Basis

## Policy

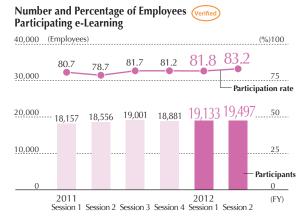
Sekisui Chemical Group carries out compliance management based on fundamental principles including "contributing to society," "being a trusted company," and "adherence to both the letter and spirit of the law." We aim to be a company of which each individual employee can be proud, not just for his or her own sake but for his or her family, friends, and society at large, as he or she strives to put our management vision into practice while acting in accordance with the principles of compliance.

## Activities

In fiscal 2012, we strived to build a structure for compliance training on a global basis while also continuing compliance training in Japan.

In addition to the existing compliance training for specific employee ranks and e-learning programs, we also enhanced activities such as training on the Antimonopoly Act, seminars on company law, and seminars on preventing bribery in China. We also expanded practical guidelines with content on subjects including monitoring, as a way of promoting appropriate subcontracting transactions.

In the area of internal whistle-blowing systems, while making progress on strengthening the domestic system in Japan through means including handling of anonymous reports and conducting a survey on employees' awareness of the system, we also are working on introduction of internal whistle-blowing systems in the US and China as well.



Note: Comparisons are based on six-month participation periods.

#### **Strengthening Partnership with Group Companies**

In the areas of law and compliance, in fiscal 2012 we appointed persons responsible for practical promotion of compliance at each business site and Group member company in Japan, in order to realize even stronger partnerships with affiliates. We are advancing compliance activities under a Groupwide system, including speeding up handling of legal matters, ensuring permeation of compliance throughout the organization, and sharing of information.

## ∢£ voice

I have worked in contracts and compliance since 2011. Sekisui Medical Co., Ltd. has very strict compliance requirements in these areas, since our businesses relate to people's lives and health. Through now, my work has included preparation of manuals on regulations concerning sale and advertising activities for diagnostic reagents, developing a system for disclosure of information on company activity expenses paid to medical institutions and others, and preparation of internal rules on ethical issues involved in research and development on human samples.

In the future, I would like to take on international legal issues proactively in cooperation with overseas affiliates, in addition to the activities I have been working on through now.



Keishi Hirao Legal & Intellectual Property Department CSR Division Sekisui Medical Co., Ltd.

#### Preparing a Compliance Manual for the Housing Company

In fiscal 2012, the new Housing Company Compliance Manual was prepared in addition to the Sekisui Chemical Group Compliance Manual already in use, to reflect the unique characteristics of the Housing Company's businesses. Focusing chiefly on items related to various business laws and sales activities, it covers business-related points that employees should know. We provided compliance training using this new manual at Housing Company sites across Japan.





## The S.C.A.N. Whistle-blowing Program

In 2002, Sekisui Chemical Group developed the S.C.A.N. (Sekisui Compliance Assist Network) intra-company whistle-blowing system, and since then we have made it available for use by all Group employees.

We made progress on ensuring thorough awareness of this system, through revising the compliance cards and the whistle-blowing site on the intranet in fiscal 2011.

Also thanks in part to the fact that it became possible to submit anonymous reports, in fiscal 2012 there were 33 whistle-blowing reports made. We also are promoting efforts to protect whistle-blowers and maintain and improve workplace environments, through periodic checking of circumstances.

In the future as well, we will respond in good faith to each individual report, recognizing it to be an important topic for the company to address.

## FY 2012 Whistle-blowing Reports and Consultations



Number of items
12
5
4
3
3
6
33

#### Legal Violations, etc.

In February 2009 the Fair Trade Commission found Sekisui Chemical to have colluded with other firms in determination of sale prices of polyvinyl chloride pipes and fittings over the period 2004–2006 and ordered it to take measures to eliminate such collusion and to pay surcharges (hereinafter referred to as the "order"). Since Sekisui Chemical's determination of facts of this case differs from that on which the order was based, in April 2009 the company asked the Fair Trade Commission to cancel the order. Appeal procedures are still underway.

At the same time, we are striving to raise employee awareness by holding continual internal training on the Antimonopoly Act. In fiscal 2012, about 900 employees underwent this training in the Urban Infrastructure & Environmental Products Company.

In the future as well, Sekisui Chemical Group will continue its efforts to raise awareness of compliance, always keeping in mind the fact that compliance is an important foundation of CSR management.

## Performance Incompatibilities in Homes Built Using Parts from Certified Manufacturers, Such as Standardized Residential Components

This year it was discovered that some homes manufactured or newly constructed and subjected to residential performance evaluation under the standards for which Sekisui Chemical had received manufacturer certification for standardized residential components and other parts, involved mistaken entry of certification numbers and failure to comply with the performance indicated.

Sekisui Chemical promptly reported the facts to the Ministry of Land, Infrastructure, Transport and Tourism of Japan and took the necessary corrective measures, as well as suspending application of special measures (such as omission of design documents) related to residential performance evaluation until it could fully implement measures to prevent reoccurrence of such cases.

With regard to the people living in the affected homes, we are steadily making progress on corrective measures such as correction of the certification numbers. In addition, to prevent reoccurrence of such cases, we have implemented measures including improvements to internal systems, strengthening the system for checking at the time of design and application, and employee education. At present, these measures to prevent reoccurrence have taken hold and suspension of the application of special measures has been rescinded.

We offer our heartfelt apologies to customers and other related parties inconvenienced by this matter.

# Aiming to Unify Risk Management and Crisis Management to Increase Sensitivity to Risks

## Policy

Sekisui Chemical Group has been advancing development of a risk management system to unify risk management, which strives to prevent risks from occurring, and crisis management, which involves responding to major risks that have occurred. We plan to complete preparation of an environment for such activities in fiscal 2013 and advance to the stage of qualitative improvements beginning in fiscal 2014.

## Risk Management System

In contemporary corporate activities, which are growing in complexity, it is impossible to ascertain accurately all risks that could be realized in the future.

Sekisui Chemical Group continues to run through the plan-do-check-action (PDCA) cycle of risk management, considering increasing employees' sensitivity to risks is essential to address such risks.

These activities began in fiscal 2010 at 27 organizations, chiefly divisions under Company organizations. The number of organizations employing these activities has increased from year to year, as they have become firmly established in the Group. As of the end of fiscal 2012, a total of 72 organizations, consisting of both operating companies and production companies in Japan and around the world, took part in these activities. We plan to further increase risk sensitivity as we aim to bring this number to 100 organizations in fiscal 2013.

## Improving the Crisis Management System

In fiscal 2011, Sekisui Chemical Group reconstructed its crisis management system, utilizing its experience with the Great East Japan Earthquake. Use of the new crisis management system began in fiscal 2012.

Three times we conducted drills based on the emergency task force procedures, and we reviewed the division of responsibilities and advanced preparations during normal times as well as conducting training for all employees using the emergency initial response procedures and using disaster-prevention checklists to improve disaster-prevention systems at approximately 800 sites in Japan. While ideally we should aim for a utilization rate of 100% for a disaster-prevention system, the average score in self-evaluations of all business sites as of January 2013 was just under 70% and there was variation apparent among business sites. As such, we recognize that there is considerable room for improvement.

Overseas, we completed the preparation of site-specific crisis management manuals as improved versions of the company-specific manuals at more than 80% of all sites. Based on these, in fiscal 2013 we will develop systems taking into consideration the regional characteristics of crises.

## **«Evoice**

In the recent unprecedented massive earthquake, the preparations we had made through that point did not function fully, so that we were forced to rely on instinct, experience, and courage (referred to collectively as "KKD," from the first letters of their Japanese words *kan*, *keiken*, and *dokyo*).

Based on our Company President's strong belief that



Co., Ltd.

as our business rapidly grew by 1.5 times in scale following the earthquake we needed to make this KKD reproducible as explicit knowledge, we started up a new project and began formulating a business continuity plan (BCP).

Currently we are in the stage of finishing up this plan, trying to make it one that can be deployed at other housing companies as well. In addition, in the future we would like to make it something that can be referred to as business continuity management (BCM), as a living BCP, through repeated drills and review.

# Advancing CSR Management through Dialogue with Stakeholders

## Policy

Sekisui Chemical Group recognizes the importance of adequate and proactive disclosure and two-way communication for developing relationships built on trust with our stakeholders.

We are working to reflect appropriately in our business the evaluations and comments we receive through dialogue with stakeholders. We are doing so through efforts including Customer And Top (CAT) Meetings where top management in housing sales companies meet customers to receive feedback directly (see p. 41), the External Advisory Board on Environment-Contributing Products (see p. 16), the Attractive Qualities Screening System, in which the Attractive Qualities Screening Committee evaluates and screens products and services, and opportunities for direct dialogue between management and employees.

## Dialogues with Overseas Socially Responsible Investment (SRI) Rating Agencies

In Europe and North America, there is considerable interest in socially responsible investment (SRI), in which companies addressing CSR issues are chosen proactively as targets of investment, and much research has been conducted by rating agencies. In light of the broad range of businesses it conducts, each year the Sekisui Chemical Group visits SRI ratings agencies in Europe and elsewhere to ensure that they have adequate and accurate understandings of its lines of business and its CSR efforts.

In fiscal 2012, we met with six SRI ratings agencies from Japan and around the world.

## Communication between Management and Employees

Since fiscal 2002, Sekisui Chemical Group has provided opportunities for employees to communicate with top management, based on its belief that it is essential to resolve problems faced by the company as well as work-related issues through direct communication between top management and employees.

In fiscal 2012, the President of Sekisui Chemical visited five business sites across Japan targeting affiliate companies, to discuss the state of company management, expectations for employees, and other matters with approximately 300 participants. In the opportunity for exchange of opinions during these visits, employees discussed with the President themes chosen by the sites, such as human resources development and passing along skills.

The Urban Infrastructure & Environmental Products Company held a welcome ceremony for 215 new employees who joined the Group with the acquisition of the pipe materials business of Mitsubishi Plastics, Inc. in December 2012.

## 

In the welcome ceremony, the President of the division company described a variety of subjects related to Sekisui Chemical to new team members transferred from the Mitsubishi Plastics Group, including the division company's management strategies. The President's strong beliefs on future business development in value-chain businesses and deploying the Group's collective strengths came across particularly clearly. I hope to quickly familiarize myself with the collective strengths of Sekisui Chemical and become accustomed to Sekisui Chemical, my new workplace and at the same time breathe new life into the organization and actively take on the challenge of business-model reforms.



Masaki Higashide Tokyo Private Sector Sales Office Urban Infrastructure Environmental Products Company Sekisui Chemical Co., Ltd.

#### **Nature Conservation**

## Policy

Sekisui Chemical Group has continued activities to contribute to the environment since fiscal 1997, under the fundamental concept of "contributing to the environment through our business activities."

We consider promoting the use of Environment-Contributing Products, which deliver superior environmental performance than standard products, and lessening load on the environment through means such as cutting CO2 emissions and wastes to be good ways to "contribute to the environment through our business activities."

In addition, since we consider contributions to the environment such as nature conservation to be the results of training the people who will work to contribute to the environment through our business activities, we are carrying out such efforts proactively based on employee participation. Contributing to the environment through business activities

Promoting use of **Environment-Contributing Products** 

Lessening environmental load

Training people to contribute to the environment through business activities

Activities to contribute to the environment, such as nature conservation

## Tree-planting Activities at Umi-no-Mori in Tokyo

On reclaimed land inside the central breakwater in Tokyo Bay is a mountain about 30 meters high made up of collected garbage and earth from construction projects. The Umi-no-Mori (Sea Forest) project aims to give this reclaimed land new life as a beautiful forest through the planting of saplings. Since 2008, Sekisui Chemical Group employees from Sekisui Chemical's headquarters in Tokyo and nearby business sites, together with their family members, have taken part in these tree-planting activities organized by the Tokyo Metropolitan Government.

In fiscal 2012, these activities were held twice, in October and March, with 83 people taking part.

Tree planting in the Umi-no-Mori (Sea Forest) project



## Wakimizu-no-Sato Nature Conservation Activities

Local volunteers are working to conserve Wakimizuno-Sato (Spring Water Village), located near the plant of Chiba Sekisui Industry Co., Ltd., to preserve for the children of the future its rural environment characterized by flying fireflies. Chiba Sekisui Industry also supports these activities, and it has continued exchange activities with the local community since 2009, as its employees take part in a variety of activities including protecting yatsuda, which has become fallow rice paddies.

In fiscal 2012, five employees participated

in May, working together with local elementary school students and local farmers to take on the challenge of planting glutinous rice.

Planting rice in Wakimizu-no-Sato

The educational experience of planting rice with local elementary school children is a fun event for me too, and I fully enjoy nature while feeling the changing seasons together with the energetic children every year, through activities such as planting rice in the comfortable spring breeze and harvesting it

in September, when the heat of

summer still lingers.

voice

Yasuzou Shiraki Administrative Management & Control Department Chiba Sekisui Industry Co., Ltd.



## Tree-planting Activities in Northern China

In fiscal 2012, Sekisui Chemical Group began tree-planting activities in the Fengning Manchu Autonomous County in China's Hebei Province, about 180 km north of Beijing in corporation with the local Hebei Forestry Bureau. In June, employees of the group member companies in the area of Beijing and their family members, totaling 121, took part in the activity and planted about 900 saplings.

As the source of water for the capital city Beijing, the Fengning Manchu Autonomous County used to be home to abundant forests. However, due to overharvesting of timber and overgrazing by goats in recent years, the forests are undergoing progressive desertification, leading to worsening cases of water shortages in Beijing and of sandstorm damage. Plans for these tree-planting activities call for planting 2,000 trees through 2017, choosing species native to northern China that are strong against the region's dry air, cold, and infertile land, in order to contribute to restoration and maintenance of the region's water-supply functions and to prevent desertification.



## Planting Mangrove Trees in Thailand

Since 2011, employees of Sekisui Chemical Group's member companies in the area of southern Thailand and their family members have planted mangrove trees in Samut Songkhram, about 90 km southwest of Bangkok. In fiscal 2012, 109 people from five companies took part in these activities.

The mangrove forests on Thailand's coast have been cut down for purposes such as creating culture ponds for edible shrimp. Sekisui Chemical Group will continue its activities that aim to contribute to the community such as by restoring fishing resources and reducing damage from disasters through preserving fishing resources and reviving the mangrove forests, whose functions of protecting the shoreline from tides and wind, and mitigating climate change have been reevaluated in recent years, as well as contributing on a global scale through helping prevent climate change and other efforts.



## Beautification and Cleanup Activities in the U.S.

In May 2012, cleanup activities took place in Redondo Beach, California, organized by a group of volunteers calling for prevention of ocean pollution. A total of 22 people from Group member companies in the Americas took part, with Sekisui TA Industries (head office: U.S.A.) coordinating these efforts.

Litter such as Styrofoam, film wrappers, plastic scraps, and cigarette butts are scattered across beaches that may appear clean at first sight. This litter is said to have negative effects on coastal ecosystems. Participants cleaned up the beach by splitting into teams and competing to see who could pick up the most litter.

Joint activities such as this one will continue in the future as well.

## ∢ € Voice

I have volunteered in various civic and community activities for a purpose but those were during personal times and for personal cause. To have that awareness and activity now in a corporate life setting is something that I never would've

expected and envisioned.



Reymond Umali HR Department Sekisui TA Industries, LLC.

To have a CSR commitment that would benefit the environment and community, and have a stronger bond with fellow employees, makes me truly proud to be a part of the Sekisui Chemical Group.

#### **Social Contribution**

## Policy

Sekisui Chemical Group advances social contribution activities mainly in the fields of the environment, the next generation, and local communities.

We consider such activities initiatives made as a corporate citizen living together with society, and we provide support for activities to enable Group employees to play active roles in society.



## Collaboration with Local Communities

Since fiscal 2007, Sekisui Chemical Group has carried out social contribution activities utilizing the distinguishing features of its businesses.

In the Housing Company, since fiscal 2009 housing sales companies across Japan have partnered with prefectural police departments as about 2,700 employees have participated in activities targeting areas such as crime prevention in the community and traffic safety. In addition, since fiscal 2007 the Housing Company has conducted the Houses and the Environment Learning Program in four areas, as a program putting employees' knowledge of housing and the environment to use in the classroom. Through now, a total of 6,400 junior high school students from 34 schools have taken part in these classes. This program won the encouragement award (in the community involvement category) in the Ministry of Economy, Trade and Industry of Japan's third Career Education Awards.

In the High Performance Plastics Company, since fiscal 2008 the Chemical Classroom Project, an educational program that helps students experience the fun of chemistry, has been conducted for seventh through ninth graders in the area where the institute is located. Through now, a total of approximately 3,200 students have taken part in these classes. In addition, since fiscal 2008 the Science Class for Children has been held mainly for elementary school students.

Since fiscal 2009 Shikoku Sekisui Industry Co., Ltd. in the Urban Infrastructure & Environmental Products Company has provided science classes and plant tours for seventh graders.





## Expanding Social Contribution Activities that Make It Easy for Individual Employees to Participate

Since fiscal 2009 Sekisui Chemical Group has advanced social contribution activities that make it easy for individual employees to participate. These have included TABLE FOR TWO, a program conducted in employee cafeterias, and BOOK MAGIC, in which participants donate unneeded books.

In fiscal 2012, we further expanded these programs by promoting activities known as Heart+Action. This program involved internationalcooperation activities on behalf of children hospitalized in Japan and children in developing countries, conducted at Sekisui Chemical's Osaka and Tokyo headquarters and its Kyoto and Tsukuba business sites. Participants' comments noted that this program made it "easy to participate" and "I am glad to have been able to contribute to society with such a simple activity," since participants were able to complete their contributions in about one hour using such as no-overtime days.

Heart+Action participants

## Participation in the Community

Sekisui Chemical Group actively participates in local communities at its companies and business sites in Japan and around the world.

One example of overseas activities is the support provided by Heitkamp (head office: U.S.A.) for a walkathon to help eradicate breast cancer held in October 2012.

Events to eradicate breast cancer are known for the "pink ribbon movement" aimed at encouraging a correct understanding of the disease and early detection. Heitkamp employees supported this event through activities including preparations for and participation in the walkathon as well as preparing the Wall of Hope display where people could declare their intentions to support eradication of breast cancer, and raising funds inside the company.



## **∢**∉ voice

We planned our support for the walkathon in response to a proposal by an employee who has a family member who works at the American Cancer Society.

We at Heitkamp are proud to have been able to support this walkathon. We feel that through this event, the



Lisa Ballou (right) and Gordon Baldwin (left) Heitkamp, Inc.

members of the community and the company have joined together as one.

## Supporting the Research Activities of Universities and Research Institutions

Sekisui Chemical Group began the Sekisui Chemical Grant Program for Research on Manufacturing Based on Innovations Inspired by Nature in fiscal 2002 to support the research activities of universities and research institutions utilizing knowledge of fundamental science learned from nature. Over the 11-year period through fiscal 2012, this program collected a cumulative total of 2,987 public placements, ultimately awarding grants to 154 research projects.

The forum held in October of each year as an opportunity for interaction among researchers marked its 10th anniversary in fiscal 2012. It included a poster session by 46 teams of researchers who had received grants under the program in the past.



## **Donations**

For purposes including environmental conservation and support for raising the next generation, Sekisui Chemical Group provides economic support including donations to a variety of activities. Its donations in fiscal 2012 totaled approximately 102 million yen.

For example, Thai Sekisui Foam was one of 16 Japanaffiliated companies in Thailand that made donations to an elementary school in northern Thailand near the Laotian border. These donations were used to build a new one-story school building to add four classrooms to the school and expand its library/computer lab. They also covered the cost of installing 16 computers and new playground equipment.

In addition, a typical example of continuing donations is the matching gifts the company provides in amounts equal to or surpassing donations collected from employees in response to disasters and other needs.



## Independent Practitioner's Review Report

(TRANSLATION)

#### Independent Practitioner's Review Report

June 11, 2013

Mr. Naofumi Negishi, President, Sekisui Chemical Co., Ltd.

Hiroshi Inanaga Chief Executive Officer

Deloitte Tohmatsu Evaluation and Certification Organization Co., Ltd.

#### 1. Scope and Purpose of Review

We have reviewed the "CSR Report 2013 (including the separate "CSR Report 2013 Data Book")" (the "Report") prepared by Sekisui Chemical Co., Ltd. (the "Company"). The purpose of our review was to provide limited assurance as an independent practitioner, based on our review procedures, on whether:

\*material sustainability information indicated with the verification logo for the period from April 1, 2012 to March 31,

- material sustainability information indicated with the verification logo for the period from April 1, 2012 to March 31, 2013 included in the Report was accurately measured and calculated with reference to the "Environmental Reporting Guidelines 2012 version" (issued by the Japanese Ministry of the Environment) and "Global Reporting Initiative ("GRI") Sustainability Reporting Guidelines (Version 3.1)" in accordance with the calculation methods adopted by the Company;
- no material items listed in the "Appendix: Sustainability Reporting Assurance and Registration Criteria" (issued by the Japanese Association of Assurance Organizations for Sustainability Information in February 2011) were omitted;
   the Company's self-declaration on the GRI application level conforms to the application level criteria stipulated by the
- 2. Responsibility of the Management and Responsibility of the Independent Practitioner
  The Report is the responsibility of the Company's management. Our responsibility is to provide our limited assurance with respect to our review performed on the Report as an independent practitioner.

#### 3. Summary of Review

To obtain an adequate and valid basis for providing limited assurance with respect to our conclusions, we performed our review in accordance with the International Standard on Assurance Engagements (ISAE) 3000 (issued by the International Federation of Accountants in December 2003), and the Practical Guideline for the Assurance of Sustainability Information (issued by the Japanese Association of Assurance Organizations for Sustainability Information in December 2012). The review procedures performed for the material sustainability information indicated with the verification logo for the period from April 1, 2012 to March 31, 2013 included in the Report consisted of: 1) agreeing information to summary tables and supporting documents on a sample basis; 2) interviewing the responsible personnel and the persons in charge; 3) reviewing and agreeing information to the relevant minutes, the Company's regulations, and ISO-related documents, etc.; 4) site visits; and 5) comparing information with other available supporting internal and external materials of the Company.

#### 4. Conclusion

On the basis of the review procedures described in the preceding paragraph, nothing has come to our attention that caused us to believe that the material sustainability information with the verification logo for the period from April 1, 2012 to March 31, 2013 included in the Report was not accurately measured or calculated, with reference to the "Environmental Reporting Guidelines - 2012 version" (issued by the Japanese Ministry of the Environment) and "GRI Sustainability Reporting Guidelines (Version 3.1)" in accordance with the calculation methods adopted by the Company, in all material respects, or that any material items listed in the "Appendix: Sustainability Reporting Assurance and Registration Criteria" (issued by the Japanese Association of Assurance Organizations for Sustainability Information in February 2011) were omitted, or that Company's self-declaration on the GRI application level does not conform to the application level criteria stipulated by the GRI.

#### 5. Special Interests

There are no interests between the Company and Deloitte Tohmatsu Evaluation and Certification Organization Co., Ltd. or its engagement personnel, requiring disclosure based on the provisions of the Japanese Association of Assurance Organizations for Sustainability Information.

The above represents a translation, for convenience only, of the original Independent Practitioner's Review Report issued in the Japanese language.

#### **Summary of Independent Practitioner's Review Procedures**

Step 1 Step 2 Step 3 Step 4 Step 5 Step 6 Review at Sekisui Chemical Headquarters review scope, subject items, information Review at visited Obtaining collection methods, business sites Check of management Reporting results of completed review, (performance of appropriateness of •Follow-up on items confirmation letter procedures including Decision on review the review by such as matters Submittal of field observation, matters for professionals other than the review team procedures, review schedule pointed out in Step 3 Independent analytical procedures, documentary verification, inspection comment, etc. Practitioner's (Headquarters Review Report business sites to be of materials, and visited for review), etc. inquiries)

## History of Sekisui Chemical Group

- 1947 Establishment of Sekisui Sangyo Co., Ltd. Started first injection molding business in Japan.
- 1948 Change of company name to Sekisui Chemical Co., Ltd.
- 1950 Began selling cellophane tape.
- 1952 Started full-scale production of PVC pipe (Eslon Pipe).
- 1953 Listed on Osaka Stock Exchange.
- 1956 Developed Japan's first plastic rain gutter (Eslon Rain Gutters).
- 1959 Established Sekisui Sponge Industries Co., Ltd. (now Sekisui Plastics Co., Ltd.) with co-financing from Shin-Nippon Chisso Hiryo Co., Ltd., Asahi Kasei Corporation and others, to commercialize plastic foam.
- 1960 Established Sekisui House Sangyo Co., Ltd. (now Sekisui House Co., Ltd.) and started the housing business.
- 1962 Launched Movement for Cleaner Towns featuring our plastic garbage bins (Poly-pail), as a campaign to mark the company's 15th Anniversary. Cleaning revolution subsequently spread nationwide
- 1963 Started producing plastic bathtubs (first in Japan). Modular toilet tank commercialized, paving the way for production of modularstyle equipment.
- 1970 Exhibited modular house (Sekisui Heim) at the International Good Living Show in Tokyo.
- 1971 Started producing and selling Japan's first modular house, Heim M1.
- 1972 Established original Environmental Management Department. Launched company-wide commitment to pollution control.
- 1979 Awarded Deming Prize for quality management in recognition of results of aggressive TQC activities.
- 1981 Adopted twin-headquarters system (Osaka and Tokyo), and established Tokyo Headquarters at Toranomon, Tokyo. Began producing and selling timber-framed modular house, Two-U Home.
- 1991 Established Basic Policies on environmental issues.
- 1993 Introduced divisional system, shifting to the seven divisions: Pipe & Related Products, Building Materials, Chemicals, Technoproducts, Molded Products, Medical Products, and Housing.
- 1994 Began activities to earn ISO 9000-series quality-management system certification.
- 1996 Paid-in capital surpassed 100 billion yen.
   Adopted new headquarters logo.
   Announced Top Management Policy for Environment and Safety.
   Began activities to earn ISO 14001 environmental-management system certification.
- 1997 50th Anniversary of the founding of Sekisui Chemical Co., Ltd. Launched Sekisui Chemical Group nature conservation activities. Created Women's Athletic Club.
- 1998 Instituted Corporate Activity Guidelines.

- Initiated zero waste emission activities.
- 1999 Midterm Management Plan: GS21 takes effect.
  - Instituted Corporate Philosophy
  - Concentrated business into three domains: Housing, Urban Infrastructure & Environmental Products, and High Performance Plastics.
  - Midterm Environmental Plan: STEP-21 takes effect. Began publishing Environmental Reports.
- 2001 Launched the division company system, establishing the three division companies: the Housing Company, the Urban Infrastructure & Environmental Products Company, and the High Performance Plastics Company.
  Achieved zero waste emissions in all house production plants
  - and all plants of Sekisui Chemical Co., Ltd.
- 2003 Midterm Management Plan: GS21-Premium 600 takes effect.
  Established the Environmental Management Promotion
  Department (now CSR Department Environmental Management Group).
  - Midterm Environmental Plan: STEP-2005 takes effect.
- Achieved zero waste emissions at all house construction sites. 2004 Established the CS & Quality Management Department (now
- CSR Department CS & Quality Group).

  Achieved zero waste emissions in all construction by house renovation companies.
- 2005 Established the CSR Committee.
  Published the Environmental and Social Report.
- 2006 Midterm Management Plan: GS21-Go! Frontier takes effect. Midterm Environmental Plan: Environmental Top Runner Plan Part 1 takes effect.
- 2007 60th Anniversary of the founding of Sekisui Chemical Co., Ltd. Global Children's Eco Summit and Manufacturing Based on Learning from Nature—Junior Forum held. Conducted reviews of the CSR Committee and Headquarters organization. Published the CSR Report.
- 2008 CSR policies established and revised.
- 2009 Midterm Management Plan: GS21-SHINKA! takes effect. Midterm Environmental Plan: Environmental Top Runner Plan SHINKA! takes effect. Developed the "Sekisui Eco-Frontier 2030" Long-Term Environmental Management Vision.
- 2010 Manufacturing Based on Innovations Inspired by Nature Forum held in Nagoya.
- 2011 Safety Subcommittee established.
- 2012 65th Anniversary of the founding of Sekisui Chemical Co., Ltd. Global Children's Eco Summit 2012 held.

#### **Editor's Notes**

Since Sekisui Chemical Group began full-fledged CSR efforts in fiscal 2005, it has published the CSR Report (titled the Environmental and Social Report in fiscal 2005 – 2006) with chapters organized around Sekisui Chemical Group's CSR concept, based on the Three Prominences of the Environment, CS & Quality, and Human Resources and its Three Attitudes of Sincerity in Compliance, Risk Management, and Disclosure & Communication, to communicate this concept to parties both inside and outside the Group and to promote its spread.

In recent years, as a result of growing readership of the Report and globalization, demands for disclosure of information have increased and the forms of information in demand have grown more diverse and advanced. At the same time, in Sekisui Chemical Group the business characteristics and CSR efforts of each division company differ, and the necessity of clearly defining the characteristics of each division company in enhancing and promoting CSR efforts within the organization has become more important.

For these reasons, while striving to maintain the quality and quantity of information that have been so highly regarded by outside parties in past reports, beginning with last year's (fiscal 2012) edition the Report has added new pages on individual division companies and employed a chapter structure that reports specifically on the measures and initiatives of each division company.

The introduction in the opening pages of the Report adopts a content structure that makes Sekisui Chemical Group's concepts and CSR philosophy understandable to ordinary readers. In addition, the fiscal 2013 report also summarizes the changes over time in our CSR efforts, as we enter the final fiscal year of the midterm management plan. The chapter on each of the Three Prominences reports on policies, objectives, measures, and results for Sekisui Chemical Group as a whole. Reports on relations between business and society, priority CSR issues, and examples of efforts follow, for each of the three division companies. The separate Data Book provides detailed information on efforts along with performance data.

In addition to disclosing as much information as possible on our CSR efforts through this Report and accepting opinions from both inside and outside the Group, efforts such as undergoing an independent practitioner's review to ensure the accuracy and objectivity of the information disclosed are intended to advance CSR management efforts and improve the content of this Report. We would very much appreciate hearing the frank opinions of our readers (csr@sekisui.com). Such opinions will serve as valuable references for Sekisui Chemical Group's future CSR efforts and in the preparation of future reports as well.

## **SEKISUI CHEMICAL CO., LTD.**

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#### For further information contact:

CSR Planning Group, CSR Department 2-3-17 Toranomon, Minato-ku, Tokyo 105-8450, Japan (Toranomon 2-chome Tower) Email: csr@sekisui.com

This report has been printed and bound with consideration for the

- environment in the following ways:
  (1) This report uses Forest Stewardship Council (FSC)-certified paper
- Ins report uses Forest stewardship Council (FSC)-certified pap produced from carefully managed forests.
   The computer-to-plate (CTP) method of direct printing, which uses no film that later must be disposed of as waste, has been adopted in the plate-making process.
   Vegetable-oil ink, which generates few volatile organic compounds (VOC) and has excellent biodegradability and de inking professorate is used in the printing process. In de-inking performance, is used in the printing process. In addition, waterless printing, which generates no hazardous waste fluids, has been used as well.

  (4) Glue that does not hinder the recyclability of paper is used in the
- binding process.



CSR Report 2013 (including the separate Data Book) has been reviewed by an independent third party and as a result has been granted the sustainability report review and registration logo. This demonstrates that this report satisfies the necessary criteria established by the Japanese Association of Assurance Organizations for Sustainability Information (J-SUS; http://www.j-sus.org/) for the use of this logo, intended to assure the reliability of sustainability information.



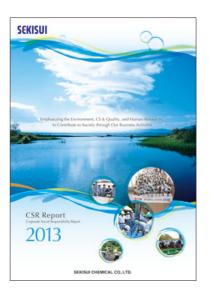






## **Corporate Social Responsibility Report**

## CSR Report 2013 Data Book



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#### Scope of Independent Practitioner's Review (verified)

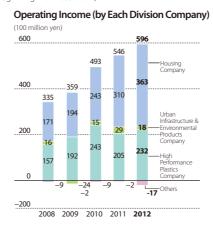


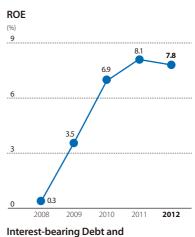
The environmental and social information in this report has been subjected to the independent practitioner's review for the appropriateness of calculation methods and the accuracy of the results of calculation. The "Verified" logo is used to indicate that each item of such subject information has been reviewed.

## Management Benchmarks (Consolidated)

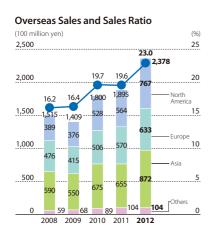
\* Fiscal 2012: Performance for overseas subsidiaries is for the 15-month period January 2012 through March 2013 (in connection with standardization of the fiscal years of consolidated subsidiaries to end in March beginning with fiscal 2012).

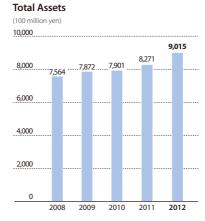
#### Sales (by Each Division Company) 10,324 9.650 9,154 8,585 8,000 6,000 -Housing Company -Urban Infrastructure & 4,000 2.000 2,000 0 179 195 190 **168** \_-Others 2008 2009 2010 2011 2012

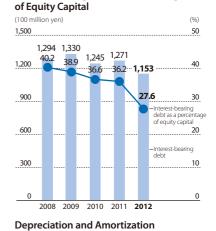


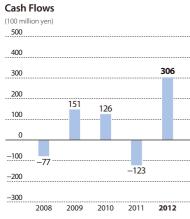


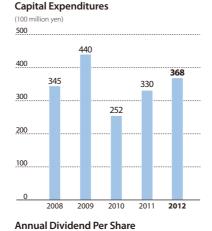
Interest-bearing Debt as a Percentage

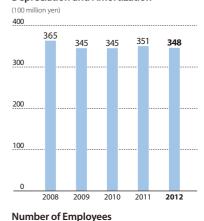


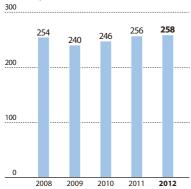


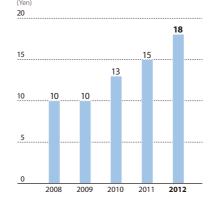


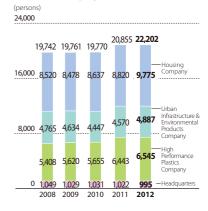












(100 million yen)

## **Coverage of the Environmental Performance Data**

#### **Japan**

#### **Housing Company**

R&D institutes 1 company and 1 business site

Sekisui Chemical Co., Ltd. Tsukuba R&D Site

Production plants 11 companies and 10 business sites

Tohoku Sekisui Heim Industry Co., Ltd.

Chushikoku Sekisui Heim Industry Co., Ltd.

Sekisui Board Co., Ltd. etc.

Sales and construction 28 companies and companies 97 business sites

Sekisui Heim Sales Companies

**Construction and Service Companies** 

40 companies and 108 business sites in total

Urban Infrastructure & Environmental Products Company

R&D institutes 1 company and 1 business site

Sekisui Chemical Co., Ltd.

**Kyoto Research & Development Laboratories** 

Production plants 20 companies and 11 business sites

Sekisui Chemical Co., Ltd. Shiga-Ritto Plant

Sekisui Chemical Co., Ltd. Gunma Plant

Sekisui Chemical Co., Ltd. Tokyo Plant

Chiba Sekisui Industry Co., Ltd./Toto Sekisui Co., Ltd. Ota Plant Okayama Sekisui Industry Co., Ltd./Kyushu Sekisui Industry Co., Ltd. etc.

20 companies and 12 business sites in total

#### **High Performance Plastics Company**

R&D institutes 2 companies and 2 business sites

Sekisui Chemical Co., Ltd. Research & Development Institute Sekisui Medical Co., Ltd. ADME & Tox. Research Institute

Production plants 11 companies and 14 business sites

Sekisui Chemical Co., Ltd. Musashi Plant

Sekisui Chemical Co., Ltd. Shiga-Minakuchi Plant

Sekisui Chemical Co., Ltd. Taga Plant

Sekisui Techno Molding Co., Ltd. / Sekisui Film Co., Ltd.

Sekisui Medical Co., Ltd. / Sekisui Fuller Co., Ltd. etc.

#### 11 companies and 16 business sites in total

#### Headquarters

R&D institutes 1 company and 1 business site

Sekisui Chemical Co., Ltd. Development Center

Production Plants and Headquarters 8 companies and 10 business sites

Sekisui Seikei, Ltd.

Hinomaru Co., Ltd.

Tokuyama Sekisui Industry Co., Ltd.

Sekisui Chemical Co., Ltd. Osaka Headquarters and Tokyo Headquarters, etc.

8 companies and 11 business sites in total
Total: 76 companies and 147 business sites

#### Overseas\*1

#### Urban Infrastructure & Environmental Products Company

Kydex, LLC.

Allen Extruders, LLC.

Eslon B.V.

Sekisui Industrial Piping Co., Ltd.

Sekisui (Qingdao) Plastic Co., Ltd.

Wuxi SSS-Diamond Plastics Co., Ltd.

Yongchang Sekisui Composites Co., Ltd.

#### 7 business sites in total

#### **High Performance Plastics Company**

Sekisui Voltek, LLC. Lawrence Plant

Sekisui Voltek, LLC. Coldwater Plant

Sekisui Alveo B.V.

Sekisui Alveo Ltd.

Thai Sekisui Foam Co., Ltd.

Sekisui Pilon Pty. Ltd.

YoungBo Chemical Co., Ltd. Daejeon Plant

YoungBo Chemical Co., Ltd. Cheongwon Plant

YoungBo HPP (Langfang) Co., Ltd.

Sekisui TA Industries, LLC. Brea Plant

Sekisui TA Industries, LLC. Tennessee Plant

Sekisui High Performance Packaging (Langfang) Co., Ltd.

Sekisui S-Lec America, LLC.

Sekisui S-Lec Mexico S.A. de C.V.

Sekisui S-Lec B.V. Film Plant

Sekisui S-Lec B.V. Resin Plant

Sekisui S-Lec Thailand Co., Ltd.

Sekisui S-Lec (Suzhou) Co., Ltd.

Sekisui Specialty Chemicals America, LLC. Pasadena Plant

Sekisui Specialty Chemicals America, LLC. Calvert City Plant

Sekisui Specialty Chemicals Europe, S.L.

Sekisui Medical Technology (China) Ltd.

Xeno Tech, LLC.

Sekisui Diagnostics, LLC (Stamford)\*2

24 business sites in total

<sup>\*</sup> The total number of companies and business sites do not match, since some companies have two or more business sites, and some business sites are shared by two or more companies.

<sup>\*1</sup> Calculation period: April 1 - March 31 of the following year (beginning with fiscal 2012).

<sup>\* 2</sup> Data was collected only for wastes and CO<sub>2</sub> emissions

## Progress on the Midterm Environmental Plan

#### Efforts and targets of the Midterm Environmental Plan: Environmental Top Runner Plan SHINKA! (FY 2009 – 2013)

		Effe	orts	Targets for Fiscal 2013				
	ig overall e	nvironmental man	agement efficiency	Achieving a Sekisui Eco Value Index at least three times the fiscal 2007 value				
Improv Enviror Contrik Produc	Increase s	elling of Environm	ent-Contributing Products	At least 40% sales ratio of Environment-Contributing Products of consolidated net sales				
Improving Environment- Contributing Products	Promotin	g development of I	Environment-Contributing Products	Number of products certified as Environment-Contributing Products: 30 (fiscal 2009 – 2013 5years)				
		Reducing	Domestic production sites	Reducing greenhouse-gas emissions by at least 10% compared to fiscal 2007 (at least 20% compared to fiscal 1990)				
	Redu greer	greenhouse-gas (GHG) emissions	Laboratories	Reducing greenhouse-gas emissions by at least 20% compared to fiscal 2007				
	tio ctio		Domestic offices	Reducing CO <sub>2</sub> emissions by at least 10% compared to fiscal 2007				
_	Reduction in emissions of greenhouse gases (GHG)		Overseas production sites	Reducing energy consumption per unit of output by at least $5\%$ compared to fiscal $2008$				
urt)	nissio es (C	Promoting	Overseas offices	Reducing energy use per capita by at least 10% compared to fiscal 2008				
ner red	ons of GHG)	energy conservation	Domestic production sites	Reducing energy used per unit of output by at least 7% compared to fiscal 2007, when converted into thermal units				
ucing			During shipment in Japan	Reducing energy consumption per unit of output by at least 5% compared to fiscal 2007				
the en			Domestic production sites	Reducing waste generated per unit of output by at least 40% compared to fiscal 2007				
vironn	_		Overseas production sites	Reducing waste generated per unit of output by at least 25% compared to fiscal 2008				
າent	Effici	Poducio -	Domestic offices	Reducing copier-paper use by at least 20% compared to fiscal 2007				
al in	ient	Reducing wastes	Overseas offices	Reducing copier-paper use by at least 20% compared to fiscal 2008				
npacts	Efficient utilization of resources		Reducing wastes at new construction sites	Compared to fiscal 2000: Sekisui Heim: 45% reduction Two-U Home: 62% reduction				
Further reducing the environmental impacts of business activities			Reducing costs derived from waste materials	Reducing loss costs by at least 5 billion yen compared to fiscal 2008 (accumulated amount from fiscal 2009 to 2013)				
ess acti		Expanding zero waste emissions	Domestic production sites/ laboratories	Rate of achievement at sites reviewed: 100%				
vitie			Overseas production sites	Rate of achievement at sites reviewed: 100%				
is			Recycling of waste materials produced during dismantlement and expansion/renovation of houses	Implementing zero-emissions (i.e., recycling at least 98% of wastes) efforts in at least 50% of demolition projects				
	Reduci enviror impact	Efficient water use	e	Reducing water intake at domestic production sites by at least 10% compared to fiscal 2007				
	Reducing other environmental impacts	Reduction in VOC controlled substa	emissions (legal and voluntary nces)	Reducing atmospheric VOC emissions at domestic production sites and laboratories by at least 60% compared to fiscal 2000 (at least 25% compared to fiscal 2007)				
			Efforts to conserve biodiversity	Designing action plans for main production sites				
biodiversity	Consid	Activities to	Support of nature conservation activities by NGOs	As Sekisui Chemical Group, providing aid to at least 10 nongovernmental organizations per year in support of nature conservation activities				
ersity	deration for	improve environment (conservation of biodiversity)	Nature conservation activities in collaboration with local communities	Promoting nature conservation activities in at least five locations overseas				
			Conaboration with local Communities	Implementing nature conservation activities at all business sites At least 80% of employees (cumulative) participating over the three-year period 2011 - 2013				
			Attaining external EMS certification at domestic production sites and laboratories	Attaining external EMS certification at 100% of sites reviewed				
		Fabracian	Attaining external EMS certification at domestic construction companies	Attaining external EMS certification at consolidated construction companies				
mana	Enhar	Enhancing environmental management	Attaining external EMS certification at overseas production sites	Attaining external EMS certification at 100% of sites reviewed				
management infrastructure	icing the	systems (EMS)	Expanding EMS development in supply chains	Attaining external EMS certification at 100% of suppliers of residential building materials supplying a fixed amount or more				
infr	env		Expanding green procurement	Achieving a green procurement rate of 98% or higher				
astru	/iron		Soil and groundwater surveys	Completion of surveys at nine subject sites				
ıcture	ımenta	Improvement of	Learning at least a certain degree of environmental knowledge	Conducting environmental education for employees and management overseas as well				
	<del>-</del>	education and enlightenment	Developing leaders for nature conservation activities	Holding the Sekisui Nature Study Course at main production sites (46 plants, five laboratories)				
		Communication with external	Publishing site reports	Continuing issuance at production sites, laboratories, and sales companies that have acquired EMS certification				
		organizations	Communication with local communities to improve environment	Continued implementation at eight domestic production sites				

#### Results of efforts conducted under the Midterm Environmental Plan: Environmental Top Runner Plan SHINKA! for fiscal 2012

Targets for Fiscal 2012	Results of Fiscal 2012 (Verified)	Evalu- ation	Page
2.67 times (compared to fiscal 2007)	2.65 times (compared to fiscal 2007)	0	14, Data Book 7
Percentage of consolidated net sales: 38%	Sales of Environment-Contributing Products: 392.5 billion yen Percentage of consolidated net sales: 38.0%	0	14,16, Data Book 8
Ten new products certified in fiscal 2012	11 new products certified in fiscal 2012 (fiscal 2009–2012 cumulative total: 42)	0	_
Reducing greenhouse-gas emissions by 12% compared to fiscal 2007 (reduced by 21% compared to fiscal 1990)	Reduced by 19.7% compared to fiscal 2007 (reduced by 27.9% compared to fiscal 1990)	0	17, Data Book 9
Reducing greenhouse-gas emissions by 16% compared to iscal 2007	Reduced by 32.8% compared to fiscal 2007	0	17, Data Book 9
Reducing CO <sub>2</sub> emissions by 8% compared to fiscal 2007	Reduced by 14.3% compared to fiscal 2007	0	17, Data Book 9
Reducing energy consumption per unit of output by 3% compared to fiscal 2008	Increased by 1.7% compared to fiscal 2008	×	_
Reducing energy use by 3% compared to fiscal 2011	Reduced by 7.6% compared to fiscal 2011	×	_
s.8% reduction per unit of output compared to fiscal 2007	5.3% decrease compared to fiscal 2007	×	Data Book 9
% reduction in energy consumption per unit of output ompared to fiscal 2007	1.5% decrease compared to fiscal 2007	×	Data Book 9
6% reduction per unit of output compared to fiscal 2007	11.3% decrease compared to fiscal 2007	×	18, Data Book 10
% reduction per unit of output compared to fiscal 2008	13.2% increase compared to fiscal 2008	×	Data Book 10
Copier-paper use: 16% reduction compared to fiscal 2007	2.4% decrease compared to fiscal 2007	×	Data Book 11
Copier-paper use: 1% reduction compared to fiscal 2011	21.8% increase compared to fiscal 2011	×	_
Compared to fiscal 2000: Sekisui Heim: 41% reduction Two-U Home: 57% reduction	Compared to fiscal 2000: Sekisui Heim: 27% reduction Two-U Home: 48% reduction	×	18, Data Book 10
oss costs: 570 million yen in fiscal 2012 iscal 2009–2012: cumulative 2.58 billion yen compared to iscal 2008	Reduced by 150 million yen in fiscal 2012; cumulative total reduction: 2.16 billion yen (compared to fiscal 2008)	×	_
at least one new business site certified, for a certification rate of 95%	Three new sites certified, achieved at 98% of sites	0	Data Book 10
at least one new business site certified	One new site certified, achieved at 21% of sites	0	_
Demolition recycling rate: maintained at 94%	Demolition recycling rate: 94% (99% recycling rate for designated construction materials)	0	_
leducing water intake by 6% compared to fiscal 2007	Reduced by 7.5% compared to fiscal 2007	0	18, Data Book 11
Reducing VOC atmospheric emissions by 55% compared to iscal 2000 (reducing by 15% compared to fiscal 2007)	Reduced by 58.4% compared to fiscal 2000 (reduced by 20.6% compared to fiscal 2007)	0	19, Data Book 13
lew assessment of three plants and formulation of action solicies	Assessment completed at three new sites and activity policies formulated	0	20
support for 10 organizations dentification of two new organizations	Aid provided to seven organizations New organizations identified: none	×	_
Continued implementation at two facilities Suzhou, China; Thailand) New implementation at three facilities (northern China; North America; Europe)	Implement at five sites	0	60
mplemented nature conservation activities at 51 business iites in Japan	Implement at 48 business sites in Japan Total participants: 73% (16,251 persons)	0	59, Data Book 19
Rate of achievement at sites reviewed: 100% One site newly certified in fiscal 2012	Attained at 100% of sites reviewed Attained at one new site	0	14, Data Book 14
formulating plans to attain certification	Attained at 66% of sites reviewed; no sites newly certified	×	_
wo new business sites MS certification attained at 75% of sites reviewed	No sites newly certified Attained at 65% of sites reviewed	×	_
external EMS certification attained: 93%	EMS development rate: 89.5% (External certification: 67.1%, independent EMS development: 22.4%)	×	_
Green procurement rate: at least 95%	Green procurement rate: 96.8%	0	_
Surveys completed at subject sites in fiscal 2011)	(Completed)	_	19
	Conducting CSR training (for new employees and new members of management)	0	_
for new employees and new members of management)	Not conducted; held at cumulative total of 28 sites	×	_
Conducting CSR training for new employees and new members of management)  Newly conducted at two facilities  Continuing issuance at subject sites	Not conducted; held at cumulative total of 28 sites  Issued by 39 subject sites	×	

## Sekisui Chemical Group's Environmental Accounting



To promote efficient environmental management and fulfill corporate accountability responsibilities, Sekisui Chemical Group employs environmental accounting that makes it possible to ascertain the costs and effects of environmental conservation activities. Calculation is conducted by referring to the Environmental Accounting Guidelines 2005 issued by the Japanese Ministry of the Environment, with the addition of Sekisui Chemical Group's own concepts such as external economic benefits (estimated effects).

In fiscal 2012, while the costs of R&D decreased slightly total costs rose from the previous fiscal year due to increases in waste reduction, environmental education and other activities.

At the same time, the investment side showed increased investments in global warming prevention measures (energy conservation) in connection with responses to electric power issues. Investments in R&D increased as well

A look at economic effects shows that the amount of cost reductions from energy conservation activities increased, while the amount of cost savings from waste reduction and other activities decreased. In addition, external economic effects from homes installed with solar power generation systems and other efforts are also increasing steadily.

#### Scope of environmental accounting

- (1) Summation period: April 1, 2012 through March 31, 2013
- (2) Scope of summation: 40 target production sites (as listed on Data Book p. 2) + 4 Laboratories + each department of Headquarters + back offices of division companies + 15 housing sales companies.
- (3) Principles of summation
  - Depreciation amounts are the same as those for financial accounting.
  - Investment amounts are based on budget approvals during the summation period.
  - Expenditures and investments that contain other than environmental conservation activities are distributed pro-rata in 10% increments.

#### (4) Note

• The scope of summation in fiscal 2010 consisted of 38 target production sites + 4 Laboratories + each department of Headquarters + back offices of division companies + 14 housing sales companies.

Due to the effects of the Great East Japan Earthquake, data could not be collected from the following sites in fiscal 2010:

Production sites: Tohoku Sekisui Heim Industry Co., Ltd. and the Sekisui Film Co., Ltd. Sendai Plant.

Housing sales company: Sekisui Heim Tohoku Co., Ltd.

#### Environmental Conservation Costs (Sekisui Chemical Group)

(million yen)

	Items	F۱	/2010	FY	′2011	FY2012	
Category	Description of main activities	Costs	Investments	Costs	Investments	Costs	Investments
	Prevention of air, water, and noise pollution, etc.	1,800	118	1,689	142	1,589	215
1) Costs within business areas	Countermeasures against global warming (energy saving), etc.	333	387	469	674	504	993
	Waste reduction, recycling, disposal, etc.	4,296	102	4,607	153	4,914	195
2) Upstream/downstream costs	Cost increases due to URU, switching to packaging/packing methods involving reduced environmental impact, greener purchasing, etc.	376	0	276	0	248	0
3) Administrative costs	Environmental education, EMS maintenance, running costs for green action organization, information disclosure, etc.	2,189	64	2,191	12	2,408	4
4) Research & Development costs	Research and development on environmental conservation	1,506	16	3,301	15	3,222	244
5) Social activities costs	Social contributions, etc.	77	0	70	0	78	0
6) Environmental damage costs	391	1	25	0	26	0	
	Total	10,967	688	12,628	996	12,990	1,652
			1				

Itoms	FY	2010	FY2	011	FY2012	
ltems	Costs	Investments	Costs	Investments	Costs	Investments
Total amount of R&D costs* and investment in the fiscal period (million yen)	24,69	5 18,559	25,611	17,200	25,895	15,473
Ratio of amount related to environmental conservation activities to total (%)	6.	1 3.7	12.9	5.8	12.4	10.7

<sup>\*</sup> R&D cost is the total for all consolidated companies

#### Environmental Conservation Benefits (Sekisui Chemical Group)

Environmental Conservation Benefits E													Self-	
Description of effects Item			Unit	FY2010	FY2011	FY2012	Effect (12-11)	See page	Item	Unit	FY2011	FY2012	evalu- ation	
Effects on	Amount of energy	(1) Electricity	ΤJ	3,522	3,370	3,315	-56	Data Book9	(1) Energy usage per	614	1.76	1.70		
	invested resources	usage*1	(2) Fuel	TJ	2,434	2,288	2,142	-146	Data Book9	unit of output (electricity + fuel)*1	GJ/ton	1.76	1.72	
Effects within		(3) CO <sub>2</sub> emissions*2		Thousand tons	331.6	315.9	303.9	-12.0	Data Book9	-	-	-	-	0
business Effects or environ-		(4) Volume of environm discharged*3	ental pollutants	Tons	810.8	617.8	532.5	-85.4	Data Book 13	-	-	-	-	0
		(5) Wastes generated*4 (6) Outsourced disposal*5		Thousand tons	39.5	36.1	35.2	-1.0	Data Book 10	(2) Waste generated per unit of output	kg/ton	38.3	37.2	×
	Wastes			Thousand tons	0.24	0.03	0.02	-0.01	-	(3) Outsourced disposal per unit of output	kg/ton	0.03	0.02	0
Upstream/ down- stream effects	Effects related to products/ services	CO <sub>2</sub> reduction by photo generation, etc. (cumula		Thousand tons	196	233	271	38	-	-	-	-	-	0
Other benefits to		Business sites attaining	New acquisitions	Numbers	2	6	1	-	-	Business sites attaining	Total number of business	87	88	×
onviron	Others*6	certifications	Renewals	Numbers	16	12	15	_	-	certifications*7	sites	0,	- 00	
	Others"6	Number of business site emissions*8	es achieving zero	Numbers	2	3	4	-	-	Number of business sites achieving zero emissions*8	Total number of business sites	144	148	0

<sup>\* 1</sup> Conversion into thermal units uses the coefficient published by the Ministry of Economy, Trade and Industry. \* 2 Emissions at the time of manufacturing and conversion to CO<sub>2</sub> amounts use the coefficients used in the Environmental Top Runner Plan SHINKAI (see Data Book p. 9). \* 3 Class I Designated Chemical Substances specified by PRTR Law. \* 4 Amount discharged + Amount disposed of at price + Amount incinerated within own premises. \* 5 Simple incineration + Landfill. \* 6 Including business sites not subject to environmental accounting summation, such as overseas business sites. \* 7 A cumulative total number of sites reviewed for factors such as consolidation and return of certifications for housing sales companies. \* 8 A business site affiliated to multiple companies is counted as one.

#### Economical Effects Related to Environmental Conservation Measures (Sekisui Chemical Group)

(million yen)

Description of effects	FY2010	FY2011	FY2012	Remarks
Revenue (1) Profit on sales of valuable resources	206	267	257	Profit on sales of valuable resources from promotion of waste segregation and recycling
(2) Savings from simplified packaging	44	12	21	
Cost savings (3) Cost savings through energy-saving activities	274	451	436	
(4) Cost savings through waste-reduction activities, etc	696	966	896	Including resource-saving activities
Sub-total (actual effects)	1,220	1,696	1,610	
(5) Contribution to environmental conservation activities *9	7,603	8,420	6,888	Contribution of environmental conservation activities to added value at business sites *10
(6) External Economic Effect	12,957	16,165	19,135	Monetary conversion of impact from photovoltaic generation systems and "No-Dig" pipe rehabilitation method
Sub-total (estimated effects)	20,560	24,585	26,023	
Total	21,779	26,281	27,633	

<sup>\*9</sup> Excluding housing sales companies \* 10 (Added value from business sites) x {(Costs within business areas + Administrative costs)/(Total production costs excluding materials costs)}

### **Environmental Conservation Cost (by Each Division Company)**

(million yen)

Items		Housing Company*1		Urban Infrastructure & Environmental Products Company		High Performance Plastics Company		Sekisui Chemical Group*2	
Category	Description of main activities	Costs	Investments	Costs	Investments	Costs	Investments	Costs	Investments
	Prevention of air, water, and noise pollution, etc.	1,038	3	48	76	433	67	1,589	215
Costs within     business areas	Countermeasures against global warming (energy saving), etc.	152	284	81	67	181	556	504	993
business areas	Waste reduction, recycling, disposal, etc.	4,332	12	300	156	240	18	4,914	195
2) Upstream/down- stream costs	Cost increases due to URU, switching to packaging/packing methods involving reduced environmental impact, greener purchasing, etc.	216	0	4	0	6	0	248	0
3) Administrative costs	Environmental education, EMS maintenance, running costs for green action organization, information disclosure, etc.	670	0	252	0	284	3	2,408	4
4) Research & Development costs	Research and development on environmental conservation	158	25	1,282	3	1,284	0	3,222	244
5) Social activities costs	Social contributions, etc.	29	0	4	0	8	0	78	0
6) Environmental damage costs	Nature restoration, etc.	0	0	0	0	26	0	26	0
Total		6,595	325	1,970	302	2,463	644	12,990	1,652

ltems		Housing Company*1		Urban Infrastructure & Environmental Products Company		High Performance Plastics Company		Sekisui Chemical Group*2	
		Investments	Costs	Investments	Costs	Investments	Costs	Investments	
Total amount of R&D costs*3 and investment in the fiscal period (million yen)	4,119	4,079	5,112	4,649	13,460	5,010	25,895	15,473	
Ratio of amount related to environmental conservation activities to total (%)	3.8	8.0	25.1	6.5	9.5	12.9	12.4	10.7	

<sup>\*</sup>I including 38 business sites of housing sales companies. \*2Total of three division companies and departments of Headquarters. \*3 R&D cost is the total for all consolidated companies.

### **Environmental Conservation Cost (by Environmental Conservation Measures)**

(Million yen)

Items			Housing Company*1		Urban Infrastructure & Environmental Products Company		High Performance Plastics Company		Sekisui Chemical Group* <sup>2</sup>	
Category	Description of main activities	Costs	Investments	Costs	Investments	Costs	Investments	Costs	Investments	
1. Prevention of global warming	Reduction of CO <sub>2</sub> emissions, etc.	148	284	104	67	181	506	523	942	
2. Ozone layer protection	Reduction of Chlorofluorocarbon emissions, etc.	4	0	0	0	1	50	5	50	
3. Conservation of air quality	Prevention of air pollution by reducing polluting substances	318	0	34	0	242	16	632	53	
4. Prevention of noise and vibration	Prevention of noise and vibration pollution	3	0	3	0	7	1	17	3	
<ol><li>Conservation of water environment, soil environment, ground quality</li></ol>	Preservation of water quality, prevention of subsidence	182	3	22	72	178	46	413	152	
6. Waste reduction and recycling	Reduction and treatment of waste, recycling, etc.	4,578	12	322	156	243	18	5,188	195	
7. Reduction of chemical substances	Risk management of chemical substances, etc.	511	0	2	4	48	4	562	7	
8. Conservation of natural environment	Nature conservation, etc.	56	0	64	0	27	0	189	0	
9. Others	Others	796	25	1,419	3	1,536	3	5,461	249	
Total		6,595	325	1,970	302	2,463	644	12,990	1,652	

 $<sup>\</sup>textcolor{red}{^{*1}} \ \text{Including 38 business sites of housing sales companies.} \textcolor{red}{^{*2}} \ \text{Total of three division companies and departments of Headquarters.}$ 

### **Environmental Conservation Benefits (by Each Division Company)**

	Environmental Conservation Benefits			Housing Company*1			Urban Infrastructure & Environmental Products Company		High Performance Plastics Company			Sekisui Chemical Group*2			See		
Descrip	Description of effects Items			Unit	FY2011	FY2012	Effect (12-11)	FY2011	FY2012	Effect (12-11)	FY2011	FY2012	Effect (12-11)	FY2011	FY2012	Effect (12-11)	page
<b>E</b>	Effects on invested	Amount of	(1) Electricity	ΤJ	422	411	-11	1,312	1,317	5	1,033	984	-49	3,370	3,315	-56	Data Book 9
ffects v	resources	energy usage*4	(2) Fuel	ΤJ	117	117	1	116	113	-3	1,807	1,674	-133	2,288	2,142	-146	Data Book 9
within		(3) CO <sub>2</sub> emissions*5		Thousand tons	31.2	30.6	-0.6	82.0	82.2	0.1	153.1	142.3	-10.9	315.9	303.9	-12.0	Data Book 9
busin	Effects on environmen-	nmen- pollutants discharged*6 act (5) Wastes generated*7	Tons	4.3	6.1	1.8	80.6	75.7	-4.9	529.0	446.8	-82.1	617.8	532.5	-85.4	Data Book 13	
ess ar	tal impact and wastes		l*7	Thousand tons	8.3	8.0	-0.3	6.2	6.0	-0.2	19.5	19.0	-0.5	36.1	35.2	-1.0	Data Book 10
eas		(6) Outsourced dispo	osal*8	Thousand tons	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.01	0.03	0.02	-0.01	
Upstream/ downstream effects	Effects related to products/ services	CO2 reduction by ph power generation, e		Thousand tons	233	271	38	_	_	_	_	_	_	233	271	38	_
Othe envira conse		Business sites attaining ISO 14001		Numbers	0	0	_	1	0		4	1		6	1		
r bene onmei ervatic		and other certifications		Numbers	l	4	_	5	3	_	3	8	_	12	15	_	
effts to ntal		tes achieving	Numbers	0	0	_	0	0	_	0	3		3	4			

<sup>\*4</sup> Conversion into thermal units uses the coefficient published by the Ministry of Economy, Trade and Industry. \*5 Emissions at the time of manufacturing and conversion to CO2 amounts use the coefficients used in the Environmental Top Runner Plan SHINKAI (see Data Book, p. 9). \*6 Class I Designated Chemical Substances specified by PRTR Law. \*7 Amount discharged + Amount discharged + Amount incinerated within own premises \*8 Simple incineration + Indefill \*9 Including business sites not subject to environmental accounting summation, such as overseas business sites \*10 A business site affiliated to multiple companies is counted as one.

### Economic Effects Related to Environmental Conservation Measures (by Each Division Company)

(million yen)

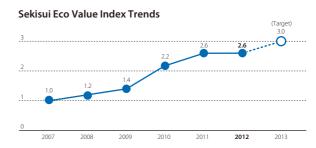
	in the control of the									
	Description of effects	Housing Company*1	Urban Infrastructure & Environmental Products Company	High Performance Plastics Company	Sekisui Chemical Group*2	Remarks				
Revenue	(1) Profit on sales of valuable resources	44	9	188	257	Profit on sales of valuable resources from promotion of waste segregation and recycling				
	(2) Savings from simplified packaging	0	20	0	21					
Cost savings	(3) Cost savings through energy-saving activities	19	29	340	436					
	(4) Cost savings through waste-reduction activities, etc.	26	136	730	896	Including resource-saving activities				
Subtotal	actual effects)	88	194	1,258	1,610					
(5) Contri conse	oution to environmental vation activities*11	2,034	1,882	2,567	6,888	Contribution of environmental conservation activities to added value at business sites*12				
(6) Extern	al Economic Effect	13,477	5,658	_	19,135	Monetary conversion of impact from photovoltaic generation systems and "No-Dig" pipe rehabilitation method				
Sub-total (estimated effects)		15,511	7,540	2,567	26,023					
Total		15,599	7,734	3,825	27,633					

<sup>\*11</sup> Excluding housing sales companies \*12 (Added value from business sites) x {(Costs within business areas + Administrative costs)/(Total production costs excluding materials costs)}

### Sekisui Eco Value Index (P14) (Verified)

The Sekisui Eco Value Index is an independent index utilized by Sekisui Chemical Group for measuring the efficiency of our environmental management activities.



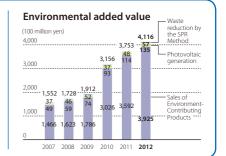


### - Environmental Added Value (converted to monetary amount)

**Environmental Added Value (numerator):** Sekisui Chemical Group calculates Environmental Added Value by totaling the sales of our Environment-Contributing Products and the external economic benefits provided to society through our products and businesses. External economic benefits are calculated by converting to monetary amounts the effects of reducing environmental impacts when Sekisui Chemical Group products are used by customers or society.

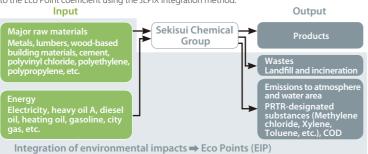


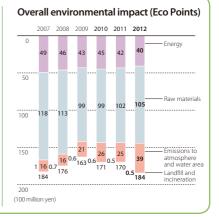
External Economic Benefits = Reduction Amount x Cost of Reducing Environmental Impact



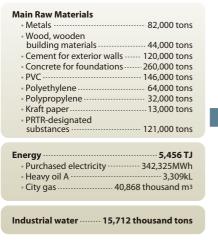
### Group's overall environmental impact (converted to coefficient)

**Group's overall environmental impact (denominator):** The total sum of the Group's environmental impact is calculated by addition of converted values of raw materials and energy used as well as related landfill and incineration of waste and emissions into the atmosphere and water, which represent environmental impacts of differing units and effects on the environment, to the Eco Point coefficient using the JEPIX integration method.





### Material Balance (in Japan) verifie





# **To the atmosphere**• CO<sub>2</sub> from energy

- PRTR-designated substances -----528 tons

### To water

- Water discharged ----14,386 thousand tons
- COD ······51 tons
   PRTR-designated substances ······ 0.3 tons

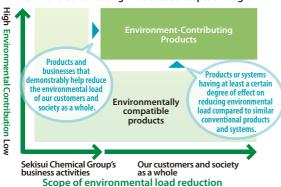
### Wastes

• Total generated waste ---- 35 thousand tons

### **Environment-Contributing Products** P16



### **Environment-Contributing Products conceptual diagram**



# Criteria for Environment-Contributing Products Definitions

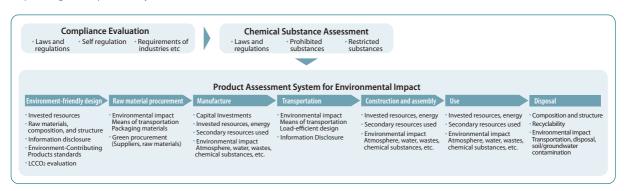
- Products and businesses that demonstrably help reduce the environmental load of our customers and society as a whole.
- Products or systems having at least a certain degree of effect on reducing environmental load compared to similar conventional products and systems.

### **Scope of Application**

- Reduction of environmental load and resource depletion related to the stages of customer use, disposal, and recycling (excluding the stages of production, home construction, and transportation within Sekisui Chemical Group).
- Reduction of impacts on the natural environment (e.g., reduction in greenhouse gases) and on the social environment (e.g. waste reduction, resource conservation, and water saving/recycling).

### Product Assessment System for Environmental Impact P14

Targets: products and processes Scope: all stages of the product lifecycle



### Biodiversity (P20)

### Initiatives Envisioned Under the Biodiversity Guidelines

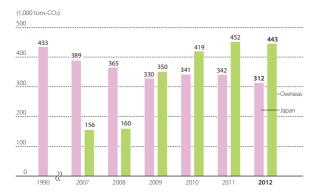
Assessment and reduction of the impact of business activities on biodiversity	Developing assessment methods and conducting assessment, reducing impacts     Promoting biodiversity-conscious purchasing     Greening of business sites (promoting landscaping and biotope development)
2. Development and promotion of related technologies and products	• Incorporating biodiversity assessment in the product development stage
3. Raising employees' awareness	Conducting nature conservation activities at all business sites     Expanding the Sekisui Nature Study Course and nature conservation activities
4. Dialogue and cooperation with external stakeholders	<ul> <li>Supporting the Innovations Inspired by Nature, and holding periodic forums on the subject</li> <li>Supporting nonprofit and other organizations through the Keidanren (Japan Business Federation)</li> </ul>
5. Transmittance of information	<ul> <li>Exhibiting at the Eco-Products Exhibition and other events</li> <li>Providing information in the CSR Report, Site Reports, and websites</li> <li>Educating the next generation (Children's Nature Study Course, school visits)</li> </ul>

### Global Warming Prevention P17 Verific





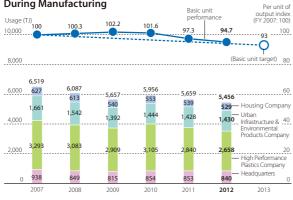
### Greenhouse-gas (GHG) Emissions During Manufacturing



### Greenhouse-gas (GHG) Emissions During Manufacturing

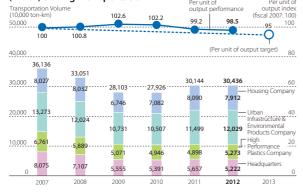


### **Energy Usage and Per Unit of Output (Index) During Manufacturing**



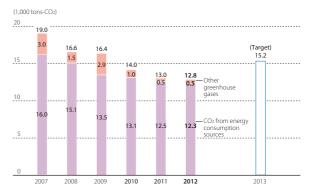
<sup>\*</sup>The per unit of output index has been revised retroactively for past fiscal years to improve precision.

### Transportation Volume and Energy Per Unit of Output (Index) During Transportation



<sup>\*</sup>The per unit of output index has been revised retroactively for past fiscal years to improve precision.

### **Greenhouse-gas Emissions from Laboratories**



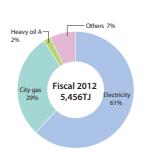
### CO<sub>2</sub> Emissions Coefficient (Environmental Top Runner Plan: SHINKA!)

Under the New Midterm Environmental Plan: Environmental Top Runner Plan SHINKA!, progress is being made in reducing emissions of all greenhouse gases. The conversion coefficients for CO<sub>2</sub> emissions are the values specified (as of March 2009) under the greenhouse-gas emissions calculation, reporting, and disclosure system established by Japanese law, with uniform figures used for each fiscal year.

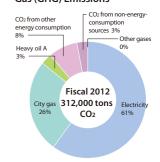
Purchased electricity 0.555 tons CO<sub>2</sub>/MWh Heavy oil A 2.71 tons CO<sub>2</sub>/kL City gas 2.08 tons CO<sub>2</sub>/thousand Nm<sup>3</sup> LNG 2.70 tons CO<sub>2</sub>/ton Heating oil 2.49 tons CO<sub>2</sub>/kL Diesel oil 2.62 tons CO<sub>2</sub>/kL Gasoline 2.32 tons CO<sub>2</sub>/kL LPG 3.00 tons CO<sub>2</sub>/ton Purchased steam 0.179 tons CO<sub>2</sub>/ton

Source: Calculation and Reporting Manual for Greenhouse Gas Emissions (published in March 2009 by Japanese Ministry of the Environment and Ministry of Economy, Trade and Industry)

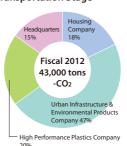
### **Breakdown of Energy Used**



### Breakdown of Greenhouse-Gas (GHG) Emissions

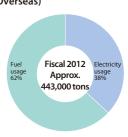


### CO<sub>2</sub> Emissions in the **Transportation Stage**



- · Amount transported in fiscal 2012: 300 million
- Calculation method: Either the improved ton-kilometer method, fuel consumption method, or fuel cost method, depending on the product and transportation method

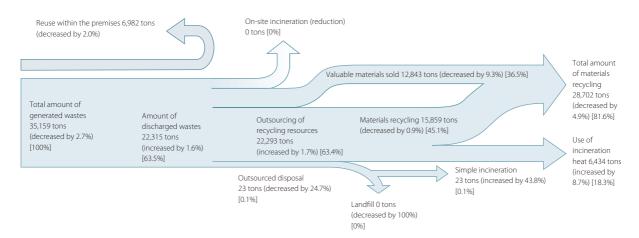
### Amount of CO<sub>2</sub> Emissions (Overseas)



See Data Book, p. 2 for scope of summation CO2 emissions have been calculated

using the emissions coefficients of the greenhouse-gas protocol for electric power and the emissions coefficients of the Environmental Top Runner Plan SHINKA! for fuel

### Fiscal 2012 Annual Production-Site Waste Generation and Disposal Conditions Change over the previous year is in () and proportion of the total generation is in [].



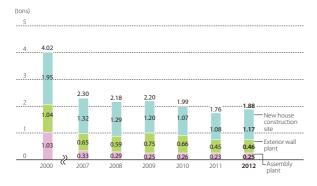
### Zero Emissions Achievement Criteria and Accreditation System of Sekisui Chemical Group

(1) Not engaging in any outside incineration without thermal utilization (thermal recycling), or landfill outside or inside of facilities (recycling ratio: 100%)

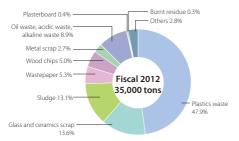
(2) If the waste quantity is small and it is a type of waste that has never been recycled before, recycling methods and relevant contractors must be identified and a service agreement must be executed.

We also have established uniform evaluation criteria known as the Zero Emissions Achievement Evaluation List. We have established a system designed to conduct internal checks and issue approvals for the status of observance of the evaluation criteria as well as legal compliance, rules and signage for waste segregation and storage, management of related facilities, and waste reduction planning and management. The list obliges us to conduct inspection of outside contractors and to clarify treatment routes in order to enhance the management system through these activities.

### Wastes Generated by New House Construction (per house)



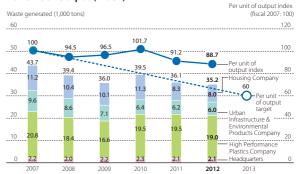
### **Breakdown of Generated Wastes**



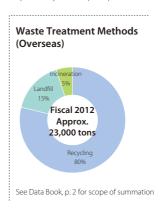
### **Status of Zero Emissions Achievement**

Production sites	Achieved at 41 plants in Japan and four overseas plants, including those of affiliates. (Includes three plants in Japan and one overseas plant that achieved zero emissions in fiscal 2012)
Laboratories	Achieved at all laboratories by fiscal 2012
New house construction sites	Achieved at all locations by fiscal 2003
House renovation sites	Achieved at all locations as of fiscal 2004
Osaka and Tokyo Headquarters buildings	Achieved as of fiscal 2005
Home demolition sites	As of end of fiscal 2012, 99% recycling rate for Designated Construction Materials (scrap concrete and wood chips)

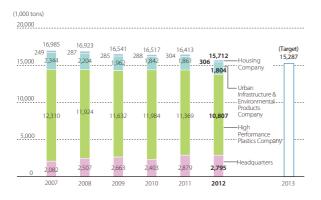
# Wastes Generated by Production Sites and Per Unit of Output (Index)



<sup>\*</sup> Wastes generated and the per unit of output index have been revised retroactively for past fiscal years to improve precision.



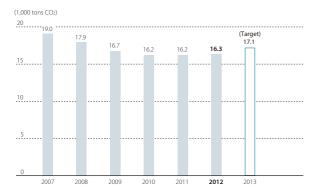
### Amount of Water Extracted for Use at Production Site



# Amount of Water Extracted for Use at Production Site (Overseas) (1,000 tons) 4,000 3,577 3,000 3,049 2,000 1,472 1,000 0 2009 2010 2011 2012 See Data Book, p. 2 for scope of summation

### Environmental Performance in Domestic Offices (P14, P17)

### CO<sub>2</sub> Emissions at Offices



### Copier-paper Use at Offices



The scope of data collection has been revised retroactively to fiscal 2007.

### Fiscal 2012 Green Purchases Performance

Sekisui Chemical Group is committed to green purchasing of office supplies for all its departments and branches.

(10,000 yen)

	Amount purchased
Photocopying paper	9,657
Other pamphlets, catalogs, office supplies, etc.	13,154
Office automation equipment	15,033
Total	37,843

### **Green Purchase Guidelines**

OA paper (photocopier paper), stationery, office supplies, office automation equipment	Any of those listed under (1)-(4) below: (1) Those satisfying Eco Mark certification standards (2) Those in compliance with the Law Concerning the Promotion of Procurement of Eco-Friendly Goods and Services by the State and Other Entities (3) Those covered in the Green Purchasing Network's database (4) Those covered in catalogs as environment- friendly products
2) Paper and paper products other than OA paper and toilet paper (forms, inkjet-printer paper, color-printer paper, coated paper, notebooks, vouchers, business cards, paper used for publications such as pamphlets and catalogs, etc.)	Any of those listed under (1)-(5) below: (1) Those satisfying Eco Mark certification standards (2) Those in compliance with the Law Concerning the Promotion of Procurement of Eco-Friendly Goods and Services by the State and Other Entities (3) Those covered in the Green Purchasing Network's database (4) Those covered in catalogs as environment- friendly products (5) Non-pulp paper or paper consisting of 70% or more recycled paper, or paper with the highest recycled content for the relevant type
3) Toilet paper	100% recycled toilet paper

### **Atmospheric and Water Related Emissions**

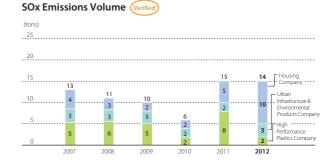
Note: The Sekisui Film Co., Ltd. Sendai Plant data for fiscal 2010 is not included in the data below due to the effects of the Great East Japan Earthquake.

# NOx Emissions Volume (Verified) (tons) 400 223 Infrastructure Environment Products Company

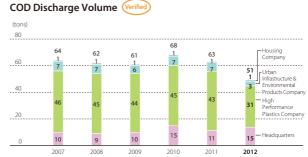
2010

2011

2012







### **Preventing Pollution**

2008

2009

Sekisui Chemical Group is working to meet the targets of legal and regulatory restrictions and to reduce discharge of pollutants through appropriate maintenance and control and periodic inspection of the wide range of equipment it uses.

### • Preventing Air Pollution

The biomass boiler fueled by wood chips intended to replace the heavy-oil boiler at Sekisui Board Co., Ltd. Gunma Plant (installed August 2009) has begun full operation. As a result, discharge of NOx and SOx has increased. Moreover, discharge of NOx, SOx, and soot and dust increased as a

result of growth in housing production.

### • Preventing Water Pollution

Each Sekisui Chemical Group site conducts periodic emergency drills in preparation for the possibility of leaks of wastewater off the site and is implementing a system of thorough preventive and responsive measures for any accidents. Each site also implements integrated wastewater controls such as enhancing wastewater processing capacity and carrying out measures to eliminate piping problems.

### **Disposal and Storage of Machines and Equipment that Contain PCBs**

Stored transformers and condensers that contain PCBs are being disposed of steadily, beginning with sites for which acceptance at PCB treatment facilities is available.

In addition, at sites with machines and equipment that contain PCBs in storage, such devices are managed strictly and thoroughly, through means including locked storage and periodic inspection.

### **Environmental Incidents, Complaints, and Emergency Responses**

### Environmental Incidents, Complaints, etc. Verified



Three incidents occurred in fiscal 2012, two of which had off-site consequences. The authorities pointed out one deficiency and we received one complaint. We are steadily implementing recurrence prevention measures in response to such environmental complaints.

### Environmental Complaints, etc.

		Description	Countermeasures				
Inc	_	Leakage of polluted water from	Renovating pumps and improving alarms and controls				
Incidents	Leakage	wastewater treatment facility	Renovating pipes and adding inspection items				
	TD .	Oil in waste water	Installation of leak sensors				
plaints	Noise	Defective sound arrestor on blowers	Improving sound arrestor components				
Others	Administrative guidance	Deficiency in documentation attached to subcontracting agreement with a waste disposal firm Failure to submit status reports (for issuance of industrial waste management manifests, etc.)	Review of use and management of manifest control sheets and compliance evaluation records				

### **Emergency Response**

In order to prevent the occurrence and spread of environmental contamination in the event of an emergency, at least once every year each of our business sites carries out emergency response and reporting drills, assuming a variety of hypothetical cases relevant to the nature of each business site. Major drills performed for fiscal 2012 are as below

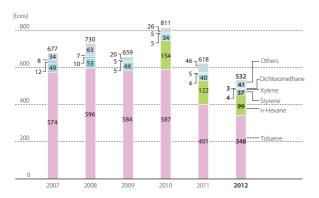
### **Emergency Response and Reporting Drills**

Simulated emergency situation	Drills performed
Leakage and outflow of oils	50
Atmospheric discharge of solvents	0
Fire	60
Earthquake	10
Emergency communication training	3
Comprehensive disaster preparedness drills	7
Responding to other equipment-related emergencies	7

# Summation Results Based on the PRTR Law (Calculations have been made for substances with handling volume of one ton or more at the individual business sites surveyed.)

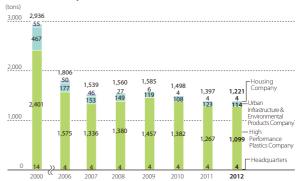
	Government Emission volume Transfer volume							(tons)	
Substance	ordinance	Transaction		Public water		Sewage	Transfer in	Transfer in	Detoxification
Substance	notification no.	volume	Atmospheric	areas	In house soil	system	waste disposal		Detoxineution
Acrylic acid and aqueous salt solutions thereof	[4]	12.9	0	0	0	0	0	1.3	12
n-Butyl acrylate	[7]	265.0	0.14	0	0	0	0	1.4	263
Acrylonitrile	[9]	530.8	3.4	0	0	0	0	0.015	527
Acetaldehyde	[12]	294.5	0.21	0	0	0	0	0	294
Acetonitrile	[13]	27.2	2.1	0.16	0	0	0.25	24	0.76
2,2'-Azobisisobutyronitrile	[16]	6.7	0	0	0	0	0	0	6.7
2-Aminoethanol	[20]	4.2	0.82	0	0	0	0	0	3.4
Antimony and its compounds	[31]	27.8	0	0	0	0	0	2.8	0
Isobutyraldehyde	[35]	242.0	1.37	0	0	0	0	0	241
Ethylbenzene	[53]	2.4	2.4	0	0	0	0	0	0
ε-Caprolactam	[76]	13.9	0	0.004	0	0	0	0	14
Xylene	[80]	28.4	4.2	0	0	0	0	1.4	23
Vinyl chloride	[Special 94]	113,814.0	3.8	0.12	0	0	0	0	113,810
Chloroform	[127]	3.4	0.27	0	0	0	0	0.67	0
Vinyl acetate	[134]	1.8	0.0080	0	0	0	0	0.0010	1.8
Inorganic cyanide compounds (not including complex salts and cyanate)	[144]	133.0	0	0	0	0	0	0	133
Cyclohexylamine	[154]	7.4	0.41	0	0	0	0	0	7.0
Dichloromethane	[186]	259.8	3.4	0	0	0	0	0.40	256
2,6-di-t-butyl-4-cresol	[207]	49.9	0	0	0	0	0	0	50
N,N-dimenthylformamide	[232]	8.6	0.0001	0	0	3.0	0	3.2	2.3
Organic tin compounds	[239]	72.0	0	0	0	0	0.066	0.26	0
Styrene	[240]	1,666.5	37	0	0	0	0	2.2	872
Terephthalic acid	[270]	84.6	0	0	0	0	0	0	85
1,2,4-trimethylbenzene	[296]	4.1	2.4	0	0	0	0	0	1.7
Toluene	[300]	1,359.3	348	0	0	0	0	37	693
Lead compounds	[Special 305]	516.7	0.0004	0.0032	0	0.0010	0.56	2.5	0
Phenol	[349]	73.3	7.3	0	0	0	0	0	66
Bis- (2-ethylhexyl) phthalate	[355]	138.5	0	0	0	0	0.12	0	0
n-Hexane	[392]	103.6	99	0	0	0	0	4.4	0
Benzaldehyde	[399]	16.0	0	0	0	0	0	0	16
Poly (oxyethylene) = nonylphenyl ether	[410]	1.1	0	0	0	0	0	0	1.1
Formaldehyde	[Special 411]	57.0	5.7	0	0	0	0	0	51
Manganese and its compounds	[412]	6.2	0	0	0	0	0	6.2	0
Methacrylate	[415]	209.9	1.2	0	0	0	0	0.0050	209
Methyl methacrylate	[420]	118.6	1.1	0	0	0	0	0.012	117
Methylnaphthalene	[438]	9.9	0.049	0	0	0	0	0	9.8
Methylenebis (4,1-phenylene) = diisocyanate	[448]	910.2	3.7	0	0	0	0	0.34	0
		121,081.2	528	0.29	0	3.0	1.0	88	117,765

### Emission and Transfer Volumes by Substance (PRTR Law)



Note: n-Hexane has been added to subject substances beginning with fiscal 2010 figures, due to amendment of the PRTR Law.

# Discharge of Volatile Organic Compounds (VOCs) into the Atmosphere



### **Environmental Management System Third Party Certified Business Sites**

### **Housing Company**

Sekisui Chemical Co., Ltd. Tsukuba R&D Sitei Hokkaido Sekisui Heim Industry Co., Ltd. Tohoku Sekisui Heim Industry Co., Ltd. Kanto Sekisui Heim Industry Co., Ltd. Tokyo Sekisui Heim Industry Co., Ltd. Chubu Sekisui Heim Industry Co., Ltd. Chubu Sekisui Heim Industry Co., Ltd. Kinki Sekisui Heim Industry Co., Ltd. Kyushu Sekisui Heim Industry Co., Ltd. Kyushu Sekisui Heim Industry Co., Ltd. Sekisui Board Co., Ltd. Minakuchi Plant Sekisui Board Co., Ltd. Gunma Plant Hokkaido Sekisui Heim Co., Ltd.

[Hokkaido Sekisui Fami S Co., Ltd.] Gunma Sekisui Heim Co., Ltd. Ibaraki Sekisui Heim Co., Ltd. Ilbaraki Sekisui Fami S Co., Ltd.]

Tochigi Sekisui Heim Co., Ltd. General Affairs Department

Sekisui Heim Shinetsu Co., Ltd. [Sekisui Fami S Shinetsu Co., Ltd.] Tokyo Sekisui Heim Co., Ltd.

[not including Yamanashi Sales Branch] Tokyo Sekisui Heim Co., Ltd. Yamanashi Sales Branch

[Tokyo Sekisui Fami S Co., Ltd. Yamanashi Sales Branch]

Sekisui Heim Chubu Co., Ltd.
Sekisui Heim Kinki Co., Ltd.
Sekisui Heim Sanyo Co., Ltd.
Sekisui Heim Chushikoku Co., Ltd.
[Sekisui Fami S Chushikoku Co., Ltd.]
Sekisui Heim Kyushu Co., Ltd.]

### Urban Infrastructure & Environmental Products Company

Sekisui Chemical Co., Ltd. Shiga-Ritto Plant

Sekisui Chemical Co., Ltd. Gunma Plant Sekisui Chemical Co., Ltd. Tokyo Plant Sekisui Chemical Co., Ltd. Kyoto R & D Laboratories Chiba Sekisui Industry Co., Ltd. Sekisui Chemical Hokkaido Co., Ltd. Toto Sekisui Co. Ltd. Ota Plant Okayama Sekisui Industry Co., Ltd. Shikoku Sekisui Industry Co., Ltd. Kyushu Sekisui Industry Co., Ltd. Ryuseki Jyubi Co., Ltd. Sekisui Agua Systems Co., Ltd. Shizuoka Plant Hanvu Plastics Industries Ltd. Toyo Chemical Industry Co., Ltd. Sekisui Home Techno Co., Ltd. Nippon No-Dig Technology Co., Ltd. Kvdex. LLC. Allen Extruders, LLC. Fslon BV Sekisui SPR Europe G.m.b.H. Sekisui NordiTube Technologies SE, Schieder Plant Sekisui NordiTube Technologies SE, Liege Plant Sekisui Rib Loc Australia, Pty. Ltd. Sekisui Industrial Piping Co., Ltd. Wuxi SSS-Diamond Plastics Co., Ltd. Yongchang Sekisui Composites Co., Ltd. Sekisui (Qingdao) Plastic Co., Ltd.

### Headquarters

Sekisui Chemical Co., Ltd. Development Center\* Tokuyama Sekisui Industry Co., Ltd. Hinomaru Co., Ltd. Tosu Plant Hinomaru Co., Ltd. Kanto Plant Sekisui Seikei, Ltd. Chiba Plant Sekisui Seikei, Ltd. Kanto Plant Sekisui Seikei, Ltd. Hyogo Plant Sekisui Seikei, Ltd. Hyogo-Takino Plant Sekisui Seikei, Ltd. Jzumo Plant

### **High Performance Plastics Company**

Sekisui Chemical Co., Ltd. Musashi Plant Sekisui Chemical Co., Ltd. Shiga-Minakuchi Plant [Sekisui Fuller Co., Ltd. Shiga Plant] Sekisui Chemical Co., Ltd. Taga Plant Sekisui Chemical Co., Ltd. Research & Development Institute Sekisui Techno Molding Co., Ltd. Nara Plant Sekisui Techno Molding Co., Ltd. Mie Plant Sekisui Techno Molding Co., Ltd. Aichi Plant Sekisui Film Co., Ltd. Sendai Plant Sekisui Film Co., Ltd. Nagoya Plant Sekisui Film Co., Ltd. Shinshu-Takato Plant Sekisui Film Co., Ltd. Kyushu-Izumi Plant Sekisui Fuller Co. Ltd. Hamamatsu Plant Sekisui Medical Co., Ltd. Iwate Plant Sekisui Medical Co., Ltd. Tsukuba Plant Sekisui Medical Co., Ltd. Amagasaki Plant Sekisui Medical Co., Ltd. ADME & Tox. Research Institute\*\* Sekisui Techno Shoji Higashi Nihon Co., Ltd. Sekisui TA Industries, LLC. Brea Plant Sekisui TA Industries, LLC. Tennessee Plant Sekisui S-Lec B.V. Film Plant Sekisui Alveo B.V. Sekisui Alveo I td. Sekisui S-Lec America, LLC. Sekisui Specialty Chemicals America, LLC Pasadena Plant Sekisui Specialty Chemicals America, LLC. Calvert City Plant Sekisui Specialty Chemicals Europe, S.L. Sekisui S-Lec Mexico S.A. de C.V. Sekisui S-Lec Thailand Co. Ltd. Thai Sekisui Foam Co., Ltd.

 Sorganizations in parentheses are included in the scope of certification. Some sites not shown above may include related sections that have attained ISO 14001 certification.

Sekisui High Performance Packaging (Langfang) Co., Ltd.

YoungBo Chemical Co., Ltd. Daeieon Plant

\*\* Eco Action 21; others ISO 14001

Sekisui S-Lec (Suzhou) Co., Ltd.

\* The Sekisui Chemical Co., Ltd. Tsukuba R&D Site and Development Center share a single certification.

### Number of Issues of Concern in Environmental Auditing for Fiscal 2012

(for Production sites and Laboratories, as of End of March 2013)



(Issues

### Correction Undergoing Number completed correction Issues of concern 64 46 18 Headquarters Issues to work on 75 181 106 environmental auditing Proposals (17 business sites) 154 96 Nonconformity (major) 0 Auditing Nonconformity (minor) 13 (15 business sites) Observations 90 31 by certification Total 103 72 31 Nonconformity (major) 0 0 0 Nonconformity (minor) Surveillance (34 business sites) Observations 165 79 86 body Total 88 89 Nonconformity (major) 6 6 0 Internal auditing of Nonconformity (minor) 133 73 60 business sites (48 business sites: Observations 118 55 audits) Total 178

### **Numbers of Persons with Qualifications**



(person

					(persons)
			·	Those who acquired qualifications during fiscal 2012	Aggregate total
Number of participants in	Number of internal	trair	ing course participants	54	638
Environmental Management Systems (EMS) internal	Number of external	trai	ning course participants	12	226
auditor development/ training courses	Total			66	864
Number of participants in Occupational Health and	Number of internal	trair	ning course participants	26	471
Safety Management Systems (OHSMS) internal auditor	Number of external training course participants		12	177	
development/ training courses	Total			38	648
	Registered examiner of the Center of Environmental Auditor Registration (CEAR)	Qua	Lead Auditor	0	1
		Qualifications	Auditor	0	1
		ions	Provisional Auditor	0	7
		٥	Air Classes 1-4	0	48
Number of persons	Pollution control	ıalific	Water Classes 1-4	1	90
with major qualifications	manager	Qualifications	Noise/Vibration	1	39
		S	Dioxins	0	2
	Certified Environmental Measurers			0	4
	Energy Managers			1	43
	Olfactory Measure	men	t Operators	0	1
	Environmental Spe	ciali	sts (Eco Test)	15	103

<sup>\*</sup>Categories of instructions for Headquarters environmental auditing: Issues of concern: Matters recommended for swift improvement Issues to work on: Matters recommended for planned improvement Proposals: Matters to be considered for improvement, advice

### **Quality Management System Third Party Certified Business Sites**

### **Housing Company**

Sekisui Chemical Co., Ltd. Housing Company (integrated certification)

Research & Development Department CS Promotion & Quality Assurance Department Technology Department: Production & Construction Technology Department: Purchasing Sekisui Global Trading Co., Ltd. Hokkaido Sekisui Heim Industry Co., Ltd. Tohoku Sekisui Heim Industry Ćo., Ltd. Kanto Sekisui Heim Industry Co., Ltd. Tokyo Sekisui Heim Industry Co., Ltd. Chubu Sekisui Heim Industry Co., Ltd. Kinki Sekisui Heim Industry Ćo., Ltd. Chushikoku Sekisui Heim Industry Co., Ltd.

Kyushu Sekisui Heim Industry Co., Ltd. Sekisui Heim Supply Co., Ltd. Sekisui Board Co., Ltd. Gunma Plant Sekisui Board Co., Ltd. Minakuchi Plant

### Headquarters

Sekisui Seikei, Ltd. (integrated certification)

Chiba Plant Kanto Plant Hyogo Plant

Hyogo-Takino Plant Izumo Plant

Tokuyama Sekisui Industry Co., Ltd. Sekisui Engineering Co., Ltd. Sekisui Insurance Service Co., Ltd

### Urban Infrastructure & **Environmental Products Company**

Sekisui Chemical Co., Ltd. Shiga-Ritto Plant Sekisui Chemical Co., Ltd. Tokyo Plant

Sekisui Chemical Co., Ltd. Gunma Plant Okayama Sekisui Industry Co., Ltd.

Sekisui Roof Systems Co., Ltd. Shikoku Sekisui Co., Ltd.

Kyushu Sekisui Industry Co., Ltd. Sekisui Aqua Systems Co., Ltd.

Mechanical Plant Division,

Civil Engineering & Water Treatment Division

Shizuoka Plant

Chiba Sekisui Industry Co., Ltd. Sekisui Home Techno Co., Ltd.

Sekisui Chemical Hokkaido Co., Ltd.

Toto Sekisui Co., Ltd. Headquarters, Ota Plant

Nippon No-Dig Technology Co., Ltd.

Wuxi SSS-Diamond Plastics Co., Ltd.

Eslon B.V.

Sekisui NordiTube Technologies SE

KMG Pipe Technologies G.m.b.H. KMG LinerTec G.m.b.H.

KMG Pipe Rehabilitation Emirates, LLC.

Sekisui Rib Loc Australia Pty. Ltd.

Kvdex. LLC

Allen Extruders, LLC.

Sekisui (Qingdao) Plastic Co., Ltd.

Sekisui Industrial Piping Co., Ltd.

Yongchang-Sekisui Composites Co., Ltd.

Sekisui Refresh Co., Ltd.

Toyo Chemical Industry Co., Ltd. Hanyu Plastics Industries Ltd.

Rabmer Holding G.m.b.H

Rabmer Rohrtechnik G.m.b.H

SPR TEC Europe G.m.b.H.

Sekisui (Shanghai) Environmental Technology Co., Ltd.

Yili Xiang Run Pipe Industry Co., Ltd.

### **High Performance Plastics Company**

Sekisui Chemical Co., Ltd. Shiga-Minakuchi Plant

Sekisui Chemical Co., Ltd. Musashi Plant Sekisui Chemical Co., Ltd. Taga Plant

Sekisui Fuller Co., Ltd. (integrated certification)

Shiga Plant

Hamamatsu Plant Osaka Office

Tokyo Office

Sekisui Medical Co., Ltd. Tsukuba Plant

Sekisui Techno Molding Co., Ltd. Nara Plant Sekisui Techno Molding Co., Ltd. Aichi Plant

Sekisui Techno Molding Co., Ltd. Mie Plant

Sekisui Nano Coat Technology Co., Ltd.

Sekisui Film Co., Ltd. Nagoya Plant

Sekisui Film Co., Ltd. Sendai Plant

Sekisui Film Co., Ltd. Shinshu-Takato Plant Sekisui Film Co., Ltd. Kyushu-Izumi Plant

Sekisui Polymatech Co., Ltd.

Sekisui Medical Technology (China) Ltd.

Sekisui S-Lec Mexico S.A. de C.V. Sekisui S-Lec B.V.

Sekisui S-Lec Thailand Co., Ltd.

Sekisui S-Lec (Suzhou) Co., Ltd.

Sekisui S-Lec America, LLC

Sekisui-Alveo A.G.

(six sites: G.m.b.H. A.G. Sarl,s.p.a,S.A [Benelux] B.V.)

Sekisui Alveo Ltd.

Sekisui Alveo B.V.

Thai Sekisui Foam Co., Ltd.

Sekisui Voltek, LLC. Lawrence Plant Sekisui Voltek, LLC. Coldwater Plant

Sekisui Pilon Pty. Ltd.

YoungBo Chemical Co., Ltd.

Sekisui High Performance Packaging (Langfang) Co., Ltd.

Sekisui Diagnostics, LLC.

(Lexington, San Diego, Stamford) Sekisui Diagnostics P.E.I. Inc.

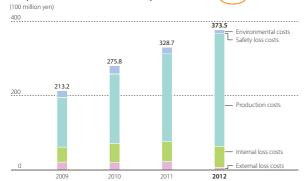
Sekisui Diagnostics (UK) Limited Sekisui Virotech G.m.b.H.

Sekisui Specialty Chemicals America, LLC.

(Calvert City, Pasadena, Dallas HQ)

Sekisui Specialty Chemicals Europe, S.L. Tarragona

### **Manufacturing Development Innovation Indicators Performance** (improvements vs. fiscal 2005 performance)



### Manufacturing Development Innovation Indicators:

External loss costs Costs of responding to product-related complaints and claims

: Costs associated with disposal of defective products generated during Internal loss costs manufacturing processes

Production costs : Costs necessary for manufacturing, such as raw-material and labor costs

(decreased through productivity improvements such as saving of energy

and other resources in manufacturing processes)

Costs arising from equipment-related or labor accidents etc. Safety loss costs  ${\tt Environmental\,costs:Costs\,for\,disposal\,of\,wastes\,generated\,at\,business\,sites, and\,energy\,costs}$ 

### Flow of "Utilizing Customer Feedback in Management"





### Number of Employees (Sekisui Chemical Group)

	• (persons
Number of employees	22,202
By region	
Japan	16,813
North America, Central and South America	1,553
Europe	1,462
Asia/Pacific (including China)	2,374

# Number of New Graduates Hired and Their Separation Rate in the First Three Years of Employment (Sekisui Chemical)

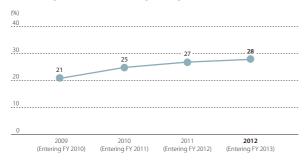
	Fiscal 2010	Fiscal 2011	Fiscal 2012
Number of new graduates hired (persons)	30	58	70
Separation rate within the first 3 years (%)	3.3	5.2	0.0

Note: Separation rate within the first 3 years: Calculated as the total of separation rates for the first, second, and third years for employees hired in the relevant fiscal year, in accordance with the Japanese Ministry of Health, Labour and Welfare's calculation methods.

### Results of Intra-group Job Posting

	Fiscal 2011	Fiscal 2012	Cumulative total since 2000
Recruitments (cases)	13	15	222
Employees recruited (persons)	18	19	459
Applicants (persons)	72	182	1,208
Employees transferred 13 (persons)		17	242

### Percentage of Women Among New-graduate Hires



# Usage of Main Systems in Raising the Next Generation (Sekisui Chemical)

Gene	Generation (Sekisui Chemical) P34 (persor				(persons)
	System	Main content	Fiscal 2010	Fiscal 2011	Fiscal 2012
During childcare leave	Childcare leave	Leave which previously extended only until the child was a year and a half old now extends to the end of the month of the child's third birthday.	30 (including 11 males)	22 (including 8 males)	24 (including 6 males)
After returning to work	Shortened working hours	Payment period that previously extended until the child was three years old now extends until the child starts fourth grade.	17	21 (including 1 male)	19
Other support	Three days of special paid leave per year granted until the child or grandchild starts high school (this leave can be taken for reasons such as childbirth-related events, parents day, athletic meets, and PTA meetings)		96	98	98 (including 41 males)
Total r	Total number of persons using these systems		143	141	141

### Number of Employees (Sekisui Chemical Co., Ltd.)

	(persons)
Number of employees	2,164
Male	1,910
Female	254

### Employees' Years of Continuous Service (Sekisui Chemical Co., Ltd.)

		(Years)
Average years of continuous service		18.1
	Male	18.2
	Female	16.9

### Main Recruitment and Selective-type Training Programs

	Training	Details	Number of participants in fiscal 2012 (persons)
Recruitment-	The Saijuku School	This program combines intensive courses led by visiting university professors with practical themes so that participants can improve their skills and knowledge to become globally oriented leaders. It is intended to develop the next generation of leaders.	40
type Training	Sending Employees to Business Schools Outside the Company	Under this program, employees take courses for training business professionals at business schools outside of the company. The aim is to work together with human resources outside the company and to polish up business skills.	15
Selective- type Training	Open Seminars	These intra-group seminars aim to improve employees business skills. Employees can select freely seminars on skills that meet their needs, to acquire skills that can be applied immediately to their daily work.	190

### Career Plan Training by Age P30

	30s	40s	50s	Total Number of Participants
Themes by Age Groups	Self- establishment	Market value	Continuing to work even after retirement	_
Training Contents	Recognition of abilities and interviews with superiors on career-related matters	Affirmation of specialization, values, and the meaning of work	Aiming to keep working at age 65 and thinking about succession	_
Number of Participants in Fiscal 2012 (persons)	78	93	78	249
Total Number of Participants as of Fiscal 2012 (persons)	1,763	1,607	880	4,250

### Percentage of Challenged Persons Employed (Sekisui Chemical)



### **Number of Global Talents of Japanese Employees**





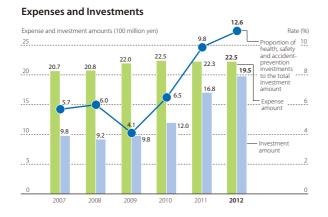
Beginning with Corporate Social Responsibility Report 2013, trends are shown by fiscal year on the following graphs: Number of Equipment-related Accidents; Number of Cases of Extended Sick Leave; Number of Commuting Accidents; Frequency Rate; Severity Rate; Safety Performance at Housing Company Construction Sites; and Safety Performance at Urban Infrastructure & Environmental Products Company Construction Sites. (Through last year's Corporate Social Responsibility Reports, were shown by calendar year.)

### Health, Safety and Accident-prevention Costs

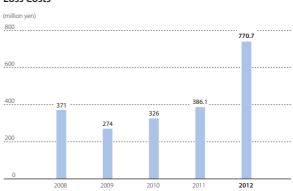
(Million yen)

	Item		
Classification	Details	Expense amount	Investment amount
1) Costs within business-site areas	Health and safety measures, rescue and protective equipment, measurement of work environment, health management, workers' accident compensation insurance, etc.		1,952
2) Administrative costs	Establishment and implementation of OHSMS, safety education, personnel costs, etc.		_
3) Other	Safety awards, etc.		_
Total		2,246	1,952

Note: Data above include 46 production sites/4 laboratories + all departments of Headquarters + back offices of division companies.

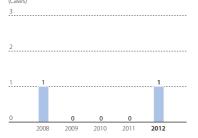


### Loss Costs\*



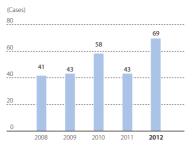
\*Loss costs: Expenses, including man-hours, required to respond to occupational accidents, equipment accidents, commuting accidents, and long-term illness absences

### Number of Equipment-related Accidents\*



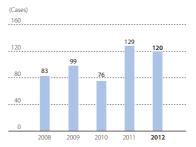
- \* Equipment-related accidents equipment-related accidents:
  Any accident that meets one or more of the following
  conditions (1) – (3) (Sekisui Chemical Group standards):
  (1) Personnel-related damage:
  business interruption with 30 lost working days or more
  (2) Property damage: 10 million yen or more
  (3) Loss of opportunity: 20 million yen or more

### Number of Cases of Extended Sick Leave\*



\* Extended sick leave extended sick leave:
This refers to a new absence of 30 calendar days or longer due to illness or injury. Reoccurrences within six months of returning to work are not included in the above count.
Absences due to occupational injury are not considered extended sick leave.

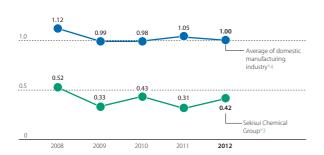
### Number of Commuting Accidents\*



\* Number of Cases: Total number of cases with damages incurred and inflicted (including self-injury and property damage).

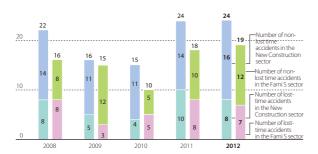
### Frequency Rate\*1

1.5

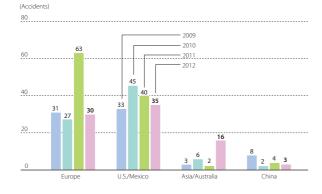


### Safety Performance at Housing Company Construction Sites

(Accidents) 30



# Status of Work-related Accidents at Overseas Production Sites (Calendar Year)



### Severity Rate\*2

0.3



- \*1 Frequency rate = (number of deaths and injuries in occupational accidents/total work hours)  $\times$  1,000,000
- \*2 Severity rate = (days of labor lost/total work hours)  $\times$  1,000
- \*3 Sekisui Chemical Group data: 46 production sites and four R&D laboratories
- \*4 Source of information for Japanese manufacturing industry: Ministry of Health, Labour and Welfare "Survey on Industrial Accidents"

### Safety Performance at Urban Infrastructure & Environmental Products Company Construction Sites

30

20



Note: The number of accidents represents the total for the following four companies: Sekisui Home Techno Co., Ltd., Nippon No-Dig Technology Co., Ltd., Sekisui Aqua Tec Co., Ltd., and Kyushu Sekisui Brazai Co., Ltd.

# Compliance (P55) Verified

### Main Training Implemented in Fiscal 2012

Training		Trainees	Number attending	
Davis dia tuala in a	Training for new managers	New Sekisui Chemical Group managers	189	
Periodic training	Training for new employees	New Sekisui Chemical employees	64	
	Basic compliance training	Group companies	96	
	Antimonopoly Law training	Sekisui Chemical Group sales sections	933	
	Act against Delay in Payment of Subcontract Proceeds, etc. to Subcontractors training	Sekisui Chemical Group managers, manufacturing sections	130	
	Company law seminar	Sekisui Chemical Group	63	
rea-specific training	Harassment-prevention training	Group companies	19	
	Information management training	Group companies	19	
	Product liability law training	Group companies	84	
	Basic contract training	Group companies	143	
	Housing Company compliance manual training	Housing Company (Sekisui Chemical, affiliates)	11,070	
Training for specific	Operating officer training	Sekisui Chemical	7	
employee ranks	Compliance training for leaders in manufacturing sections	Sekisui Chemical Group manufacturing sections	43	
	Training on overseas bribery regulations	Sekisui Chemical Group managerial sections, business sections	76	
Global training	Basic training for "Global Talents"	Personnel employed in international business	9	
	Overseas business site training	Overseas business sites	24	

### Recipients of Fiscal 2012 Sekisui Chemical Grants for Research on Manufacturing Based on Innovations Inspired by Nature

Researcher	University, Title	Supported Research Theme
Tomomi Uchiyama	Professor, Eco Topia Science Institute, Nagoya University	Learning about the generation and movement of bubbles in vortex rings from bubble rings generated by dolphins
Yoshio Hisaeda	Professor, Graduate School of Engineering, Kyushu University	Creation of light-driven environmental cleaning catalysts based on learning from vitamin B12 enzymes
Arata Katayama	Professor, Eco Topia Science Institute, Nagoya University	Creation of a groundwater cleaning system based on learning from the respiratory systems of soil microorganisms
Takashi Sera	Professor, Graduate School of Natural Science and Technology, Okayama University	Creation of virus-resistant plants using artificial DNA compound proteins
Kyoko Miura	School of Medicine, Keio University/Special researcher (SPD), Japan Society for the Promotion of Science	Longevity and cancer-resistance structures based on learning from the naked mole rat
Kang Sungmin	Assistant Professor, Graduate School of Engineering, Tokyo Institute of Technology	Generation of wetting ridge patterns on high-molecule surfaces
Ayako Yamaguchi	Assistant Professor, Graduate School of Biostudies, Kyoto University	Age control structures of molecular RNA based on learning from plants
Hiroharu Ajiro	Associate Professor, Center for Advanced Medical Engineering and Informatics, Osaka University	Methacrylic acid conductor stereo specificity template polymerization modeled on the DNA replication mechanism and its reaction structure
Nobutaka Funa	Associate Professor, Department of Food and Nutritional Sciences, University of Shizuoka	Structure for large-scale production of useful natural organic compounds through blocking the primary metabolic pathway necessary for life support
Joji Otaki	Associate Professor, Faculty of Science, University of the Ryukyus	New protein information engineering based on learning from natural language
Shigeki Saito	Associate Professor, Graduate School of Engineering, Tokyo Institute of Technology	Adhesion/separation devices through electrostatic-induction high-molecule fiber alignment based on learning from the gecko
Shiki Yagai	Associate Professor, Graduate School of Engineering, Chiba University	Chemistry of monodispersed pigment nano structures based on learning from photosynthetic bacteria
Tatsuya Nishimura	Assistant Professor, School of Engineering, University of Tokyo	Development of functional organic/inorganic compounds using high-molecule templates
Masanori Nakamura	Associate Professor, Graduate School of Science and Engineering, Saitama University	Creation of high-performance material transportation/exchange structures based on learning from avian respiratory organs
Hidehiko Hirakawa	Assistant Professor, School of Engineering, University of Tokyo	Artificial cellulosomes using self-accumulating scaffold proteins
Takeshi Kano	Assistant Professor, Research Institute of Electrical Communication, Tohoku University	It crawls, swims, and flies: Development of an all-terrain two-dimensional sheet robot inspired by the flatworm

 $Note: University\ affiliations\ and\ titles\ shown\ are\ current\ as\ of\ the\ time\ the\ grant\ was\ provided.$ 

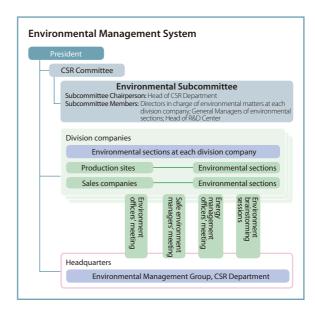
### Examples of Main Nature Conservation Activities Conducted in Fiscal 2012

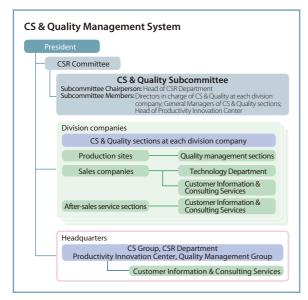
	Site	Program
Activities of business sites in Japan	Tsukuba Development Center	Forestation activities at the base of Mt. Tsukuba and in the Kasumigaura headspring
	Sekisui Aqua Systems Co., Ltd. Shizuoka Plant	Environmental beautification activities in Iwata through a groundwater cultivation project (planting Japanese cypress trees)
	Sekisui Film Co., Ltd. Nagoya Plant	Myotokujigawa River conservation (beautification) activities
	Tokuyama Sekisui Industry Co., Ltd.	Sekisui Forest improvement activities
	Seiryu Maintenance Co., Ltd. Nakamura Office	Kyodo no Mori Zukuri (collaborative forest-building) project
	Sekisui Chemical Co., Ltd. Gunma Plant	Sekisui Children's Nature Study Course (viewing living creatures in the autumn on Mt. Ontake)
	Sekisui Chemical Co., Ltd. Tokyo Headquarters	Family Nature Study Course rice-field activities (experience harvesting rice)
	Sekisui Seikei, Ltd. Izumo Plant	Izumo Children's Nature Study Course
	Hokkaido Sekisui Heim Industry Co., Ltd.	Eradication of introduced species from Tonebetsu virgin forest and a nature observation event (Nature Study Course)
	Sekisui Medical Co., Ltd. Iwate Plant	Children's Nature Study Course
	Tokyo Sekisui Heim Industry Co., Ltd.	Gathering at Greenery Trust site no. 11 (vicinity of Kurohama Marsh)
	Chiba Sekisui Industry Co., Ltd.	Wakimizu-no-Sato nature conservation activities
Activities of overseas business sites	Allen Extruders, LLC.	Black River cleanup activities (USA)
	Sekisui-SCG Industry Co., Ltd. SCG-Sekisui Sales Co., Ltd. Sekisui S-Lec Thailand Co., Ltd. Thai Sekisui Foam Co., Ltd. Sekisui Chemical Thailand Co., Ltd.	Ecosystem rehabilitation/maintenance and mangrove-planting activities to contribute to the community (Thailand)
	Sekisui S-Lec Mexico S.A. de C.V.	Tree-planting activities in Morelos (Mexico)
	Sekisui Medical Technology (China) Ltd. Sekisui High Performance Packaging (Langfang) Co., Ltd. Sekisui (Shanghai) International Trading Co., Ltd.	Tree-planting activities in the Fengning Manchu Autonomous County in Hebei Province (China)
	Sekisui Voltek, LLC. Lawrence Plant	Beautification and cleanup activities in Lawrence (USA)
	Sekisui TA Industries, LLC. Brea Plant	Coastal cleanup activities in Redondo Beach (USA)
	Sekisui S-LEC (Suzhou) Co., Ltd. Wuxi SSS-Diamond Plastics Co., Ltd. Changzhou Zhongji Precision Molding Plastic Co., Ltd. Sekisui (Shanghai) International Trading Co., Ltd. Sekisui Medical Technology (China) Ltd. Sekisui (Shanghai) Environmental Technology Co., Ltd.	Forest preservation activities at Yuping Mountain in Suzhou (China)

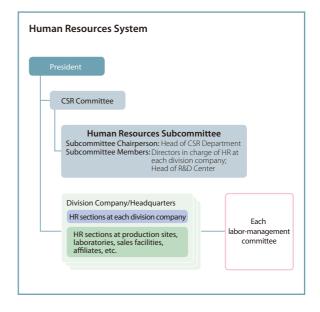
# Others 9% Disaster relief 2% Environment 3% International exchange and cooperation 6% Contributions: 102 million yen Local communities and social welfare 18% Academia, research, and education 63%

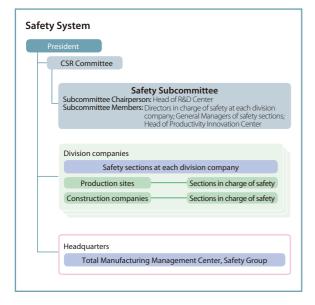
### Sekisui Chemical Group's CSR Management System

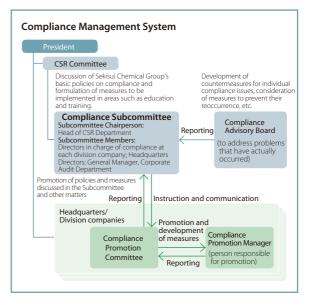












### Sekisui Chemical Group's CSR Management Policies

### Sekisui Chemical Group "Environmental Management Policy"

### Mission

We, the Sekisui Chemical Group, aim to be a Global Environmental Top Runner that contributes to the realization of a sustainable society by enabling the continuous growth and co-existence of ecology and the economy.

### **Basic Policy**

Each company in the Sekisui Chemical Group advances approaches that contribute to the prevention of global warming, the preservation of biological diversity and the construction of a recycling-based society in all countries and regions where they have operations, in order to leave this beautiful earth for our children in the future.

- 1. We contribute to the environment through our products and services, with consideration given to the environment in all stages of the product life cycle from research to procurement, production, sales, use, and disposal as waste.
- 2. We carry out environmentally conscious business activities in all our workplaces and offices, and promote our approach to the environment through cooperation with our customers and business partners.
- 3. We make efforts to reduce the environmental impact of greenhouse gas emissions and hazardous chemicals, etc., and to prevent pollution by promoting the effective use of limited resources and energy.
- 4. We observe the related laws, regulations, international rules, etc.
- 5. We make efforts to improve environmental consciousness through education, and advance continual improvements by setting our own objectives and targets.
- 6. We enhance confidence through close communications with society.
- 7. We aggressively work on social contribution activities such as nature conservation activities in each region.

### Sekisui Chemical Group "CS & Quality Management Policy"

### Mission

We, the Sekisui Chemical Group, consider "CS & Quality" as our central concept of management and will consistently innovate to maintain the quality of products throughout all our activities, continuously provide values (products and services) that meet customer expectations, strive for selection by our customers on an ongoing basis, and develop and grow with the customer over the long time.

### **Basic Policy**

We, the Sekisui Chemical Group, consider "Customer's Feedback" as precious resources for management and strive to innovate about "Quality of Products," "Quality of People" and "Quality of Systems" based on the motto "We consider customer's feedback as the beginning of our manufacturing." Furthermore, we contribute to the realization of a safe and affluent society by continuously providing our customers and their communities with new value.

### 1. Ensuring Basic Qualities

To ensure the reliability and safety of our manufactured products, which form the basis of "Product Quality," we effectively leverage customer's feedback and dedicate ourselves with a strong belief in forestalling any potential trouble and preventing any future recurrence throughout our entire value chain.

### 2. Creating Attractive Qualities

We aim to share the emotional values of our customers by thoroughly pursuing "what the customers value" and constantly creating attractive products and services that should realize such customer values.

### 3. Upgrading Technological Capabilities

For the sake of ensuring Basic Qualities and for creating Attractive Qualities, we are upgrading our technological capabilities in all fields in order to achieve superb manufacturing development.

### 4. Enhancing Communications

We value communication with our customers and the community and make sincere efforts when dealing with them as well as complying with the relevant laws and regulations in each country and region. We place special emphasis on resolving customer complaints or claims at an early stage by responding promptly and empathetically.

### 5. Providing Thorough Employee Education

To gain and maintain the full trust and impression of our customers, we provide employees with continuous CS & Quality education as well as motivating our employees to achieve self-realization through customer satisfaction.

### Sekisui Chemical Group "Human Resources and Human Rights Policy"

### Mission

Based on our belief that "employees are precious assets bestowed on us by society," we, the Sekisui Chemical Group, are committed to developing an environment where employees can work enthusiastically. We also offer various opportunities through which we help individual employees enhance their "specialties" and grow personally.

With the recognition that it is our social responsibility to protect individual human rights, we respect the diversity, personality and individuality of each person, and promote various working styles as well as creating safe and secure work environments in response to conditions in each country and region.

### **Basic Policy on Human Resources**

## Creating opportunities to take on challenges We encourage employees to "positively set their own goals and

aggressively to take on challenges."

2. Culture where employees learn and grow on their own

We strive to enrich our education/training programs and develop a

# culture where employees learn and grow on their own. 3. Enhancement of the performance-based remuneration system We emphasize our employees' personal commitment and strive to constantly improve the fairness and acceptance of our assessment

### 4. Acceptance of various working styles

We respect various values; develop workplaces where every employee can work with enthusiasm; and help employees achieve a balance between life and work.

### 5. Creating safe and secure work environments

system regarding performance and processes.

We promote employees' health enhancement and mental health care.

### **Basic Policy on Human Rights**

# Respect for human rights and the prohibition of discrimination Being aware of our position as a global corporate citizen, we respect individual human rights and never become involved in any conduct that might lead to discrimination.

- We never discriminate on the grounds of race, color, gender, language, religion, nationality or social origin, property, or other status or any similar irrational basis.
- We do not commit human rights abuses such as resorting to violence, profane outbursts, slander, defamation, intimidation, bullying or similar conduct.

### 2. Prohibition of harassment

We never commit sexual harassment or other actions that stain personal character.

- We do not commit sexual harassment or any conduct that might be misunderstood as sexual harassment.
- 2) We do not misuse the power of a superior position nor use any language or conduct that could sexually annoy any person. In addition, we prevent other employees from using such offensive language or conduct.

### 3. Prohibition of forced labor and child labor

We shall never accept forced labor or child labor in any country or region.

- We comply with the laws for the minimum working age and other relevant regulations in each country and region and do not use child labor.
- 2) We do not carry out any form of forced labor in any of our corporate activities.

### 4. Respect for basic labor rights

We respect basic labor rights, including the right of workers to organize and to bargain, in accordance with the laws and customs of each country or region, and do not infringe on these rights.

### Sekisui Chemical Group "Safety Policy"

### Mission

We, the Sekisui Chemical Group, recognize that employee safety is essential to achieving sustainable growth. We aim to be a "Safe and Secure" enterprise that establishes safe and secure work environments and has the full trust of its customers and the community as well as its employees.

### **Basic Policy**

Based on the concept of human dignity that "everyone is invaluable," we "prioritize safety over anything else" as a basic rule in all of our business activities from development, production, construction to servicing. We are committed to promoting comprehensive safety activities with the aim of achieving zero industrial accidents, facility accidents, commuting accidents or long-term sick leave.

- 1. We strive to develop a safe and comfortable workplace where everyone is taken care of both mentally and physically, which should lead to good health for each of our employees whom we highly value.
- 2. We thoroughly disseminate the legal requirements concerning health and safety/disaster prevention to our employees to ensure compliance.
- 3. We carry out risk assessment and promote risk reduction measures in a systematic way to eliminate hazardous factors that compromise health and safety/disaster prevention.
- 4. We strive to raise awareness regarding health and safety/disaster prevention through employee education/training and promote continuous improvements by setting voluntary objectives/goals.
- 5. We proactively disclose any necessary information as well as gain a higher level of trust by having close communication with public administrations and local communities.

### Sekisui Chemical Group "Social Contribution Policy"

As a good corporate citizen, we, the Sekisui Chemical Group, engage in activities that focus on the "Environment," the "Next Generation," and "Local Communities," and contribute not only to business activities but also to society.

All employees working for the Sekisui Chemical Group are proactively involved in the society and act so that they can serve as prominent human resources in society as well. In addition, their activities are supported by each company of the Group in order to generate synergistic effects.

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<sup>(1)</sup> This report uses Forest Stewardship Council (FSC)-certified paper produced from carefully managed forests.

<sup>(2)</sup> The computer-to-plate (CTP) method of direct printing, which uses no film that later must be disposed of as waste, has been adopted in the plate-making process.

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