

TORAY Group Social Responsibility

2012

**TORAY**

Innovation by Chemistry

The entire site of "Social Responsibility" as of January 31, 2013

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## SOCIAL RESPONSIBILITY

Recognizing the promotion of CSR activities as an integral part of realizing the Group's Management Philosophy, Toray has established a Group-wide CSR program.

Since its founding, Toray Group has been dedicated to making social contributions through business activities based on the Corporate Philosophy of "contributing to society through the creation of new value with innovative ideas, technologies and products." The Group promotes bolstered safety, accident prevention, environmental preservation, and corporate ethics and compliance to fulfill its corporate social responsibility (CSR) as its top priority management theme. The goal is to excel as a corporate group that delivers exceptional value to each and every one of its stakeholders.

### CSR News

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Jan. 17, 2013 [Malaysia]

Malaysia Toray Science Foundation (MTSF)  
19th MTSF Prize Presentation Ceremony (Nov. 26, 2012)

Jan. 17, 2013 [China]

Toray Industries (South China) Co., Ltd. (TSCH)  
Moonwalkers 2012 in Hong Kong (Nov. 10, 2012)

Jan. 17, 2013 [Japan]

Toray Industries, Inc.  
TORAYCA® Solar Car on Fire!! Wins Back-to-Back Titles! (Sept. 18-28, 2012)

Aug. 23, 2012 [Malaysia]

Toray Industries (Malaysia) Sdn. Berhad (TML)  
Penang Bon Odori Festival 2012 (July 21, 2012)

Aug. 21, 2012 [China]

Toray Industries (H.K.) Ltd. (THK)  
Toray Group Used Clothes Recycling Program in Hong Kong (Aug. 6, 2012)

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### > Message from the President



Toray Group is deeply committed to innovation throughout all business activities and finding solutions for problems faced by society.

### > Toray Group's Corporate Social Responsibility



Introduction to the Toray Group Corporate Philosophy and its CSR activities

### > Global Environmental Activities



Environmental preservation, environmentally-friendly products, and recycling initiatives

### > CSR Report Highlight



Highlights from the Toray Group CSR Report

### > CSR Report Download



Previous years' CSR Reports can be downloaded here.

### > Environmentally Friendly Products



Toray Group's advanced materials and technologies are used in many everyday situations, affecting the lives of everyone.

### > For Our Customers



### > For Our Employees



### > For Our Shareholders



### > For Society



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Message from the President

Contributing to society through the creation of new value with innovative ideas, technologies and products

**Akihiro Nikkaku**  
President  
Toray Industries, Inc.



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Introduction

Last year Japan experienced the devastation of the Great East Japan Earthquake and ensuing tsunami, which in turn led to a serious accident at a nuclear power plant. The nation will continue to deal with the vast impact of this disaster for many years to come. Then, later in 2011, wide areas of Thailand were hit by major flooding.

Experiencing these challenges throughout the year, we could not help but be strongly reminded of the need for total disaster preparedness. Determined to learn from these tragedies, we are completely revamping Toray Group's disaster response systems and will continue doing all we can to help people in the disaster-affected areas to rebuild.

Since its establishment in 1926, Toray has been in the materials manufacturing business, driven by a keen focus on advanced research and development. Our management priorities have always been safety, accident prevention and environmental preservation, along with corporate ethics and legal compliance.

Beginning in the 1960s, Toray started to establish plants outside of Japan, becoming one of the first Japanese firms to pursue global business expansion in earnest. Today, Toray is a multinational corporate group employing 40,227 people at a total of 231 subsidiaries and affiliates—100 in Japan and 131 in 22 other countries and regions around the world—as of March 31, 2012. In the fiscal year ended March 31, 2012, Toray Group recorded consolidated net sales of 1,589 billion yen.

Throughout this history, Toray has remained firmly grounded in the materials industry, guided by the strong belief that materials can change the world. Motivated by Toray Group's Corporate Philosophy, "contributing to society through the creation of new value with innovative ideas, technologies and products," we have been working to help solve the various issues the world faces by researching and developing innovative materials and useful applications for them. This is how we strive to fulfill the commitments we made to stakeholders in Toray Group's Corporate Missions, in other words, how we work to realize our management philosophy.

> Management Highlights in Fiscal 2011



May 11 – 12, 2011  
President Nikkaku attends the 8th Asian Chemical Fiber Industries Federation Conference held in Taipei, Taiwan, in his capacity as president of the Japan Chemical Fibers Association.



August 25, 2011  
Toray and Uniqlo Co., Ltd., hold a joint press conference to announce the new HEATTECH® line of winter clothing.



September 14 – 15, 2011  
Toray holds the 2011 Toray Advanced Materials Exhibition.



November 1, 2011  
President Nikkaku flies on the inaugural flight of the Boeing 787 in Japan.



December 24, 2011  
President Nikkaku visits two Toray Group subsidiaries in Thailand to check the damage caused by flooding and the progress of recovery efforts.



December 25 – 29, 2011  
President Nikkaku visits Beijing, Wuhan, and Chengdu in China, and inspects the reverse osmosis membrane production plant at Toray Blue Star Membrane (Beijing) Co., Ltd.



January 24, 2012  
President Nikkaku travels to Seoul, South Korea, to meet with Sukwoo Hong, minister of the country's Ministry of Knowledge Economy.



March 17 – 22, 2012  
President Nikkaku visits three Toray Group subsidiaries in the United States, and meets with the governor of Rhode Island and other state officials.

Toray Group today

In April 2011, Toray Group introduced AP-Growth TORAY 2020, a long-term corporate vision that provides a unified roadmap of the management challenges we will address over the next decade. To begin implementing the first three years of this vision, we launched the medium-term management program, Project AP-G 2013.

Under the AP-Growth TORAY 2020 long-term corporate vision, our goal is to build a corporate group that continually increases revenues and profits. Toward this end, we are working even harder at global business expansion, with a

strategic focus on green innovation businesses that can help solve the increasingly serious problems related to the global environment, natural resources, and energy.

Under our Project AP-G 2013 medium-term management program, which runs from April 2011 through March 2014, we are implementing growth strategies designed to expand business scale in growing fields and growing regions. Our focus is on four growing fields: environment, water-related and energy; information, telecommunications and electronics; automobiles and aircraft; and life science. Under Project AP-G 2013, we are pursuing three strategic, group-wide initiatives: the Green Innovation Business Expansion Project, the Asia and Emerging Country Business Expansion Project, and the ongoing Total Cost Reduction Project.

To fund and drive the success of these three initiatives, we plan to undertake capital expenditures of about 350 billion yen over the three years of Project AP-G 2013. Our capital investment strategy calls for about two-thirds of this total to be allocated to business expansion. By region, about half of the total investment will be in Asia. Over the same three years, an additional 160 billion yen is earmarked for research and development expenses. This will fuel our research and development strategy, which aims to strengthen basic research capabilities to ensure continued advancement in two areas: the core Toray technologies that drive our innovation; and discovery and creation of new fundamental technologies.

## The goal of sustainable growth

The general business climate today is becoming more and more difficult, as companies face a global economic slowdown and constantly intensifying competition. At Toray, we understand that the only way to secure sustainable growth despite this challenging environment is to keep energizing markets by creating products and businesses ahead of the changing trends. We are confident that the technological strengths we have built over the years and our cutting-edge research outcomes will enable us to keep doing this.

Future-oriented products and businesses like these must also provide solutions to environmental issues and other global-scale challenges facing humanity. For the global community to grow on a sustainable path, it is essential for economic development to simultaneously drive progress in addressing these issues. In the same way, the companies that attain sustainable growth will be those whose very growth contributes solutions to the pressing problems of the age.

Given this approach to sustainable growth, we recognize the necessity of taking a long-term perspective on all of our strategies for research and development, business and products. It also means that we fully understand the need to work constantly to keep business and earnings growth aligned with progress in fulfilling corporate social responsibility (CSR). To maintain this sharp focus, we are working hard to ensure that all Toray Group employees demonstrate a personal commitment to CSR and feel completely engaged with and involved in the Group's management priorities and corporate activities.

This "Social Responsibility" section of our English website features an in-depth report on the CSR-related activities undertaken by Toray Group in fiscal 2011, and also presents the policies and objectives that underpin these activities. I warmly invite you, as an interested Toray stakeholder, to make the most of this information to find out more about Toray Group's approach to CSR.

August 2012

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**Toray Group's Corporate Social Responsibility**

I intend to make every effort to put innovation into practice and develop CSR activities throughout Toray Group. This is the key not only to being a good corporate citizen, but also to realizing our management strategies.

**Akira Uchida**  
*Senior Vice President in charge of CSR Activities,  
 General Manager of General Administration & Legal Division,  
 Investor Relations Department, Corporate Communications Department,  
 Advertising Department, Tokyo Head Office, Toray Industries, Inc.*



Toray Group has always prioritized safety, accident prevention, and environmental preservation among management issues. As strong advocates of environmentally responsible management considering the entire produce life cycle, we have developed advanced materials that are beneficial to the earth's environment in cooperation with our customers.

As Toray Group works to help solve the problems the world faces, we aspire to be a corporate enterprise that attains sustainable growth. Toray Group CSR activities are characterized by the parallel implementation of "CSR Guideline activities" and "CSR line activities." By "CSR Guideline activities," we mean every action implemented to meet the key performance indicators and objectives corresponding to the 10 items of Toray Group CSR Guidelines, efforts spearheaded by directors. By "CSR line activities," we mean all the efforts made by individual divisions to meet their own, independently set targets.

We are striving to maximize the synergies of these two types of activities to improve the Group's ability to fulfill its corporate social responsibility. At the same time, we recognize the importance of constantly reviewing the substance of our CSR activities, beginning with the question of what Toray Group can do both to grow its business and help build a more sustainable world.

In our AP-Growth Toray 2020 long-term corporate vision, which commenced in April 2011, we declare our aspiration to play an active role in contributing to social progress and exercise environmental stewardship. With CSR positioned at the heart of management, we pledge to continue operating as a group of companies that offers high corporate value to all stakeholders. Driven by the strong resolve and determination of all employees and executives, Toray Group will work with even more unity of purpose, building on its achievements day in and day out while pursuing innovation.

As the director in charge of CSR activities, I intend to make every effort to put innovation into practice and develop CSR activities throughout Toray Group. This is the key not only to being a good corporate citizen, but also to realizing our management strategies.

**Related Information**

- > [Promoting Life Recycle Management](#)

**Toray Group's Management Philosophy and CSR**

Since its founding, Toray Group has been dedicated to making social contributions through business activities based on the Corporate Philosophy of "contributing to society through the creation of new value with innovative ideas, technologies and products." The Group carries out CSR activities strategically in order to realize its Management Philosophy. The Corporate Missions outline Toray's policies towards its four main stakeholders, while the Corporate Guiding Principles set out objectives that all employees must strive for in achieving exemplary corporate citizenship. The Corporate Ethics and Legal Compliance Code of Conduct supports the Management Philosophy and serves as a specific guide on appropriate behavior for all employees.

Toray's Management Philosophy and Code of Conduct

**Social Responsibility** ↑

Message from the President

**Toray Group's Corporate Social Responsibility**

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[CSR Road Map and Key Performance Indicators \(KPI\)](#)

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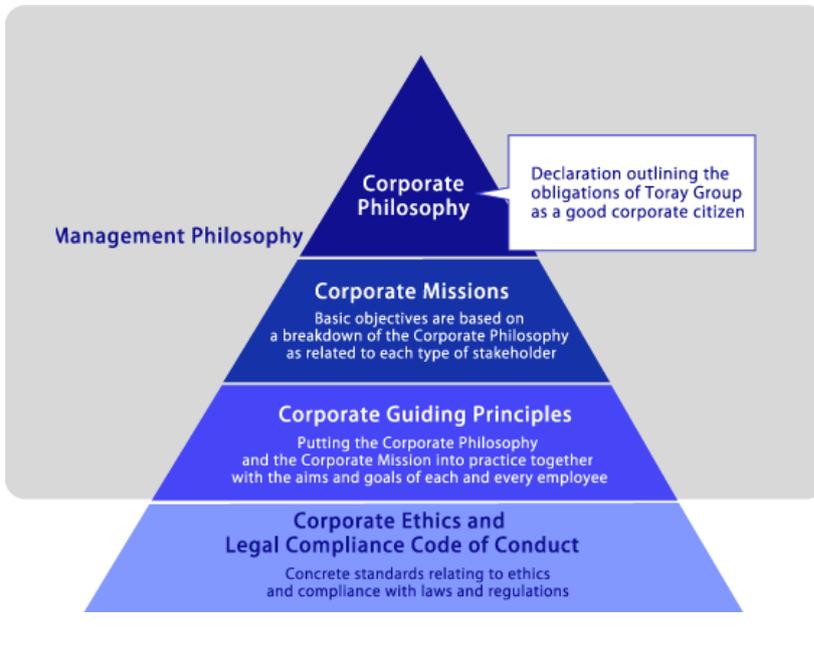
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#### Related information

- [Corporate Philosophy](#)
- [Corporate Ethics and Legal Compliance Code of Conduct](#)

### Toray's Group's CSR Framework

Toray Group established the CSR Committee in 2003 and formulated the First Road Map as a three-year plan. The CSR Guidelines were drawn up in the following year. The year 2007 saw the establishment of the CSR Operations Department and the position of director in charge of CSR activities.

In addition to activities aimed at reducing environmental impact already outlined and promoted under the Ten Basic Environmental Rules, key issues concerning social responsibility were added to Toray Group CSR Guidelines. The guidelines have been designed to fully cover the tasks that the entire Group must address going forward.

### Promoting CSR Through Parallel Activities

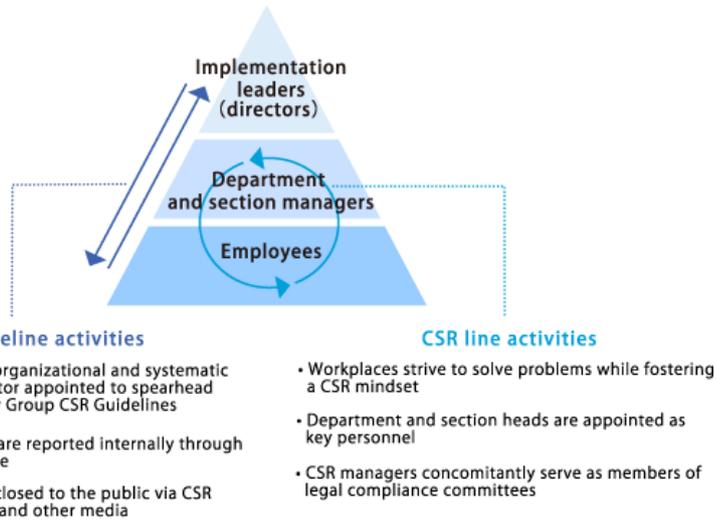
Toray Group CSR activities are characterized by the parallel promotion of "CSR Guideline activities" and "CSR line activities." The former are driven by the entire organization based on the CSR Guidelines, while the latter are pursued by individual divisions in accordance with their own targets.

CSR Guideline activities are implemented by the relevant division under plans led by a director appointed to serve as implementation leader for each respective activity. Activity progress and results are regularly reported to the company-wide CSR Committee. The information is also broadly disclosed to the general public through such media as Toray Group's CSR Report and website on a regular basis.

CSR line activities are undertaken by employees in the Group's worksites, led by section and department managers appointed as key personnel. The activities are also being fully implemented at subsidiaries and affiliates in Japan, and Toray is in the process of expanding them to certain Group companies outside the country, modifying the activities to suit local circumstances.

Toray Group is proactive about both approaches and works to ensure employees embrace them by sharing best practices group-wide.

CSR Implementation Structure



#### Related Information

- [Implementing CSR Activities and Improving CSR Education](#)

### Management Strategies and CSR

For Toray Group to attain sustainable growth, promoting CSR in all facets of business activities is essential. Therefore, every employee and manager is expected to adopt a CSR perspective, recognizing the importance of considering social responsibility in every workplace operation.

Toray Group positions CSR at the heart of management in its long-term corporate vision AP-Growth Toray 2020. Three key CSR elements are incorporated in the basic concept of the vision. The approach is also vital for the long-term Toray Group Corporate Image objective, which encompasses safety and environmental stewardship, global expansion, green innovation, vitality, and corporate social responsibility.

#### Related Information

- [Long-term corporate vision AP-Growth TORAY 2020](#)

### Progress of the Fourth CSR Road Map

Toray Group formulates its three-year CSR Road Map as a group-wide plan for implementing CSR activities and as a framework for implementing the plan-do-check-act (PDCA) cycle on an ongoing basis.

### Approach of the Fourth CSR Road Map

The Fourth CSR Road Map commenced in fiscal 2011. Toray Group revised its term from a yearly to a three-year base and further integrated the road map into its management strategies by linking it to the Project AP-G 2013 Medium-Term Management Program. The Group determined the tasks of the road map in consideration of ISO 26000 international guidance standards for corporate social responsibility, and set numerical targets in key performance indicators for each respective item in the CSR Guidelines.

### Progress on Key Performance Indicators in Fiscal 2011

In fiscal 2011, Toray Group made slow progress on certain key performance indicators, but results overall were positive. The Group intends to aggressively push ahead with related activities in order to achieve all of its targets by the end of fiscal 2013.

#### Related Information

- [CSR Road Map and Key Performance Indicators](#)

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Social Responsibility  
CSR Guidelines

FY2012

FY2011

FY2010

CSR Road Map and KPI

Adopted December 2004 and revised June 2012

[View all details](#)

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CSR GUIDELINE

1  
2012

**Corporate Governance and Management Transparency**

Continually revise management systems, strengthen internal controls and strive for timely and appropriate information disclosure as part of efforts to fulfill the company's social responsibilities.

**Road Map (FY2011-2013)**

- (1) Enhance management transparency, continually reflect stakeholder feedback in management, and fulfill responsibilities to explain corporate activities.
- (2) Perform monitoring based on the Basic Policy for Internal Control Systems, in accordance with Japan's Corporate Law.
- (3) Implement the CSR management system group-wide, and ensure its effectiveness through CSR training

**Implementation Leader**

Akira Uchida  
Senior Vice President in charge of CSR Activities, General Manager of General Administration & Legal Division, Investor Relations Department, Corporate Communications Department, Advertising Department, Tokyo Head Office, Toray Industries, Inc.

[details](#)

CSR GUIDELINE

2  
2012

**Corporate Ethics and Legal Compliance**

Ensure all executives and employees uphold a sense of responsibility, fairness and high ethical standards, and always act in accordance with the law to maintain the trust of society.

**Road Map (FY2011-2013)**

- (1) Achieve zero violations of laws or ordinance.
- (2) Promote compliance activities in accordance with the conditions of each country or region.
- (3) Enhance awareness-raising and educational activities relating to corporate ethics and legal compliance.

**Implementation Leader**

Kunihiko Yoshida  
Vice President, General Manager of Personnel & Industrial Relations Division, Toray Industries, Inc.

[details](#)

CSR GUIDELINE

3  
2012

**Safety, Accident Prevention, and Environmental Preservation**

Ensure the safety and health of society and employees, and protect the environment in all business processes, from procuring raw materials and manufacturing to the supply and disposal of products.

**Road Map (FY2011-2013)**

- (1) Clarify safety fundamentals, ensure that they are always followed, and strive to prevent accidents.
- (2) Promote activities based on the Toray Group Safety, Health, Accident Prevention and Environmental Action Policy.
- (3) Promote the Fourth Three-Year Environmental Plan (target achievement by fiscal 2015), and achieving targets.

**Implementation Leader**

Nobuo Suzui  
Executive Vice President, General Manager of Product Safety & Quality Assurance Planning Department, Manufacturing Division, Toray Industries, Inc.

[details](#)

**Product Safety and Quality**

Provide safe, highly reliable products by striving to enhance management systems for product safety and

quality assurance, and disclose appropriate information.

### Road Map (FY2011-2013)

- (1) Achieve zero product accidents.
- (2) Enhance the systems for product safety and quality assurance, group-wide.

### Implementation Leader

Nobuo Suzui  
Executive Vice President,  
General Manager of Product  
Safety & Quality Assurance  
Planning Department,  
Manufacturing Division,  
Toray Industries, Inc.

■ [details](#)

### Risk Management

Enhance Group-wide risk management systems including those pertaining to information security. Build systems capable of rapidly responding to unexpected circumstances and disclosing accurate information.

### Road Map (FY2011-2013)

- (1) Promote enterprise risk management group-wide and steadily minimizing risk.
- (2) Prepare business continuity plans (BCP) in response to a major earthquake and influenza pandemic, and raise the plan awareness of all employees.
- (3) Promote information security measures, and reducing the number of security incidents.

### Implementation Leader

Akira Uchida  
Senior Vice President in  
charge of CSR Activities,  
General Manager of General  
Administration & Legal  
Division, Investor Relations  
Department, Corporate  
Communications  
Department, Advertising  
Department, Tokyo Head  
Office, Toray Industries, Inc.

■ [details](#)

### Communication

Encourage dialogue and cooperation with stakeholders including employees, stockholders, investors, business partners, consumers, local communities, non-profit organizations, government and administrative agencies, mass media, analysts, and other parties.

### Road Map (FY2011-2013)

- (1) Improve stakeholder satisfaction in accordance with the Basic Policies to Promote Dialogue with Stakeholders.
- (2) Reflect results of dialogue and collaboration with each stakeholder group in management activities in a timely and appropriate manner.

### Implementation Leader

Akira Uchida  
Senior Vice President in  
charge of CSR Activities,  
General Manager of General  
Administration & Legal  
Division, Investor Relations  
Department, Corporate  
Communications  
Department, Advertising  
Department, Tokyo Head  
Office, Toray Industries, Inc.

■ [details](#)

### Green Innovation Businesses

Provide solutions that contribute to global social issues such as climate change.

### Road Map (FY2011-2013)

- (1) Provide advanced materials and technology that contribute to solving social issues.
- (2) Implement life cycle assessment for principal products, and contribute to GHG reduction throughout product life cycles.

### Implementation Leader

Koichi Abe  
Senior Vice President,  
General Manager of  
Intellectual Property  
Division, Information  
Systems Division, Global  
Environment Business  
Strategic Planning  
Department, Technology  
Center, Environment &  
Energy Center, Toray

[■ details](#)CSR GUIDELINE  
**8**  
2012**Train Personnel and Promote Human Rights**

Secure and train personnel, diversify and strive to protect employment, respect human rights, and continuously improve workplaces.

**Road Map (FY2011-2013)**

- (1) Respect human rights by prohibiting discrimination in any form based on factors such as race, gender, academic background, nationality, religion or physical characteristics. Grant fair promotion of employees based on ability.
- (2) Create supportive workplace environments for employees.
- (3) Actively provide training opportunities for employees.

**Implementation Leader**

Kunihiko Yoshida  
Vice President, General Manager of Personnel & Industrial Relations Division, Toray Industries, Inc.

[■ details](#)CSR GUIDELINE  
**9**  
2012**CSR Procurement**

Promote CSR activities throughout the entire supply chain by working closely with suppliers, processing vendors, customers and distribution companies.

**Road Map (FY2011-2013)**

- (1) Request the cooperation of major suppliers and subcontractors for CSR procurement.
- (2) Respond to all CSR procurement questionnaires from corporate customers.
- (3) Implement the CSR procurement system group-wide.

**Implementation Leader**

Kazuhiro Maruyama  
Senior Vice President, General Manager of Pharmaceuticals & Medical Products Division, Purchasing & Logistics Division, Toray Industries, Inc.

[■ details](#)CSR GUIDELINE  
**10**  
2012**Social Contribution Activities**

Promote social contribution activities, including those that help foster the next generation and encourage regional development, as a good corporate citizen.

**Road Map (FY2011-2013)**

- (1) Carry out independent and ongoing social contribution activities according to the Toray Group Social Initiative Policies.
- (2) Increase science education activities, and the amount of educational material provided.

**Implementation Leader**

Akira Uchida  
Senior Vice President in charge of CSR Activities, General Manager of General Administration & Legal Division, Investor Relations Department, Corporate Communications Department, Advertising Department, Tokyo Head Office, Toray Industries, Inc.

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Social Responsibility  
**CSR Road Map and Key Performance Indicators (KPI)**

Beginning in FY 2011, the Fourth CSR Road Map was integrated with the CSR Guidelines. By expanding the previous framework, CSR activities are being consolidated Group-wide.

[CSR Road Map and KPI \(PDF\)](#)

The degree of success is defined as follows: ○ means the goal was fully met; △ means 50% or more of the target was achieved; × means less than 50% of the target was achieved; and N.A. means no targets were specified for the fiscal year under review.  
\*Note: While the degree of success is not shown for key performance indicators for which no numerical targets are set, Toray discloses and continues to monitor the results.

For Our Customers:  
**Providing new value to our customers through high-quality products and superior services**

7. Green Innovation Businesses Provide solutions that contribute to global social issues such as climate change				
CSR Road Map goals				
(1)Provide advanced materials and technology that contribute to solving social issues (2)Implement life cycle assessment for principal products, and contribute to GHG reduction throughout product life cycles				
Key performance indicators	Fiscal 2013 targets	Progress in fiscal 2011		
		Fiscal 2011 targets	Results	Degree of success
(1)Green Innovation Business sales (Toray Group) (2)Number of meetings by the Global Environment Committee (Toray)	(1)500 billion yen (2)Once per year	(1)400 billion yen (2)Once per year	(1)428.2 billion yen (2)Held once	○ ○

4. Product Safety and Quality Provide safe, highly reliable products by striving to enhance management systems for product safety and quality assurance, and disclose appropriate information.				
CSR Road Map goals				
(1)Achieve zero product accidents (2)Enhance the systems for product safety and quality assurance, group-wide				
Key performance indicators	Fiscal 2013 targets	Progress in fiscal 2011		
		Fiscal 2011 targets	Results	Degree of success
(1)Number of product defects (Toray Group) (2)Ratio of complaints costs to sales (Toray)	(1)0 product defects per year (2)50% of the fiscal 2010 level	(1)0 product defects per year (2)90% of the fiscal 2010 level	(1)0 product defects per year (2)83%	○ ○

9.CSR Procurement Promote CSR activities throughout the entire supply chain by working closely with suppliers, processing vendors, customers and distribution companies.				
CSR Road Map goals				
(1)Request the cooperation of major suppliers and subcontractors for CSR procurement (2)Respond to all CSR procurement questionnaires from corporate customers (3)Implement the CSR procurement system group-wide				
Key performance indicators	Fiscal 2013 targets	Progress in fiscal 2011		
		Fiscal 2011 targets	Results	Degree of success
(1)Ratio of principal suppliers and subcontractors participating in CSR procurement (Toray) (2)Ratio of subsidiaries and affiliates that have implemented the CSR procurement system (Toray Group companies in Japan) (3)Ratio of responses to CSR procurement survey requests from	(1)90% (2)100% (3)100%	(1)90% (2)53% (3)100%	(1)90% (2)34% (3)100%	○ △ ○

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corporate customers (Toray) (4)Ratio of modal shift to sea or rail for transport across distances for 500 km or more (Toray)	(4)30%	(4)20%	(4)22%	○
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## For Our Employees:

## Providing employees with opportunities for self development in a challenging environment

## 8. Train Personnel and Promote Human Rights

Secure and train personnel, diversify and strive to protect employment, respect human rights, and continuously improve workplaces

## CSR Road Map goals

- (1)Respect human rights by prohibiting discrimination in any form based on factors such as race, gender, academic background, nationality, religion or physical characteristics. Grant fair promotion of employees based on ability  
(2)Create supportive workplace environments for employees  
(3)Actively provide training opportunities for employees

Key performance indicators	Fiscal 2013 targets	Progress in fiscal 2011		
		Fiscal 2011 targets	Results	Degree of success
(1)Women in management positions (Toray) (2)Percent of companies achieving legally mandated employment rate of persons with disabilities (Toray Group in Japan) (3)Paid-leave ratio (Toray) (4)Training expenditures per employee (Toray) (5)Number of overseas leaders in training courses (Toray Group) (6)Number of meetings by Human Rights Promotion Committee (Toray Group companies in Japan)	(1) No numerical target determined (2)100% of companies (3)No numerical target determined (4)No numerical target determined (5)No numerical target determined (6)At least once per year	(1) No numerical target determined (2)100% of companies (10 of 10) (3)No numerical target determined (4)No numerical target determined (5)No numerical target determined (6)At least once per year	(1)3.81% (2)60% of companies (6 of 10) (3)93.1% (4)66,170yen (5)192employees (6)Held once	N.A. △ N.A. N.A. N.A. ○

## 3.Safety, Accident Prevention, and Environmental Preservation

Ensure the safety and health of society and employees, and protect the environment in all business processes, from procuring raw materials and manufacturing to the supply and disposal of products

## CSR Road Map goals

## 【Occupational safety】

- (1)Clarify safety fundamentals, ensure that they are always followed, and strive to prevent accidents  
(2)Promote activities based on the Toray Group Safety, Health, Accident Prevention and Environmental Action Policy

Key performance indicators	Fiscal 2013 targets	Progress in fiscal 2011		
		Fiscal 2011 targets	Results	Degree of success
(1)Occupational accident frequency with lost-time (Toray Group) (2)Number of major accidents (Toray Group) (3)Improvement in near accident rate (Toray Group)	(1)No more than 0.05 (2)0 accidents (3)100%	(1)No more than 0.05 (2)0 accidents (3)100%	(1)0.16 (2)0 accidents (3)96%	△ ○ △

## For Our Shareholders:

## Providing our shareholders with dependable and trustworthy management

## 1. Corporate Governance and Management Transparency

Continually revise management systems, strengthen internal controls and strive for timely and appropriate information disclosure as part of efforts to fulfill the company's social responsibilities

## CSR Road Map goals

- (1) Enhance management transparency, continually reflect stakeholder feedback in management, and fulfill responsibilities to explain corporate activities  
(2)Perform monitoring based on the Basic Policy for Internal Control Systems, in accordance with Japan's Corporate Law  
(3)Implement the CSR management system group-wide, and ensure its effectiveness through CSR training

Key performance indicators	Fiscal 2013 targets	Progress in fiscal 2011		
		Fiscal 2011 targets	Results	Degree of success
(1)Percentage of matters subject to disclosure requirements that are disclosed via website (Toray)	(1)90%	(1)85%	(1)83%	△

(2)Number/ratio of subsidiaries/affiliates performing CSR training (Toray Group) (3)Number of meetings of the CSR Committee (Toray)	(2)100% (3)At least twice per year	(2)70% (3)At least twice per year	(2)96% (81 companies) (3)Held twice	○ ○
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**2. Corporate Ethics and Legal Compliance**  
Ensure all executives and employees uphold a sense of responsibility, fairness and high ethical standards, and always act in accordance with the law to maintain the trust of society

CSR Road Map goals

- (1)Achieve zero violations of laws or ordinance  
(2)Promote compliance activities in accordance with the conditions of each country or region  
(3)Enhance awareness-raising and educational activities relating to corporate ethics and legal compliance

Key performance indicators	Fiscal 2013 targets	Progress in fiscal 2011		
		Fiscal 2011 targets	Results	Degree of success
(1)Number of major violations of laws or ordinances (Toray Group) (2)Number of ethics training sessions for new executives (Toray Group companies in Japan) (3)Number of internal legal audits (Toray Group) (4)Number of Corporate Ethics Committee meetings (Toray) (5)Number of Legal Compliance Committee meetings (Toray)	(1)0 violations (2)At least once per year (3)At least 8 times per year (4)At least once per year (5)At least once per year	(1)0 violations (2)At least once per year (3)At least 8 times per year (4)At least once per year (5)At least once per year	(1)0 violations (2)Held once (3)Held 9 times (4)Held twice (5)Held twice	○ ○ ○ ○ ○

**5. Risk Management**

Enhance Group-wide risk management systems including those pertaining to information security. Build systems capable of rapidly responding to unexpected circumstances and disclosing accurate information

CSR Road Map goals

- (1)Promote enterprise risk management group-wide and steadily minimizing risk  
(2)Prepare business continuity plans (BCP) in response to a major earthquake and influenza pandemic, and raise the plan awareness of all employees  
(3)Promote information security measures, and reducing the number of security incidents

Key performance indicators	Fiscal 2013 targets	Progress in fiscal 2011		
		Fiscal 2011 targets	Results	Degree of success
(1)Number/ratio of companies with enterprise risk management systems (Toray Group companies in Japan) (2)Number/ratio of companies with emergency employee contact systems (Toray Group) (3)Number of incidents relating to information security compared to fiscal 2010 (Toray Group) (4)Percent of priority risks improved (Toray) (5)Number of meetings by the Group-Wide Risk Management Committee (Toray)	(1)100% (2)No numerical target determined (3)50% of the fiscal 2010 level (4)100% (5)At least twice per year	(1)80% (2)No numerical target determined (3)75% of the fiscal 2010 level (4)100% (5)At least twice per year	(1)100% (2)7 companies (3)129% above the fiscal 2010 level (4)78% (5)Held twice	○ N.A. △ △ ○

For Society:

**Establishing ties and developing mutual trust as a responsible corporate citizen**

**6. Communication**

Encourage dialogue and cooperation with stakeholders including employees, stockholders, investors, business partners, consumers, local communities, non-profit organizations, government and administrative agencies, mass media, analysts, and other parties

CSR Road Map goals

- (1)Improve stakeholder satisfaction in accordance with the Basic Policies to Promote Dialogue with Stakeholders  
(2)Reflect results of dialogue and collaboration with each stakeholder group in management activities in a timely and appropriate manner

Key performance indicators	Fiscal 2013 targets	Progress in fiscal 2011		
		Fiscal 2011 targets	Results	Degree of success
(1)Number of corporate website page views (Toray) (2)Customer satisfaction survey implementation (Toray) (3)Employee job satisfaction survey implementation (Toray)	(1)3 million page views per month on average (2)Once every 2 years	(1)2.5 million page views per month on average (2)Once every 2 years	(1)Recorded 2.5 million page views per month on average	

(4)Number of meetings with employees or labor unions (Toray Group) (5)Number of meetings with regional and local governments (Toray) (6)Number of participations in community activities (Toray Group) (7)Amount of investors enquires (Toray) (8)Amount of media enquires (Toray) (9)Number of meetings by the Communications Committee (Toray)	(3)Once every 2 years (4)No numerical target determined (5)No numerical target determined (6)No numerical target determined (7)No numerical target determined (8)No numerical target determined (9)At least twice per year	(3)Once every 2 years (4)No numerical target determined (5)No numerical target determined (6)No numerical target determined (7)No numerical target determined (8)No numerical target determined (9)At least twice per year	(2)Conducted in fiscal 2011 (3)Conducted in fiscal 2011 (4)Held 13 meetings (5)Held 39 meetings (6)Participated in 147 events (7)Received 809 enquiries (8)Received 325 enquiries (9)Held twice	○ ○ ○ ○ ○ ○
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10.Social Contribution Activities				
Promote social contribution activities, including those that help foster the next generation and encourage regional development, as a good corporate citizen				
CSR Road Map goals				
(1)Carry out independent and ongoing social contribution activities according to Toray Group Social Initiative Policies (2)Increase science education activities, and the amount of educational material provided				
Key performance indicators	Fiscal 2013 targets	Progress in fiscal 2011		
		Fiscal 2011 targets	Results	Degree of success
(1)Social contribution expenditure (Toray Group) (2)Number of science education activities, and institutions provided with educational material (Toray)	(1)1% or more of consolidated ordinary income (2)Twice the number compared to fiscal 2010	(1)1% or more of consolidated ordinary income (2)30 or more	(1)1.06% of consolidated ordinary income (2)33	○ ○

3.Safety, Accident Prevention, and Environmental Preservation				
Ensure the safety and health of society and employees, and protect the environment in all business processes, from procuring raw materials and manufacturing to the supply and disposal of products				
CSR Road Map goals				
(1)Promote activities based on the Toray Group Safety, Health, Accident Prevention and Environmental Action Policy (2)Promote the Fourth Three-Year Environmental Plan (target achievement by fiscal 2015), and achieving targets				
Key performance indicators	Fiscal 2013 targets	Progress in fiscal 2011		
		Fiscal 2011 targets	Results	Degree of success
(1)Reduction of atmospheric VOC emissions (Toray Group) (2)Percent of improvements to issues indicated in safety, health, fire prevention, and environmental surveys (Toray Group) (3)Waste recycling rate (Toray Group) (4)Reduction of greenhouse gas emissions (Toray) (5)Number of social contribution activities relating to biodiversity (Toray Group) (6)Number of biodiversity protection conditions ascertained at suppliers (Toray)	(1)70% reduction compared to the fiscal 2000 level (also the target for fiscal 2015) (2)100% (3)86% or more (also the target for fiscal 2015) (4)10% reduction compared to fiscal 1990 level (also the target for fiscal 2015) (5)No numerical target determined (6)No numerical target determined	(1)No numerical target determined (2)100% (3)No numerical target determined (4)Reduce 10% or more of the fiscal 1990 level (5)No numerical target determined (6)No numerical target determined	(1)65% reduction (2)99% of improvements (3)87% of waste recycled (4)17% reduction (5)1 activity implemented (6)501 suppliers	N.A. △ N.A. ○ N.A. N.A.

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**History of Toray's CSR Activities**

Business and CSR Activities	Year	Environment and Responsible Care Activities
Established a Social Contribution Group in the CSR Operations Department	2012	
Formulated the Fourth CSR Road Map and the Key Performance Indicators	2011	Formulated the Fourth Medium-Term Environmental Plan
Formulated Toray Group Biodiversity Basic Policy	2010	Established Nano-Material Safety Guidelines
50th anniversary of the Toray Science Foundation	2009	Established the Global Environment Business Strategic Planning Department
Established Risk Management Group in the CSR Operations Department, and began group-wide risk management	2008	Established the Fire Prevention & Environmental Technology Section in the Chemical Engineering Department
		Commenced Toray Group Household Eco-Account Book Program
Appointed a director in charge of CSR activities, and established the CSR Operations Department	2007	Held the Toray Group Safety Meeting with the first-time participation of overseas subsidiaries and affiliates
		Third Three-Year Environmental Plan started
CSR Operations Group established in the Corporate Planning Department	2006	Established the REACH Promotion Department
Renamed CSR Annual Report to CSR Report, and commenced CSR line activities	2005	Established the Toray Group <i>Hiyari Hatto</i> *1 Reporting System
Formulated the CSR Guidelines, and commenced publishing CSR Annual Report	2004	Established the Crisis Management Regulations
		Established the Green Procurement Guidelines
		Established the Green Purchasing Guidelines
Established the CSR Committee, and formulated the First CSR Road Map	2003	Second Three-Year Environmental Plan started
Compliance Committee established	2002	Established the Safety Management Regulations for Hazardous Substance Transportation
		Established the Management Standards for Yellow Card Issuing
Reemployment system introduced	2001	Recycling Committee established
		Three-Year Environmental Plan started, Ten Basic Environmental Rules adopted
	2000	Toray Group Environmental Management Standards established
		Environmental accounting results for FY 1999 announced
		All 12 Toray plants acquire ISO14001 certification
1999	Environmental Report published	
	Second Waste Reduction Plan prepared	

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		Toray Group Domestic Grand Safety Meeting held (first Group meeting)
	1998	Safety, health, accident prevention, and environmental audits start at Japanese subsidiaries and affiliates
		Safety, Health, Accident Prevention, and Environment Conference and Product Safety Conference created for overseas subsidiaries and affiliates
Corporate Ethics Committee established	1997	Carried out the Fire Prevention (FP) Project
Toray Human Resources Development Center opens	1996	
Toray Europe Labor and Management Council established		
Human Rights Promotion Committee established		
Formulated the Management Philosophy	1995	Joined Japan Responsible Care Council as a founding member
Involved in establishing the Ecological Life and Culture Organization		Safety, health, accident prevention, and environmental audits start at overseas subsidiaries and affiliates
Toray Science Foundation established in Thailand	1994	Safety, Health, Accident Prevention, and Environment Conference and Product Safety Conference created for Japanese subsidiaries and affiliates
		Purchase and manufacturing use of certain chlorofluorocarbons abolished
Started shortening scheduled working hours with the goal of 1,800 hours	1993	
Toray Science Foundations established in Indonesia and Malaysia		Safety, health, accident prevention, and environmental audits start at Toray plants
Admitted into Keidanren's 1% Club	1991	Global Environment Committee and Product Safety Committee established
		Industrial Waste Reduction Project started
	1990	First Grand Safety Meeting of Domestic Subsidiaries and Affiliates held
Industrial Waste Reduction Project started		
English language version of company magazine People first published	1989	Mutual inspections of safety and accident prevention start at Japanese subsidiaries and affiliates
Formulated the Corporate Philosophy: "Contributing to society through the creation of new value with innovative ideas, technologies and products"	1986	
	1984	Environment, Accident Prevention, Safety, and Health Assessment system established at the equipment planning stage
		First Monday of each month established as a company-wide Safety and Accident Prevention Day
	1983	First Energy Conservation Technology Presentation Meeting held
	1982	First Company-wide Grand Safety Meeting held

		Product Safety Management Regulation enacted
	1981	Energy Technology Department established
Toray Welfare Society established	1980	Standard for the Prevention of Earthquake Disasters established
	1979	Chemical Substance Safety Management Guidelines enacted
	1976	Accident Prevention and Safety Management Regulations enacted
Five-day workweek implemented	1974	Accident prevention and safety inspections of chemical plants started (expanded to all plants in 1984)
Child care leave of absence system established		Occupational Safety and Health Management Regulations enacted
	1973	Environment Management Regulations and Basic Policy for Greening adopted
		Plant greening work started
Company name changed to Toray Industries, Inc.	1970	Environment Technology Section established at all Toray plants (now the Environment & Safety Section)
	1969	Environmental Pollution Prevention Committee established (now the Safety, Health, and Environment Committee)
Mandatory retirement age of 60 adopted	1966	
	1965	Accident Prevention Technology Section established (now the Environment & Safety Department)
Toyo Rayon Science Foundation established (now the Toray Science Foundation)	1960	
English annual report first published		
Central Production Committee convenes (reorganized into the Labor and Management Council in 1965)	1958	
Pension plan established	1956	
"Toyo Rayon will serve society" was adopted as a company policy	1955	
Monthly company magazine Toray Newsletter first published (name changed to People in April 1986)	1953	
Toyo Rayon Labor Union Federation established	1946	
Toyo Rayon Health Insurance Association established	1940	
Toyo Rayon Co., Ltd. founded	1926	

\*1: The Japanese words *hiyari* and *hatto* express the sensation of shock after a near accident.

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External Commendations

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Year	Month	Country	Awarding Institution	Commendations	Recipient
2011	March	Japan	Shiga Labour Bureau Director, Ministry of Health, Labour and Welfare	Achieved 3.5 million hours free from type-1 accidents	Shiga Plant of Toray Opelontex Co., Ltd.
		Japan	Ministry of Health, Labour and Welfare	2010 Minister of Health, Labour and Welfare Award for Outstanding Foreman Safety	Masato Hamada, Tokai Plant of Toray Industries, Inc.
	January	Japan	Japan Chemical Industry Association	Safety Effort Award	Toray Industries, Inc
2010	June	Japan	Fire and Disaster Management Agency	Fire and Disaster Management Agency Director's Award for Outstanding Workplace Handling Hazardous Substances	Toray Monofilament Co., Ltd.
	May	Japan	Japan Chemical Industry Association and Japan Responsible Care Council	Outstanding Safety Award	Okazaki Plant of Toray Industries, Inc.
	April	USA	State of Alabama, Manufacture Alabama, and the Business Council of Alabama	Safety Award	Toray Carbon Fibers America, Inc.

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In order to provide safe and high-quality products to customers, Toray Group is striving to strengthen its product safety and quality assurance control systems, and disclose appropriate information. The Group promotes R&D related to recycling and Green Innovation Products. It is also promoting CSR procurement initiatives in cooperation with suppliers.

**For Our Customers**

### Green Innovation Businesses

With the aim of promoting technology innovation from the perspective of product lifecycle management, Toray seeks to reduce its environmental load and provide solutions for customer issues.

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**For Our Customers**

### CSR Procurement

With a commitment to CSR procurement, Toray Group is promoting cooperative initiatives with suppliers in order to fulfill its social responsibilities throughout the entire supply chain as a materials manufacturer.

**For Our Customers**

### Product Safety and Quality

Ensuring product safety and quality is essential for gaining the trust of customers. This is why Toray Group constantly strives to improve product safety and quality assurance, true to its "customer first" and "quality first" commitments.

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Green Innovation Businesses

**Moving Forward with the Green Innovation Business Expansion Project**

Toray launched its AP-Growth Toray 2020 long-term corporate vision and the Project AP-G 2013 medium-term management program in April 2011. One major initiative of the vision and program is to expand Green Innovation Businesses in growth business fields. To realize this objective, Toray initiated the Green Innovation Business Expansion Project under the guidance of the company president, and appointed key personnel to carry out the project under the supervision of the general managers of each business division.

**Green Innovation Products**

Toray Group's Green Innovation Products play an important role in areas that offer solutions to global environmental problems and resource- and energy-related issues. As shown in the table below, the Group has set its own criteria for these products, which it revises when necessary.

Green Innovation Product Types and Basic Concepts	
Product type	Basic concept
1. Energy-Saving	Products that reduce the energy consumed during their product life cycle
2. New Energy	Any parts, materials, and technologies used in industries relating to new energy
3. Biomass-Derived	Products derived from non-petroleum raw materials
4. Water treatment	Parts, devices, and systems, etc. used in water treatment
5. Air purification	Parts, devices, and systems, etc. used in air purification
6. Low environmental impact	Products that control the emissions or use of hazardous substances
7. Recycling	Products made from recycled materials or featuring a recyclable design
8. Process innovation	Innovative manufacturing technology that greatly reduces the environmental impact of an existing process

**Green Innovation Business Targets and Fiscal 2011 Results**

**Target1** Sales of Green Innovation Businesses

**1 trillion yen by around 2020**

**Target2** CO<sub>2</sub> emissions reduction due to adoption of Green Innovation Products

**200 million tons annually around 2020**

Net sales for Toray's Green Innovation Businesses totaled 428.2 billion yen in fiscal 2011, surpassing the target of 400 billion yen for the year. Meanwhile, the amount of CO<sub>2</sub> emission reductions due to adoption of Green Innovation Products grew steadily to approximately 32 million tons\*1 from 29 million tons in the previous fiscal year, despite unfavorable conditions related to the Great East Japan Earthquake.

\*1: Calculated CO<sub>2</sub> emissions reduction arising from principal Green Innovation Products, based on Toray's life cycle assessment analysis

Sales of Green Innovation Businesses

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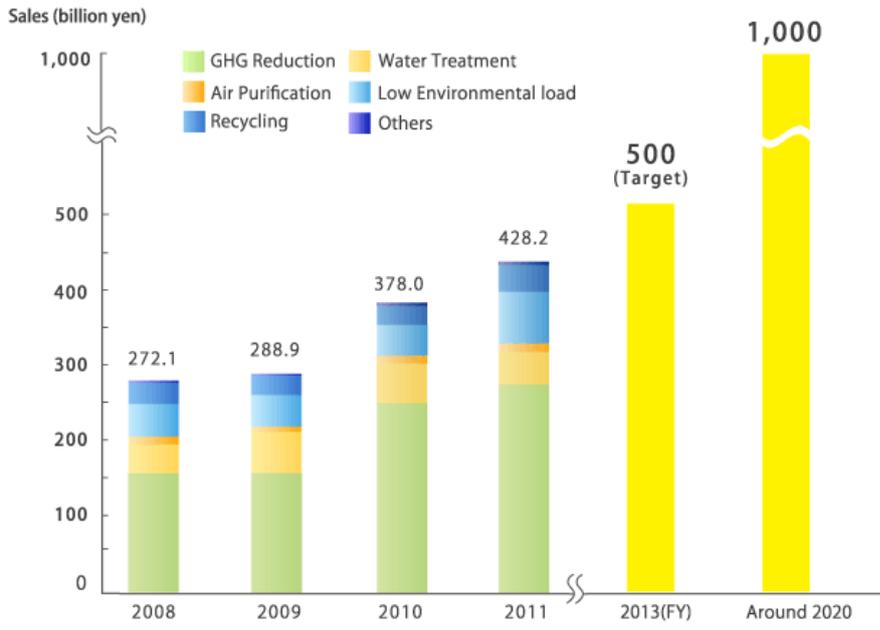
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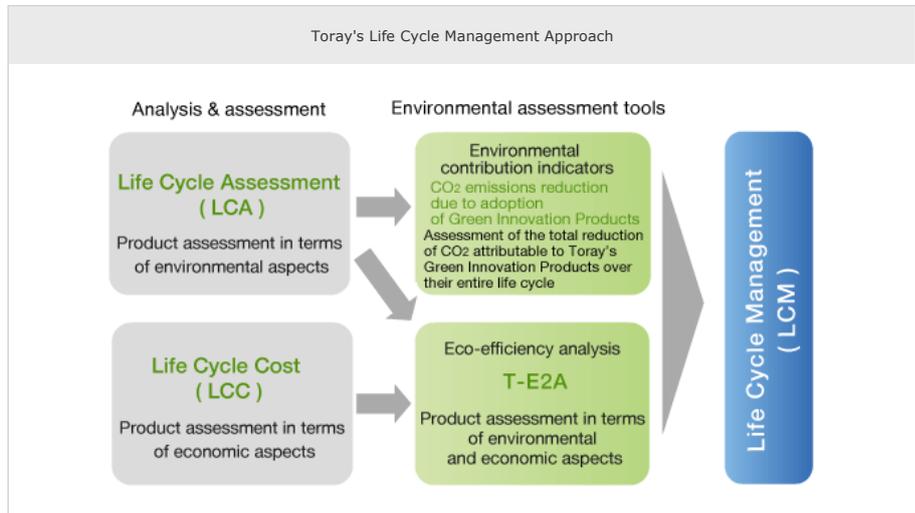
Green Innovation Businesses  
**Promoting Life Cycle Management**

Toray Group implements environmentally responsible management considering the entire produce life cycle. This approach considers the entire life cycle of products and services in all business activities with the aim of reducing a company's environmental impact while raising its corporate and social value. It is the foundation of Toray's Green Innovation Businesses. To implement this style of management, Toray Group has adopted life cycle assessment methods and the Toray Eco-Efficiency Analysis (T-E2A) tool, and is working to entrench and promote them throughout its business activities.



Awards ceremony of JLCA

Toray Group's efforts to promote environmentally responsible management and popularize its methods based on life cycle management were recognized by the Life Cycle Assessment Society of Japan (JLCA) at its eighth awards ceremony held in December 2011. Toray received the highest award from the director-general of the Industrial Science and Technology Policy and Environment Bureau of the Ministry of Economy, Trade and Industry.



Environmental analysis tools for products and services jointly developed with Japan Environmental Management Association for Industry.



In June 2012, Toray and the Japan Environmental Management Association for Industry announced that they had fully integrated the Toray Eco-Efficiency Analysis (T-E2A) <sup>\*1</sup> tool and Multiple Interface Life Cycle Assessment (MiLCA) <sup>\*2</sup> software, each developed and utilized by the Company and the association, respectively. The software is now being widely promoted as an enhanced version of MiLCA featuring all new functions. Through this collaboration between Toray and the association, environmental analysis of products and services can be conducted with greater ease and speed.

For more information, please refer to the following website:  
<http://www.milca-milca.net/english/>

<sup>\*1</sup>. T-E2A is an environmental analysis tool developed by Toray. It produces a map of multiple products along the axioms of environmental impact and economical performance, enabling users to select the most environmentally friendly and economical products. Toray Group is widely using T-E2A as a platform tool for conducting life cycle management in its business activities.  
<sup>\*2</sup>. MiLCA is life cycle assessment support software developed by the Japan Environmental Management Association for Industry. It is designed to easily identify environmental data in various categories and has a capacity for over 3,000 standardized secondary datasets, which include background information based on documented values for resources and raw materials used, electricity consumption, and many other factors. MiLCA makes life cycle assessment simpler to perform.

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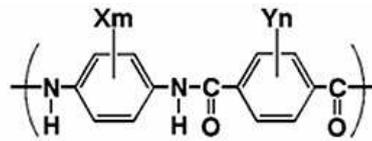
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Initiatives for Green Innovation Businesses

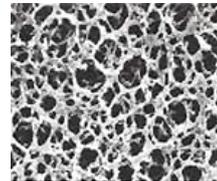
By expanding the scope of its Green Innovation Products, Toray Group is pursuing numerous initiatives intended to help solve global environmental problems and resource- and energy-related issues. The results of some of these initiatives undertaken in fiscal 2011 are presented below

**Development of High-Performance Microporous Aramid Film**

Toray has successfully developed microporous aramid film that boasts the world's highest level of heat resistance and flame retardance. The shape and size of the film does not change even up to temperatures of 200 °C. The film also features a uniformly porous structure with a relatively high proportion of holes. Toray achieved this by pursuing molecular design technologies for aramid polymers, which are the Company's proprietary heat-resistant polymers, and structural control technologies related to nano-phase separation. Toray is promoting applications for this new film particularly in energy-related fields, including usage as a separator for the rechargeable lithium ion batteries of electric and hybrid vehicles.



Chemical makeup of aramid



Porous structure

**Trial Production of Fully Renewable Bio-Based PET Fibers**

Toray has successfully produced the world's first fully renewable bio-based polyethylene terephthalate (PET) fibers on a trial production basis. The fibers will be used as a raw material for fully renewable bio-paraxylene produced by Gevo, Inc., a leading bio-technology company. While this trial production is still in the experimental phase, Toray has already demonstrated the feasibility of manufacturing polyester fibers exclusively from biomass materials—a significant step toward helping realize a sustainable, low-carbon society.



Fully renewable bio-based PET fibers

**Supplying Reverse Osmosis Membranes to Asia's Largest Desalination Plant**

Toray has received an order to supply reverse osmosis membranes for the Tuaspring Desalination Plant under construction in Tuas, Singapore. The plant is designed to desalinate about 320,000 cubic meters per day, making it the largest seawater desalination plant in Asia outside of the Middle East. Toray will supply the reverse osmosis membranes by the end of 2012 to the plant, which is scheduled to begin operations in 2013.

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Green Innovation Businesses  
**Promoting Recycling Initiatives**

As a manufacturer of a wide range of materials, Toray Group promotes a wide array of recycling initiatives. Toray is also supporting a nationwide recycling project run by Japan's Ministry of the Environment and is proactively working to re-use resources derived from wastes.



**Recycling Activity Principles** (adopted in March 2004)

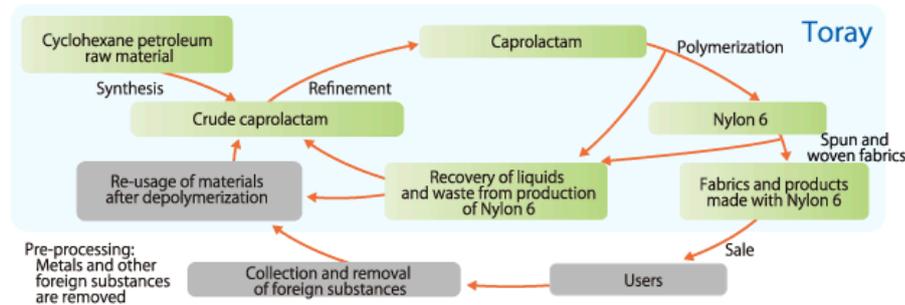
1. We shall design, produce, and sell products that reduce our impact on the environment.
2. We shall purchase and use materials and products which will help reduce our impact on the environment
3. We shall disclose information related to recycling programs and recycled goods.
4. We shall voluntarily cooperate with customers to recycle or otherwise appropriately dispose of our products.



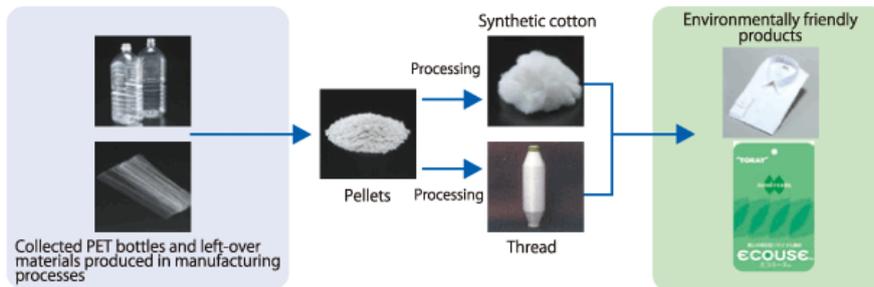
**Toray Group Recycling Activities**

**Fibers and Textiles Recycling**

**CYCLEAD® brand products from recycled fibers recovered from disposed nylon products**



**Recycling PET bottles to make ECOUSE™ fabrics for uniforms and highly functional sportswear**



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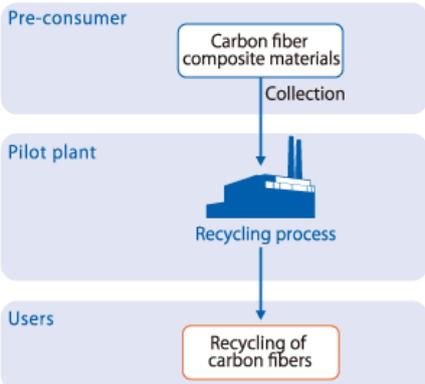
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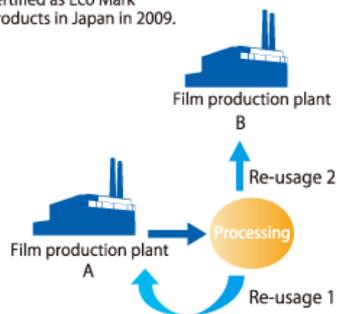
Ongoing development of carbon fiber recycling technologies at a pilot plant

As a member of the Japan Carbon Fiber Manufacturers Association, Toray has conducted demonstrations of manufacturing technologies for recycled carbon fibers at a pilot plant. Toray will continue studying these technologies with the goal of developing sustainable production systems in the future.



Re-usage of recovered raw materials generated by manufacturing processes

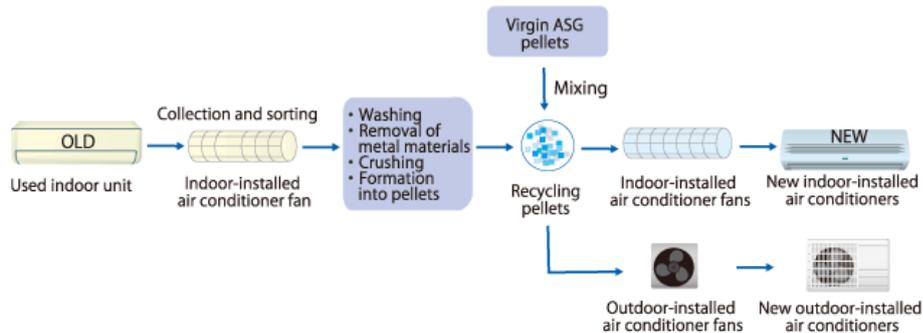
Toray is producing environmentally friendly films by re-using recovered raw materials used to make its LUMIRROR® optical-use film displayed in "Re-usage 2" below. These films were certified as Eco Mark Products in Japan in 2009.



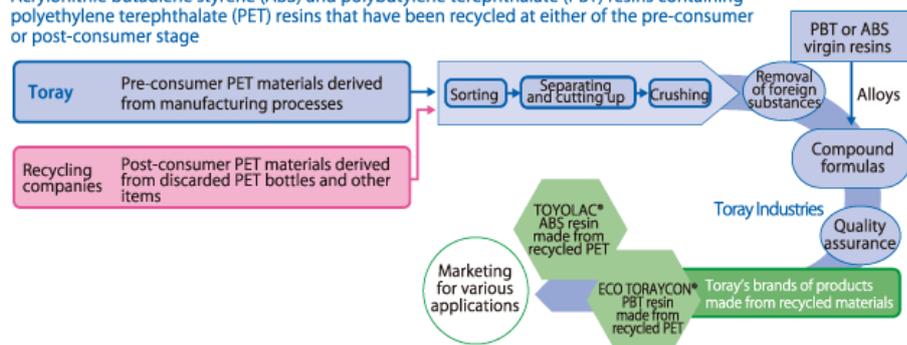
To achieve zero emissions at its film production plants, Toray is developing innovative recycling techniques and stepping up its utilization of recovered materials in order to decrease its environmental impact.

Recycling of resins

Closed-loop material recycling systems for fans in end-of-life indoor home air conditioner units



Acrylonitrile butadiene styrene (ABS) and polybutylene terephthalate (PBT) resins containing polyethylene terephthalate (PET) resins that have been recycled at either of the pre-consumer or post-consumer stage



Notes:  
 1. Pre-consumer materials refer to defective products and materials discarded during product manufacturing processes  
 2. Post-consumer materials refer to recycled materials from collected disposable products such as PET bottles

Product Safety and Quality  
**Product Safety and Quality Policies**

**Initiatives for Product Safety and Quality Assurance**

Guided by its policies on product safety and quality assurance, Toray Group has established an organizational framework for consistently delivering on its "customer first" and "quality first" commitments. Specifically, Toray's Product Safety and Quality Assurance Planning Department plans and proposes measures for the entire Group, while the Product Safety and Quality Assurance Committee deliberates on basic policies and other matters.

In fiscal 2010, product safety and quality assurance tasks were determined in each of the Group's business areas with a view to achieving growth over the medium to long term. Concrete initiatives were then developed in fiscal 2011 to accomplish these tasks. Looking forward, Toray Group intends to enhance its group-wide management systems in connection with product safety and quality assurance, capitalizing on synergies between the two areas.

**Quality Policy** (revised June, 2007)

We give top priority to the product quality offered to our customers as well as to safety and to the environment in our corporate activities. We work on quality assurance with the stance of "Customer First."

1. We make our best efforts to meet our customers' expectations with products and services of high satisfaction.
2. We commit ourselves to abide by the "Quality First" principle, and to improve the quality and reliability of our products, in all our divisions, including sales, manufacturing and research and development.
3. We meet quality requirements at the stage of design and development, and ensure and enhance these in the manufacturing process.
4. We continuously strive to organize, maintain and improve our quality management system.

**Product Safety Management Basic Policy** (established January, 1992)

1. We shall place priority on the various measures required to ensure product safety.
2. We shall conduct adequate safety evaluations prior to marketing a new product.
3. For products already on the market, we shall take note of feedback from customers and the general public and always remain attentive to safety.

**Related Information**

- [Long-Term Corporate Vision AP-Growth TORAY 2020](#)

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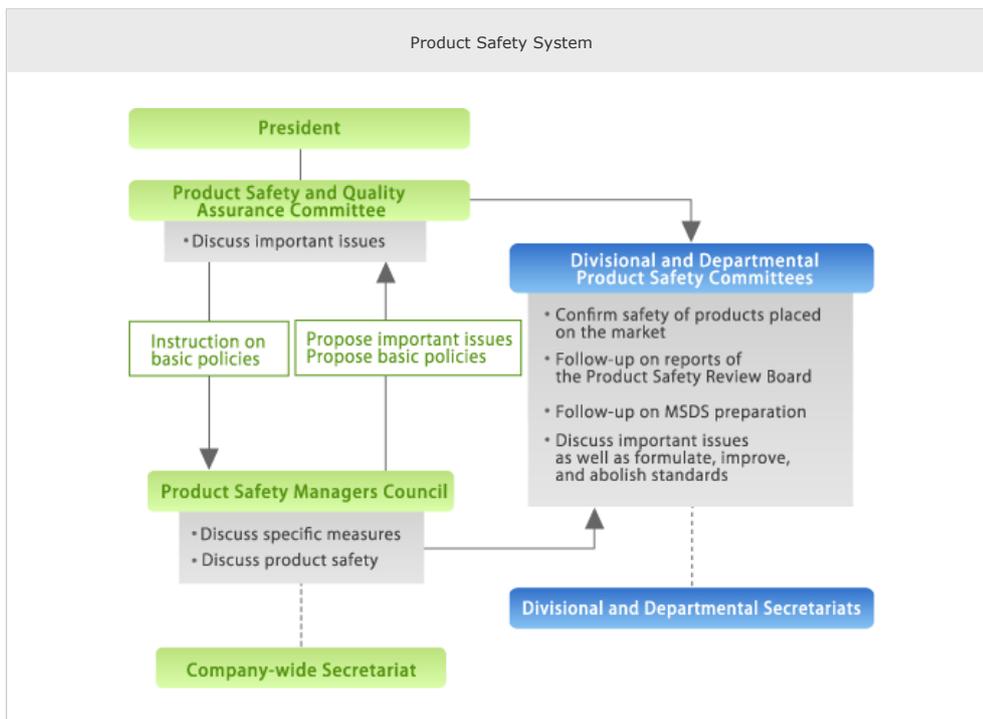
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Product Safety and Quality  
Initiatives for Product Safety

Implementation of Product Safety Activities

Toray's Product Safety System is shown in the diagram below. Based on Product Safety Control Regulations, Toray's Product Safety Managers Council promotes and implements annual Group-wide product safety themes that are established by the Product Safety and Quality Assurance Committee. Each Divisional and Departmental Product Safety Committee further breaks down the product safety themes, based on deliberations of the Product Safety Managers Council. Under this arrangement, implementation issues are identified by each relevant division and department every year, and the production, engineering, and sales divisions cooperate in efforts to thoroughly implement and improve product safety management.



The system outlined in the chart above has been fully put in place at subsidiaries and affiliates in Japan and other countries. Meanwhile, Toray established a group-wide system in fiscal 2011 for standardizing and analyzing data concerning the occurrences of product defects and the progress of product safety reviews.

A Stronger Product Safety Review System

Under Toray Group's product safety review system, safety reviews for new products are undertaken by the director in charge of manufacturing the product. The reviews include a safety check of the product, completion of material safety data sheets (MSDS), an inspection of the product's instruction manuals and warning labels, and the production of catalogs and other useful safety information resources for customers. Assessments of the environmental impact of the product are also undertaken at the same time.

If any doubts about product safety are identified, the Product Safety Review Board convenes a meeting comprised of impartial experts, including people from outside the Group when necessary. The product must then pass their review before being released to the market.

To ensure safety when circumstances have changed for raw material producers, subcontracted firms, and countries where products are sold, in fiscal 2011 Toray modified items in its safety inspections according to such changes in an effort to strengthen its product safety review process.

Product Safety Review Flow Chart

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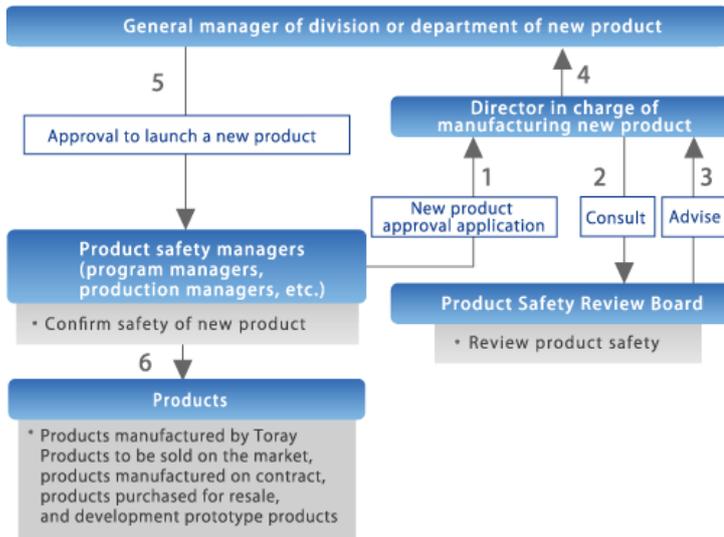
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### Product Safety Education and Training

Toray's Product Safety and Quality Assurance Planning Department provides training every year for newly appointed department and section managers at the Company and its subsidiaries and affiliates in Japan. Training is conducted in half-day sessions that focus on the importance of product safety, the relationship between product safety and quality assurance, relevant laws and regulations, and the Toray Group's product safety review system. At subsidiaries and affiliates outside Japan, relevant divisions at Toray provide assistance in product safety training to help improve education and training.

### Responding to Product Defects

Toray Group promptly carries out product recalls at any time product defects have been identified or are deemed probable. In fiscal 2011, Toray discovered that among the contact lenses it manufactures and sells, some products appeared to have been shipped with incorrect prescription information on the labels, resulting from problems with automatic inspection machines used in the manufacturing process. The Company announced a recall on its website and voluntarily recovered the products through sales outlets.

### Providing Product Safety Information

Toray Group provides product safety information along with its many products and services in a manner appropriate for each of its businesses. The Group undertakes concrete initiatives designed to ensure product safety and quality while respecting the eight basic rights of consumers agreed by the United Nations, listed below, as fundamental principles when dealing with customers.

In its efforts to create a convenient environment for customers, Toray Group makes available toll-free numbers for customers to call and inquire about its mainstay consumer products such as home water purifiers and contact lenses.

#### Related Information

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Product Safety and Quality  
**Initiative for Quality Assurance**

**Perfecting Systems in Support of Quality Assurance Activities**

Like its product safety system, Toray's system for promoting quality assurance initiatives is led by quality assurance executive meetings, comprised of managers in charge of quality assurance sections in each respective department and division. Held every year, the meetings take on company-wide quality assurance tasks set by the Product Safety and Quality Assurance Committee on the basis of quality assurance management rules. As one of these tasks, in fiscal 2011 Toray improved its system for management of raw material producers and subcontractors, and for ensuring product quality when its technologies are transferred, especially internationally.



**VOICE**

**Hirokuni Inoue**  
Deputy General Manager, K1 Section, Products Department,  
Toray Industries (H.K.) Ltd.

**Helping to make reliable, comfortable clothing for everyone**

The Products Department of Toray Industries (H.K.) Ltd., where I work, deals in functional innerwear, sportswear and other clothing items. I work in production operations of sewn products for major specialty store retailers of private label apparel (SPA), handling quality control of fabric production and the development of next-generation sewn products.

Quality control items for fabrics are classified under five main categories: safety, functionality (such as anti-odor, anti-bacterial, water absorption and quick-drying properties), dye fastness, material properties, and color. We work particularly hard to ensure high safety for innerwear products that directly touch the skin of users. Specifically, we make sure to use safe substances by directly selecting the dyes, dyeing aids, and functional chemicals we use in cooperation with the Textiles Technical Department of Toray, as well as Toray Fibers & Textiles Research Laboratories (China) Co., Ltd.

In recent years, a greater diversity of clothing functions are being demanded by consumers, so we recognize the importance of sharing information about advanced fabric manufacturing technologies with subcontracted factories, which must be certified under Oeko-Tex standards. Therefore, we go over every relevant technical issue together with these factories to make improvements as a way to share our technological expertise. In this way, we are striving to provide products that can be worn with peace of mind by everyone, from children to senior citizens.



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Product Safety and Quality  
**Respecting the Eight Basic Consumer Rights**

Protecting the rights of consumers while ensuring open, just and equitable trade is essential for a sound consumer culture. Toray engages in a wide variety of businesses for the benefit of both business operators and consumers. In dealing with a diverse customer base, the Company has adopted as its fundamental principles the eight basic rights of consumers, and works diligently on this basis to ensure the safety and quality of its products.

**The Eight Basic Consumer Rights**  
Excerpted from the Consumers International website

1. The right to satisfaction of basic needs
2. The right to safety
3. The right to be informed
4. The right to choose
5. The right to be heard
6. The right to redress
7. The right to consumer education
8. The right to a healthy environment

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CSR Procurement

Toray Group's CSR Procurement and Purchasing

While providing materials and products as a manufacturer of advanced materials, the Toray Group emphasizes the needs of its product users as the starting point for its management of production facilities and procured raw materials and resources. Accordingly, the Group has established its Basic Purchasing Policies to realize this approach and ensure that the transactions it conducts are fair. Furthermore, Toray Group regards its suppliers as partners in procurement, and works with them to ensure that the supply chain meets social expectations. To this end, the Group has created its CSR Procurement Guidelines with the aim of providing customers with environmentally friendly and socially responsible materials and products.

**Basic Purchasing Policies**

1. Toray does its utmost to select suppliers and determine actual purchases fairly and on the basis of economic rationality, with consideration for price, quality, capability to provide stable supplies, technological capabilities, reliability, and other factors.
2. In selecting suppliers, Toray opens its doors to a wide range of companies inside and outside Japan. Toray does not rely solely on vendors it has existing or past relationships with, or on members of its corporate group.
3. In making purchases, Toray complies with relevant laws and regulations while taking environmental preservation and fulfilling corporate social responsibility (CSR) issues into account. Toray actively pursues green procurement and purchasing as part of its environmental efforts.
4. Toray works to maintain and improve the quality of purchased products through cooperation with its suppliers.
5. Toray works to uphold its corporate social responsibilities on a company-wide basis.

**CSR Procurement Guidelines**

1. Establish an internal CSR organization and be committed to CSR
2. Work to enhance corporate ethics and comply fully with all laws and regulations
3. Position safety, accident prevention, and environmental preservation as a management priority and practice green procurement and purchasing whenever and wherever possible
4. Put crisis management systems into place, including capabilities for responding swiftly in unexpected situations, and disclose accurate information
5. Encourage dialogue and cooperation among all stakeholders
6. Ensure product safety as a precondition for supplying products
7. Respect human rights, eliminate discrimination, and improve workplace environments; prohibit forced labor, slave labor, child labor, and unfair low-wage labor
8. Maintain the confidentiality of information and respect others' intellectual property rights

**Implementing CSR procurement**

Toray has established company-wide rules designed to enable accurate reporting of its progress in implementing CSR procurement to customers that use Toray products. The Company has also set up an office to handle inquiries regarding CSR procurement, and is managing and sharing relevant information about suppliers with customers. As part of its ongoing promotion of CSR procurement, Toray regularly conducts surveys of its suppliers to determine the status of their CSR initiatives. After collecting and analyzing the content of these surveys, Toray evaluates the results and provides them to the suppliers as feedback. Toray requests improvements with a view to further strengthening its partnerships with suppliers while checking the progress of each company's CSR initiatives, including making visits to certain suppliers. All of these activities are performed in a plan-do-check-act (PDCA) cycle.

PDCA Cycle in CSR Procurement

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**Conducting CSR Procurement Surveys of Suppliers**

In fiscal 2011, Toray conducted a CSR procurement survey of its principal suppliers, manufacturing subcontractors, and sales agents, which together account for about 90% of the Company's total purchases. The coverage of this survey was expanded to include main equipment manufacturers in addition to the suppliers already covered, which supply shipping materials and raw materials used in processes of manufacturing Toray products. As a result, the scope of the survey was increased to 501 supplier companies in total.

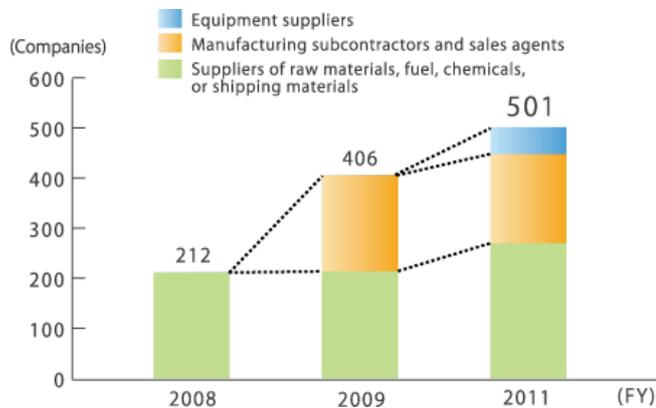
The procurement survey was designed to check the status of CSR initiatives in reference to Toray's CSR Procurement Guidelines at all of the companies where it was distributed. Toray also added new items in the fiscal 2011 survey to identify each supplier's awareness of biodiversity protection, a topic which has been attracting attention in recent years, as well as their potential association with conflict minerals. \*1

\*1. Conflict minerals are classified as gold, tin, tantalum, and tungsten mined in the Democratic Republic of Congo and the nine surrounding countries of Angola, Burundi, Central African Republic, Congo Republic, Rwanda, Sudan, Tanzania, Uganda, and Zambia. A section of the Dodd-Frank Wall Street Reform and Consumer Protection Act in the United States requires manufacturers to publicly disclose their sources of these four minerals for the purpose of cutting off sources of funding for armed groups in the Democratic Republic of Congo.

Types of Suppliers Targeted in Toray's CSR Procurement Survey

Type of supplier surveyed	FY2008	FY2009	FY2011
Suppliers of raw materials, fuel, chemicals, or shipping materials	✓	✓	✓
Equipment suppliers			✓
Manufacturing subcontractors		✓	✓
Sales agents		✓	✓

Changes in CSR Survey Coverage



**CSR Procurement Initiatives throughout the Supply Chain**

Toray carried out a survey of its principal suppliers via an online system used for regular transactions operated by Fiber Frontier Co., Ltd. \*2 Toray employed this system for conducting the survey together with the Teijin Group, with which Toray regularly exchanges opinions and information concerning CSR procurement in a joint effort to promote such

procurement in the synthetic fibers industry.

In basic contracts with suppliers, Toray has included CSR-related provisions covering legal compliance, human rights, the environment, and safety. These provisions are applicable when new contracts are concluded and at the time of contract renewal. Furthermore, Toray requests that its existing suppliers make a written pledge to uphold their social responsibilities.

For its subsidiaries and affiliates in Japan, Toray has created rules applicable to CSR procurement and conducted a questionnaire concerning CSR procurement for 22 of its principal suppliers. The Company is also promoting initiatives for its subsidiaries and affiliates outside Japan, and plans to set up a system to promote CSR procurement at each company in the future.

\*2. Fiber Frontier Co., Ltd., administers membership-based E-commerce websites. It was established in 2001 by Eitopia Co., Ltd., a joint venture by Toray, Teijin Limited and NEC Corporation, with the goal of popularizing synthetic fiber by developing standardized E-commerce processes.

Planned CSR Procurement Initiatives	
	Future initiatives
Toray	<ul style="list-style-type: none"> <li>• Check the progress of CSR initiatives at suppliers</li> <li>• Conduct onsite audits of suppliers that do not meet set standards</li> </ul>
Japanese subsidiaries and affiliates	<ul style="list-style-type: none"> <li>• Expand CSR procurement initiatives to subsidiaries and affiliates in Japan</li> <li>• Check the progress of CSR initiatives at suppliers</li> </ul>
Overseas subsidiaries and affiliates	Establish a CSR procurement system for subsidiaries and affiliates outside Japan

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CSR Procurement  
**Toray Group Distribution Initiatives**

Toray's Basic Distribution Policies place importance on environmental preservation, together with fair and equitable transactions. While continuing to work to improve quality and reduce environmental impact, Toray also promotes understanding of its distribution policies. This is done through Basic Distribution Policy Briefings, held annually for distribution-partner companies.



Basic Distribution Policies Briefing

**Basic Distribution Policies**

1. We shall select our transport and warehousing providers and determine individual agreements impartially and based on factors such as economic rationality with consideration given to price, quality, supply stability, technological capabilities, reliability, and efforts to reduce environmental impact.
2. We shall be open in selecting our transport and warehousing providers, rather than relying exclusively on companies with which we have done business in the past or companies affiliated with Toray Group.
3. We shall comply with relevant laws and regulations, consider environmental preservation, and fulfill our corporate social responsibilities in outsourcing our transport and warehousing operations.
4. We shall cooperate with our transport and warehousing providers in gauging and reducing the environmental impact of our transport and warehousing operations.

**Going Beyond Emissions Reduction Requirements as a Specified Consignor under the Revised Law Concerning the Rational Use of Energy**

Toray set a goal to reduce CO<sub>2</sub> emissions from its cargo shipping and transport by 3% by fiscal 2013 compared with the level in fiscal 2010, and has been improving distribution measures accordingly. Toray reduced CO<sub>2</sub> emissions by about 2,300 tons in fiscal 2011 by promoting a modal shift and shortening transport distances through the optimization of warehouse locations and usage of regional shipping ports. As a result, total CO<sub>2</sub> emissions in fiscal 2011 amounted to approximately 30,100 tons, about 4% below the level in fiscal 2010.

In addition, Toray has been designated as a specified consignor under Japanese law, and is, therefore, required to reduce emissions per unit of energy costs by an average of over 1% annually over the medium- to long-term period. In this regard, Toray succeeded in reducing CO<sub>2</sub> emissions per unit of sales\*<sup>1</sup> by about 5% in fiscal 2011 compared to fiscal 2010.

Toray employs its All Toray Logistics Alliance System (ATLAS) to measure and calculate CO<sub>2</sub> emissions in its shipping operations. In the future, the Company plans to expand the utilization of this system to its Group companies in and outside Japan to accurately determine CO<sub>2</sub> emissions on a consolidated basis and promote reductions.

\*1. CO<sub>2</sub> emissions at the transport stage divided by sales on a per unit basis

CO<sub>2</sub> Emissions Resulting from Toray's Distribution Activities

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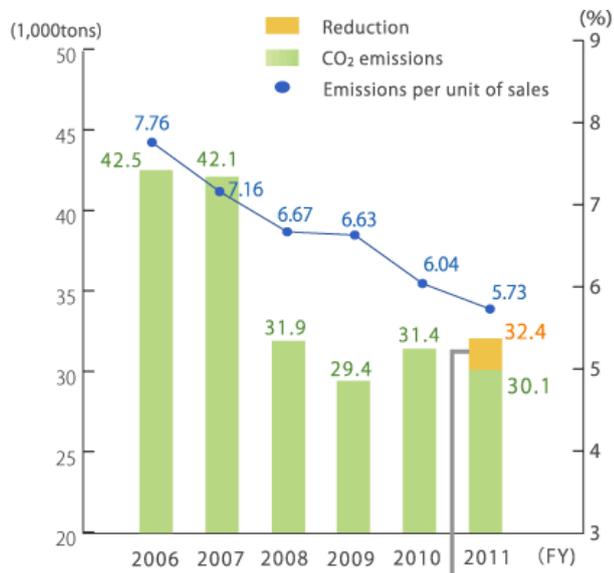
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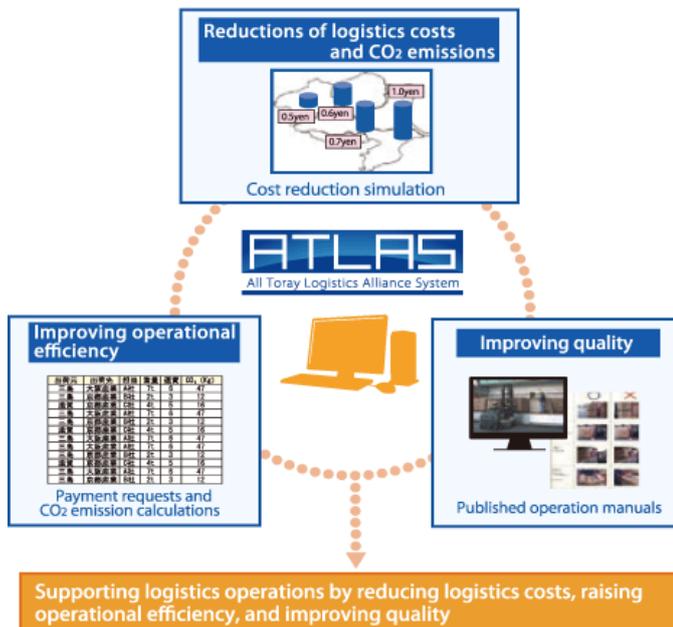


Effective 2,300 ton reduction in volume of CO<sub>2</sub> emission



Details of initiatives	CO <sub>2</sub> Reduction (1,000 tons)
Recognized actual reductions more precisely due to improved calculation accuracy for maximum loading capacities, average loading rates, and other values	1.4
Modal shift	0.4
Full-load transport (strategic positioning of warehouses, etc.)	0.2
Increased loading efficiency and improved packing	0.2
Shortened transport distances (loading at the nearest port, etc.)	0.1
<b>Total</b>	<b>2.3</b>

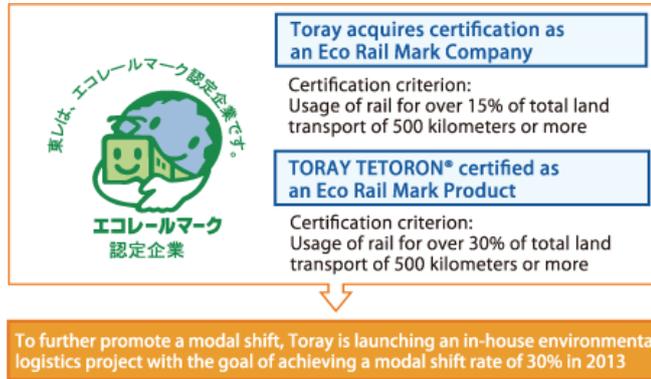
Benefits of Using ATLAS, the Toray Group's Logistics System



In fiscal 2010, Toray was certified as an Eco Rail Mark Company by Japan's Ministry of Land, Infrastructure, Transport and Tourism and the Railway Freight Association. This recognizes Toray's active efforts to use rail freight transport, a relatively environmentally friendly means of transportation. The Company also obtained Eco Rail Mark Product certification for its TORAY TETORON® polyester fiber.

Toray intends to proactively utilize rail freight transport in the future, particularly through an environmental logistics project launched in-house, with the goal of achieving a modal shift rate of 30% by fiscal 2013.

## Promoting a Modal Shift


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**Initiatives to Improve Safety and Quality in Distribution**

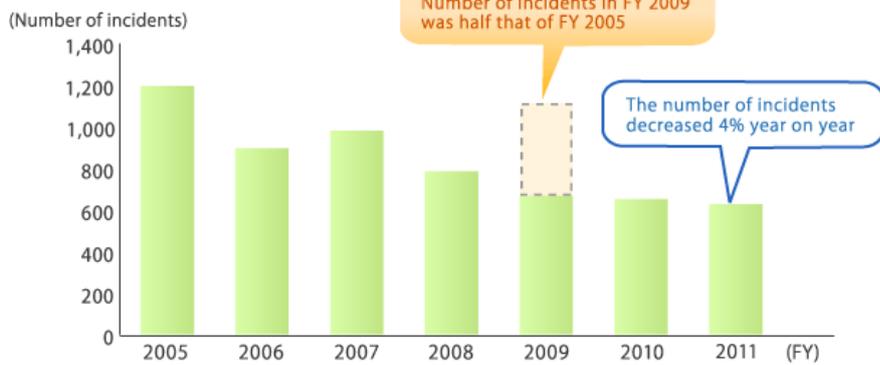
Toray has implemented its Quality Improvement Project together with its distribution partners as a measure for raising distribution quality. In fiscal 2009, Toray achieved the project goal of halving the number of problems occurring during the storage or delivery of Toray products, including product damage, delays, misdelivery, and other errors, compared to fiscal 2005. The number of these problems has continued to decline annually since then, and decreased by 24 incidents year on year in fiscal 2011. The Company presented awards to ten of its distribution partners \*1 in fiscal 2011 in recognition of their significant contributions to quality improvement.

Toray is committed to improving distribution quality further. To this end, the Company is distributing related media to its distribution partners, including an E-mail magazine that it started in fiscal 2010, and a video about improving transport and warehousing operation.

\*1. Distribution-partner companies receiving awards in fiscal 2011 (alphabetical order)

Axis Co., Ltd., Daisei Warehousing & Transportation Co., Ltd., Fukui Warehouse Corporation, Meiko Trans Co., Ltd., Runtec Co., Ltd., Nichirin Co., Ltd., Nippon Express Co., Ltd., Shikoku Meitetsu Transport Co., Ltd., Sukagawa Toubu Unsou Co., Ltd., Touto Unyu Co., Ltd.

Distribution Problem Incidents



**Safety and Energy Conservation Initiatives**

Toray is encouraging its distribution partners to install digital tachographs in their vehicles to facilitate energy conservation and safe driving. Digital tachographs record and output vehicle operation data that can be used to provide guidance on safe driving. By using them, Toray's distribution partners can improve their drivers' skills, raise safety awareness, prevent dangerous driving habits, reduce the number of accidents, and improve mileage via more fuel-efficient driving.

**Yellow Card Emergency Response Measures**

Drivers of shipping vehicles carry a yellow card \*2 detailing emergency measures to be taken to minimize damage in the event of an accident. Toray has also established an emergency communication system and carries out emergency training in case of an accident during transportation. In the unlikely event of such an accident, Toray has procedures in place enabling the necessary staff to be dispatched as swiftly as possible to the accident site for assistance.

\*2: Yellow Card

Cards summarizing the names of any hazardous substances, applicable laws and regulations, hazardous properties, emergency accident procedures, emergency reporting and contact information, methods for minimizing the spread of damage, and other accident response information.



**Initiatives to Prevent Overloading**

The overloading of trucks causes vibration, noise, damage to roads and facilities, and also creates driving hazards. Consequently, Toray is putting considerable effort into the prevention of overloading in order to fulfill its social responsibilities in the transportation of goods.

**Compliance and Security Measures for Importing and Exporting**

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As a measure to ensure the legality and safety of imports and exports as part of Toray Group's expanding global operations, a US subsidiary of Toray International, Inc. enrolled in Customs-Trade Partnership Against Terrorism (C-TPAT) <sup>\*3</sup> with the aim of strengthening global supply chain compliance. In order to realize more efficient imports and exports of materials and to strengthen supply chain compliance and security measures, Toray is also encouraging its worldwide distribution partners to obtain Authorized Economic Operator (AEO) <sup>\*4</sup> status.

<sup>\*3</sup>: A voluntary program introduced by United States Customs and Border Protection in November 2004. The aim of the program is ensure and strengthen security through the global supply chain, based on international cooperation with private operators importing goods into the US.

<sup>\*4</sup>: A status implemented by the EU in December 2006 that gives priority in customs procedures to importers and exporters with a high level of compliance for cargo security. The Japanese Customs Act was also revised in 2007, and a similar qualification system was established to provide priority in customs procedures to highly compliant operators.

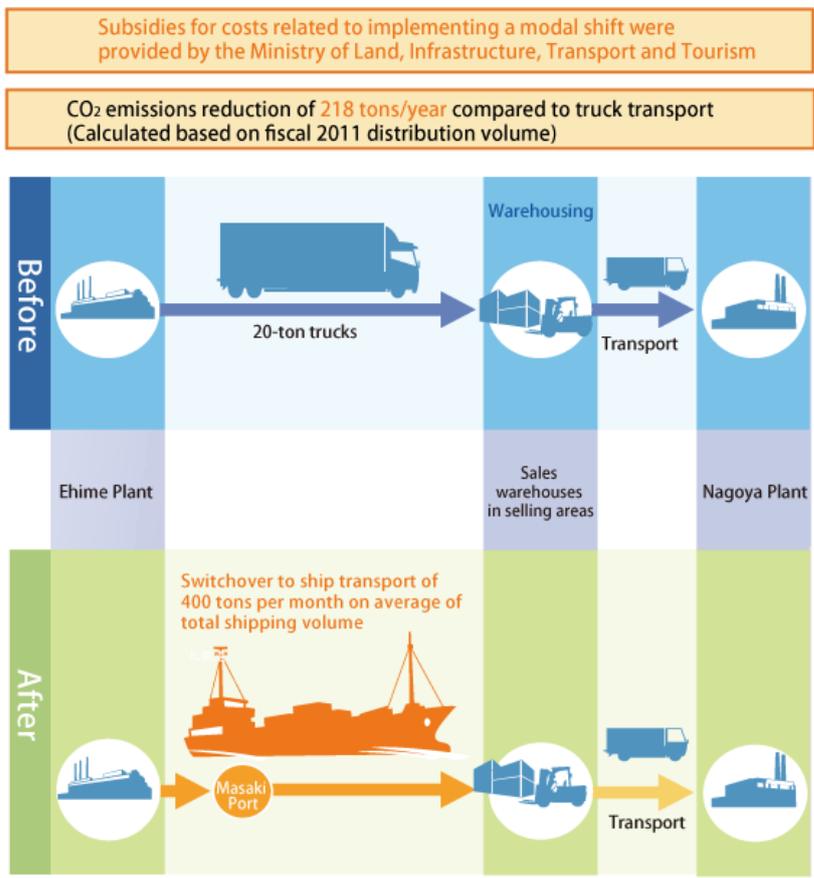
**Promoting Green Logistics and More Efficient Distribution**

**› Implementing a Modal Shift across Business Sites**

In the past, Toray transported products and raw materials on land from its Ehime Plant to its Nagoya Plant by truck. The Company later switched to coastal marine transport for a portion of the total volume transported, averaging 400 tons per month. The remaining volume of products and materials were transported by truck. By employing multiple means of transport, Toray eliminated delivery-related problems while progressing toward a modal shift. Furthermore, this initiative led to a reduction of CO<sub>2</sub> emissions totaling 218 tons, about 30% less than transport using only trucks.

Note: In relation to this initiative, subsidies received from the Japanese government covered the portion of transport expenses needed to implement the modal shift.

Transport of resin chips between the Ehime Plant and Nagoya Plant was switched to coastal shipping routes

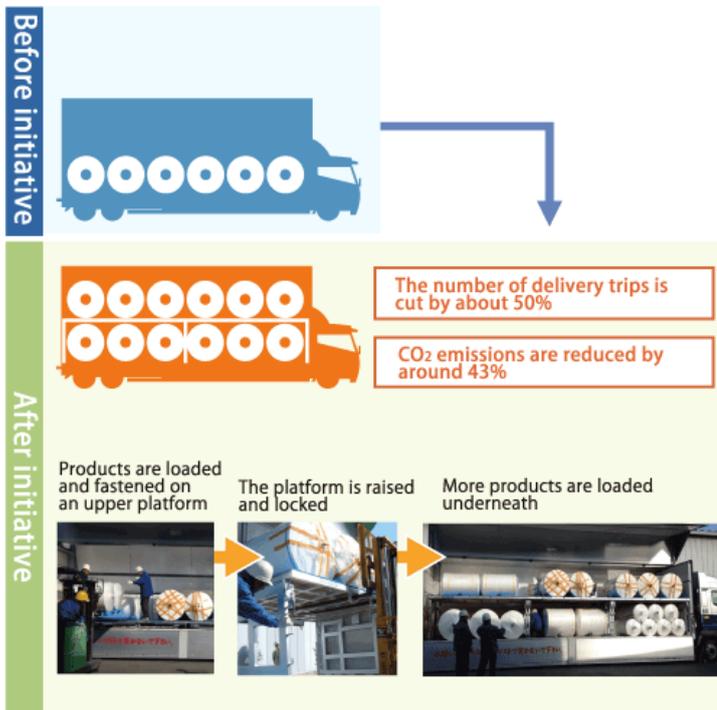


**› Promoting Environmental Logistics and More Efficient Distribution through Group Cooperation**

In fiscal 2012, Toray Textiles, Inc., began reducing the number of transport trips from its Tokai Plant by employing new logistics equipment designed to improve the loading efficiency of trucks. The company previously did not stack goods during transport to prevent potential damage. Recently, however, it began employing a raised platform inside its trucks to enable two tiers of loaded items, thereby increasing the loading rate by about 50%. From the perspective of safety, the company improved its logistics equipment and work procedures in consideration of avoiding loading in high places and preventing products from falling.

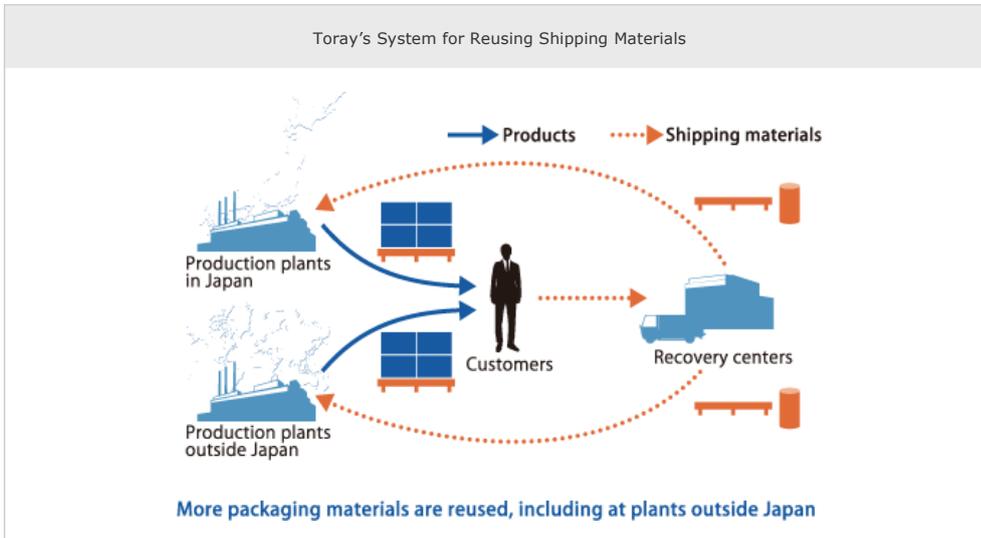
Through these measures, Toray Textiles reduced the number of delivery trips from the plant by half from April 2012, which is equivalent to decreasing CO<sub>2</sub> emissions by about 43% compared to previous levels.

Toray Textiles Improves Loading Efficiency by Utilizing Logistics Equipment



### Expanded Collection and Reuse of Packaging Materials

As an initiative to help protect the global environment and efficiently utilize resources, Toray has set up a nationwide system in Japan for recovering and reusing the packaging materials for products sent to customers. All production plants in Japan participate in the system, and Toray is also promoting the reuse of packaging materials at its plants outside the country as it expands business globally.



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**“We not only share information, but also our enthusiasm.”**

Masahiro Yoshida  
President of  
Sukagawa Toubu Unsou Co., Ltd.

**“Numerical data shows the competitiveness of our organization.”**

Kenzo Yoshida  
President of  
Daisei Warehousing & Transportation Co., Ltd.

**Sukagawa Toubu Unsou Co., Ltd.**

Established in 1973, Sukagawa Toubu Unsou is a distribution company headquartered in Fukushima Prefecture, Japan. Its main business activities are transport and storage (room temperature to frozen). The company stores and transports the Toray Group’s film and resin products.

**Daisei Warehousing & Transportation Co., Ltd.**

Established in 1974, Daisei Warehousing & Transportation is a distribution company headquartered in Aichi Prefecture, Japan. Its main business activities are transport and storage, specializing in films and synthetic resins. The company stores and transports the Toray Group’s film and resin products, mainly in the Kanto and Chukyo regions of Japan.

## Discussion with Distribution Companies Recognized for Their Outstanding Quality

We met with the presidents of two distribution partner companies that have won awards at Toray’s Basic Distribution Policy Briefings to discuss their initiatives for improving the quality of distribution.

**Question 1:**

**Every year Toray holds its Basic Distribution Policy Briefings, where it gives awards to outstanding companies and, at the same time, provides a venue for each participating company to give a presentation on its outstanding initiatives. We would like to hear your candid opinions and impressions of this event that Toray holds for distributors.**

**Masahiro Yoshida (Sukagawa):** When we participate in Toray’s Basic Distribution Policy Briefings, we learn about the serious efforts to improve distribution and quality by Toray, the owner of the goods being shipped. And since the event provides an opportunity for distribution companies to be evaluated, it creates an atmosphere of friendly competition, and a chance to learn from and cooperate more with each other.

After returning to our respective workplaces, we ask ourselves what we should do as a member of one big team. Thinking about these things comes naturally, and if such ideas are eventually followed through, we gain confidence that our work can have an effect on the Toray Group’s distribution capabilities.

**Kenzo Yoshida (Daisei):** I think of the award we received from Toray, which commended us as an outstanding company, in the same way I regard a thank you letter given by a customer. Since the company’s work was appreciated, employees feel proud and more motivated in their work. Three years ago, we set up a team called the Toray Task Force at our company to respond to Toray’s expectations for us. Our company has around 400 customers, and each is handled through many departments, including the shipping department, warehousing department, operations sections, administration, sales, accounting, general management, and so on. Nonetheless, we created a team made up of managers in every area related to our work for Toray. To improve quality in all of these areas, first of all, the team was created as the center of activities, numerical data was checked thoroughly, and all tasks that needed to be done were undertaken.

These measures were the result of a vivid awareness inside the company of the importance of verifying data, which I felt was strongly emphasized at Toray’s Basic Distribution Policy Briefings.



A Toray task force meeting in process

**Question 2:**

**Toray began initiatives to improve distribution quality in 2006. The considerable amount of cooperation that Toray has received from its distribution partners in this regard has led to significant results. For example, the number of problems involving distribution has fallen by about half. Each of your companies has implemented**

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**Yoshida (Daisei):** Our 8S inspections come to mind. Many companies in Japan employ the 5S system, which is based on sorting, arranging, tidying, cleaning, and discipline, but our company has added three additional items—safety, space, and smiles. We have been using this system for over ten years. Members of our 8S inspection committee perform checks, and awards are given to departments that achieve excellent 8S results at a company-wide meeting every month. By creating an evaluation system that everyone accepts, we can share the same aspirations while fostering awareness in the workplace.

**Yoshida (Sukagawa):** For me, it is our affirmation training. It is said that quality comes from the talent of your people, but to raise quality in the distribution business, training human resources is essential. When I considered such training, first of all, I thought that greetings and replies, which are basic acts of a person, should be thoroughly practiced. Therefore, this initiative always gives importance to the most basic of skills. Employees practice exchanging names while shaking hands, and responding with clearly spoken affirmatives. This training is conducted once per week without fail.



Employees practice giving affirmations while uniforms are inspected

We have also established outstanding employee awards to provide commendations. For the awards ceremony, we borrowed some ideas from the Grammy Awards, and began unique company events like having award nominees walk on a red carpet. I wanted the ceremony to simply and clearly express how much we value employees and the appreciation I have for them as company president. Looking forward to fun events like this lifts people's spirits while they work.

**Question 3: Looking toward the future, could you tell us about your goals and ambitions as a company president?**

**Yoshida (Sukagawa):** I have been president for three years now, but I would like to focus more on ongoing employee training based on the idea that quality comes from the talent of your people. I want to stick closely to this approach so that it steadily spreads beyond the training room. At present, information that should be shared and particular items that need attention are posted and distributed in the workplace so that all employees can see and be constantly reminded of them. I want these ongoing endeavors to lead to better capabilities in all employees and the continued success of our company.



A typical bulletin reminds employees of a company motto, "Manage by observation"

When customers tell us that they are happy they trusted us with their goods, we know we have done our basic job as a distribution company. Especially at the time of the Great East Japan Earthquake, people in our business were told that residents of the Tohoku region had sent their heartfelt thanks, and they felt proud of the work they do. So, while it is normal for us to deliver things safely to the designated places, appreciative words from customers are a source of simple pleasure for us. They are something we never forget. ◦

**Yoshida (Daisei):** I have built on my experiences as an executive manager for many years, but I am still in the process of figuring things out. There are things that need to be changed and things that should stay the same, and I am constantly trying to determine which is which. Studying and examining such issues is always the key to making sure decisions are appropriate.

Moreover, to prepare for the fast and increasingly complicated path followed by companies today requires more than just corporate culture and traditions. Specifically, it is necessary to incorporate external models and regulations such as ISO and environmental management certification to develop a company that meets the standards expected by the public. What I want our company to achieve and pursue is contributions to society. This "good for society" is one of the so-called three goods in traditional Japanese business ethics, along with the "good for the customer" and the "good for the seller." I hope to always keep this principle in mind as we conduct not only the company's business but also its full scope of activities going forward.

**Thank you for sharing your insights today.**



Participants from Toray  
 Yukio Sawano (General Manager, Logistics Department),  
 Tomoyuki Suitsu (Manager, 1st Logistics Section, Logistics Department),  
 Yoshihiro Inoue (Purchasing & Logistics Planning & Administration Department),  
 Keiko Sakai (General Manager, CSR Operations Department),  
 Yusuke Kakizoe (Manager, CSR Operations Department),  
 Hidetoshi Toura (Manager, Corporate Communications Department)  
 The meeting was held at Toray's head office on June 27, 2012.



**For Our Employees**

Providing employees with opportunities for self development in a challenging environment

In order to create supportive workplaces for employees, Toray Group implements various initiatives to instill the concepts of balancing work and family life, as well as respecting individual rights and diversity. Toray Group also widely promotes its objective of achieving zero accidents in the pursuit of maintaining safe and healthy workplaces.

**For Our Employees**  
**Human Rights Promotion and Human Resources Development**

Toray Group values every one of its employees and respects human rights. The Group endeavors to create a vibrant workplace that provides job satisfaction, and encourages employees to take on challenges.

**For Our Employees**  
**Occupational Safety**

Toray's top management is committed to achieving the goal of zero accidents, and all employees thoroughly practice safety fundamentals in the workplace.

**Social Responsibility** ↑

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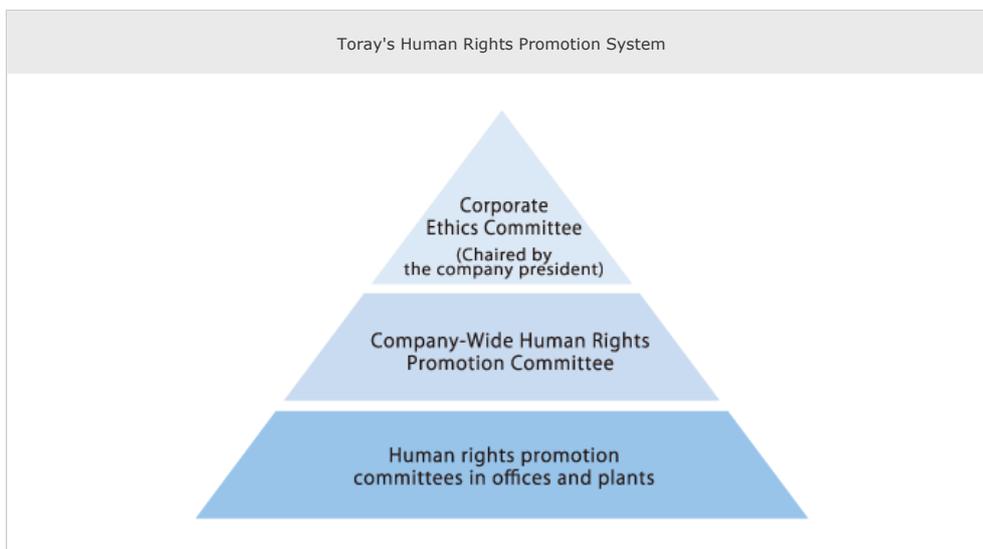
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## Human Rights Promotion and Human Resources Development Committed to Human Rights

Toray Group believes that respect for human rights is a fundamental principle that is essential for the management of a company. Accordingly, the Group is working to promote and raise awareness of human rights, and has stated guidelines for respecting human rights in its Corporate Ethics and Legal Compliance Code of Conduct. Toray Group prohibits discrimination in any form based on race, creed, gender, academic background, nationality, religion or physical characteristics in the areas of recruiting, hiring, assigning positions, compensation, training, and retirement. Internationally, Toray Group takes stringent efforts to comply with related laws and regulations of each country in which it operates. Furthermore, the Group respects international standards including the United Nations Universal Declaration of Human Rights and the International Labour Organization's standards prohibiting all forced labor and child labor.

### Human Rights Promotion System

Toray has established its Company-Wide Human Rights Promotion Committee along with sub-committees at the office and plant level. These committees follow the guidance of the Company's Corporate Ethics Committee. At each workplace, the Company has appointed human rights advocates who are dedicated to making the work environment more pleasant and productive. In addition, Toray has set up a Human Rights Promotion Section in its Industrial Relations Department. In fiscal 2011, as Japan proceeded to rebuild and revitalize areas damaged by the unprecedented earthquake disaster, Toray pursued basic policies designed to create a positive working environment that encourages employees to communicate openly and treat each other considerately.



### Human Rights Training

Toray holds human rights promotion campaigns annually to help increase awareness and understanding of human rights issues. In fiscal 2011, with the goal of broadening employees' understanding of human rights in the workplace, the Company called on employees to prevent harassment by fostering respect for others. With the growing global interest in respecting human rights in the field of CSR, Toray's employees have gained a better understanding of the topic with the publication of the ISO 26000 guidance on social responsibility.

Training sessions were held for operational and administrative supervisors at the head office, and each office and plant. Workshops were also conducted in conjunction with workplace study groups. As in the previous year, in fiscal 2011 the Human Rights Promotion Section Manager visited Toray and its domestic group companies' offices and plants as part of the campaign, and held workshops for human rights advocates.



Human rights promotion poster



Human rights training at Japanese group company

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Fiscal 2011 Human Rights Training and Seminar		
Type of training	Number of sessions	Number of participants
Training at head office	29	1,678
Training at offices and plants	1,452	16,190
Training at outside company	53	145

**Promoting Respect for Human Rights at Suppliers**

Toray requests its suppliers, which serve as its partners in procurement, to ensure that human rights are respected in their operations, and has incorporated such requests in its CSR Procurement Guidelines. Toray is working to ensure that social obligations regarding human rights are fulfilled across the supply chain by conducting surveys of its suppliers and visiting their business sites to confirm that relevant measures are being implemented.

**Related Information**

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Human Rights Promotion and Human Resources Development  
**Retaining Core Staff**

Toray regards the protection of employees' jobs as a fundamental management principle, and does not make employment adjustments according to short-term perspectives. The Company's basic policy regarding core staff is to provide stable, continuous employment based on a long-term outlook, irrespective of economic trends and company performance. As part of future global business development, Toray Group will continue to secure and develop human resources that operate on a global level with a strong sense of commitment.

**Establishing a Global HR Management Fundamental Policy**

Toray Group established its Global HR Management ("G-HRM") Fundamental Policy in fiscal 2011, with the goal of managing human resources from a common perspective shared by the entire Group, thereby surmounting differences between countries, regions, cultures, customs, and individual companies. Based on this policy, Toray is promoting group-wide human resources management, integrating measures particular to subsidiaries and affiliates around the world into a unified approach.

**Toray Global HR Management ("G-HRM") Fundamental Policy** Established November 2011

True to its philosophy, "Contributing to society through the creation of new value with innovative ideas, technologies and products" and its embodiment through "Innovation," and in order to continue being a highly valuable corporate group for every stakeholder, Toray focuses on recruiting, retaining, and developing employees with high aspirations for the Toray Group, with the understanding that "Human Resources" are the most important asset in management.

As Toray Group continues to promote further business growth and expansion, we set the following four principles as the Toray G-HRM Fundamental Policy, despite all differences between countries, regions, cultures, customs, and companies in order to facilitate HR management with a common basis for all Toray Group companies around the world.

Step by step, each company is encouraged to implement and maintain a concrete HR management system in line with the following Toray G-HRM Fundamental Policy. However, at the same time, it is essential to value the merits of local HR management in each company based on the individual circumstances of country, region, culture, custom and company. Thus, it is necessary to promote the policy while integrating both approaches properly.

**1. Consistently recruit and retain core staff and promote long-term HR development programs**

- (1) Consistently recruit core staff based on mid/long-term HR management views.
- (2) Sustain long-term HR development through promoting individual career development, implementing timely assessments of development progress, and carrying out on-the-job training (OJT), together with training programs (Off-JT) and self-development.
- (3) Promote HR development by following up on each individual through MBO (Management by Objectives) and performance appraisal systems.

**2. Select and develop core staff who can win a place in the global competition**

- (1) Recruit highly capable staff who understand and support Toray's corporate philosophy, regardless of nationality.
- (2) Provide selected staff with opportunities for sophisticated high-level training and global careers.
- (3) Promote staff, who have skills to assume management responsibility for Toray Group companies, to top management positions of each company, and also give them opportunities for selection to executive positions as well as core positions of Toray Japan.

**3. Pursue a "placing the right people to the right jobs" policy while enhancing fairness, understanding (by employees) through convincing explanations, and transparency**

- (1) Make the best assignment for each employee and assigned organization by focusing on his/her ability and performance.
- (2) Place importance on fairness, understanding (by employees) through convincing explanations, and transparency when determining individual compensation, such as salary and bonus, by appropriately taking account all of the roles and responsibilities of the position, the employee's ability, as well as performance appraisal results based on the MBO (Management by Objectives).
- (3) Enhance the HR development system and the compensation system to value challenges as well as enhance motivation of average-level performers who contribute to their team.

**4. Continue various management methods to further strengthen the company's business structure**

- (1) Conduct head-count management and labor cost management as an entire company in a detailed and uniformed way.
- (2) Always sustain a flat, effective organizational structure and control the appropriate proportion of managerial staff.
- (3) Maintain and strengthen competitiveness through the appropriate utilization of diversified human resources such as contract employees, temporary staff sent from agencies, and external resources.

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**Developing Human Resources to Create New Value**

Based on the following three goals, Toray Group is promoting human resource development as one of its most important management issues.

- Development of fair-minded individuals who act with high ethical standards and a sense of responsibility
- Training of professionals with advanced expertise, technical skills and originality in problem solving
- Development of leaders who act with foresight and a sense of balance

To develop human resources in this way, Toray Group conducts various kinds of training programs tailored to each of the three goals. These programs are systematic and logically organized, and they are offered to employees of all levels working in every field in the Group. With a view to strengthening international operations, Toray Group has designed the training to improve management capabilities, sales performance, production technical skills, and specialized skills. Examples of these training programs include Toray Management School and Toray Group Management School, which aim to foster future upper managers; Manager Training for New Appointees, which is designed to teach management skills and know-how essential for administration and professional duties; and Management Basic Training for developing future frontline leaders. Toray Group also offers a wide range of other training programs for developing human resources, including Strategic Marketing and Merchandising Training, Mid-Career Engineering Training, a Practical Sales Course and Technical Management Course, which are all designed to develop professional personnel. Meanwhile, Toray's voluntary Challenge Training Program helps particularly motivated employees develop their skills. To enhance and promote the development of international human resources, Toray offers the Overseas Junior Training Program, and in fiscal 2011, opened the new Toray Business English School and improved its Business English Proficiency Course.

The Group adopts the following personnel systems to create a dynamic organizational culture that encourages individuals to explore new possibilities and contribute to the Company.

Toray's Personnel System	
Management-by-objectives system	Each employee establishes annual objectives. At the end of the fiscal year, employees and their supervisors meet to review accomplishments and the extent to which they were able to meet their objectives.
Personnel appraisal system	Designed to facilitate a fair appraisal of employee contributions in terms of duties, responsibilities, capabilities, and performance.
Individual meeting system	Employees meet with their supervisors twice a year in a one-on-one setting. Supervisors provide consultation on employee performance and new objectives.
Self-assessment system for managers, occupational specialists, and general staff	Employees are surveyed annually on topics concerning work experience and desires for interdepartmental transfer. Surveys can then be linked to individual personnel transfers and placement.
Career assessment system for general staff	Employees participate in a regular review consisting of presentations of daily operations and personnel interviews in order to focus on the direction of their future growth.
Job opening system	Employees are given an opportunity to apply for jobs inside the Company and proactively develop their career, while ensuring optimal staff assignment.
Bonus system for employee inventions	Toray revised this system in April 2005 to boost incentives from past levels, in an effort to accelerate the creation of exceptional inventions.

**Systematic and Effective Training**

The Toray Group employee education system represents a rational, systematic approach to human resources training that responds to needs in various fields. Many types of training are conducted for employees of all levels, and in all areas, to improve management performance, sales performance, production management skills, professional skills, and international operations. The following programs were held by the Group: the Toray Management School and the Toray Group Management School for the purpose of fostering future top managers, the Management Basic Training for developing future frontline leaders, and the Practical Sales Course and the Technical Management Course for developing employee professionals. The voluntary Challenge Training Program also helps motivated employees develop skills, and the Overseas Junior Training Program develops employees with a global mindset.

Company-Wide Training Course Enrollment

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Training Category	Persons enrolled
Management	605
Technical	701
Sales, marketing, and administration	326
Global	190
General	311
<b>Total</b>	<b>2,133</b>

### Early Leadership Development

To foster exceptional group management, Toray established the Toray Management School in 1991, designed to develop young middle-ranking managers into future executives. As of FY 2010, a total of 380 employees have participated in the school's programs over 19 terms. In addition, the Toray Group Management School was established in 2006 to foster top management successors at Toray Group companies and the next generation of leaders. Through Manager Training for New Appointees and Management Basic Training, Toray is developing outstanding frontline leaders by educating section and unit managers on coaching skills \*<sup>1</sup> and boosting their problem-solving skills. The Company has also established the Toray School of Technology and Business for training mid-level employees at plants. It offers selected employees a year's full-time education in a live-in schooling environment.

\* 1: Coaching skills: Communication skills designed to promote a greater degree of autonomous action by staff.

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COPYRIGHT © 2012 TORAY INDUSTRIES, INC.

## Human Rights Promotion and Human Resources Development Developing and Promoting Staff at Overseas Group Companies

Toray Group regards the development of core staff at its subsidiaries and affiliates worldwide as one of its priority management tasks. The Group makes active efforts to promote employees locally hired at these companies to executive management positions, as well as to key posts and management positions at Toray's head office.

To ensure thorough understanding of Toray Group's management philosophy and policies, core staff from overseas subsidiaries and affiliates participate in training programs in Japan, organized according to managerial level. In fiscal 2011, the Group revised and improved the content of self-study materials that were introduced in fiscal 2009, and set up an E-learning system using these materials. These measures improved the quality of training and made studying more convenient for participants.

Toray Group, with direct involvement from the head office, is developing and providing training courses outside Japan specially designed for the particular circumstances and needs of group companies in each respective country.

From April 2012, all companies began using common training materials for introductory training sessions for newly hired employees.



Training sessions at Group companies

### Infrastructure for Developing and Promoting Local Personnel

Positions deemed critical for the global management of Toray Group have been classified into four levels based on a Group-wide standard. Toray head office is working with overseas subsidiaries and affiliates to develop and promote local staff in these positions; the employees are known as National Core Staff.

Toray has specified the Group-wide skill requirements and code of conduct expected of National Core Staff in the form of the Toray Global Competency Model. In accordance, individually focused long-term career development plans are formulated. To facilitate information sharing, Toray also established the Toray Global Database, which allows employees worldwide to access information related to the Company.



### Development and Training of Key Employees at Overseas Group Companies

To become familiarized with Toray Group's Management Philosophy and policies, key local employees at overseas

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subsidiaries and affiliates participate in training programs in Japan, organized according to managerial level. The programs are linked with individually focused long-term career development plans. Seven types of online self-study materials have been created, allowing the Group to improve training efficiency and content. Toray's head office participates in planning the management training programs conducted in each country and region, and strives to support personnel development efforts. Along with the improvement of managerial level-based programs, Toray Group has created a multi-level training system for executive and manager candidates.



Toray Trainee Program for overseas employees



Training Courses held for Overseas Core Staff in Fiscal 2011 (Toray Group)

Japan-Based courses	Toray Group Management School *1	16
	Toray Group Senior Management Seminar	15
	Toray Trainee Program	39
	National Engineer Training Program	4
	Toray Group Supervisors' Seminar	10
Courses held overseas	8th EU Senior Management Seminar	12
	6th U.S. Senior Management Seminar	13
	5th East and North China Senior Management Seminar	26
	2nd South China Senior Management Seminar	23
	4th Indonesia Senior Management Seminar	20
	5th Thailand Senior Management Seminar	16
	1st Malaysia Senior Management Seminar	14

\*1. Started from April 2012

### Group-wide Efforts to Develop and Train Employees from Outside Japan

Toray Group employs about 40,000 people on a consolidated basis, of which about 23,000 employees work

implementing personnel transfers globally with the aim of developing its non-Japanese employees and promoting them to higher positions.

I originally joined Toray Industries (South China) Co., Ltd., where I was in charge of general affairs, administration, and secretarial staff for six years in the company's Planning and Administration Department and Human Resources Department. After that, I was transferred to Toray's Legal Department in 2011. I am now handling legal affairs duties for Toray and its subsidiaries and affiliates in and outside Japan. Using English, Japanese and Chinese, I am in responsible for giving legal advice in projects such as mergers and acquisitions in Japan and other countries, particularly China. I also inspect and draft contracts, and examine laws in the specific areas where the projects are undertaken.

As the only non-Japanese employee in Toray's Legal Department, I would like to offer new perspectives in the workplace and help improve our organizational dynamism by making the most of the legal skills I gained in Hong Kong and England, as well as my global mindset and language and communication abilities.

In the future I intend to broaden my knowledge, not only in terms of legal information but also in all of Toray's business areas and products, as well as matters related to finance and accounting. As a member of the Legal Department at Toray, I would like to contribute to making Toray Group an even more global enterprise by collaborating with employees in various business divisions, departments, and subsidiaries and affiliates.



Kathy Hung

Manager,  
Legal Department,  
Toray Industries, Inc.

I was assigned to the Industrial Films 1st Department at Toray in 2011. Before that, I worked at Toray Advanced Materials Korea Inc., where I was responsible for sales of the company's polyethylene terephthalate (PET) films for eight years. At present, I am in charge of selling PICASUS® PET films for decorative castings. As a salesperson, I am involved in marketing and sales promotions of materials developed for decorative applications in consumer electronics products, mobile phones, and automobiles in Japan and South Korea. Nevertheless, my work is not limited to selling materials. Comprehensive coordination activities are needed for products up until the time they are finished, so I am collecting and independently studying information related to finished products and the post-processing of films, even for films outside of our main product areas.

While I am currently in charge of products for the Japanese and South Korean markets, I would like to focus more of my energy on international sales promotions, since Toray Group is setting up a global sales network.



Li Yun Zhu

Industrial Films 1st  
Department,  
Toray Industries, Inc.

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Human Rights Promotion and Human Resources Development  
**Promoting Diversity**

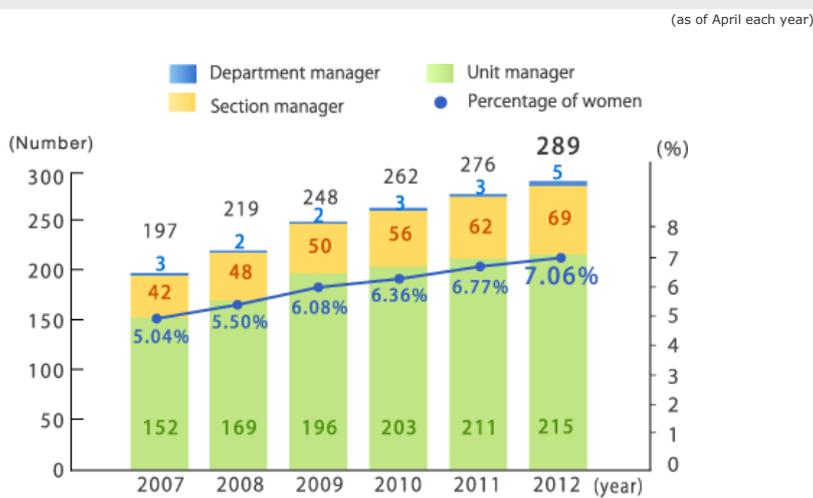
Toray Group is committed to promoting employee diversity to help build thriving workplaces where each individual's abilities can flourish.

**Fostering an Organizational Culture Conducive to the Career Advancement of Women**

Toray advocates the employment of women and provides a work environment that meets their needs. The Company appointed its first female manager in 1958 and introduced a childcare leave program in 1974, almost 20 years before its establishment as a law; in 2003 a Toray affiliate appointed a woman as president. The Company continued to improve its systems and programs in this area, and initiated the Advancement of Women Project in 2004.

As a result of the ongoing implementation of such initiatives, the share of unit manager level positions or higher held by women continues to rise each year, reaching 7.06% in April 2012.

Number of Women in Management Positions and Women as a Percentage of the Workforce (Toray)



Major Changes in Support Systems for Employee Work and Family Life Balance

Action	Description of changes	Before changes
Reviewed the registration system for reemployment * 1 (From April 2007)	Registration period for reemployment extended to ten years. Reemployment as a full-time employee is available for applicants conditional to the nature of the job, the applicant's desired role, and their personal conditions. Among 14 employees that registered, one was reemployed (as of March 2011).	The registration period was for three years. Registrants were required to work in part-time positions for the first six months, after which they became eligible for full-time positions.
Enabled concurrent use of short-time work systems, designed to provide employees time off for childcare, family-care and maternity protection, with flextime systems. (From April 2007)	All short-time and flextime work systems able to be used concurrently by employees.	Short-time and flextime work systems were unable to be used concurrently by employees.
Extended the period of employees' eligibility for childcare short-time work systems, flextime systems, overtime/holiday work limits, and night work limits. (From April 2007)	Period of eligibility extended to the end of the fiscal year in which employees' children entered the third grade of elementary school.	Employees were eligible for the systems until their children started elementary school.
	Enabled employees or their spouses to undergo	

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Introduced an infertility treatment support system. (From July 2007)	infertility treatments under the following provisions: 1. Up to 30 half day's leave granted per year. 2. Special leave granted. 3. Up to 2 million yen provided as a loan by Toray Welfare Society.	-
Extended the period of eligibility for leave to care for sick children. (From July 2007)	Leave to care for sick children available until the end of March of the year in which employees' children entered the third grade of elementary school	Leave was available for employees until their children started elementary school.
Provided leave for employees serving jury duty. (From July 2008)	Required period of paid leave granted when an employee is summoned for jury duty.	-
Established the Toray Smile Support Plan (April 2011)	Introduced a welfare point system offering a selection of programs with an emphasis on supporting childcare and home acquisition	-
Revised employee childcare services payment assistance (April 2011)	Adjusted the service fee to a 70% discount, through incorporation into the above-mentioned Toray Smile Support Plan. Age limit for child eligibility was also eliminated.	Toray provided a corporate child care program for employees at a subsidized rate of 900 yen per hour, compared to the standard rate of 2,000 yen per hour. The service is available for employees until the end of the fiscal year in which their children enter the third grade of elementary school.
Commenced trial telecommuting program (April 2012)	This program is available for employees with children (until the end of March of the year in which an employee's child enters the third grade of elementary school), and for employees who are caring for a family member living in the same residence. Toray introduced the program to make it easier for employees to work while raising children or caring for family members, and to promote a more dynamic workplace by encouraging employees to pursue more diverse work styles.	-

\*1: The registration system provides reemployment opportunities to former employees who resigned due to personal matters such as marriage, childbirth and childcare, nursing care for family members, or a spouse's work transfer.

## Employing a Diverse Workforce

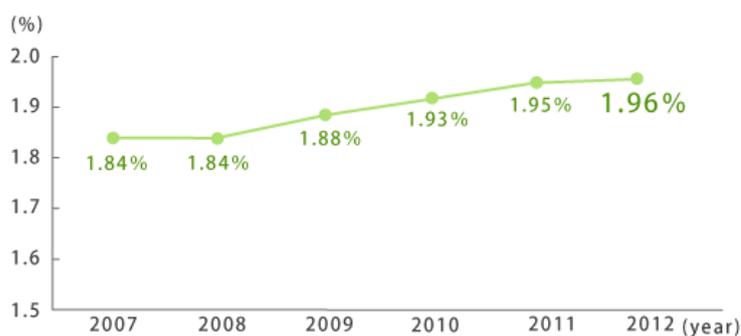
As Toray continues to globalize its operations, the Company aims to employ people who have a global perspective and mindset, highly specialized skills and strong language abilities. This is why the Company is recruiting Japanese university graduates who studied abroad, and non-Japanese graduates of either Japanese universities or universities outside the country. Toray is also proactively hiring highly qualified people with professional experience and expert knowledge. By making the most of each person's special skills and individuality, Toray is striving to create a more dynamic company.

## Employment of Persons with Disabilities

Toray takes its social responsibility to employ persons with disabilities seriously, and has achieved the legally required employment ratio of 1.8%. Moreover, the Company strives to create suitable workplaces for people of all ability levels. Initiatives include providing barrier-free spaces, training at the time of hiring, and ensuring an appropriate working environment based on suggestions and requests from employees with disabilities.

Employment Rate of Persons with Disabilities (Toray)

(Figures for June of each year)



## Reemployment System

As part of initiatives to encourage full utilization of skilled individuals over 60 years of age, in fiscal 2001 Toray introduced a re-employment system open to all of its unionized employees who wish to continue working. The Company expanded the system in December 2005 to include employees in management and specialized fields. Toray then prepared to raise the maximum age for re-employment in accordance with Japan's Revised Law Concerning the Stabilization of Employment of Older Persons, and plans to extend the eligible re-employment age to 65 from April 2013.

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Human Rights Promotion and Human Resources Development  
**Creating a Positive Workplace for Employees**

**Helping Employees Maintain Work-Life Balance**

Toray has been working to further improve systems that help employees achieve a harmonious balance between work and family life, by offering a wider variety of lifestyle options for men and women. Support systems that exceed those legally mandated for childcare, family care, and maternity protection are provided, the result of Toray's commitment to making them accessible and responsive for a diverse range of employee needs. In May 2007, Toray was granted certification as a general corporate entity meeting the requirements for supporting the development of the next generation by Japan's Ministry of Health, Labour and Welfare. To encourage male employees to make use of these support systems, Toray has made men eligible for taking childcare leave regardless of a spouse's employment situation, and also allows a male employee to take a second childcare leave if the first leave was started or finished within eight weeks after his spouse gave birth.



In addition, in April 2011 the Company initiated the Toray Smile Support Plan, a point-based system that lets employees choose from various programs providing financial assistance for childcare and purchasing homes. In April 2012, Toray began a trial telecommuting program with the aim of making it easier for employees to work while raising children or caring for family members, as well as to bring new energy to the Company by promoting more diverse working styles.

Utilization of Childcare and Family Care Leave Systems (Toray)						
FY		2007	2008	2009	2010	2011
Employees taking childcare leave	Women	73	91	67	79	<b>81</b>
	Men	1	0	3	2	<b>3</b>
Employees taking family care leave	Women	4	1	1	2	<b>1</b>
	Men	0	1	0	1	<b>0</b>

Note: Figures show the number of employees taking leave.

Toray has also implemented the following initiatives, while placing importance on balancing work and family life as part of its commitment to workplace innovation.

- (1) Changing awareness  
Creating a workplace culture that strives for increased efficiency and productivity through discussions on improvements at each workplace
- (2) In principle, prohibiting working late at night and on holidays
- (3) Turning off all lights at 10 p.m. (9:00 pm in the head office building since fiscal 2011)
- (4) Holding company-wide no overtime days one day per month

Toray established a Work-Life Balance Committee made up of labor and management representatives in October 2010. Through this committee, labor and management have been engaged in discussions on a number of issues oriented toward helping employees balance job responsibilities with home life, as well as creating workplace environments that facilitate diverse working styles, preventing overwork and reducing excessive working hours, and enhancing mental healthcare at worksites. Furthermore, discussions concerning the promotion of work-life balance are continuing in Toray's AP-G 2013 Labor-Management Committee, which was newly established in April 2012.

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VOICE

Asako Eda  
Medical Products Quality Assurance Department, Seta Plant,  
Toray Industries, Inc.

**Properly balancing life and work makes every day rich and rewarding**

I am bringing up two boys in elementary school, one in the sixth grade and the other in the first grade. My oldest boy can stay at home on his own, but my younger son isn't quite ready for that yet, so I hire a babysitter three or four times a month when I go to work.

I am not feeling stressed about these expenses for babysitters because I receive stipends for paying them through the Toray Smile Support Plan, which has been easy to make use of. There are many other women at my workplace who are raising children, and we all appreciate the fact that we can work while bringing up our kids. We are looking for ways to properly balance life and work by improving our work efficiency and solving problems as a team.

Toray has set up systems that let employees work while raising kids and caring for family members. Since circumstances are different for each



individual employee, the Company will need to keep building on these systems and foster a corporate culture that can respond to the diversity of employees in the future.



With my coworkers

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Occupational Safety  
**Occupational Safety and Accident Prevention Activities**

Toray Group is working to achieve its goal of zero accidents in accordance with the first of its Corporate Guiding Principles: "Placing top priority on safety, accident prevention and environmental preservation, ensuring the safety and health of our employees, our customers and local communities, and actively promoting environmental preservation."  
In 2011, the annual Toray Group Safety Convention was held for the 30th time, attended by 187 representatives including company presidents, executives, and plant managers from Toray and its subsidiaries and affiliates in Japan and around the world. Everyone at the convention renewed their resolve to achieve the goal of zero accidents in the workplace.



Practicing the pointing and calling safety confirmation method at the convention

2011 Safety Slogan

AP-G 2013 — We Should Achieve "Zero Accidents," Keep the Basics and Work Safely!

Main Priority Activities in 2011

- Ensure each employee strictly follows basic safety procedures
- Carry out activities to prevent recurrence of similar accidents
- Implement stringent safety activities that include the participation of subcontractors onsite

Related Information

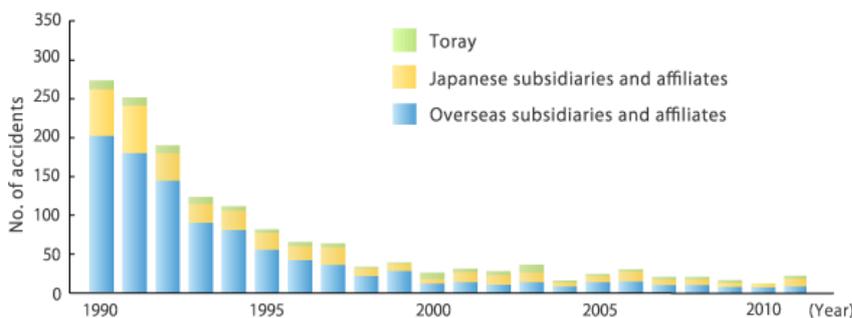
- [Safety, Health, Accident Prevention and Environmental Preservation Management](#)

Toray Group Safety Record

Toray has been compiling safety records since 1980, and Toray Group as a whole has done the same since 1990. Information on occupational accidents is also shared group-wide, including at subsidiaries and affiliates outside Japan. In 2011, a total of 21 occupational accidents (including both those resulting in lost work time and those with no lost work time) occurred in Toray Group. The occupational accident frequency rate\*1 was 0.24 accidents per million man-hours worked, if accidents resulting in no lost work time are included, and 0.16 if only accidents resulting in lost work time are included. These results are excellent in comparison to the overall average rate for manufacturing industries in Japan of around one accident per million man-hours worked causing lost work time. Looking forward, Toray Group intends to continue implementing safety measures with the goal of achieving zero accidents and to build even safer workplace environments.

\*1: Occupational Accident Frequency Rate: Casualty toll per million man-hours worked

Number of Occupational Accidents: Toray Group  
(Lost worktime and non-lost worktime)



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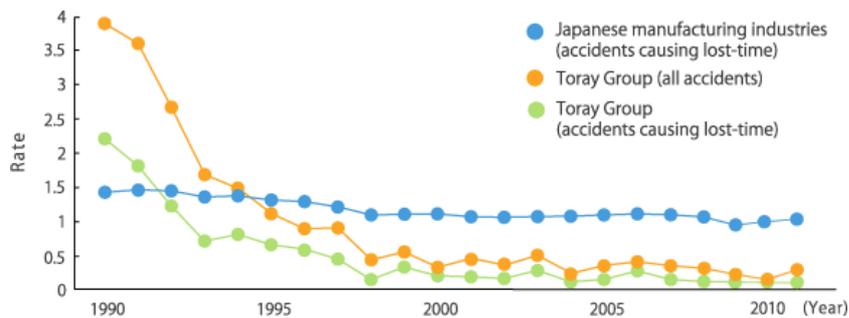
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Occupational Accident Frequency Rate: Toray Group



### 3Z Activities for Total Safety

As part of its medium-term management program that commenced in 2011, Toray is working to improve the capabilities of its workplace by expanding its "power-up 3Z" activities, which aim for zero accidents, zero troubles, and zero claims. Under these activities, zero accident measures are carried out under the strong leadership of production plant managers, with the goals of completely eliminating serious accidents and ensuring that the rate of accidents resulting in lost work time does not exceed 0.05 per million man-hours worked. These measures are designed to raise the level of safety at worksites by evaluating operations using videos and ensuring that working areas are regularly cleaned. In addition, Toray holds 3Z briefings twice annually with the attendance of directors in charge of 3Z activities. Mutual safety inspections are also conducted between departments or companies and plants as an inter-organizational measure for making improvements across the entire Toray Group.

### Special Initiatives for Improving Safety

After a string of accidents occurred in the first half of 2011, Toray Group formulated exhaustive measures to improve safety, focusing on accidents involving machinery with rotating parts, sharp-edged tools and forklifts, which pose particularly high risks to safety. The Group is working to improve overall safety through these measures in 2012.

### Ensuring Each Employee Strictly Follows Basic Safety Procedures

Toray Group recognizes that most occupational accidents are the result of human error. From this perspective, in 2011 the Group had all relevant employees work with their supervisors to create basic safety rules for ensuring that safe operational procedures are followed, and initiated activities to promote strict adherence to these rules. In 2012, Toray Group is working intensively to design a safety code of conduct to encourage employees to think carefully about the safety of operations before carrying them out.

### Implementing Stringent Safety Activities That Include the Participation of Subcontractors Onsite

As it strives to eliminate occupational accidents, Toray Group requests that subcontractors at its worksites participate in group-wide safety activities, such as following the method of pointing and calling out procedures, and taking measures to prevent the recurrence of similar accidents that have occurred in the workplace. In this regard, safety council meetings are held regularly for onsite subcontractors to ensure that safety instructions are properly understood.



Safety meeting held at Toray's Nagoya Plant

### Carrying Out Activities to Prevent Recurrence of Similar Accidents

Toray Group is making the most of its safety measures and sharing relevant information group-wide in its efforts to prevent previous accidents from happening again. Information is shared not only about all occupational accidents and near accidents at Toray group companies, but also about major accidents at other companies. In 2011, the Group implemented electricity saving measures while proactively compiling information on how to effectively prevent heat stroke, and shared it with all Group companies and plants.

### Enhancing Fire Prevention Initiatives

Toray Group positions fire prevention as one of its highest priorities along with safety measures. Every company and plant in the Group conducts voluntary fire prevention inspections and fire-fighting drills. To pursue effective inspections, Toray Group employs a fire prevention checklist consisting of 906 items compiled on the basis of lessons the Group has learned from past accidents.

In 2011, three fires broke out at Toray Group companies outside Japan. Recognizing the seriousness of these incidents, the Group undertook a full-scale review of the flammable substance management items in the fire prevention checklist, and also reviewed its fire prevention methods for duct systems with high risk of fire.



Fire-fighting drills at Toray's Aichi Plant

**Improving Education for Safety and Accident Prevention**

Toray Group is committed to increasing safety education for employees. Occupational safety and accident prevention training is incorporated into the curriculums of specialized and level-specific organizational education programs. It includes direct safety training, an effective method for raising hazard awareness through employee participation in crisis situation simulations. Each Toray Group company and plant uses sophisticated training methods, which include simulated production-roll entanglement accidents and explosion demonstration.

In addition, Toray Group includes in its in-house newsletters a section covering safety and accident prevention, which is widely read throughout the Group, to enhance awareness of safety. Toray provides a month-by-month list of occupational accidents and fire incidents that have occurred over the previous five years to group companies and plants. Valuable lessons can be learned from accidents, and they are used in safety and accident prevention training to increase awareness among employees.

Items covered in hands-on accident prevention training	
Category	Training topic
Safety	<ul style="list-style-type: none"> <li>• Entanglement in machinery with rotating parts</li> <li>• Impact from projectiles and falling objects</li> <li>• Danger of electric shocks</li> <li>• Accidental blow-outs of gas or liquid during pressure reduction</li> <li>• Hazards from direct contact with chemical substances</li> </ul>
Preventing disasters from explosions (explosion demonstration)	<ul style="list-style-type: none"> <li>• Danger of combustible liquids catching fire</li> <li>• Explosions from mixed gases</li> <li>• Gas diffusion phenomenon</li> <li>• Confinement of mixed gas explosions</li> <li>• Dust explosion</li> <li>• Fires caused by static electricity</li> <li>• Effectiveness of electrical equipment for preventing explosions</li> </ul>



Explosion demonstration during training at Toray's Tokai Plant



Accident simulations during training at Toray's Gifu Plant



The in-house magazine features a safety and environment section



Mascot for safety and disaster prevention activities: Mr. Safety

## Occupational Safety Distribution Safety Initiatives

As part of safety management efforts in the transportation of hazardous substances, Toray concludes security agreements with certain customers and transporters that outline specific safety responsibilities and roles. Handling manuals are also shared in order to ensure distribution safety.

### Related Information

- [Initiatives to Improve Safety and Quality in Distribution](#)

### Health Effects and Response to Asbestos

Toray Group has manufactured and imported building materials containing asbestos in the past. In addition, certain buildings and facilities were constructed using such materials and thermal insulation containing asbestos. Starting in 2005 when asbestos-related health hazards became a social concern in Japan, Toray took action to address the issue of its own asbestos-containing facilities. The health program offers medical examinations to an accumulated total of 3,649 current and former employees who handled even small amounts of asbestos and wish to undergo an examination. Toray Group is working in good faith with individuals diagnosed with asbestos-related health issues by assisting with their applications for workers' compensation and providing an ongoing program of medical examinations. The Group has not been contacted about health issues by residents living near affected facilities. The health effects on former and current Toray Group employees as of March 31, 2012 are described in the table below.

	Number of individuals (figures in brackets refer to fatalities)
Certified occupational accidents(Toray Group)	55 (38)
Certified health victims based on the Asbestos Law (Toray Group)	7 (7)

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### VOICE

**Shoji Oka**  
Pre-Oriented Yarn Manufacturing Chief, Polyester Filament Manufacturing Section,  
Fibers & Textiles Manufacturing Department, Ishikawa Plant, Toray Industries, Inc.

### Striving to improve safety by raising standards on the shop floor

Toray's Ishikawa Plant manufactures polyester and nylon fibers as well as carbon fiber composite material prepreg. Our plant is not very large, so the fact that we all see each other at work everyday has allowed us to develop original initiatives. Having adopted the approach of being a good neighbour in our relations with the surrounding community, we have created a group activity we call the "six-person team initiative" to encourage mutual consideration and care for each other. We are also implementing safety measures under the slogan, "Be sure to follow established and agreed upon procedures." We have been building on everyone's determined efforts in the past, and as a result, the Ishikawa Plant has never had an accident in 29 consecutive years.

We undertook special activities to improve safety in 2011, particularly with regard to machinery with rotating parts. This kind of machinery is a source of danger in the fiber manufacturing process because the likelihood of bodily harm is very high if a worker becomes caught in one. As a manager at the plant, I have been working together with personnel in relevant sections to conduct measures aimed at reducing this risk. By setting risk reduction policies where manufacturing workers take the lead, we are fostering a workplace environment in which everyone closely adheres to our policies, so we can carry on the Ishikawa Plant's tradition of safety.



Shoji Oka receives the award for outstanding safety at the Toray Group Safety Convention.



Activities to lower risk of entanglement in rotating parts of machinery by six-person teams

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To ensure the confidence and support of society, Toray Group employs a fair, effective governance structure and strives to be a company of integrity. The Group carries out various activities under the guidance of top management, in order to maintain a high level of group-wide employee awareness of corporate ethics and legal compliance.

**For Our Shareholders**  
**Corporate Governance and Management Transparency**

Toray Group is improving its corporate governance system and working to enhance management transparency. Through its CSR activities, the Group aspires to be an excellent company with global reach.

**For Our Shareholders**  
**Corporate Ethics and Legal Compliance**

Maintaining a high level of corporate ethics and legal compliance is one of Toray Group's primary management issues. Accordingly, all members of the Group are expected to carry out operations with a strong awareness of high ethical standards and compliance with the law.

**For Our Shareholders**  
**Risk Management**

Companies face diverse and complex risks, and corporate management involves dealing with these risks effectively. That is why Toray maintains a system of risk management extending from the identification and prevention of possible risks, to mechanisms for major crisis response.

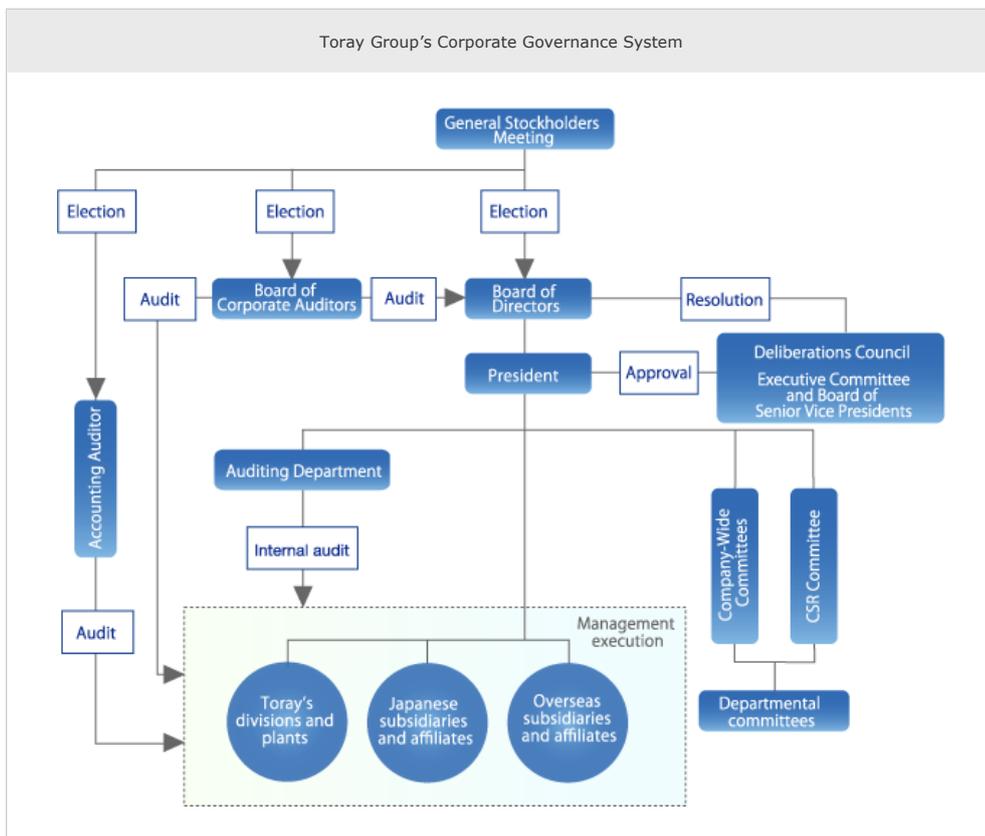
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Corporate Governance and Management Transparency  
**Toray Group Corporate Governance**

Toray Group's basic policy on corporate governance is contained in its Corporate Missions, which requires the Group to provide stockholders with dependable and trustworthy management. The Corporate Guiding Principles require the Group to obtain the trust of society and meet its expectations by acting fairly while maintaining high ethical standards and a strong sense of responsibility and maintaining transparency in management. Toray's management structure has been designed to facilitate the realization of these objectives.



**Toray's Management Structure and Reason for Adoption**

Toray's Board of Directors is made up of 26 members. The Company does not elect external directors and has not adopted an executive officer system.

Toray Group is involved in a wide range of business fields globally based on its core technologies, including organic synthetic chemistry, polymer chemistry, biotechnology and nanotechnology. The Group's present governance structure reflects the belief that Toray can best fulfill its management responsibilities to stockholders when decisions are taken by members of the Board who have extensive knowledge of its business activities.

Toray operates under a corporate auditor system.

Two members of the four-member Board of Corporate Auditors are outside corporate auditors. To ensure management transparency and objective and impartial management oversight, the Board of Corporate Auditors is completely independent from the Board of Directors. Furthermore, the external auditors conduct comprehensive audits of the management duties performed by directors from an independent standpoint.

In fiscal 2011, the auditors attended all meetings of the Board of Directors, and conducted regular audits of offices, plants, and subsidiaries and affiliates in and outside Japan, including meetings involving directors and heads of divisions and departments.

To help ensure effective corporate governance, Toray has established Top Management Authority Regulations as a set of rules for decision-making, specifying what kind of decisions the Board of Directors, company president, general managers of divisions, and other positions have the authority to make. These management responsibilities are complimented by company-wide committees in charge of setting priority management issues.

Remuneration for members of the Board consists of monthly remuneration, a bonus and stock acquisition rights in the form of stock options; meanwhile remuneration for corporate auditors consists of monthly remuneration and a bonus. The purpose of this structure is to ensure management transparency and fairness, and to provide enhanced incentives for the improvement of financial performance and corporate value in the short-, medium- and long-term perspectives.

Furthermore, the amount of remuneration to directors and auditors is determined while taking into account the results of research conducted by a third-party organization to ensure an objective perspective.

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## Ensuring Proper Business Conduct and Transparency

To promote proper business conduct in all operations, Toray has established various internal controls designed to ensure legal compliance, effective management execution, secure information storage and protection, and risk management against losses, all in accordance with its Basic Policy for Internal Control Systems. The Company has also established principles for information disclosure, which it follows closely in its efforts to ensure transparent management.

## Internal Controls for Financial Reporting based on the Financial Instruments and Exchange Act

As required under Japan's Financial Instruments and Exchange Act as of the fiscal year ending March 31, 2009, Toray established an internal control system for financial reporting, and began its full-scale implementation in April 2008. The implemented financial reporting controls for FY 2010 were confirmed as effective, and were also verified by accounting auditors.

## Dialogue with Labor Unions

Toray holds meetings of the Central Labor and Management Council twice a year. The meetings are attended by directors at the senior vice president level and higher and labor representatives at the union head level and above. At these meetings, management-related information is shared, and there is an ongoing dialogue with the labor union. Resolution of labor issues is undertaken at separate Labor and Management Council meetings.

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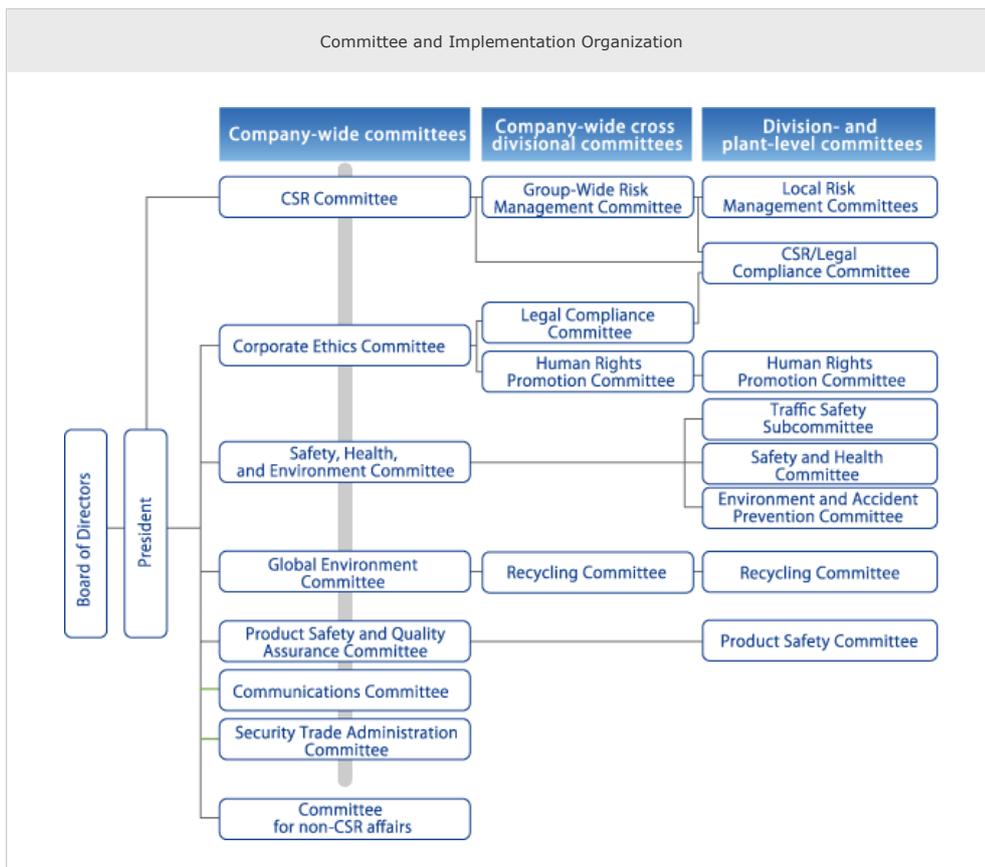
## Corporate Governance and Management Transparency Implementing CSR Activities and Improving CSR Education

### Toray Group's Framework for Implementing CSR

The CSR Committee, which reports directly to the president, coordinates the activities of six company-wide committees. Furthermore, CSR/legal compliance committees have been established at each subsidiary and affiliate, division, and plant to help implement CSR activities. The director in charge of CSR activities acts as chairperson of the CSR Committee and is in charge of Group-wide CSR implementation.

In fiscal 2011, Toray Group began reviewing this framework in reference to the ISO 26000 guidance standards in an effort to more objectively re-assess its CSR activities on a global level.

Committee and Implementation Organization



### Related Information

- > [Highlight 2: Building Businesses with Deep Roots in the Community to Promote Local Development](#)
- > [Comparative Table with ISO 26000 Subjects](#)

### Promoting CSR Initiatives in Every Workplace

A special characteristic of Toray Group's approach to corporate social responsibility is its "CSR line activities," a unique employee participation system that emphasizes putting CSR into practice at work. Every workplace carries out initiatives in such areas as the environment, safety, and social contribution while aiming to foster broader awareness of the Group's CSR Guidelines.

### In-House Training on CSR-Related Issues

Toray Group is working to promote CSR activities throughout the entire organization by offering opportunities for employees to participate in a wide array of training programs. For example, material covering CSR is included in training programs for personnel promoted to management positions, and the content is updated every year. In fiscal 2011, the Group expanded its online CSR training course and created a CSR training program for managers. A total of 1,188 managers participated in the program at Toray, studying new international trends related to CSR issues. The Group began expanding the program for managers at subsidiaries and affiliates in Japan in fiscal 2012.

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## VOICE

H.S. Teh  
Managing Director, Penfabric Sdn. Berhad.

### Striving to be an even more excellent company by implementing characteristic CSR activities

I was appointed president of Toray's Malaysian subsidiary, Penfabric, in 2008. Given the difficult business environment brought on by the global financial crisis, I started various initiatives to build a strong corporate structure and unite all employees. As part of these efforts, we started issuing a weekly e-mail newsletter called "CSR News" for employees who work at four different factories. The newsletter presents my views and company information, and features reports on each factory's progress in following Toray's CSR Guidelines using scorecards, as well as links to CSR-related news and a CSR database. CSR News has become a useful tool for us to provide information on company policies and other important matters. Frankly, writing an article every week is not easy, but I believe sending a message in my own words is important.

In May 2012, we launched an initiative to make Penfabric greener through sustainable lifestyles. I am confident that our ambitions to protect the environment and promote sustainability through this initiative will make Penfabric an even more outstanding company.



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Corporate Governance and Management Transparency  
**Information Disclosure Principles**

Being fully aware of the importance of corporate social responsibility, Toray strives to become an "open company," in pursuit of management transparency, on the basic principle of not only complying with disclosure rules designated by law but also making fair, timely and appropriate disclosures, which exclude those pertaining to socially-accepted corporate secrets and nondisclosure agreements. The social responsibilities affecting information disclosure must be fairly fulfilled for our stakeholders, including customers, suppliers, employees, stockholders, investors and local communities, based on the following principles.

**Information Disclosure Principles** (adopted January 2004)

- 1. Information Disclosure Principle:**  
Do not avoid reality, conceal facts, or lie when disclosing information.
- 2. Voluntary Disclosure Principle:**  
Comply with legal disclosure requirements and voluntarily disclose information that can be disclosed.
- 3. Timely Disclosure Principle:**  
Disclose information that can be disclosed as quickly as possible.
- 4. Fair Disclosure Principle:**  
Disclose information to all stakeholders fairly and without bias.
- 5. Information Management Principle:**  
Employees responsible for disclosure shall strive to maintain strict information management until disclosure.

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Corporate Ethics and Legal Compliance  
**Corporate Ethics and Legal Compliance Code of Conduct**

As a part of its Management Philosophy, Toray Group's Corporate Guiding Principles express "ethics and fairness." It also states: "We will obtain the trust of society and meet expectations by acting fairly with high ethical standards and a strong sense of responsibility, and maintaining transparency in management." As a firm set of standards, Toray has established its Corporate Ethics and Legal Compliance Code of Conduct outlining eight general rules.

**Corporate Ethics and Legal Compliance Code of Conduct** (Adopted October 2003)

**1. Contribute to society**

As a company aspiring to be a New Value Creator, provide trustworthy products and services that satisfy our customers.

**2. Communicate with society**

Communicate with the various parties associated with the company, including its customers and shareholders as well as members of the local community. Actively and fairly disclose pertinent information about the company.

**3. Behave as a good corporate citizen**

Comply with laws and regulations, respect human rights, and actively contribute to society as a good corporate citizen.

**4. Play an active role in preserving the global environment**

Recognize that playing an active role in preserving the global environment is an important management issue, and strive to coexist with the environment in all corporate activities by conserving energy, reducing emissions and waste, promoting recycling, and so forth.

**5. Prioritize fairness and trust in corporate activities**

Engage in proper trade based on free, fair, and transparent market competition, and conduct corporate activities that earn the deep trust of society.

**6. Comply with national laws and regulations**

Pursue management reform from a global perspective, comply with the respective national laws and regulations in overseas operations, and be self-disciplined with high ethical standards. Conduct corporate activities with respect to the culture and customs of each country and contribute to the advancement of local communities.

**7. Raise motivation and create a corporate culture that lets employees demonstrate their ability**

Strive to create a corporate environment that allows each and every employee to be motivated to demonstrate their ability, respect individual human rights, character, and personality, and maximize creativity and professionalism.

**8. Break off relations with antisocial forces**

Always work for the good of society, break off relations with antisocial forces that threaten the order and safety of civil society, and take a resolute stand as a unified company.

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## Corporate Ethics and Legal Compliance Emphasizing Corporate Ethics and Legal Compliance

Toray's top management takes a clear position on the central importance of corporate ethics and legal compliance in corporate management. Toray leaders strive to further improve the conduct of all companies in Toray Group.

### Promoting Corporate Ethics and Legal Compliance

Toray has established a Corporate Ethics Committee and a Company-Wide Legal Compliance Committee. Chaired by the company president, the Corporate Ethics Committee discusses comprehensive policies on corporate ethics with labor-management cooperation. Operating under this committee, the Company-Wide Legal Compliance Committee is primarily comprised of section managers, and promotes independent activities that place importance on direct communication with upper management while addressing group-wide issues. CSR/legal compliance committees at the division- and plant-level encourage employees to perform related on-site activities.

Framework for Promoting Corporate Ethics and Legal Compliance at Toray



Toray has established CSR/legal compliance committees at its subsidiaries and affiliates in Japan, and appointed executives and section managers in charge of legal compliance. Furthermore, relevant departments at Toray's headquarters collaborate to hold a group-wide corporate ethics and legal compliance meeting annually to improve understanding of revised laws and particular issues.

CSR/ethics compliance committees have been established at Toray's subsidiaries and affiliates around the world. With support from Toray's International Division, CSR Operations Department, and other relevant sections, the committees independently promote initiatives related to legal compliance and corporate ethics.

### Corporate Ethics and Legal Compliance Code of Conduct and Handbook

The Corporate Ethics and Legal Compliance Code of Conduct is a strict set of standards that every Toray Group executive and employee closely follows when performing corporate activities both in Japan and abroad. In the event that a violation is discovered, strict discipline is carried out in consultation with the Company's Rewards and Sanctions Committee, and exhaustive steps are taken to publicly disclose relevant information, investigate the causes, and implement measures to prevent a recurrence.

All Toray executives and employees, including part-time and temporary personnel, receive a copy of the Corporate Ethics and Legal Compliance Handbook, which explains expectations for proper conduct in detail. The handbook is revised when necessary to reflect changes to laws and other matters.

Thorough efforts are also made at subsidiaries and affiliates worldwide, which have CSR/legal compliance committees, by providing similar codes of conduct, guidelines, handbooks, and other information to employees.

### Main Content of the Corporate Ethics and Legal Compliance Handbook

- Carrying out proper transactions based on free, fair, and transparent market competition (compliance with Japan's Antitrust Law, Subcontract Act, and Act against Unjustifiable Premiums and Misleading Representations)
- Respecting local laws and regulations in all countries where Toray Group operates
- Respecting human rights and prohibiting all forms of discrimination
- Using proper accounting practices (complying with all relevant laws including Japan's Corporate Law, Tax Law and Financial Instruments and Exchange Act)



Corporate Ethics and Legal

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- Complying with Japan's Foreign Exchange and Foreign Trade Act, Political Funds Control Act, and Public Offices Election Act
- Prohibiting any form of bribery involving stakeholders
- Corporate Ethics and Legal Compliance Helpline, an internal hotline system

Compliance Handbook (third edition)

### Company-wide Activities in Fiscal 2011

Toray established or undertook the following company-wide initiatives in fiscal 2011 relating to corporate ethics and legal compliance:

- Provided thorough training on security trade administration
- Maintained internal controls for financial reporting
- Made thorough efforts to promote awareness of Antitrust Law compliance
- Established and promoted a new internal helpline system

### Fostering a Corporate Culture Based on Ethics and Legal Compliance

Toray implements various training activities and programs at each of its workplaces, including monthly study sessions on proper business conduct and legal regulations and monthly meetings focusing on cases of corporate misconduct. The Company also set up a company-wide CSR and legal compliance electronic bulletin board on its intranet to provide employees with a source of useful information.

In addition, Toray works to raise awareness of legal compliance among all members of the Group by announcing important information about laws that directly concern business operations, including antitrust laws, insider trading regulations, labor laws, and anti-bribery rules.

### Utilizing Internal Reporting Systems

Toray expects its employees to independently manage their conduct with respect to corporate ethics and legal compliance, and to consult with a supervisor at the earliest opportunity if a related problem arises. Recognizing that reporting or discussing a problem with supervisors may be difficult, Toray ensures that alternative means of reporting and consulting are available at each of its divisions, departments, offices and plants, as well as through the labor union. Employees can also use a dedicated hotline or email service to directly contact the secretariat of the Company-Wide Legal Compliance Committee.

Toray established a Corporate Ethics and Legal Compliance Helpline as an internal whistle-blowing system in April 2010, which is accessible to all Toray Group companies in Japan. In addition to internal consultation offices at each company, an easily accessible external consultation service is available to employees throughout the entire Toray Group.

The confidentiality of helpline users is strictly maintained through the distribution of guidelines and provision of training for consultation staff. Labor contracts and rules of employment specifically prohibit discrimination against employees making reports or seeking advice, and clearly stipulate disciplinary action against those attempting to illegally seek gains through false accusations.



### Strengthening Security Trade Controls

Toray Group is working to improve its employees' awareness of compliance with security trade controls and to enhance their expertise in these regulations. The Group provides 18 types of detailed training programs tailored for respective job categories. A total of 8,948 employees have participated in these programs to date. Toray Group regards all product exports and international technology transfers as objects of careful management. The Group carries out thorough inspections and post-audits with respect to transactions.

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▸ [Addressing Existing Major Risks](#)

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Corporate Ethics and Legal Compliance  
**Antitrust Law Compliance**

In order to ensure thorough compliance with Japan's Antitrust Law, Toray Group has prepared an Antitrust Law Compliance Program and an Antitrust Law Red Card system to draw attention to possible violations. Thorough efforts to raise their awareness among employees are being made.

In addition, Toray Group conducts internal audits on a group-wide basis to monitor compliance with antitrust laws in an effort to prevent conduct that may lead to violations.



Toray's Antitrust Law Red Card

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Corporate Ethics and Legal Compliance

**Disclosure of Information Regarding the Ethical Treatment of Laboratory Animals**

Toray Industries Inc. carries out research and development on pharmaceuticals and medical device with the objective of contributing to human development and health enhancement through these productions. To evaluate the efficacy and safety of pharmaceuticals and medical device, it is necessary to conduct experiments using animals. Toray understands that such experiments must be carried out in an ethical manner from the perspective of animal welfare and the respects for life.

In order to ensure that animal experiments are conducted ethically, Toray has established its own in-house rules including the Guideline for the Animal Experiments on the basis of Japan's Act on the Welfare and Management of Animals, the Standards relating to the care and management, etc. of experimental animals, the basic policy on conducting animal experiments by organizations under the jurisdiction of the Ministry of Health, Labour and Welfare of Japan, and other related laws and guidelines. In accordance with its in-house rules, Toray has set up the Animal Care and Use Committee and strictly examines the appropriateness of animal experiments performed inside the company based on the 3R principles for animal experiments: refinement (minimization of pain), reduction (lowering the number of animals used), and replacement (preferred use of alternatives to animals).

Toray independently inspects and evaluates the results of animal experiments that have been conducted to confirm that they have been performed ethically. The company also provides its researchers with periodic training and education on animal research and ethics, and assists them in acquiring certification related to the handling of laboratory animals. Furthermore, Toray makes proactive efforts to collect relevant information by participating in academic conferences. Finally, Toray holds memorial services every year as a way to express its respect and appreciation for the laboratory animals that have been sacrificed for its research on pharmaceuticals and medical device.

In recognition of its efforts to care for laboratory animals and conduct animal experiments in an ethical manner, as described above, Toray was certified as an organization conducting animal experiments by the Japan Health Sciences Foundation in fiscal 2012.

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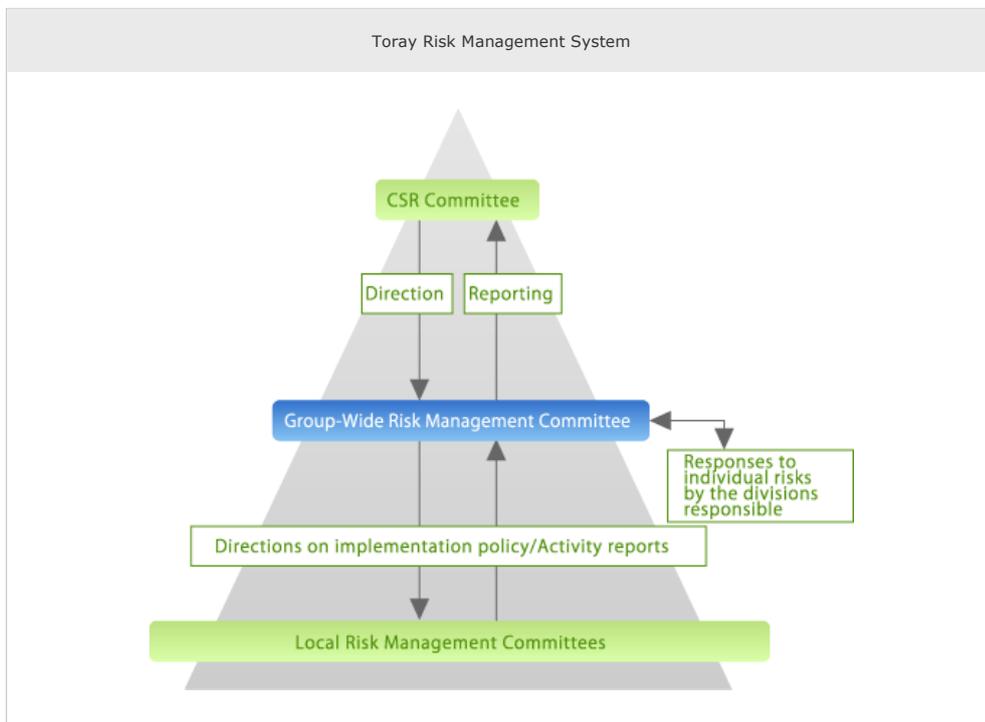
Risk Management

## Risk Management System and Initiatives

The Toray Group believes risk management is a fundamental pillar of corporate management. It operates a Group-wide risk management system based on three-year cycles, and strives to identify and reduce potential risks. The Group has also established a set of Crisis Management Regulations. Accordingly, an Emergency Quick Response System is in place for deployment in the event of a major crisis to prevent crisis escalation and carry out rapid recovery.

### Developing a Risk Management System

Toray has established a Group-Wide Risk Management Committee under the CSR Committee to regularly monitor the progress of risk reduction measures across all Group companies and conduct integrated planning and promotion of risk management measures. Under the Group-Wide Risk Management Committee, local risk management committees have been established at each of Toray's divisions, departments, offices, and plants. Each committee works to minimize risks specific to its respective business site, while taking measures to prevent incidents from occurring.



Group-wide measures determined by the Group-Wide Risk Management Committee are given to the subordinate local risk management committees, which then incorporate these measures in their own initiatives to reduce risks particular to their respective division, department, office or plant, while carrying out coordinated risk management activities.

The Toray Group has also established a risk management system for subsidiaries and affiliates in Japan and around the world led by their presidents. The system promotes initiatives to reduce the specific risks faced by each company, which reports on the results of these initiatives to the Group-Wide Risk Management Committee every fiscal year.

### Promotion of Enterprise Risk Management

The Toray Group commenced group-wide risk management in fiscal 2008 to assess risks that could potentially affect its operations and to implement countermeasures from a group-wide perspective. Specific procedures (steps 1 through 5) using the plan-do-check-act (PDCA) cycle are shown below.

PDCA Cycle for Group-Wide Risk Management

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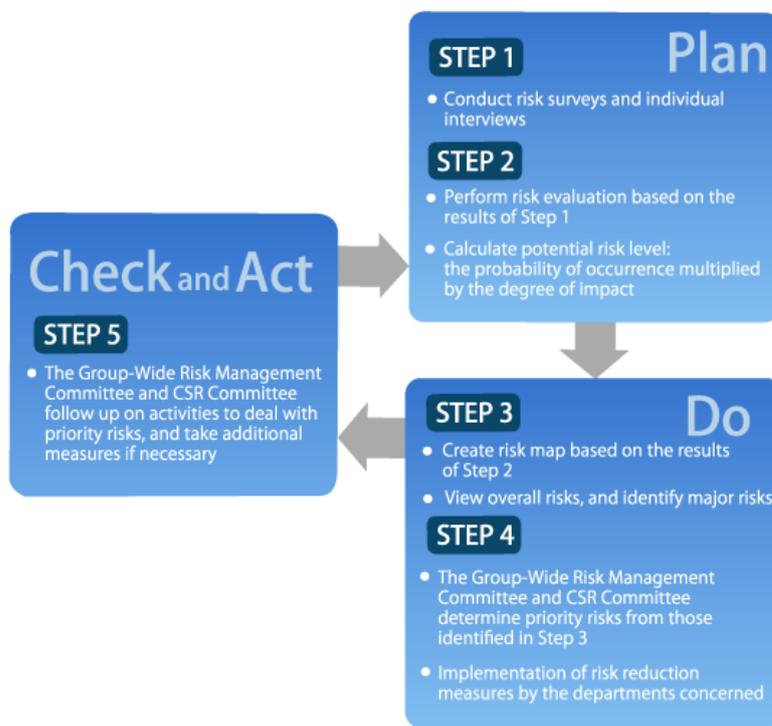
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Measures to address priority risks are developed by working groups or departments responsible for risk management. Progress is regularly reported to the Group-Wide Risk Management Committee, which evaluates the degree of risk reduction at the manager's meeting.

The Group reviews and re-assesses all risks using the PDCA cycle above once every three years. In fiscal 2011, Toray conducted a company-wide survey on risks, held designated meetings, and reviewed. The company-wide risks previously assessed in fiscal 2008. As a result, the Company determined priority risks to address over the next three fiscal years. Each of Toray's subsidiaries and affiliates in Japan and worldwide are also re-assessing priority risks in the same manner as the Company.

### Addressing Priority Risks

The Group addresses the following priority risks using a working group format.

#### 1. Maintaining information security

Conducted internal audit on information security at ten subsidiaries and affiliates in Europe and three in Asia in accordance with Toray's policy on electronic information security measures

#### 2. Supply chain risk reduction

Identified biodiversity and conflict mineral initiatives of suppliers and requested further effort

#### 3. H1N1 Influenza Outbreak Countermeasures Plan

Additional items included in H1N1 Influenza Outbreak Countermeasures Plan

### Addressing Existing Major Risks

Toray is promoting ongoing risk reduction activities through Group-wide committees that deal with existing major risks separately from the priority risk reduction measures. They include legal compliance, security export controls, fluctuations in raw material markets, business strategy, and fluctuations in exchange rates and economic conditions. Progress is reported to the Board of Directors as necessary.

As part of these efforts, Toray performs risk management of security export controls covering the export of products, devices, materials, and samples; and the transfer of technologies outside Japan. Particularly strict management is necessary for TORAYCA® carbon fiber and its composite materials, semiconductor coating agents, and water treatment membranes, which are listed as restricted items requiring export permission from the Japanese Minister of Economy, Trade and Industry. In fiscal 2011, Toray carried out the following measures to enhance risk management in this area.

#### 1. Development and skills improvement for security trade specialists

Established a special training program to ensure employees develop proper judgment abilities

#### 2. Regular audits conducted

Paper audits and onsite audits carried out at Toray and its subsidiaries and affiliates

#### 3. Sharing failure reports company wide

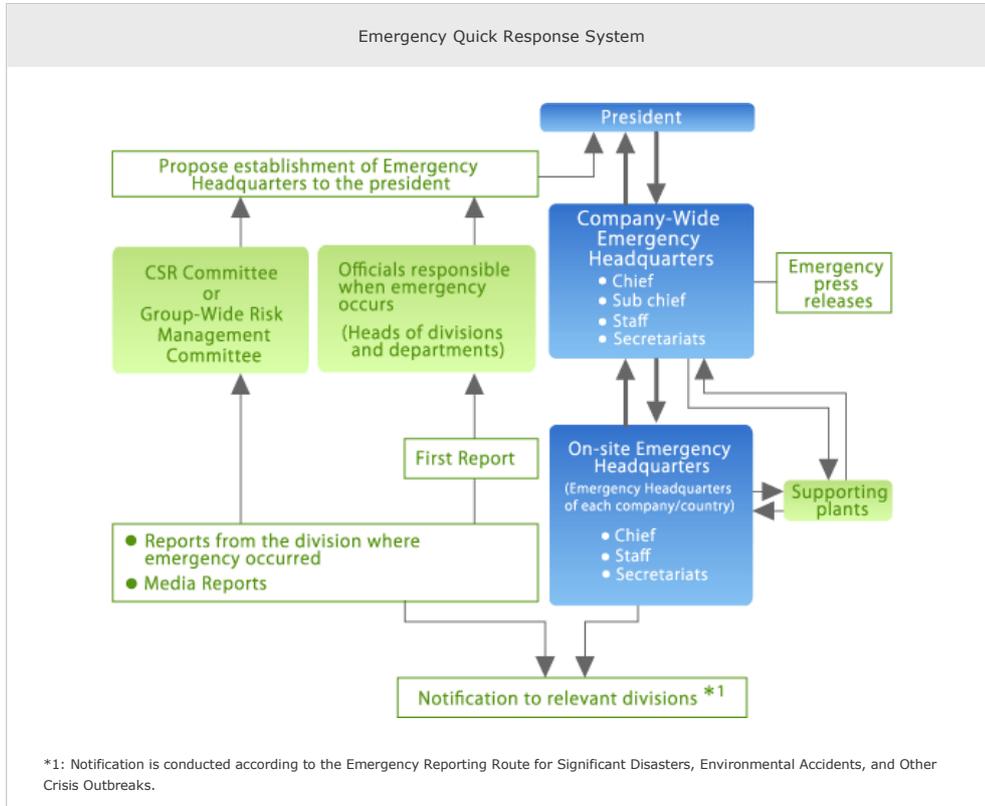
Shared failure reports via a company-wide e-learning system to raise awareness

#### 4. Development and company-wide expansion of operation review systems

**Crisis Management Systems**

Toray has established Crisis Management Regulations, a set of clear fundamental principles that form the basis of a company-wide response in the event of a major crisis. The Company works to ensure the thorough implementation of these regulations when required.

When Thailand suffered from flooding in October of 2011, Toray's Thailand factory was damaged. In accordance to Toray's crisis management regulations, Toray quickly set up a Company-Wide Emergency Headquarters for quick and appropriate response and to minimize the overall impact to Toray.



Risk Management  
**Business Continuity Plan Initiatives**

Toray has long taken seriously the risks of a destructive earthquake, and has been carrying out initiatives based on a Major Earthquake Business Continuity Plan.

Immediately after the Great East Japan Earthquake in March of 2011, Toray set up a Company-Wide Emergency Headquarters under the direct control of Toray's President to begin the work of resuming Toray business operations including offices and group companies. As a result, even the affiliates that took the longest to recover were back in business by May of the same year.

Furthermore, Toray carried out internal surveys as a means of self-evaluation in regard to its response to the Great East Japan Earthquake. Using those results, Toray implemented the following countermeasures for potential disasters such as an earthquake directly hitting Tokyo and a Nankai Trough earthquake:

- Implementation of emergency earthquake notification system to all offices and plants. Added more satellite phones, etc.
- Update of the employee safety status confirmation reporting standard, and revision of which items should be stockpiled.
- Emergency evacuation countermeasures for a tsunami triple the height of modern tsunamis of record.
- Equipment and operation safety shutdown countermeasures in the event of a widespread blackout
- Revision to operations for prioritizing recovering in the event of a disaster
- Expansion of means for continuing operations with employees working at home until recovery is complete
- Investigation into alternative parts for establishing multiple supplier options and the creation of a corresponding list of supplier factories
- Establishment of a warehousing standard that gives consideration to decentralized warehousing, construction methods, foundation (ground) status, water damage risks, etc.
- Enhancement and expansion of emergency drills

Regarding the Business Continuity Plan for keeping headquarters functioning, Toray conducted self-evaluation surveys, mainly in the departments that house critical operations, and identified and organized potential issues. The Company is reviewing action plans based on those concerns.

**Related information**

- [Disaster Response in the Aftermath of the Great East Japan Earthquake](#)
- [Responding to Major Flooding in Thailand](#)

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Risk Management  
**Initiatives to Protect Personal information**

Toray established a set of Personal Information Management Regulations in March 2005, and the Personal Information Management Database was launched on the company intranet. All personal information held by each department is registered in the database and strictly managed. In addition, inspections are conducted regularly by relevant offices.

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Toray Group strives to engage actively with stakeholders and win their trust by incorporating their concerns in its management initiatives. As a materials manufacturer, Toray Group implements environmental conservation measures to fulfill its responsibilities to the global environment while aspiring to be valued by the local communities where it operates for its ongoing efforts to improve safety, prevent accidents, and care for nature.

■ For Society

**Communication**

For Toray Group, enhancing dialogue with stakeholders is one of the most important priorities for management. As such, the Group works to provide appropriate information in a timely manner to all of its stakeholders, including customers, employees, stockholders, and local communities, in an effort to respond to their diverse expectations while ensuring effective communication.

■ For Society

**Safety and the Environment**

With top management priority given to safety, accident prevention and environmental preservation, the entire Toray Group is working in unison to achieve the goals of its Fourth Medium-Term Environmental Plan and ensure that no worksite accidents occur.

■ For Society

**Social Contribution Activities**

Toray Group carries out social contribution activities specifically designed to help build a more sustainable world. Focusing on promoting science and research, the Group provides support in the fields of education, the arts, culture, sports, environmental preservation and disaster relief.

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Communication  
**Toray Group Stakeholder Dialogue**

Toray Group has established Basic Policies to Promote Dialogue with Stakeholders, designed to ensure that its management gives serious consideration to each type of stakeholder when deciding on basic management objectives. These policies guide the efforts of each Toray Group company and every employee, as they seek to engage with diverse stakeholders across an array of corporate activities.

**Basic Policies to Promote Dialogue with Stakeholders** (adopted September 2005)

1. Toray Group will promote dialogue and collaboration with all stakeholders, including customers, stockholders and investors, business partners, employees, government, local communities, NPOs, citizens, the global community and the media.
2. Each company in Toray Group, through dialogue and collaboration with stakeholders, will take steps to carry out reforms designed to increase the satisfaction level of everyone.
3. All Toray Group employees, in their respective workplaces, shall identify and strive to solve issues affecting stakeholder satisfaction as part of their CSR activities.

Fiscal 2011 marks the first year of Toray Group's new long-term corporate vision, AP-Growth Toray 2020, as well as the first year of the Project AP-G 2013 medium-term management program. Toray is working to explain and promote the details and goals of these initiatives both inside and outside the Group through its in-house newsletters, website, and presentations to the public led by the company president.

In line with its Asia and Emerging Country Business Expansion Project, a component of the Project AP-G 2013 medium-term management program, Toray Group has enhanced its global website and launched new sites in China and Indonesia in fiscal 2011. The goals of the globally expanding web presence are to strengthen the Toray brand, promote website usage as marketing tools, and stimulate dialogue with communities. To assist local staff in operating nationally or regionally specific websites, the Group actively and directly collects, shares, and manages relevant information with a view to providing comprehensive sites that effectively present Toray's business activities in the marketplace. A new Toray website has recently opened in the United States, and more sites are planned for Thailand, Malaysia, South Korea, and Europe.



Toray Group's global website

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Communication with Customers

To realize Toray's customer-first policy, marketing and sales departments actively promote events designed for direct interaction with customers. In September 2011, the Company held the 2011 Toray Advanced Materials Exhibition and the Toray Advanced Materials Symposium concomitantly at the Tokyo International Forum. The exhibition attracted about 9,200 visitors, while the symposium was attended by about 4,300 guests.

Related information

- Highlight 1: Driving Innovation with the Power of Materials

Also in fiscal 2011, Toray conducted its first customer survey in three years. In the same way as the previous survey, Toray sent the survey materials via mail to customers listed by each of the Company's sales divisions. The survey was completed by 360 customers, representing a relatively high response rate of 72%. The survey responses indicated that Toray's project to improve sales capabilities is generating lasting effects. Moreover, the responses showed that the importance of sales representatives had risen since the previous survey, and the capabilities of individual sales representatives had improved. The survey also affirmed that Toray's sales staff need coordination abilities in order to involve related departments and effectively handle operations on an organizational and company-wide scale. Toray shares the results of the survey with employees via its in-house newsletters. The Company intends to make good use of the results in concrete initiatives going forward.



COLUMN

Exhibiting for the First Time at the 2011 Tokyo Motor Show

Toray displayed its concept electric car, TEEWAVE® AR1 (Toray Eco Efficient Wave Advanced Roadster 1) at the 2011 Tokyo Motor Show, which was held December 3 to 11, 2011 at the Tokyo Big Sight convention center. This was the first time Toray has exhibited at a motor show. The Company leveraged its environmentally friendly advanced materials and cutting-edge technologies to produce this next-generation sports car.

Toray held a press conference on December 1, and also invited media representatives to a panel discussion at the venue on December 2 featuring Gordon Murray, who played a key role in designing the TEEWAVE® AR1, and Osamu Goto, a representative of Geo Technology S.A.

The 2011 Tokyo Motor Show attracted about 840,000 visitors, many of whom visited Toray's exhibition space and spent considerable time looking at the items on display.



The panel discussion featured (from left) Toru Yamanaka, general manager of Toray's Automotive Center; Osamu Goto; Gordon Murray; and Kazumichi Ebisutani, general manager of the Automotive Material Strategic Planning Department.

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Communication with Stockholders and Investors

In accordance with its Information Disclosure Policy, Toray makes sure to disclose information required under laws and regulations in an accurate, timely and appropriate manner, as well as a broad range of additional information beyond these requirements. Toray's Investor Relations Department operates directly under the president as a liaison between the Company and its stockholders and investors. The department takes every opportunity to communicate with stockholders and investors while reflecting their viewpoints in management and business activities.

**Holding Investor Relations Events to Meet Directly with Stockholders and Investors**

Toray hosts quarterly briefings for institutional investors and securities analysts on the same day that it announces its financial results. It also participates in company briefings held by stock exchanges in order to communicate directly with individual investors.

Toray's major IR activities in fiscal 2011 are as follows:

Activities	Attendees from Toray	Number of events	Approximate number of participants/frequency
Briefings on business results announcements	President, Director in charge of Investor Relations Department, Director in charge of Finance and Controller's Division	4	709 participants
Briefings for individual investors	General Manager of the Investor Relations Department	2	333 participants
Meetings and conference calls with investors and analysts	Director in charge of Investor Relations Department, General Manager and staff of the Investor Relations Department	As required	809 instances

Through these briefings and ongoing investors meetings, the opinions of Toray's stockholders and investors are acknowledged and regularly reported to the Company's Board of Directors. These opinions are also periodically deliberated by the Corporate Communications Committee, which works to reflect them in management and business initiatives. The committee is comprised of management personnel and meets twice annually.

**External Evaluation of Information Disclosure to Investors**

In the "Investor Relations" section of its website, Toray provides useful information about its financial results and management policies and strategies for stockholders and investors. In an effort to disclose information fairly, Toray promptly posts financial data and presentation materials, including English translations, used in its briefings for institutional investors. In fiscal 2011, Toray's publications were evaluated externally by a number of organizations, as follows.

Evaluations	Organization Details
Daiwa Investor Relations Co., Ltd.	Outstanding company for Internet IR site content
Nikko Investor Relations Co., Ltd.	Most outstanding site in a completeness ranking of listed company websites in 2011
League of American Communication Professionals	2010/2011 Vision Awards Annual report ranked fifth overall in the world and first among Japanese companies

Toray's Annual Report 2011—There's Chemistry Between Us received the Platinum Award in the chemicals category and an overall ranking of fifth in the world at the 2010/2011 Vision Awards, sponsored by the League of American Communication Professionals (LACP), as well as the top Gold Award in the advanced materials category at the 2012 ARC Awards, sponsored by MerComm, Inc., in the United States. Report Watch 2012, sponsored by enterprise.com in the United Kingdom, named Toray's report as a best practice in its "message - theme - thread" category, and as one of the top 20 companies in its cover design category and executive message category, respectively.



**Evaluations from the Perspective of Socially Responsible Investment**

Toray was evaluated by several socially responsible investment (SRI) rating organizations in fiscal 2011, as follows:

Survey Name	Rating

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Integrex Inc. (Japan)  
"Base of Integrity Screening"

No.1 in the industry  
(textile products, pulp and paper  
sector)

### Main SRI indexes in which Toray is included

An SRI index is based on stocks in companies that outperform a set of standards for CSR activities. The companies providing these indexes independently select index components and calculate indexes based on publicly available data and questionnaire surveys.

Toray was included in the following SRI indexes as of March 31, 2012:

#### • FTSE KLD Global Climate 100 Index

Global Climate 100 Index, comprised of 100 companies that are leaders in providing long-term solutions to global warming and climate change.

#### • Morningstar Socially Responsible Investment Index (MS-SRI)

The Morningstar Socially Responsible Investment Index (MS-SRI) tracks the share performance of 150 selected listed Japanese companies based on their commitment to CSR. It is the first such index in Japan.



### Convenient General Stockholders Meetings

For the convenience of its stockholders, Toray avoids holding its general meeting of stockholders on a date when many other companies in Japan hold their meetings. Toray also sends out notices of its general meetings of stockholders as early as possible to give sufficient time for stockholders to plan their attendance. In fiscal 2011, 1,405 stockholders attended the Company's ordinary general meeting of stockholders, compared to 1,106 in fiscal 2010.

#### Related Information

- [Ordinary General Meeting of Stockholders](#)

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**Communication with Business Partners**

Toray Group holds policy briefings with business partners and carries out surveys of their CSR procurement to foster mutual understanding and closer collaboration.

**Related Information**

- [CSR Procurement](#)

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Communication with Employees

Improving Communication Tools

In Toray Group, various forms of media such as in-house newsletters, the Toray Navi intranet, and company-wide bulletin boards are employed to stimulate communication among employees. Messages from the company president appear in all of these media. Company magazines issued in both Japanese and English editions are distributed to employees throughout the Group as a means of sharing information and raise awareness about management and business issues as well as the details of Toray's projects.



Toray Group's in-house newsletters  
Toray Navi intranet

To explain and promote the Project AP-G 2013 medium-term management program to members of the Group, Toray's president visits each office and production plant in Japan as well as group companies around the world. The president offers his views and directly speaks with employees about various matters while taking note of issues relevant to management. In fiscal 2011, 13 of these meetings with the president were held, providing an opportunity for about 200 employees to speak with him in an informal setting.



The company president and employees  
share ideas at Toray KP Films Inc.

Conducting Employee Awareness Surveys

In November 2011, Toray carried out its second employee awareness survey, which it previously conducted in February 2008, and included the same questions to provide a basis for comparison. The survey measured employees' levels of motivation, communication, and sense of belonging with the Company, as well as their awareness of and involvement in the AP-Growth Toray 2020 long-term corporate vision and the Project AP-G 2013 medium-term management program, both of which commenced in fiscal 2011. With a response rate of 97%, the survey showed that employee motivation and sense of belonging were relatively high, as found in the previous survey. It also indicated that employees have a strong attachment to and greater awareness of Toray's brand and public image.

The results of the survey were shared with employees via in-house newsletters. Toray plans to conduct this employee awareness survey on a regular basis in the future, using it as an effective tool for raising employee's awareness of the corporate brand and for helping to promote the implementation of the long-term corporate vision and medium-term management program.

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**Communication with the Media**

Toray recognizes that public relations and corporate communication activities have a role in fulfilling responsibilities for information disclosure as well as influencing public opinion. Accordingly, Toray's Corporate Communications Department reports directly to the president, and actively engages with a wide range of media organizations, linking the Company with the public. Based on Toray's Information Disclosure Principles, the department provides fair and impartial information, even if it may cast the Company in a bad light, in a timely and appropriate manner.

Toray's main public relations activities in fiscal 2011 are shown below.

Press conferences	183
Press interviews given	325

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- [Toray's Information Disclosure Principles](#)

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Communication with Local Communities

All of Toray's offices, production plants, and subsidiaries and affiliates around the world make efforts to engage in active dialogue with nearby residents in a variety of settings. Some examples of these activities include regular community meetings with local residents, participation in community festivals and events sponsored by local governments, cleanups of surrounding rivers and streets, and inviting local residents to summer festivals held on sporting grounds on plant premises.

In Japan



Toray Tokyo Office participates in a Nihonbashi bridge cleaning event



Toray's Basic Research Laboratories in Kamakura provides support for local festivals



Toray's Aichi Plant holds factory tours for members of neighborhood associations



Environmental briefing for local residents at Toray's Nagoya Plant



The governor of Shiga Prefecture, Yukiko Kada, visits a plant of Toray Precision Co., Ltd.

Around the world



Toray Group employees in Hong Kong join a tree planting event



Toray Industries (South China) Co., Ltd., participates in a charity event for preventing blindness



Press conference for local media organizations in Shanghai

COLUMN

Community-Business Cooperation to Improve Disaster Prevention Measures

Toray's Seta Plant has signed an agreement with a local neighborhood council on cooperation in the event of a disaster, under which part of the plant site will be used as an evacuation area. In January 2012, the plant held a second joint disaster drill with the council since concluding the agreement, with about 50 local residents participating. After gathering at the Seta Plant's main entrance, everyone involved moved to the main evacuation point in an open area on the factory site to confirm the evacuation route and place. Participants also received important information about entering the site in the event of a large-scale disaster.



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Social Contribution Activities  
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**Toray Group's Approach to Social Contribution**

Guided by its corporate philosophy of "contributing to society through the creation of new value with innovative ideas, technologies and products," Toray Group strives to ensure that its main business activities help make the world a better place. At the same time, the Group carries out a wide range of special initiatives to contribute to society in numerous ways in accordance with its Toray Group Social Initiative Policies. For example, the Group actively donates to and supports the Toray Science Foundation, which the Company established in 1960.

**Toray Group Social Initiative Policies** (adopted May 2005)

1. Based on its Corporate Philosophy of "Contributing to society through the creation of new value with innovative ideas, technologies, and products," we will contribute to sustainable development of local and global society as a good corporate citizen, while continuously supporting social initiatives among employees.
2. We will pursue original programs dedicated to the improvement of social welfare in local communities, international exchange through traditional culture, sports promotion, and especially the advancement of science.
3. Using company awards and other measures, we will create a culture that encourages employees to participate in society in constructive ways such as engaging in voluntary activities with an eye to local needs.
4. We will examine all marketing and advertising activities from the perspective of social contribution before finalizing them.
5. We will contribute funds amounting to about 1% of our consolidated ordinary income to social initiatives.

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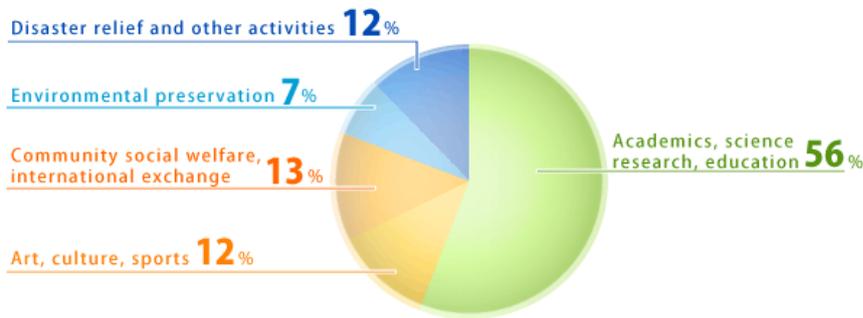
**Results of Toray Group's Social Contribution Activities in Fiscal 2011**

In fiscal 2011, implementation of social contribution activities at Toray Group required donations of approximately 1.2 billion yen, equivalent to 1.1% of consolidated ordinary income. Of this amount, Toray donated approximately 800 million yen, equivalent to 2.7% of non-consolidated ordinary income. The largest donations were given to the Toray Science Foundation in Japan and three other Toray science foundations in the ASEAN countries of Malaysia, Thailand, and Indonesia, as well as to sports classes, and environmental conservation activities at the Genbei River in the city of Mishima, Shizuoka Prefecture.

**Related Information**

- > [Highlight 3: A Single Ball Can Build Bridges between Many People and Communities](#)

Results of Social Contribution Activities



Note: Toray reviewed and revised these categories in fiscal 2011 in consideration of the categories used by the Japan Business Federation.

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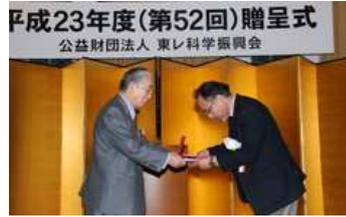
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Social Contribution Activities  
**Promoting of Science and Technology**

Toray established the Toray Science Foundation in 1960 to provide funding for basic research in science and technology, and to contribute to the scientific, technological, and cultural development of Japan. The foundation has been highly acclaimed for its efforts to promote basic science education by past science and technology grant recipients, including two researchers who went on to receive Nobel Prizes

Toray has also set up science foundations in Malaysia, Thailand, and Indonesia with the goals of funding and promoting scientific and technologically driven research, and facilitating the spread of science and technology in these countries through a variety of activities.



Toray Science Foundation's 52nd awards ceremony

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Social Contribution Activities  
**Raising up Future Generations**

Toray Group dispatches employees and uses its products and technologies to provide support for education.

**Teaching Children the Joy of Learning Science**

In fiscal 2011, Toray employees gave lessons on science and the environment at 16 schools, ranging from elementary to senior high schools. The lessons were tailored for each school's curriculum. Toray also provided its hollow fiber membranes for use in science classes at 13 schools. Teachers at the schools noted that using such materials, which are generally difficult to obtain for lessons, helped students learn better.



Experiments at school using materials provided by Toray

Starting in April 2012, Toray began providing workshops on the subject of filtration to encourage visitors to think about the importance of Earth's water at the Science Museum in Tokyo. Through experiments, participants learn how filtration helps people's livelihoods and is useful for solving the problem of global water shortages.



Workshop at the Science Museum

**Stimulating Interest in Manufacturing**

In February 2012, Toray exhibited at Monozukuri Taikan Stadium 2012, an educational event for children sponsored by the Monozukuri Japan Conference and the Nikkan Kogyo Shimbun Ltd. and held at Keio University's Hiyoshi campus. Toray Group employees volunteered to operate the exhibit, where they demonstrated the many wonders of fibers using Toray products.



Toray Group's exhibit

In April 2012, Toray invited elementary school children on a very special tour. First they visited Toray's Ehime Plant, then flew on a Boeing 787—an aircraft that contains many parts made out of Toray carbon fiber—to Tokyo International Airport, where they visited the maintenance hangers. This program was held in cooperation with All Nippon Airways Co., Ltd, to commemorate the commencement of Boeing 787 flights between Tokyo and Matsuyama, Japan. Members of Toray's Composite Materials Research Laboratories gave presentations on carbon fiber to ten participating elementary students. In addition, Toray's Okazaki Plant, Ishikawa Plant and other business sites are carrying out activities aimed at stimulating children's interest in manufacturing.



Presentation by Toray carbon fiber composite materials researcher

**Fostering the Scientists of the Future**

Since 2003, Toray and Toray Research Center, Inc. have been participating in Science Camp, a hands-on science and technology program for high school students sponsored by the Japan Science and Technology Agency. Applied researchers and engineers from all over Japan participate in the program, offering direct instructions to high school students in science experiments.



Assessed product performance using electron microscopes  
(Photo: Japan Science and Technology Agency)

Toray also provides support for Techno-Renaissance Japan, an idea contest targeting science and technical students who aspire to be researchers sponsored by Nikkei, Inc. Through the event in fiscal 2011, Toray solicited ideas for new products and solutions that use advanced materials to deal with global environmental problems, under the theme of "Materials that can power the 21st century."

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Heads of research institutes judge the contest submissions



Winners of Toray awards with Yukichi Deguchi (center), General Manager of the Research & Development Division

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Social Contribution Activities  
**Contributing to Local Communities and Protecting the Global Environment as a Good Corporate Citizen**

Toray Group draws on the particular strengths of each of its business sites to contribute in a variety of ways to the needs of local communities. The Group is also launching new initiatives to help solve global environmental issues.

**Contributing to Local Communities**

In fiscal 2011, over 350 employees of Toray's Mishima Plant joined community cleanups of several rivers in the area. In June of the same year, about 100 employees of Toray's Shiga Plant participated in civic cleanup activities around neighboring Lake Biwa, organized by a government department responsible for cleaning the lake in the city of Otsu, Shiga Prefecture.



Sakura River cleanup in Mishima

In the United States, over 140 employees from Toray Composites (America), Inc., carried out repairs at a senior citizen's home and cleaned up a coastal area during a special CSR week planned by the company in the last week of June until July 1, 2011. These activities were highly praised in the community, and recognized with a special certificate presented to the company by Washington Secretary of State Sam Reed.



Employees clean up a coastline area



Washington Secretary of State Sam Reed presents a certificate to company vice president Dennis Frett

**Helping Solve Water-related Problems**

Toray established the Torayvino Fund in 2010 to provide support for the Japan Water Forum, a non-profit organization, to jointly implement projects intended to supply safe drinking water. In fiscal 2011, the fund helped install rainwater tanks to supply drinking water and toilet water in the village of Kedaro on Lombok Island in Indonesia.



Rainwater tanks at an elementary school on Lombok Island, Indonesia

**Related information**

TORAYVINO®

Disaster Response in the Aftermath of the Great East Japan Earthquake  
Responding to Major Flooding in Thailand

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2010	Provided relief funds and supplies to the victims of the Great East Japan Earthquake (Japan)
	Established a scholarship fund for graduate students at the University of Rhode Island (USA)
	Donated to the Hospice of the Valley (USA)
	Supported the International Science Olympiads – Biology and Physics (Republic of Korea and Croatia)
2009	Supported the Japan Pavilion exhibit at Expo 2010 Shanghai (China)
	Supported Japan Fashion Week in TOKYO (Japan)
	Supported concerts of the Fureai Trio (Japan)
	Made a donation to the victims of the 2010 Chile earthquake (Chile)
2008	Supported Japan Fashion Week in TOKYO (Japan)
	Supported the France Meets Japan-Ukiyo-e Influence on French Ceramics exhibit (sponsored by Nikkei Inc.) (Japan)
	Supported Corot: Souvenirs et Variations exhibit (sponsored by the Yomiuri Shimbun) (Japan)
	Supported L'art de Monet et sa Posterite exhibit (Japan)
2007	Supported performances of Quatuor Voce in Japan (Japan)
	Supported art programs such as Setagaya Public Theatre @ School (Japan)
2006	Sponsored "Musee d'Orsay" exhibition. (Japan)
	Sponsored the Fourth Japan Science & Engineering Challenge 2006, a science and technology contest for high school students. (sponsored by Asahi Shimbun).
	Supported Science Camp, a hands-on science and technology program for high school students who intend to pursue careers in science sponsored by Japan Science and Technology Agency.
	Sponsored concerts in Tokyo by "the Shanghai Quartet". (Japan)
	Sponsored the Sustainable Society Education Support Project (sponsored by Diamond, Inc.), a program that donates the book Tales of Life: Eleven Stories of Biodiversity to elementary, middle, and high schools throughout Japan.
	Sponsored Japan Tent (sponsored by the Japan Tent Steering Committee), an event held in Ishikawa Prefecture that promotes international exchange.
2005	Sponsored "Vermeer String Quartet" concert. (Japan)
	Sponsored U.S. Tour of Chikamatsuza of Shochiku Grand Kabuki. (U.S.)
	Sponsored Art Deco Exhibit. (Japan)
	Sponsored the Umewaka Kennohkai Europe Tour. (Germany, Latvia, France, Belgium)
2004	Sponsored "Napoleon and Versailles" exhibition. (Japan)
	Sponsored "Flemish and Dutch Paintings from the Collection of the Kunsthistorisches Museum WienVienna" exhibition (Japan)
	Sponsored "Florence: The Birth of the Capital of Arts" exhibition (Japan)
	Sponsored "Mirai Sen-i Ten (Fabric in the Future)" exhibition (Japan)

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	Sponsored publishing "Sekai-wo kaeru okane-no tsukaikata (The way you use money can change the world)" (Japan)
2003	Supported setting up "Re-birth", website of Masako Imaoka, photographer (Japan)
	Sponsored "Shigeru AOKI and Romanticism in Modern Japanese Art" exhibition (Japan)
	Sponsored performances of the Yukiza marionette theater (Japan)
	Sponsored concerts in Tokyo by "the Shanghai Quartet". (Japan)
	Sponsored "Japan Science & Engineering Challenge" (Japan)
	Sponsored performance in Paris by "Meiwa Denki" (France)
	Sponsored "Monet and Renoir: Two Great Impressionist Trends" exhibition. (Japan)
2002	Sponsored "Masters of the Pardon Museum" exhibition (Japan)
	Sponsored performances of the Yukiza marionette theater in France (France)
	Sponsored concerts in Tokyo by the "Vermeer Quartet" (Japan)
2001	Sponsored "Mohri's Colored Space Part5, SAYOKO" (Japan)
	Sponsored Italy 2001 in Japan (Japan): Participated in the following exhibitions ; "IL Rinascimento In Italia" "Innovative Engineers of Renaissance" "Italia E Giappone: Design Come Stile Di Vita" "Masterpieces of Italian Majolica from the collection of The International Museum of Ceramics in Faenza" "A Century of Italian Art-From 1990 to 2000" "Artisans from the Palace of Florence"
	Sponsored "Dufy" exhibition. (Japan)
	Submitted dress materials to "Mitsui Collaboration 2001-AMATERASU". (U.K.)
	Sponsored Tokyo performance of "Juilliard String Quartet". (Japan)
	Sponsored "the Coming of Age of CG" Toray DCA 5th Anniversary Exhibition. (Japan)
	Sponsored concerts in Tokyo by "the Shanghai Quartet". (Japan)
	Sponsored "The public and the private in the Age of Vermeer". (Japan)
	Costume materials provided for the performance at the opera house in Luang. (France)
	2000
Kite materials provided for "the Wind Caravan Sanda". (Japan, New Zealand, Finland, Morocco, Mongolia, Brazil)	
1999	Sponsored "History and Imagination in Goya's Etching" exhibition. (Japan)
	Sponsored "les coulisses de la mode" exhibition. (Japan)
	Sponsored "Masterpieces of The National Gallery of Art, Washington" exhibition. (Japan)
	Sponsored concerts in Tokyo by "the Vermeer Quartet" (Japan)
1998	Sponsored the "Treasures of Celtic Art" exhibition. (Japan)
	Sponsored concerts in Tokyo by "the Shanghai Quartet" (Japan)
	Sponsored "THE AIR WARE" exhibition by CG artist Daizaburo Harada. (Japan)
	Sponsored The Toray Corp Shanghai International Marathon. (China)
	Sponsored performances in Japan by "Orchestra Asia". (Japan)
1997	Contribution of exhibits to and sponsorship of "Structure and Surface: Contemporary Japanese Textiles" exhibition at the Museum of Modern Art (MOMA). (U.S.)
	Sponsored The Toray Corp Shanghai International Marathon. (China)

	Sponsored Coutauld Institute Collection. (Japan)
1996	Sponsored the first China performance of "Orchestra Asia". (China)
1995	Presented a congratulatory curtain for "Nakamura-Kai Grand Kabuki" commemorating the centennial anniversary of Shochiku. (Japan)
	Sponsored the first Japan performance of "Orchestra Asia", featuring traditional folk instrument form Japan, China and Korea. (Japan)
1994	Costumes produced and supplied for the Bunraku puppet theatre production of "Kotobukishiki Sanbanso". (Japan)
1993 - 1994	Toray Science Foundations established in Indonesia, Thailand and Malaysia. (Indonesia, Thailand, Malaysia)
1993	Costume supplied for the Bayreuth Opera's production of "Tristan and Isolde". (Germany)
	Sponsored the Umewaka Kennokai Noh troupe's tour of Germany. (Germany)
1992	Costume materials provided for the production of "Turandot", performed at the opera house in Lyons. (France)
	The Toray Arrows volleyball team visited Indonesia and Malaysia for a series of friendly matches. (Indonesia, Malaysia)
	Toray produced and supplied the official uniforms for the Lithuanian team, competing in its first Olympics as an independent nation. (Lithuania)
	Toray contributed one million dollars to establish a scholarship fund at the University of Rhode Island. (U.S.)
	Using its Shingosen new synthetic fabrics, Toray produces and supplied the costumes for the Kabuki drama "Musume Dodo-ji". (Japan)
	Sponsorship provided for the Courtauld Institute of Art's first exhibition of drawings. (U.K.)
1991	Noh and Kyogen performances at the Japan Festival in London are sponsored. (U.K.)
	President of Toray Plastics (America) Inc. spoke at a periodical assembly of Harvard Business School graduates. (America)
	Provided extensive cooperation in the production of the NHK TV series "Fashion Dream". (Japan)
1990	Sponsored Performances in France by the Umewaka Kennokai Noh troupe. (France)
	Financially sponsored for the construction of a new building of Japanese School in Paris. (France)
	Funds donated to the Indonesian Judo Association to build a national judo center. (Indonesia)
	Toray Science Foundation established a scholarship system through CENTEX. (Indonesia)
	Partially funded for the construction of a new community hall of Nakhon Chaisi County through Thai Toray Textile Mills Public Co., Ltd. (Thailand)
	Toray representative in Thailand made a donation to Thai Amateur Volleyball Association. (Thailand)
1989	Through Toray Science Foundation, fostered basic studies of natural science carried out by Indonesian, Thai and Malaysian universities. (Indonesia, Thailand and Malaysia)
	To commemorate the 30th Anniversary of Toray Science Foundation, started funding for basic studies of natural science at Southeast Asian universities. (Indonesia, Thailand and Malaysia)
	Found donated to Courtauld Institute of Art to assist relocation. (U.K.)
1988	Financially sponsored for the acquisition and renovation of a building and donated for the purchase of educational materials and tools for Japanese School in Milan. (Italy)
	Costume and staging materials provided for the musical "Idamante", directed by Ennosuke Ichikawa. (Japan)
1987	Costume materials provided for the China performances of the opera "The Magic Flute". (China)
1986	Costume materials provided for the Kabuki performance "Yamato Takeru". (Japan)
1982	Swimming pool built with funds donated by Toray in Penang. (Malaysia)



Safety and the Environment  
**Ten Basic Environmental Rules**

**Ten Basic Environmental Rules** (Adopted January 2000 and revised June 2011)

- 1. Prioritize environmental preservation**  
We shall comply with all laws, regulations, and agreements in all of our business activities. Taking into consideration biodiversity, we shall place the highest priority on environmental preservation in the manufacture, handling, use, sale, transport, and waste disposal of products.
- 2. Prevent global warming**  
We shall promote energy conservation and work to reduce our unit energy consumption and our carbon dioxide emissions.
- 3. Achieve zero emissions of environmental pollutants**  
We shall strive continuously to reduce our emissions with the ultimate goal of achieving zero emissions of hazardous chemical substances and waste materials into the environment.
- 4. Use safer chemical substances**  
We shall collect, maintain, and provide information on the health and environmental effects of the chemical substances we handle while striving to use safer chemical substances.
- 5. Promoting Recycling**  
We shall develop recycling technologies for products, containers, and packaging and cooperate with society in promoting the recovery and reuse of such items.
- 6. Improve the level of environmental management**  
We shall work to maintain and improve the level of our environmental management while working to upgrade our environmental management technology and skills, performing self auditing, and taking other measures.
- 7. Contribute to society through environmental improvement technologies and products**  
We shall meet the challenge of developing new technologies and shall contribute to society through environmental improvement technologies as well as products that place a low burden on the environment.
- 8. Improve the environmental management of our overseas businesses**  
In our overseas business activities, we shall place top priority on complying with local laws and regulations, and further, we shall manage those businesses in accordance with the management standards of Toray Group.
- 9. Improve employees' environmental awareness**  
We shall strive to improve our employees' awareness of environmental issues through environmental education, social activities, internal communications activities, and other means.
- 10. Share environmental information with society**  
We shall deepen mutual understanding of Toray Group environmental policies and practices by widely publicizing our environmental preservation efforts and their results in environmental reports and other publications directed at local communities, investors, and the media.

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Safety and the Environment

Safety, Health, Accident Prevention and Environmental Preservation Management

As part of its basic strategy of integrated global management, every year Toray Group formulates and implements a policy on safety, health, accident prevention, and environmental action. The Group implemented 15 main activities under the policy in fiscal 2011.

Safety, Health, Accident Prevention, and Environment Activity Policy of Toray Group in 2011		
	Action Policy	Main Activities
Common	Implement "power-up 3Z"*1 activities Accomplish risk management	<ul style="list-style-type: none"> <li>Systematically implement "power-up 3Z" activities</li> <li>Enhance risk reduction activity</li> <li>Strengthen quick response system for when crisis occurs</li> </ul>
Safety	Ensure thorough application of basic safety practices	<ul style="list-style-type: none"> <li>Ensure each employee strictly follows basic safety procedures</li> <li>Carry out activities to prevent recurrence of similar accidents</li> <li>Implement stringent safety activities that include the participation of subcontractors onsite</li> </ul>
Health	Emphasize occupational health management	<ul style="list-style-type: none"> <li>Thoroughness in management of mutagenic substances</li> <li>Ensure thorough management and proper handling of nanomaterials and powders</li> <li>Promote countermeasures against pandemic influenza</li> <li>Enhance mental health management</li> </ul>
Accident Prevention	Strengthen accident prevention measures	<ul style="list-style-type: none"> <li>Take thoroughgoing efforts to prevent recurrence of similar accidents and near accidents</li> <li>Implement strict accident prevention measures at chemical facilities</li> <li>Enhance BCP for large-scale earthquakes</li> </ul>
Environment	Promote the Fourth Medium-Term Environmental Plan	<ul style="list-style-type: none"> <li>Formulate and implement environmental emission reduction goals</li> <li>Further promote greenhouse gas reduction</li> </ul>

\*1: Zero accidents, zero troubles, and zero claims

Toray has established the Safety, Health, and Environment Committee to provide a framework for promoting group-wide safety, health, accident prevention and environmental preservation. As the decision-making body for the entire Group, the committee monitors the results of related activities at all group companies, offices, and plants, and deliberates and decides on future policies and measures.

In addition, the Global Environment Committee discusses and determines measures for expanding the Green Innovation Business, product recycling, and initiatives to fight global warming.

Safety, Health, Accident Prevention, and Environmental Preservation Promotion System

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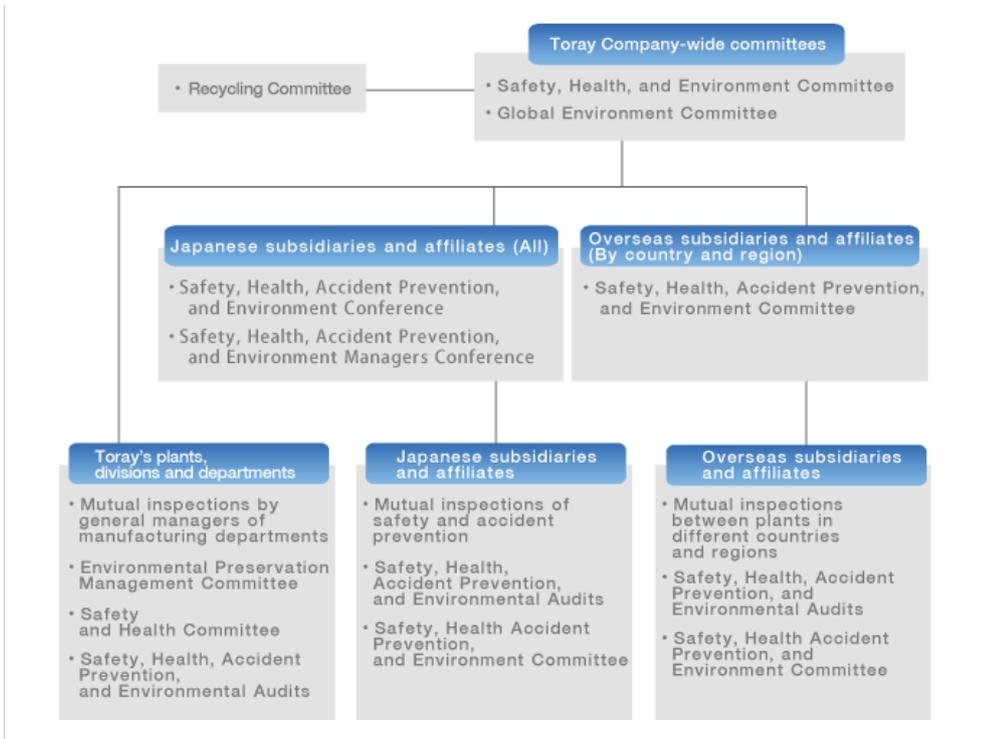
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Toray Group carries out annual safety, health, accident prevention, and environmental audits every year in order to objectively assess and improve activities and management on these themes at its manufacturing subsidiaries and plants. In fiscal 2011, the audits were conducted at all 12 Toray plants and its one research laboratory, 48 plants at 24 subsidiaries and affiliates in Japan, and 39 plants at 31 subsidiaries and affiliates outside Japan. The audits emphasized initiatives for strictly implementing basic safety procedures, as well as earthquake and tsunami countermeasures that take into account lessons learned from the Great East Japan Earthquake, and responses to important risks that are specific to each company and plant.



Toray Group Safety Convention

In addition, the Toray Group Safety Convention is held every year to systematically determine the highest priority safety measures for Toray Group as a whole.

**Related Information**

- [Occupational Safety](#)
- [Business Continuity Plan Initiatives](#)

**ISO 14001**

All 12 of Toray's factories have acquired ISO 14001 certification, the international standard for environmental management. Toray Group is also pursuing the acquisition of ISO 14001 certification at its subsidiaries and affiliates in an effort to further improve group-wide environmental management.

In fiscal 2011, overseas subsidiary Toray Bluestar Membrane Co., Ltd. received certification for the first time. This brings the total number of certified plants to 40 at 32 Toray Group companies outside Japan. In Japan, 36 plants at 21 Toray Group companies have been certified.

Sites with ISO 14001 Certification (As of March 2012)

Notes:

[Names in blue](#) indicate companies or plants that first obtained certification in fiscal 2011.

Information in brackets refers to the names of the plants

Toray: All 12 plants

Shiga, Seta, Ehime, Nagoya, Tokai, Aichi, Okazaki, Mishima, Chiba, Tsuchiura, Gifu, Ishikawa

Japanese subsidiaries and affiliates: 36 plants at 21 companies<sup>2</sup>

Du Pont-Toray Co., Ltd., Toray Opelontex Co., Ltd., Toray Textiles, Inc. [Tokai], Toray Coatex Co., Ltd. [Kyoto, chemical products], Toyo Tire Cord Co., Ltd., Toyo Plastic Seiko Co., Ltd. [Mishima, Koriyama], Toray PEF Products Inc. [Konan, Tsukuba], Toray Monofilament Co., Ltd., Toray Advanced Film Co., Ltd. [Mishima, Takatsuki, Fukushima, Nakatsugawa], Toray KP Films Inc., Toray Fine Chemicals Co., Ltd. [Moriyama, Matsuyama, Tokai,

Chiba], Toray Engineering Co., Ltd. [Numazu], Soda Aromatic Co., Ltd. [Noda, Koriyama, Okayama Chemicals], Toray ACE Co., Ltd. [Ehime, Fukushima], Dow Corning Toray Co., Ltd. [Chiba, Fukui, Yamakita, Komatsu], Suido Kiko Kaisha, Ltd., Toray Medical Co., Ltd., Ichimura Sangyo Co., Ltd., Toray International, Inc., Chori Co., Ltd., Toray Battery Separator Film Co., Ltd.

Note: In addition, 12 companies received certification as affiliated companies on Toray sites

#### Overseas subsidiaries and affiliates: 40 plants at 32 companies

USA	Toray Plastics (America), Inc. [Rhode Island, Virginia], Toray Resin Co., Toray Fluorofibers (America), Inc., Toray Carbon Fibers America, Inc., Toray Composites (America), Inc.
UK	Toray Textiles Europe Ltd.
France	Toray Plastics Europe S.A.S.
Italy	Alcantara S.p.A
Czech Republic	Toray Textiles Central Europe s.r.o.
Indonesia	P.T. Century Textile Industry Tbk, P.T. Easterntex, P.T. Indonesia Toray Synthetics, P.T. Acryl Textile Mills, P.T. Indonesia Synthetic Textile Mills
Thailand	Thai Toray Textile Mills Public Company Limited, Thai Toray Synthetics Co., Ltd. [Bangkok, Ayutthaya, Nakhonpathom], Luckytex (Thailand) Public Company Limited [Mill 1, Mill 2, Mill 3]
Malaysia	Penfibre Sdn. Berhad [Mill3], Penfabric Sdn. Berhad [Mill1, Mill2, Mill3, Mill4] Toray Plastics (Malaysia) Sdn. Berhad
China	Toray Fibers (Nantong) Co., Ltd., Toray Polytech (Nantong) Co., Ltd., Toray Sakai Weaving & Dyeing (Nantong) Co., Ltd., Toray Jixiang Plastics (Suzhou) Co., Ltd., Toray Film Products (Zhongshan) Ltd., Toray Sanko Precision (Zhongshan) Ltd., Toray Fibers & Textiles Research Laboratories (China) Co., Ltd., Toray Advanced Materials Research Laboratories (China) Co., Ltd., <a href="#">Toray Bluestar Membrane Co., Ltd.</a>
Republic of Korea	Toray Advanced Materials Korea Inc., STECO, Ltd.

Note: Information in brackets refers to the names of the plants

### Responsible Care Program

Chemical substances are essential for the functioning of modern society. If handled improperly, however, they can damage people's health and the natural environment. It is vital to ensure the proper handling of these substances.

The Responsible Care initiative is intended to foster communication between society and chemical-handling companies by providing a framework for them to announce the results of safety, health, and environmental measures. These measures cover the entire product lifecycle spanning from development, manufacturing, distribution and consumer use to the disposal of chemical substances.

Toray has participated in the Japan Responsible Care Council (recently renamed as the Japan Chemical Industry Association Responsible Care Council) since its foundation. The Company undertook thorough management of nanomaterial safety and mutagenic substances as priority activities fiscal 2011. In fiscal 2012, Toray is implementing its Fourth Medium-Term Environmental Plan, and improving its compliance with the United Nations' Globally Harmonized System of Classification and Labelling of Chemicals with respect to material safety data sheets (MSDS) for products.

### Complying with REACH and other International Chemical Substance Regulations

Toray Group makes every effort to fully understand relevant chemical substance regulations in each country where it operates, and thoroughly shares information about these regulations to ensure that the rules are strictly observed. For example, all of Toray's operational divisions and its subsidiaries and affiliates both in and outside Japan have implemented respective projects and systems to comply with Europe's regulations on the Registration, Evaluation, Authorization and Restriction of Chemical Substances (REACH).

All substances subject to these regulations were registered before the deadline of November 30, 2011, and the Group is preparing to register designated substances that must be registered starting in 2013.

Toray Group also gathers information concerning new regulatory trends and examines ways to respond appropriately.

### Complying with Japan's Chemical Substances Control Law

With the revision of the Chemical Substances Control Law <sup>\*2</sup> in Japan, companies have been required to report on the manufacture, import, and utilization of general chemical substances since April 2011.

Toray and its subsidiaries and affiliates in Japan completed their first report in June 2011 after making all necessary preparations in advance.

\*2. Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.



Safety and the Environment

Implementing the Fourth Medium-Term Environmental Plan

Since 2000, Toray Group has used three-year environmental plans as its approach to the medium-term environmental efforts it voluntarily carries out to help curb global warming and build recycling-based societies. From fiscal 2011, the Group formulated and began implementing its Fourth Medium-Term Environmental Plan to take these environmental initiatives to the next level. Under the plan, progress was made in fighting global warming and reducing waste matter. Looking forward, the entire Group intends to carry out the planned measures with the goal of reaching the targets for fiscal 2015, the final year of the plan.

Progress of the Fourth Medium-Term Environmental Plan

Area	Toray Group fiscal 2015 target	Fiscal 2011 results
Curb global warming	Toray: Maintain greenhouse gas emissions at 10% or less of the fiscal 1990 level *1	17% reduction
	Toray Group (Japan): 15% or greater reduction in greenhouse gas emissions per unit sales compared to fiscal 1990 *1	14% reduction
Management of chemical substances	Atmospheric emissions of PRTR Law-specified substances: 70% reduction compared to fiscal 2000	65% reduction
	Atmospheric emissions of volatile organic compounds (VOCs): 70% reduction compared to fiscal 2000	69% reduction
Waste reduction	Zero emissions goal: Achieved at 30 Toray Group Plants	Achieved at 24 plants of 13 companies
	Simply disposed waste rate: 25% or lower	23%
	Maintenance of a recycling rate of 85% or more	87%
	Landfill waste rate, Toray Group (Japan): 2% or lower	1.6%

\*1: Target will be revised if there is a drop in the CO<sub>2</sub> emissions coefficient for purchased electricity due to the nuclear reactor incident in Fukushima

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Takehiko Mizuma  
Environment & Safety Section, Ehime Plant, Toray Industries, Inc.

Ehime Plant Conducts Business Activities Rooted in the Community

Toray's Ehime Plant manufactures a large number of products including the carbon fiber used in Boeing 787 aircraft, water treatment membranes primarily used for desalination, and acrylic textiles for HEATTECH® \*2 materials. Here at the plant, I am involved in work related to environmental conservation, including reducing environmental impact and promoting greening. Wastewater management is especially important since the Ehime Plant is located near the Seto Inland Sea, so the entire plant is focused on establishing precautionary measures in case problems arise with drainage systems, as well as countermeasures for emergency situations. Drawing on the lessons learned during last year's earthquake and tsunami disaster in Japan, we are improving our disaster-prevention measures related to handling chemical substances and operation of equipment that uses hazardous materials. We recognize the importance of ensuring that local residents understand our manufacturing operations and environmental efforts.

We will work to enhance communication both internally and with residents of the surrounding area, to give them peace of mind and gain their trust. We also intend to actively participate in disaster preparedness and cleanup activities organized in the local Masaki-chou district, as we continue to work toward being a factory with deep roots in the community.

\*2. HEATTECH® is a registered trademark of FAST RETAILING CO., LTD





Employees participate in a cleanup activity organized in the Masaki-chou district to make the local area more beautiful

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## Safety and the Environment Initiatives to Fight Global Warming

Doing its part in the fight against global warming, Toray Group is working systematically to improve manufacturing processes in order to save more energy, and is switching from heavy oil to natural gas in order to reduce greenhouse gas emissions. The Medium-Term Environmental Plan launched in fiscal 2011 governs these efforts. Employees are also working to reduce their greenhouse gas emissions at home through a Household Eco-Account Book Program, in addition to their efforts at work.

### Related Information

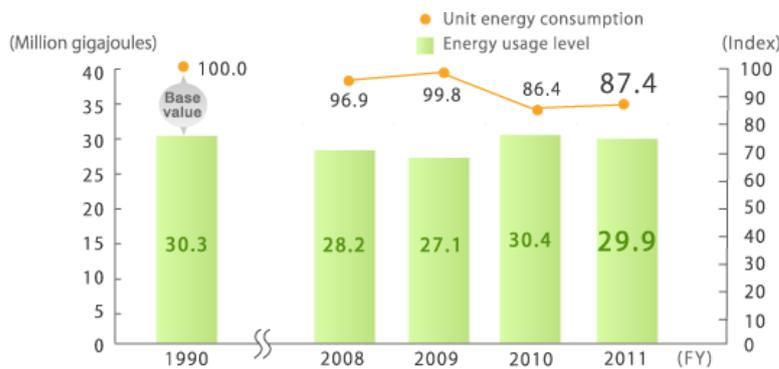
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### Toray Energy Conservation Activities

Toray is actively working on energy conservation activities, with the goal of a 2% annual reduction in the unit energy consumption rate.

In fiscal 2011, Toray implemented 19 different initiatives for saving energy, including improvements to the energy efficiency of manufacturing processes for its LUMIRROR® polyester film. These initiatives led to a 1.5% reduction in the amount of energy used compared to the previous fiscal year. On a unit basis, however, energy usage increased 1.2% year on year as a result of lower production efficiency due to a decrease in total production volume, which reflected harsh economic conditions including the debt crisis in Europe. Nevertheless, unit energy consumption was still 12.6% better than the base year of fiscal 1990.

Toray Energy Consumption and Unit Energy Consumption Index



### Promoting Energy Conservation Diagnostics

As it strives to reduce greenhouse gas emissions, Toray Group organizes energy conservation teams to help carry out energy conservation diagnostic activities annually at both domestic and overseas plants. In fiscal 2011, they were conducted at eight Japanese plants, and emissions were reduced by 3,000 tons-CO<sub>2</sub> equivalent per year as a result of the energy saved.



Onsite inspections at a plant of Ogaki Fuso Spinning Co., Ltd.

### Toray Actions on Global Warming Initiatives

Toray is steadily carrying out initiatives to reduce its greenhouse gas emissions, aiming to maintain annual emissions at 10% or less of the fiscal 1990 level through fiscal 2015.

In fiscal 2011, Toray reduced greenhouse gas emissions by 3,000 tons-CO<sub>2</sub> equivalent year on year by improving manufacturing processes at its Gifu Plant and Mishima Plant. Along with the decline in production volume, these factors resulted in a reduction of 17% of the fiscal 1990 level—significantly surpassing the 10% target.

Although its manufacturing output is expected to rise in line with business expansion, Toray Group will strive to continuously achieve its targets for reducing greenhouse gas emissions going forward.

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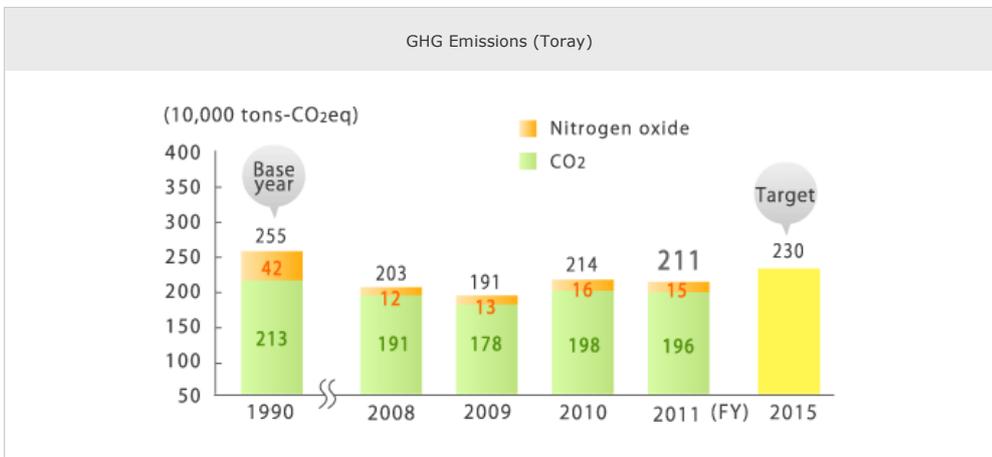
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**Reducing Greenhouse Gas Emissions by Switching Fuel to Natural Gas**

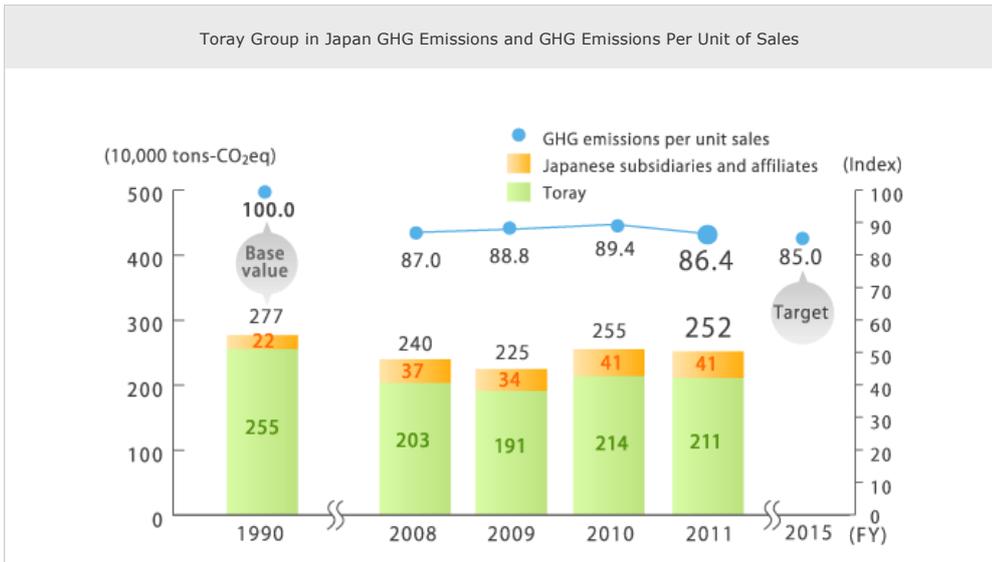
Toray is switching the fuel used in boilers at its production plants from oil to natural gas. This switchover was completed at the Tsuchiura Plant in fiscal 2011, a measure that is expected to reduce CO<sub>2</sub> emissions by about 10,000 tons during fiscal 2012. Toray is also installing equipment to switch over to natural gas at its Okazaki, Gifu, and Ishikawa plants, and will begin operating the new equipment in fiscal 2012.



Gas boilers installed at Toray's Tsuchiura Plant

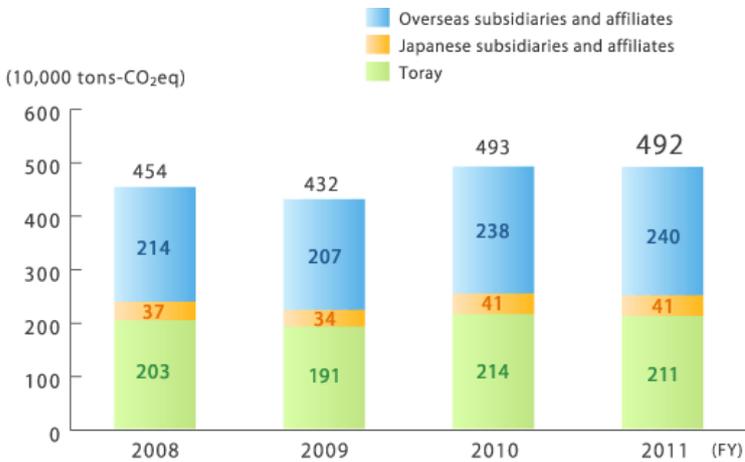
**Toray Group in Japan's Greenhouse Gas Emissions**

Toray and its group companies in Japan are working to curb global warming with the goal of reducing greenhouse gas emissions by 15% on a unit of sales basis by fiscal 2015 compared to the fiscal 1990 level. In fiscal 2011, emissions per unit of sales were down 13.6% compared to fiscal 1990. Compared to the previous fiscal year, Toray Group companies in Japan reduced total greenhouse gas emissions by 1%, and emissions per unit of sales by 3.3%.



**Toray Group Greenhouse Gas Emissions**

Fiscal 2011 greenhouse gas emissions for Toray Group worldwide were 4.92 million tons-CO<sub>2</sub> equivalent, a decrease of 0.2% compared to the previous year. All Toray Group manufacturing companies and plants will continue initiatives to reduce the unit energy consumption rate by 2% in their commitment to cut emissions.



### Household Eco-Account Book Program

With the goal of raising environmental awareness among employees and reducing the greenhouse gas emissions of their households, Toray Group companies in Japan initiated the Household Eco-Account Book Program in August 2008. The program helps employees reduce their household emissions with an online system for keeping monthly records of consumption of electricity, natural gas, gasoline, and other items, and displaying the results of the corresponding CO<sub>2</sub> emissions. The number of households participating in has grown to 3,860 as of March 31, 2012. In April 2012, the program adopted the environmental household accounting system used by Kansai Electric Power Company. Toray Group plans to continue expanding the program's scope in its ongoing efforts to fight global warming.

### Initiatives to Protect the Ozone Layer

Toray successfully ceased using chlorofluorocarbons (CFCs) in all manufacturing processes in 1994. The Company has also stopped purchasing CFCs for use in refrigeration equipment, and has been working to replace existing CFCs with alternative compounds. In fiscal 2010, Toray's Tokai Plant installed high-efficiency refrigeration equipment that uses CFC-replacement coolant compounds, and began operating it from April 2012.



New high-efficiency refrigeration equipment installed at Toray's Tokai Plant

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Safety and the Environment

Voluntary Initiatives to Reduce Atmospheric Emissions of Chemical Substances

For Toray Group, one of the most important tasks for decreasing its environmental impact is reducing atmospheric emissions of chemical substances. Accordingly, the entire Group is working to make progress in this direction. From fiscal 2011, the Group undertook initiatives to achieve fiscal 2015 targets designated in its Fourth Medium-Term Environmental Plan for reducing substances and volatile organic compounds (VOCs) specified under Japan's Pollutant Release and Transfer Register Law (PRTR Law).

Reducing Atmospheric Emissions of PRTR Law-Specified Substances

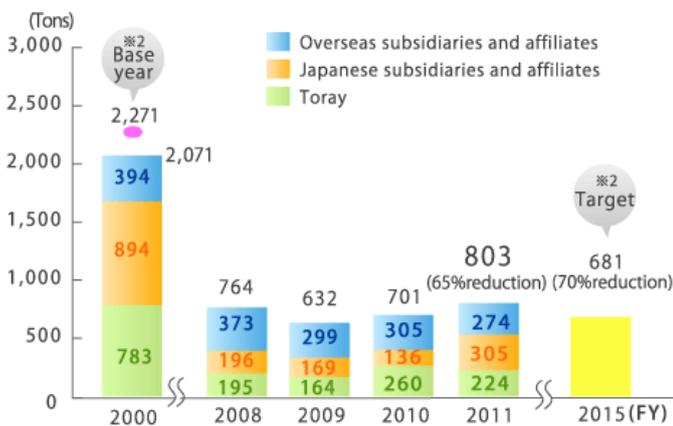
In fiscal 2011, Toray's Shiga Plant and Chiba Plant installed organic exhaust gas treatment equipment as a measure to reduce atmospheric emissions of substances specified by the PRTR Law. As a result, the two plants reduced atmospheric emissions by a combined total of 24 tons. Meanwhile, Toray Plastics (Malaysia) Sdn. Berhad has been steadily implementing measures to recover a higher amount of organic exhaust gas emissions. Measures carried out at the end of fiscal 2010 achieved their full effect in fiscal 2011, resulting in a reduction of atmospheric emissions of 56 tons.



Exhaust gas treatment equipment installed at Toray's Chiba Plant

Atmospheric emissions of substances specified by the PRTR Law for Toray Group as a whole in fiscal 2011 were down 65% compared to the base value set in fiscal 2000, but up by 15% compared to the previous fiscal year. This was the result of adding the atmospheric emissions of subsidiaries and affiliates newly included in the scope of measurement. Nevertheless, Toray Group plans to implement measures to reduce these atmospheric emissions, including upgrades of absorption recovery equipment and improvements in recovering exhaust gas, as it carries out the Fourth Medium-Term Environmental Plan going forward. Through these efforts, the Group is aiming to achieve the fiscal 2015 target of reducing emissions by 70% compared to the fiscal 2000 level.

Atmospheric Emissions of PRTR Law-Specified Substances \*1



\*1. Up until fiscal 2010, atmospheric emissions designated as Type 1 under the PRTR Law before its revision went into effect in 2010 were included here. In fiscal 2011 and beyond, atmospheric emissions designated as Type 1 under the revised PRTR Law are included.

\*2. A new reference value for emissions in the base year of fiscal 2000 has been set to reflect approximately 200 tons of emissions added in fiscal 2011 from subsidiaries and affiliates newly included in measurements starting from fiscal 2011. The target for total emissions in fiscal 2015 has also been adjusted accordingly.

Reducing Atmospheric Emissions of VOCs

Toray Group undertakes initiatives to meet its fiscal 2015 group-wide goal of a 70% reduction in VOC atmospheric emissions compared to fiscal 2000 levels.

In fiscal 2011, atmospheric emissions for the entire Toray Group rose 8% compared to the previous fiscal year, but were down 69% compared to the base year of fiscal 2000.

VOC Atmospheric Emissions

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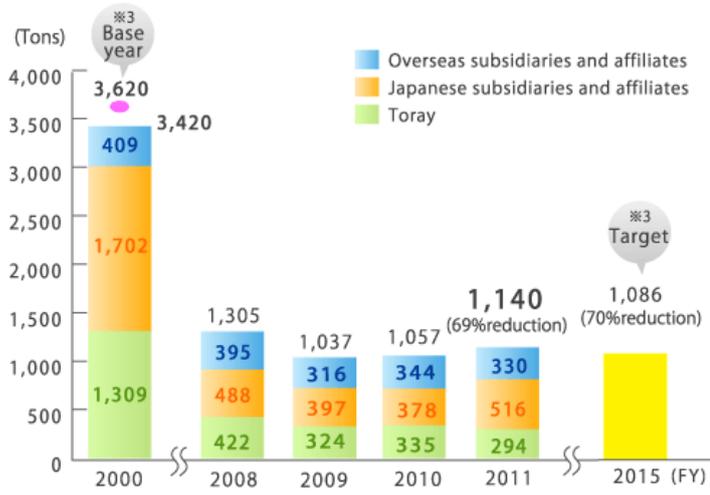
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\*3. A new reference value for emissions in the base year of fiscal 2000 has been set to reflect approximately 200 tons of emissions added in fiscal 2011 from subsidiaries and affiliates newly included in measurements starting from fiscal 2011. The target for total emissions in fiscal 2015 has also been adjusted accordingly.

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## Safety and the Environment Initiatives to Prevent Air and Water Pollution

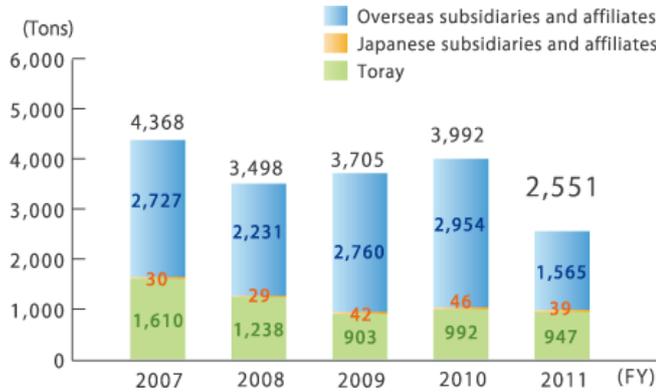
Toray Group has ongoing environmental protection initiatives in place for the prevention of air and water pollution. At its production plants around the world, the Group is cutting sulfur oxide (SOx) emissions by installing desulfurization equipment and switching to cleaner fuels, and reducing chemical oxygen demand (COD) emissions by setting up wastewater treatment facilities.

### Air Quality Management

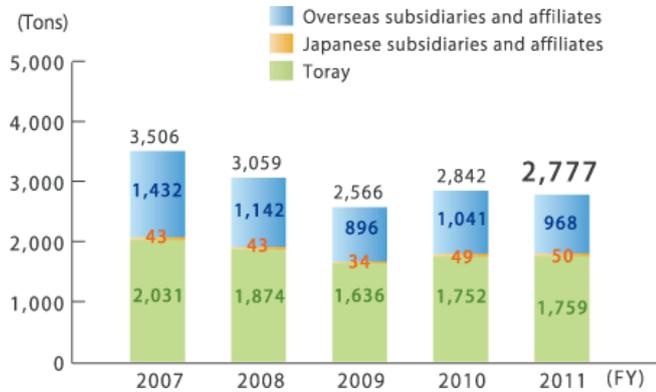
In fiscal 2011, Toray Group emitted 2,551 tons of SOx, 2,777 tons of NOx, and 324 tons of dust. SOx, NOx and dust emissions decreased by 36%, 2%, and 8%, respectively, compared to the previous year.

On a non-consolidated basis, in fiscal 2011 Toray reduced its emissions of SOx by 4.5% compared to the previous fiscal year to 947 tons, while NOx emissions rose slightly by 0.5% year on year to 1,759 tons, and dust emissions increased 4.6% to 113 tons. These results were affected by increased operations of in-house power generators at the Ishikawa Plant to cope with regional power outages, and a switchover of boiler fuel from oil to natural gas at the Nagoya Plant. Among Toray's subsidiaries and affiliates outside Japan, P.T. Indonesia Toray Synthetics reduced emissions of SOx by 926 tons in fiscal 2011 by employing low-sulfur coal.

Atmospheric Emissions (SOx)



Atmospheric Emissions (NOx)



Atmospheric Emissions (Dust)

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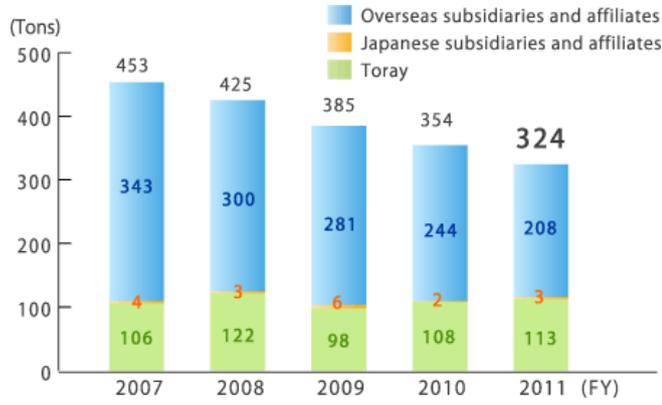
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**Water Quality Management**

In fiscal 2011, Toray Group’s emissions of biochemical oxygen demand (BOD) and COD were 936 and 2,331 tons, respectively, showing decreases of 15% and 6% compared to the previous year.

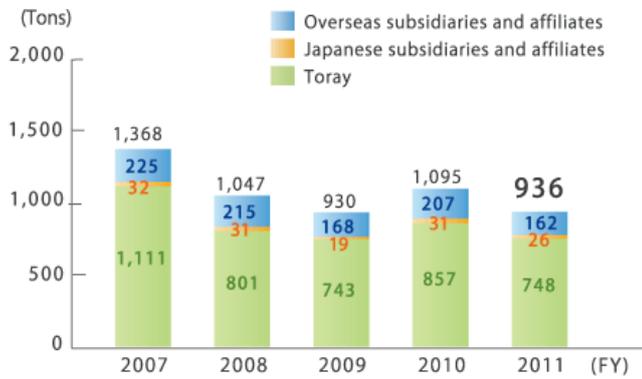
The Group succeeded in improving water quality in fiscal 2011. In Japan, the Gifu Plant installed new treatment facilities equipped with a membrane bioreactor\*<sup>1</sup> (MBR) developed by Toray, and in Indonesia, P.T. Century Textile Industry Tbk installed new treatment facilities that employ the activated sludge method.\*<sup>2</sup>

Looking to further improve the management of its wastewater treatment facilities, Toray held training for 23 employees responsible for wastewater operations from eight Toray plants and one group company in Japan. At the training, participants shared information about wastewater management at their respective plants, exchanged opinions, and reviewed changes to relevant laws and regulations.

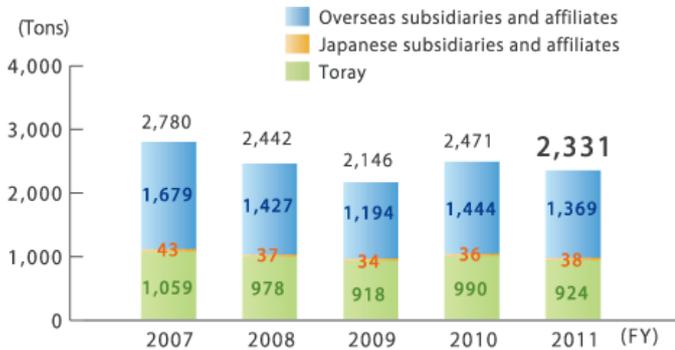
\*1. A membrane bioreactor is a wastewater treatment system that employs micro-filtration membranes to remove suspended solids, leaving clear treated water.

\*2. The activated sludge method is a wastewater treatment method that decomposes organic compounds using activated sludge containing aerobic microorganisms.

Water Emissions (BOD)



Water Emissions (COD)\*<sup>3</sup>



\*3. Toray’s emissions of COD were previously calculated as the aggregate amount from six plants subject to water quality regulations; however, four more plants and one research facility not subject to the regulations have been added to the scope. Figures for fiscal 2007 onward have been adjusted accordingly.



New MBR wastewater treatment facility at Gifu Plant



New facilities at P.T. Century Textile Industry employ the activated sludge method



Employees responsible for wastewater operations share information during training

**Initiatives for Managing Water Resources**

Toray Group is working to provide solutions to the water resource problems facing several regions around the world through its water treatment business, and by undertaking related initiatives driven by its own business activities. The Group is dedicated to helping to solve issues related to water resources, based on the following policies.

1. Toray Group recognizes that water is one of the most important resources for humanity, and that people are confronting problems related to water resources in many areas of the world.
2. Toray Group is committed to helping to solve global water resources problems through its products, technologies and services.
3. Toray Group continuously monitors the state of regional water resources, and conducts appropriate management of water resources according to the basic principle of sharing precious water resources with the local communities where the Group operates.

In fiscal 2011, Toray conducted a group-wide survey on the status of water resources at all business sites and their surrounding areas. Based on the results of this survey, the Group is striving to continuously implement appropriate management of water resources going forward.

**Water Usage**

Toray Group used 241 million tons of water in fiscal 2011, an increase of 1% over the previous fiscal year. Compared to the amount used per unit of sales in fiscal 2001, set to a base value of 100, usage in fiscal 2011 was equivalent to 76.7 points, down 2.9 points year on year.

	FY2001	FY2008	FY2009	FY2010	FY2011
Comparative water usage per unit of sales	100.0	79.4	86.5	79.6	76.7

**Related Information**

- [Environmental Impact Overview FY2011](#)

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**Initiatives to Reduce Waste**

Toray Group has zero emissions initiatives in place as it works toward the realization of a sustainable, recycling-based society. Under the Third Three-Year Environmental Plan, the Group set and worked to achieve numeric targets for the rates of simply disposed waste, \*1 landfill waste \*2 and recycled waste \*3, which are indicators for measuring zero emissions initiatives. As a result of these efforts, the Group achieved all its targets. Further reduction efforts will be carried out under the Fourth Medium-Term Environmental Plan.

\*1: Simply disposed waste rate: (Incineration + landfill)/ Total waste

\*2: Landfill rate: Landfill waste/Total waste

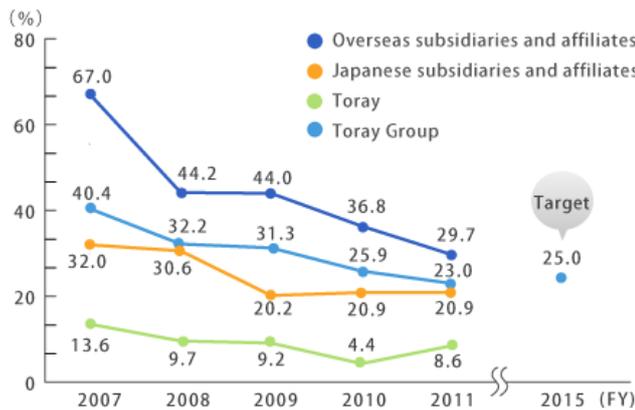
\*3: Recycling rate: (Recycled resources + resources with monetary worth)/ (Total waste + resources with monetary worth)

**Results in Fiscal 2011**

> **Simply Disposed Waste Rate**

Toray's simply disposed waste rate increased slightly in fiscal 2011, however, this rate decreased at subsidiaries and affiliates in and outside Japan. As a result, the rate for the Group as a whole was 23.0%, an improvement of 2.9 points compared to the previous fiscal year.

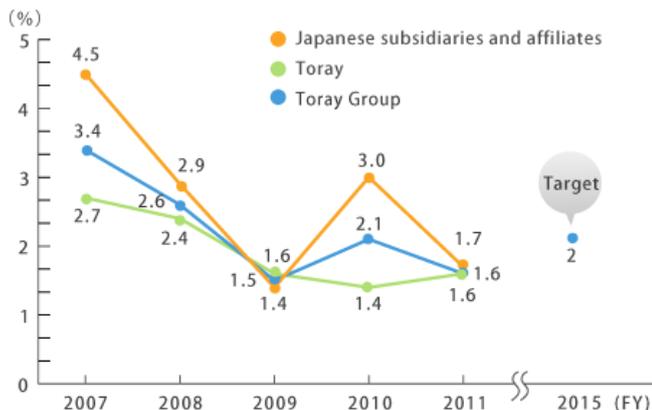
Simply Disposed Waste Rate (Toray Group)



> **Landfill Waste Rate**

Toray Group's rate of waste sent to landfills was 1.6% in fiscal 2011, an improvement of half a percentage point year on year, despite a slight increase in the rate at Toray.

Landfill Waste Rate (Toray and Its Japanese Subsidiaries and Affiliates)



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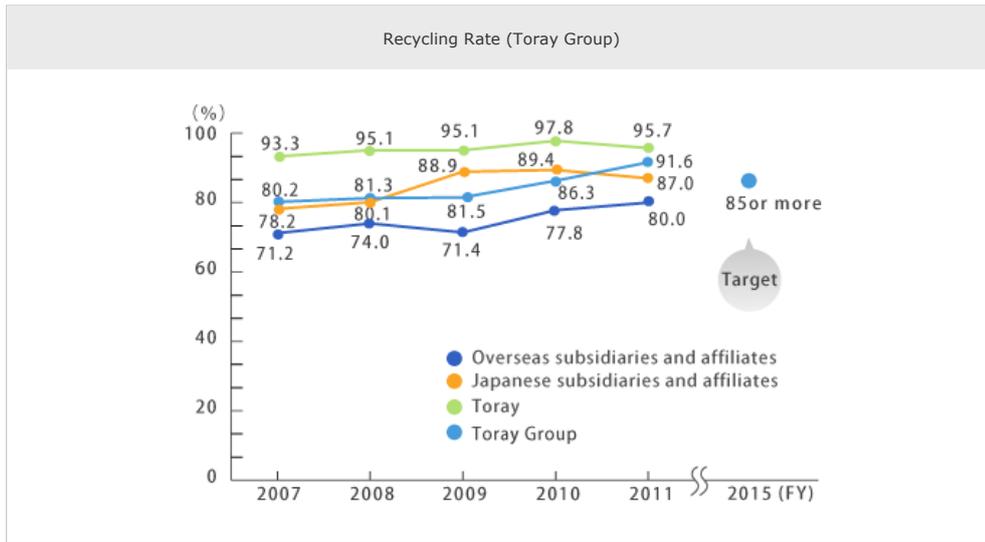
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In fiscal 2011, the rate of recycled waste decreased at Toray, but increased at subsidiaries and affiliates in and outside Japan. Overall, the rate for Toray Group was 87.0%, an improvement of 0.7 points compared to the previous fiscal year.



**Zero Emissions Initiatives at Companies and Plants**

Toray Group is aiming to achieve zero emissions at 30 or more plants by fiscal 2015. A plant is considered to have achieved zero emissions when the amount of simply disposed waste accounts for 1% or less of its total waste generated. Four more plants achieved zero emissions status in fiscal 2011, bringing the total to 24 plants at 13 companies.

Companies and Plants with Zero Emissions Status in Fiscal 2011 (Toray Group)	
Notes:	1. Names in blue indicate companies and plants that achieved zero emissions in fiscal 2011 2. Information in brackets refers to the names of the plants
Toray	<a href="#">Shiga Plant</a> , Seta Plant, Ehime Plant, Aichi Plant, Okazaki Plant, Chiba Plant, Tsuchiura Plant, Gifu Plant, Ishikawa Plant
Japanese Subsidiaries	Toray Opelontex Co., Ltd., Toray Textiles [Kiryu], Toray Coatex Co., Ltd., Maruichi Fiber Co., Ltd., Toyo Plastic Seiko Co., Ltd. [ <a href="#">Mishima</a> ], Toray PEF Products Inc. [Konan], Toray Advanced Film Co., Ltd. [ <a href="#">Nakatsugawa</a> , <a href="#">Mishima</a> , <a href="#">Takatsuki</a> ], Dow Corning Toray Co., Ltd. [Chiba], Soda Aromatic Co., Ltd. [Koriyama], Toray Engineering Co., Ltd. [Shiga, Seta], Toray Precision Co., Ltd.
Overseas	<a href="#">Toray Plastics (America), Inc.</a> [ <a href="#">Virginia</a> ]

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**Environmental Risk Management**

**Soil and Groundwater Pollution Prevention**

Toray Group constructs protective embankments around its facilities and storage tanks for handling hazardous chemicals, and takes precautions to ensure that none of these dangerous substances leak or discharge into the surrounding area or contaminate the soil onsite.

Ongoing efforts to clean up groundwater contamination discovered at Toray Monofilament Co., Ltd., are progressing favorably. In fiscal 2011, the company used a well to help eliminate soil contamination at the Nagoya Plant. Toray Group is committed to conducting voluntary surveys, reporting and otherwise disclosing survey results, and undertaking adequate cleanup measures in the event that any pollution is discovered.

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**Incidents Involving Environmental Disasters, Legal Compliance, and Worksite Accidents**

In fiscal 2011, no Toray Group companies or sites received government sanctions due to the violation of laws or ordinances. However, four incidents occurred, including the improper disposal of fluorescent lamp ballasts containing polychlorinated biphenyls (PCBs), which were being stored in a garage on the site of a company dormitory in the city of Ibaraki in Osaka Prefecture. The ballasts were mistakenly removed and disposed of by construction workers who were demolishing the dormitory at the time. A report submitted to government authorities along with a follow-up study determined that the ballasts were eventually dismantled by a metal scrap company, causing them to melt and combust at temperatures of over 1,500 degrees Celsius. Fortunately, emissions from the scrap processing site appeared to have no effect on the environment.

The details of this accident were announced at all Toray Group companies, offices, and plants. The Group is taking stringent measures to improve its management of stored PCB waste materials to prevent a recurrence of this kind of accident. A total of five complaints or requests were received from the public relating to odors or noise from work sites. The complaints were treated seriously, and improvements were made.

Toray Group Environmental Incidents in Fiscal 2011	
Administrative disposition due to violations of laws or ordinances *1	0
Accidents (fires, explosions, environmental accidents, etc.)	4
Standard values slightly exceeding temporarily *2	0
Complaints/requests (noise, odor, etc.)	5

\*1: Includes improvement orders and fines. Improvement guidance and recommendations are included in accident figures.  
\*2: No improvement guidance or recommendations were received from authorities, as there was no harm to the environment.

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**Environmental Accounting**

Toray introduced environmental accounting in FY 1999 to record and calculate the effectiveness of investments and costs relating to environmental preservation, energy conservation, and recycling.

**Toray Fiscal 2011 Environmental Accounting Report**

In fiscal 2011, environment-related investment amounted to 1,045 million yen, a 191 million yen decrease compared to the previous year due to the absence of large-scale investment. Major contributions to this total included measures to reduce atmospheric emissions of chemical substances, wastewater treatment facilities, and equipment for waste reduction. Cost totaled 8,173 million yen, an increase of 1,111 million yen compared to the previous year. Major expenses were air pollution prevention costs totaling 1,908 million yen and water pollution prevention costs amounting to 2,674 million yen. These amounts were mainly comprised of operating costs for previously installed exhaust gas and wastewater treatment equipment.

As a result, Toray succeeded in reducing energy costs by 167 million yen and waste disposal costs by 16 million yen, while gaining 824 million yen from the sale of recycled resources with monetary value. Furthermore, the quantitative environmental effects of these investments included a reduction of greenhouse gas emissions amounting to 7,500 tons-CO<sub>2</sub> equivalent.

Toray Fiscal 2011 Environmental Accounting Report

Expenses				
Item	Subcategory and description	Investment (million yen)	Cost (million yen)	
Business area costs	Pollution prevention costs	Air (including CFC countermeasures)	138	1,908
		Water quality	459	2,674
		Noise and vibration	6	17
		Greening	0	278
		Odors and other	71	174
	Global environment conservation costs	Energy conservation and combating global warming	341	—
	Resource recycling costs	Waste reduction, recycling, disposal, and PCB waste disposal services	10	2,427
Upstream and downstream costs	Product recycling	21	3	
	Container and package recycling	0	1	
Management activity costs	Indirect labor costs, ISO certification and maintenance, environmental communications, and education	0	400	
Social initiative costs	Regional initiatives, support for organizations, etc.	0	32	
Environmental remediation costs	SOx fines, soil purification, etc.	0	259	
Total		1,045	8,173	

Effectiveness

Item	
Reduction in energy costs	167million yen

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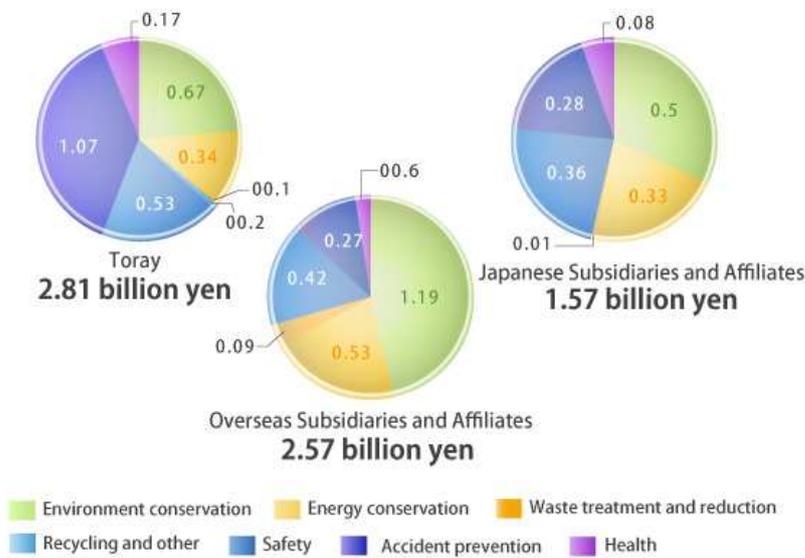
Financial effects	Reduction in waste disposal costs	16million yen
	Sale of valuable recycled resources with monetary value	824million yen
Quantitative environmental effects	Reduction of greenhouse gas emissions	7,500 tons-CO <sub>2</sub> equivalent

**Toray Group Facility Investment in Safety, Health, Accident Prevention, and Environmental Preservation Projects**

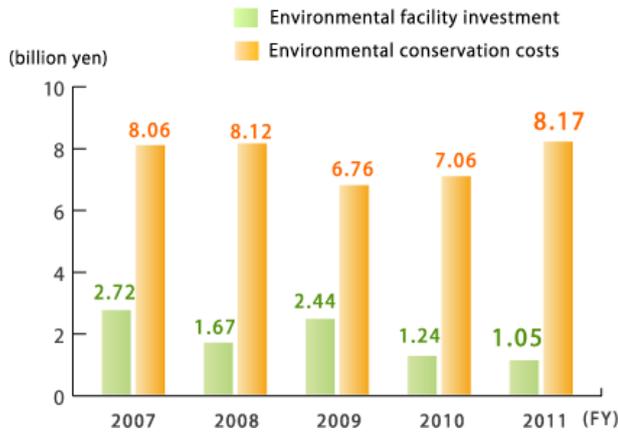
Toray Group reports its investments relating to safety, accident prevention, and health. The total amount of equipment investment in fiscal 2011 was 2.81 billion yen for Toray, 1.57 billion yen for Japanese subsidiaries and affiliates, and 2.57 billion yen for overseas subsidiaries and affiliates.

Toray continued to channel investment to safety-related projects including upgrades of basic safety equipment, and to accident prevention projects such as seismic reinforcement of buildings. Investment in environmental projects included measures to reduce atmospheric emissions of chemical substances at Toray Battery Separator Film Co., Ltd., in Japan. Outside Japan, wastewater treatment facilities were expanded and measures to reduce atmospheric emissions of chemical substances were implemented at Toray Advanced Materials Korea Inc.

Toray Group Facility Investment in Safety, Health, Accident Prevention, and Environmental Preservation Projects



Toray Environmental Facility Investment and Environmental Conservation Costs



**Toray Environmental Accounting Standards**

- Some categories were changed based on the Ministry of the Environment’s Guidelines for FY 2005.
- Only economic effects that can be determined with a high degree of certainty are included in the calculation. Presumed effects are not included.
- Capital investment also includes facility investments for which environmental preservation is not the main objective. Capital investment resulting from leases is also included. Expenses include labor costs and depreciation.

However, internal labor costs related to local volunteer activities are not included.

- Energy cost reduction figures show the amount of reduction for the 12 months after the completion of an energy conservation facility. Expenses are not recorded as they are deducted when the effect is calculated.
- Waste disposal cost reduction figures show the amount of reduction achieved through waste reduction efforts and resource recycling for 12 months after the measures are undertaken.
- Effects of reducing greenhouse gas emissions are measured over a 12-month period following the completion of measures or facilities to conserve energy.

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**Biodiversity Initiatives**

Toray Group formulated the Biodiversity Initiatives in fiscal 2010 to position the protection of biodiversity as an important theme in its initiatives for reducing greenhouse gases and confronting global environmental problems. Guided by this policy, the Group is promoting initiatives to protect biodiversity and use natural resources in a sustainable manner.

**Biodiversity Initiatives** (Adopted on December 10, 2010)

**Basic Concept**

Toray Group appreciates the gifts of nature that biodiversity provides, and strives to realize the conservation and sustainable use of biodiversity. The Group contributes to society through the development and dissemination of products and technologies which advance conservation of biodiversity.

**Action Guidelines**

1. We take into consideration the impact of our business activities on biodiversity, and strive to realize the conservation and sustainable use of biodiversity.
2. We endeavor to develop environmentally friendly technologies and products, and contribute to the conservation of biodiversity by making them available for use.
3. We practice fair use of genetic resources on the basis of relevant international agreements.
4. We recognize the influence of biodiversity within the supply chain, and pursue coexistence with nature.
5. We strive to raise employee awareness on biodiversity, and contribute to the building of a society that nurtures biodiversity through our communication with stakeholders.

Note: Toray Group respects Nippon Keidanren's Declaration of Biodiversity (Guide to Action Policies) and the Japanese Ministry of the Environment's Guidelines for Private Sector Engagement in Biodiversity. The Group is a promotion partner of Nippon Keidanren's Declaration of Biodiversity.

**Working Group Considers Initiatives for Biodiversity**

Toray Group has undertaken activities to help conserve biodiversity as part of its past efforts to protect the environment at its business sites and production plants. Responding to Biodiversity Initiatives established in fiscal 2010, employees involved in environmental activities joined together at that time to form a working group to consider and set up initiatives as well as ensure their progress.

The working group conceptualized the activities of Toray Group according to the basic policies it had pursued in the past, and examined the relationship between Toray's business activities and biodiversity. On that basis, the working group formulated a roadmap for future biodiversity preservation initiatives, and designated priorities for implementation. The topics of these initiatives are listed as follows.

1. Assessing the impact of raw materials procurement on biodiversity
2. Utilization of water resources
3. Emissions during operations
4. Utilization of land for business operations (including assessment of new production plants construction)
5. Increasing green areas
6. Protection of biodiversity over the entire supply chain
7. Design of products and planning of services
8. Usage of products and services by users
9. Recycling of resources
10. Contributions to society

**Main Initiatives in Fiscal 2011**

> **Assessing the Potential of Biodiversity**

With the help of a third-party organization, Toray carried out a basic assessment of its biodiversity potential covering its 12 factories and its Basic Research Laboratories in Kamakura, Japan. The assessment focused on how these operational sites could promote harmony with the ecosystems of the surrounding areas. This led to more detailed examinations of the progress of greening at five of the sites.

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› **Increasing Green Areas**

Toray carries out greening activities by applying the shrine forest method,<sup>\*1</sup> which it adopted for its basic policies on tree planting in 1973. In consideration of the public's expectations for Toray, the Group plans to continue increasing the size of green areas on its premises in the future.

\*1: Established by Akira Miyawaki (then a professor of bio-ecology at Yokohama National University), this method is modeled after traditional forestry techniques used by Japanese shrines, and helps reclaim forests to almost pristine conditions by considering indigenous vegetation.

› **Ensuring Biodiversity Is Protected over the Entire Supply Chain**

As part of CSR procurement, Toray Group has stressed the importance of biodiversity protection to 501 suppliers, explaining its fundamental approach to protecting biodiversity and requesting cooperation in this regard. Toray also conducts surveys and arranges meetings with its suppliers to determine what measures they are taking to protect biodiversity.

**Related Information**

- › [CSR procurement](#)

› **Contributing to Society**

Toray has long engaged in activities aimed at protecting the natural environment surrounding its offices and production plants, including social contribution activities aimed specifically at protecting biodiversity. Toray's Mishima Plant, for example, meets minimum requirements for groundwater usage, and helps conserve the natural environment of the Genbei River, a leisure spot for residents of Mishima and also the water sources for a pond in the city's Rakujuen Park. Clean water from the plant's temperature control equipment has helped stabilize river levels since 1992. The Mishima Plant is also an active participant in a city-wide water purification project<sup>\*2</sup> in Mishima City.

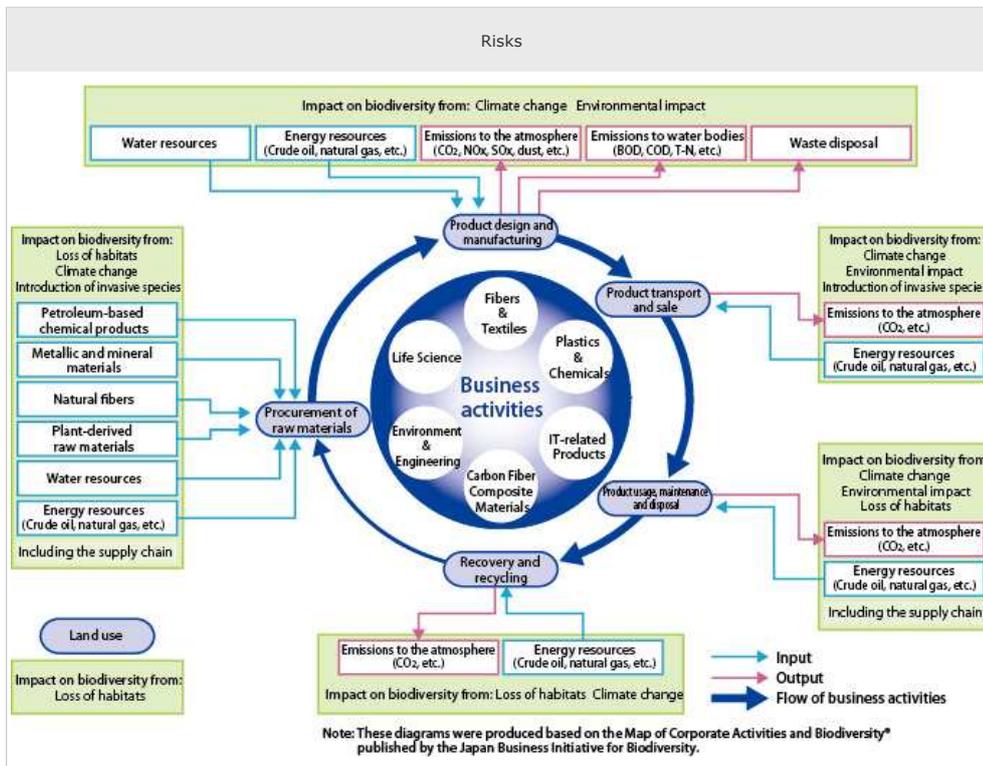


The Genbei River

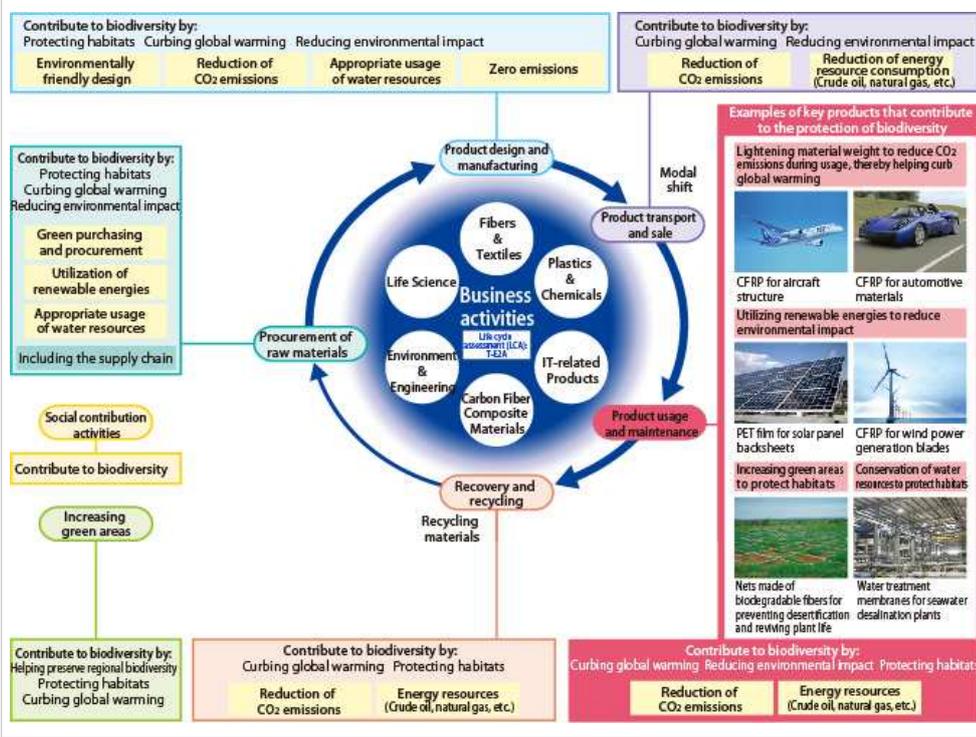
\*2: The project aims to have citizens, businesses, civic organizations, and local government share roles and collaborate with each other in city planning, with citizens proposing projects and the city government making arrangements to realize their objectives.

**Toray Group's Approach to the Relationship between Corporate Activities and Biodiversity**

Starting from the procurement of raw materials, the entire lifecycle of Toray Group's business activities has a wide range of effects on biodiversity. The two diagrams below conceptualize the relationship between the Group's business activities and biodiversity in terms of the two aspects of risks and opportunities.



Opportunities



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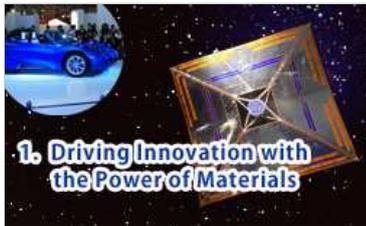
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**CSR Report Highlight 2012**



Guided by its corporate slogan—"Innovation by Chemistry"—Toray Group discovers new technologies, pushes them to their limits, and integrates them in groundbreaking ways to advance the frontiers of chemistry. Toray Group works to create new value and contribute to society by developing advanced materials leveraging its four core technologies: organic synthetic chemistry, polymer chemistry, biotechnology, and nanotechnology.



Taking a global approach to developing CSR practices  
The businesses of Toray Group have an expansive global reach, with production plants and offices in 23 countries and regions worldwide. The Group's objectives in "going global" are to secure continuous growth and build successful businesses rooted in local communities. From the standpoint of fulfilling corporate social responsibility (CSR), the Group is always considering how it can contribute to each of the communities and nations where it operates. This naturally involves striving to foster deep mutual understanding with all stakeholders in these diverse places around the globe, building partnerships that make the world a better place.



The Toray Arrows volleyball teams are an important part of Japan's professional volleyball community, and they are warmly supported by Toray employees, fans, and local communities. Team members make a difference in their local communities by offering volleyball lessons and participating in volunteer activities.

**Disaster Response**

**Disaster Response in the Aftermath of the Great East Japan Earthquake**

Toray Group is working to upgrade its earthquake countermeasures and business continuity plan while prioritizing related tasks specific to each company, office and plant, and to the Group as a whole. This process is being driven by the lessons learned from the Great East Japan Earthquake and updated estimates of the potential damage in future earthquakes.

**Responding to Major Flooding in Thailand**

Beginning in early October 2011, four plants operated by two Toray Group companies temporarily suspended operations due to major flooding in Thailand, with one of the plants sustaining serious damage from inundation with floodwater.



Guided by its corporate slogan—"Innovation by Chemistry"—Toray Group discovers new technologies, pushes them to their limits, and integrates them in groundbreaking ways to advance the frontiers of chemistry. Toray Group works to create new value and contribute to society by developing advanced materials leveraging its four core technologies: organic synthetic chemistry, polymer chemistry, biotechnology, and nanotechnology.

**1** **2** [Green Innovation with Toray Materials](#)

## Toray Green Innovation Businesses aspire to help reduce global CO<sub>2</sub> emissions by 200 million tons by 2020

Led by president Akihiro Nikkaku, Toray Group launched the Green Innovation Business Expansion Project with the goal of ensuring that its businesses contribute solutions to the serious issues the world faces. By developing products and businesses that can help solve problems related to the global environment, natural resources, and energy, Toray aims to help bring CO<sub>2</sub> emissions down by about 200 million tons annually by 2020.

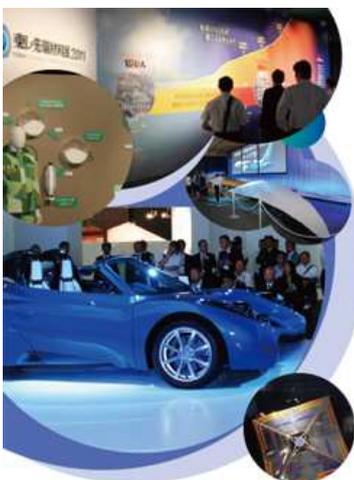
Expanding Toray Group's Green Innovation Businesses is one of the priority management tasks designated in the new long-term corporate vision, AP-Growth TORAY 2020, which commenced in April 2011, as well as its new medium-term management program, Project AP-G 2013.



### Related Information

> [Green Innovation Businesses](#)

## 2011 Toray Advanced Materials Exhibition promotes green innovation



To contribute to society through green innovation, it is essential to develop revolutionary materials, while also raising awareness about them and promoting their widespread usage. As a step in this direction, the Company held the 2011 Toray Advanced Materials Exhibition under the banner of "Green Innovation with Toray Materials" at the Tokyo International Forum from September 14 to 15, 2011. At the two-day event, attended by about 9,200 people, Toray Group demonstrated its comprehensive strengths including the capabilities of its materials and technologies as well as the synergies among them to customers and a wide array of other stakeholders.

The exhibition opened with a presentation that questioned whether people could hear the Earth's distress call, giving an opportunity for visitors to share their awareness of the threats to the future posed by global population growth, energy shortages and other issues. As solutions for solving particular problems, the exhibition displayed about 300 items including a next-generation concept electric vehicle and the wings of a Boeing 787 that contain Toray's carbon fiber, as well as functional innerware and water treatment membranes. Toray Group employees were stationed throughout the venue to give more detail about Toray's approach to green innovation.

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## Comments from visitors

Toray far exceeded my expectations. I was aware that carbon fiber accounts for more than half the weight of the new Boeing 787, but what I didn't expect to see at a carbon fiber exhibition was a next-generation concept car and a giant turbine blade for a wind power station. Given that carbon fiber is ten times stronger than steel and yet only one-fourth the weight, I can see why it will be used for all kinds of structural materials in the future.

When you take a broad view of human history, the iron age has lasted a very long time, but now we really seem to be moving beyond it. Of course today's plastic society represents a post-iron age, but while plastic has been used as a convenient and cheap substitute for traditional materials, this is not the case anymore. Various materials that are far stronger and much more functional than steel, like polymer chemical products and synthetic chemical products, are becoming the most important materials for supporting civilization in the 21st century. This major shift was clearly demonstrated at the Toray Advanced Materials Exhibition.

Since the second half of the 20th century, our society has gradually become centered around composite materials and chemically synthesized products. In other words, we live in a world of synthetic objects produced through chemistry. As such, Toray was right to change its slogan to "Innovation by Chemistry" at the beginning of the 21st century. I have no doubt that Toray will play a significant role in the century to come.



Takashi Tachibana  
Journalist and critic

「At the 2011 Toray Advanced Materials Exhibition, visitors could experience for themselves some of the world's most fabled advanced materials, making them easy to understand and observe. The merits of these materials were highly impressive, and the fact that Toray is developing sustainable materials demonstrates its sincerity about reducing the burden of its corporate activities on the Earth's environment based on a total product lifecycle approach. Along with this sincerity, the approach of assessing products over their entire lifecycles is fundamental for environmental management, so I was highly impressed that the company is putting this into practice.

Toray is making rapid decisions in its management as it compares and assesses numerous products from the two perspectives of environmental impact and economic performance. It seems like Toray Group has come together and reaffirmed its intention to practice the most progressive environmental management in the world.

Through joint development by Toray and the Japan Environmental Management Association, the Toray Eco-Efficiency Analysis (T-E2A) tool and our Multiple Interface Life Cycle Assessment (MiLCA) tool have been upgraded with more functions, leading to the world's most advanced environmental management tool designed for the realization of a low-carbon society, which we announced to the public. We hope that the more widespread usage of this tool will help reduce environmental impact going forward. I expect that Toray Group's environmental management will lead to even more progress and success in creating new value through the world's most advanced materials.



Hiroshi Yokoyama Director,  
Japan Environmental  
Management Association  
for Industry

### Related Information

- ▶ [Promoting Life Cycle Management](#)

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## Green Innovation with Toray Materials

Toray Group broadly defines the offerings of its Green Innovation Businesses as environmentally friendly products and services. In addition to the carbon fiber composite materials, films, and water treatment products that it has always focused on, the Group is now developing a wide range of new materials and services for this business, including fibers and resins designed to save energy, biomass-derived products, and recycling-related services. Going forward, Toray Group will continue developing leading-edge technologies and products while providing solution-based services, aiming to make a proactive contribution to social progress, environmental preservation, and harmony between human pursuits and the natural world.

1. Driving Innovation with the Power of Materials

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### Supporting more comfortable and environmentally friendly transportation

Carbon fiber, which was manufactured for the first time in the world by Toray in 1971, is now attracting considerable attention as a material that can make major contributions to solving global environmental issues. For example, using carbon fiber to reduce the weight of automobiles and aircraft directly reduces fuel consumption. It is also used in a wide array of applications that help to reduce CO<sub>2</sub> emissions.



A totally carbon fuselage was achieved for the Boeing 787. CFRP was used as the primary structural material for the main wings, tail, and body of the aircraft, and accounts for about 50% of the weight of the structural elements.  
(Photograph courtesy of All Nippon Airways Co., Ltd.)

CO<sub>2</sub> emissions reduction due to adoption of carbon fiber  
(based on calculations by JCMA \*1)

#### Automobile

Comparison of an automobile with **17%** CFRP\*2 structural elements by weight compared to a conventional automobile without CFRP

Approximately **30%** weight reduction



#### Aircraft

Comparison of an aircraft with **50%** CFRP structural elements by weight compared to a conventional aircraft with 3% CFRP

Approximately **20%** weight reduction



TORAYCA® carbon fiber is made by heat processing specialized acrylic yarn at temperatures between 1,000 to 3,000 degrees Celsius, and then winding tens of thousands of the resultant single yarns, which measure about a micron in diameter. It can also be combined with base materials such as synthetic resins to produce carbon fiber composite materials.

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\*1. Japan Carbon Fiber Manufacturers Association  
\*2. Carbon fiber reinforced plastic

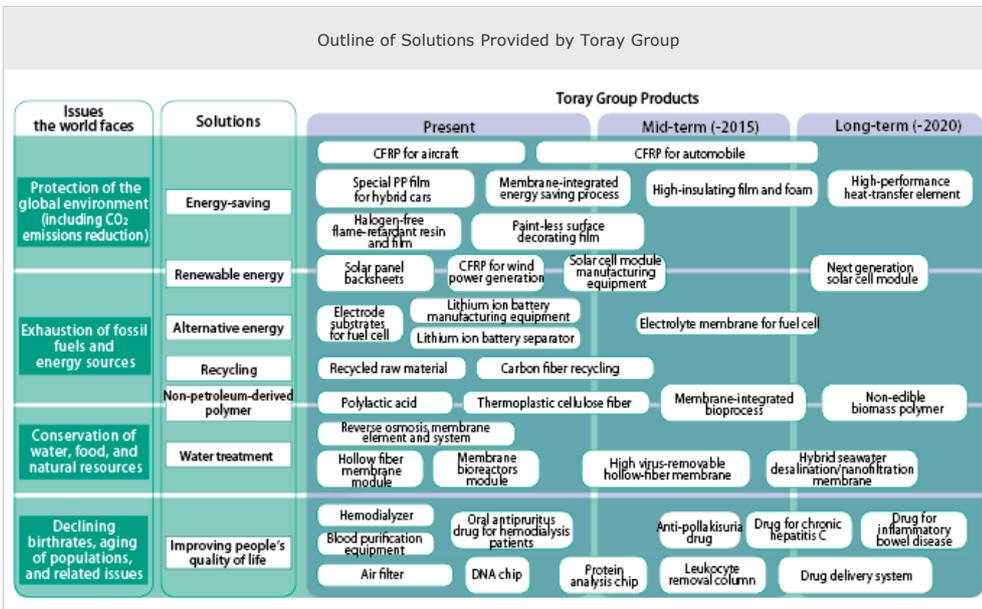
Nobuhiko Shimizu  
 TEEWAVE® AR1 Project Manager; Senior Engineer, Development Unit 1,  
 Automotive Center, Toray Industries, Inc.



At the 2011 Toray Advanced Materials Exhibition, we unveiled a next-generation concept electric car, TEEWAVE® AR1( Toray Eco Efficient Wave Advanced Roadster 1), as a flagship model that embodies Toray Group's Green Innovation strategy. The car weighs only 846 kilograms, which we achieved using Toray's molding technologies. We designed the vehicle with the goal of having CFRP make up 20% of total weight, or about 165 kilograms. This resulted in a significant reduction in weight compared to similarly sized conventional cars mainly made of steel. In addition to CFRP, we employed Toray Group's latest technologies and new materials such as highly functional films and bio-plastics. The overall result was a very environmentally friendly vehicle. The design and production of this concept electric car was mainly carried out at the Automotive Center, Toray's integrated technology development facility specializing in automobiles. This center is part of the Company's Automotive & Aircraft Center. As a member of the Automotive Center, I hope to work together with customers to jointly develop techniques for reducing the vehicle body weight and components for next-generation power trains in the future.



Outline of Solutions Provided by Toray Group



## Generating clean energy that never runs out

Renewable energies like wind power and solar power can be employed sustainably without becoming depleted. Furthermore, they are very clean sources of energy because practically no CO<sub>2</sub> is emitted during power generation. Toray Group's materials and technologies are widely utilized in new energy fields. For example, CFRP is used to make turbine blades for wind power generation facilities, and the Company's polyester film is used as a material for solar panel backsheets.

### CO<sub>2</sub> emissions reduction due to adoption of solar power generation

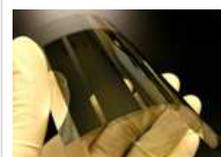
Solar power generation compared with thermal power generation over the entire lifecycle

Reduction of **810** grams of CO<sub>2</sub> per kilowatt-hour

Total emissions from thermal power generation (petroleum and coal)  
**860** grams of CO<sub>2</sub> per kilowatt-hour

Total emissions from solar power generation  
**50** grams of CO<sub>2</sub> per kilowatt-hour

Reduction of **810** grams of CO<sub>2</sub> per kilowatt-hour



An organic semiconductor for flexible solar cells



A solar panel backsheet made with polyester film

**Yoshiyuki Oka**  
 Chief Engineer, Solar Cell Module Development Department, Environment & Energy Development Center, Toray Industries, Inc.



Among the different renewable energies, solar power has seen the most popularity in recent years. Globally, the total installed annual capacity is forecast to reach 47 gigawatts by 2015—tripling over the five years since 2010.

Toray Group is developing key components and materials for solar panels, specifically backsheets, which prevent water and other liquids from getting into the panels, and encapsulant materials for protecting the solar cells from the impact of collisions. These products improve the reliability of solar cells panels and help make them last longer.

As a key part of the Environment & Energy Center, Toray Group's Environment & Energy Development Center is working to develop components for solar cell modules, lithium-ion batteries, fuel cells and other equipment. Working in the Solar Cell Module Development Department, I hope to contribute to technological innovations for solar cellmodules in the future.



## Making water clean and safe to drink

Toray Group independently develops, manufactures, and sells water treatment membranes, and has its own technologies for producing reverse osmosis (RO), nanofiltration, ultrafiltration, and microfiltration membranes. By combining all of these capabilities, the Group is helping to solve problems involving water resources by contributing to the supply of good-quality, drinkable water.

In February 2012, Toray won an order to supply RO membranes to the Tuaspring Desalination Plant in Singapore. With this large order, Toray's market share for RO membrane elements reached 70% in Singapore.

### CO<sub>2</sub> emissions reduction due to adoption of RO membrane technology

CO<sub>2</sub> emissions reduction using the reverse osmosis method (eliminating salt with an RO membrane) compared to the evaporation method (evaporating seawater and collecting distilled water)



Reduction by RO membrane use over entire lifecycle:

**Approximately 283 tons**  
 of CO<sub>2</sub> per membrane element\*<sup>3</sup>  
 (2.6m<sup>3</sup> water produced)

If RO membrane technology were to be introduced worldwide, CO<sub>2</sub> emissions reduction in 2016 would be about 170 millions tons\*<sup>4</sup>

\*<sup>3</sup>. Based on calculations by the Japan Chemical Industry Association  
 \*<sup>4</sup>. *Desalination Markets 2010*



**Gakuji Inoue**  
 Manager, Membrane Technology Department, Toray Industries, Inc.



As water shortages become more serious in many of the world's countries, demand for safe and dependable drinking water is expected to grow steadily in the future. Toray Group will do its part by further developing its outstanding membrane technologies in order make a proactive contribution to solve the world's water resource problems.

## Clothes that are good for the environment, people, and household finances

Jointly developed by Toray and Uniqlo Co., Ltd., HEATTECH®\*<sup>5</sup> is a highly popular line of functional winter clothing that retains heat to keep users warm. In addition to these functions, HEATTECH® products are evolving every year, with new functions including anti-bacterial, anti-static, and anti-odor properties, as well as improved stretchability and good shape and moisture retention. By wearing these clothes, users are likely to lower the temperature of indoor heaters during winter by about one degree Celsius\*<sup>6</sup> without noticing any discomfort, which can help to conserve electricity and reduce CO<sub>2</sub> emissions.

\*<sup>5</sup>. HEATTECH® is a registered trademark of FAST RETAILING CO., LTD.  
 \*<sup>6</sup>. Tests and measurements were conducted at Technorama, Toray's artificial weather room.

### Reductions of electricity consumption and CO<sub>2</sub> emissions due to wearing HEATTECH® clothing



Wearing HEATTECH®, people reduced the temperature of indoor heaters by one degree Celsius →

80 million clothing items sold in FY 2010  
Amount of CO<sub>2</sub> reduction:  
**1,040,000 tons of CO<sub>2</sub>**  
(13 kilograms of CO<sub>2</sub> equivalent per item x 80 million items)  
Electricity conservation:  
**580,000 kilowatts**  
(58 watts per household x 10 million households)



Tetsuo Horino  
Manager, Global Operations Department,  
Toray Industries, Inc.

In our strategic partnership with Uniqlo, we intend to step up promotions of functional clothing, particularly the HEATTECH® and Ultra-light Down lineups, as a way to provide people around the world with comfortable products that can benefit the natural environment.



## Waterless printing plates

Developed by the Company in 1976, Toray Waterless Plate is an environmentally friendly printing plate that eliminates the need for liquids including toxic substances, in the printing process, ensuring that strong alkali waste liquids are not generated. Compared to water-based printing, this product significantly reduces the amount of wasted paper used to prepare for printing. In Europe, where awareness of environmental problems is relatively high, demand for Toray Waterless Plate has been rising since it was first adopted for newspaper printing in 2005. With the ongoing progress in digital technologies, computer-to-plate (CTP) systems that print image data on printing plates using laser light have been gaining popularity in recent years. Therefore, Toray expects demand for waterless printing materials compatible with these systems to increase steadily in the future.



The "Butterfly Mark" shows that printed items have been made using waterless printing methods certified by the Waterless Printing Association.

Mitsunori Hayashi  
Manager, Sales Section 3, Graphic Materials Production Department, Toray Industries, Inc.

Waterless printing is employed for all kinds of printed documents, including corporate CSR reports and environmental reports. In line with industry trends, Toray is expanding its operations by setting up a localized production network in Europe, where demand is on the rise.



## Helping prevent desertification with polylactic acid fiber

Through a partnership with Mitsukawa Co., Ltd., and collaboration with Tottori University and other organizations, Toray has been implementing a project for preventing topsoil loss and restoring vegetation in desert areas of Inner Mongolia, an autonomous region of China, since 2007. The project is employing tubes made from Toray's ECODEAR®, a polylactic acid fiber that is biodegradable and only slightly degrades from ultraviolet rays. The tubes are laid in grid-like pattern according to a traditional Chinese method for preventing sand dispersion and facilitating vegetation growth. In April 2012, Toray concluded a contract with the China National Sand Control and Desert Industry Society (CNSC) \*7 to conduct tests related to preventing sand dispersion and restoring vegetation, and is presently collaborating with the organization to carry out these activities.



The contract signing ceremony with members of CNSC

\*7. CNSC is a nationwide organization in China authorized by the country's Ministry of Civil Affairs and the State Forestry Administration. It was founded in 1992 with the objective of supporting industries involved in combating desertification and provides an organizational framework for this purpose. Members include researchers from the State Forestry Administration's research institutes as well as other government authorities. The society arranges verification tests designed to prevent desert sand dispersion and restore vegetation, and authorizes and recommends related building methods.



**Koji Sasaki**  
 Manager, Fibers & Textiles Green  
 Innovation Department,  
 Toray Industries, Inc.

Manager, Environmental Material  
 Development Department,  
 Environment & Energy Development  
 Center, Toray Industries, Inc.



Polylactic acid fiber is being put to good use in this desertification prevention and re-vegetation project. At present, Toray is conducting tests covering a total of 90,000 square meters at seven locations in Inner Mongolia and the provinces of Gansu and Shanxi. In the future, we plan to expand testing with an emphasis on restoring vegetation in collaboration with CNSC.

## Driving innovations in medicine with advanced materials and biotechnology

Toray Group contributes to advancements in life sciences in the fields of medical products, pharmaceuticals and personalized medicine. In its medical products business, Toray developed TORAYLIGHT™ NV, a polysulfone membrane artificial kidney (dialyzer), and Toray Medical Co., Ltd., began marketing this new product in April 2011. By applying its nanotechnologies, Toray made TORAYLIGHT™ NV significantly more effective than its previous products in limiting platelet adhesion, which affects antithrombotic performance. Toray is also helping save the lives of people with serious diseases, including newborn infants, with its product Toraymyxin™, a treatment for septic poisoning.

In its pharmaceuticals business, Toray is working to improve quality of life for people suffering from disease by providing such products as REMITCH®,\*8 an oral antipruritus drug for treating itchiness experienced by hemodialysis patients; Feron™, a drug for treating tumors and chronic hepatitis B and C; and Dorner®, a treatment for peripheral vascular disease.

In the area of personalized medicine, Toray is working to develop and establish applications for biomedical tools such as DNA chips.

\*8. REMITCH® is a registered trademark of Torii Pharmaceuticals Co., Ltd.



Polysulfone membrane  
 artificial kidney  
 TORAYLIGHT™ NV

Extracorporeal  
 hemoperfusion cartridge  
 Toraymyxin™

**Hiroyuki Okuda**  
 Medical Products Technology Department, Toray Industries, Inc.

Toray received the Healthcare and Medical Equipment Component Award at the 2011 Cho Monodzukuri Innovative Parts and Components Awards, sponsored by Nikkan Kogyo Shimbun, Ltd., for its product Toraymyxin™ PMX-01R. This product was developed to meet strong requests from medical institutions to use Toraymyxin™ for treating newborn and prematurely born infants. Toray will continue to develop new products like this to contribute to the future of medical care.



## Advanced technologies for supporting the quest to explore outer space

Space development is making significant progress in Japan, driven by the need to ensure national security, enrich and improve the lives of citizens, and increase the country's intellectual assets. Toray Group provides a number of materials and technologies that can function in the extremely harsh environment beyond the Earth's atmosphere, thereby supporting humanity's quest to explore outer space.



### KONOTORI H-II Transfer Vehicle for re-supplying space stations

With its light weight, strong rigidity, and low rate of heat expansion, TORAYCA® carbon fiber was used for the solar panel base that covers the body of Japan's KONOTORI H-II Transfer Vehicle. TORAYCA® was also employed for the H-IIB launch vehicle, which launches the KONOTORI, as a material for the engine casings of the solid-fuel rocket boosters, as well as nozzle components and the interstage section.



**Quasi-zenith  
 satellite-1 MICHIBIKI**  
 TORAYCA® carbon  
 fiber was used in  
 Japan's large-scale  
 satellite, MICHIBIKI,  
 as a material for the

solar panel base, exterior of the fuselage,  
 and the central cylinders.



### Solar sail demonstration spacecraft IKAROS

Toray KP Films Inc. produced ultra-thin polyimide membranes for the sail of Japan's IKAROS solar sail-equipped spacecraft. The company applied the membranes using a special aluminum metalizing technique made possible by Toray's vapor deposition technologies. The spacecraft's ultra-thin polyimide film sail can generate power by effectively receiving and retaining photons from the sun, and has demonstrated durability against the effects of cosmic rays and heat.

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1 2 CSR initiatives at Synthetic Textile Mills and Acryl Textile Mills

## Taking a global approach to developing CSR practices

The businesses of Toray Group have an expansive global reach, with production plants and offices in 23 countries and regions worldwide. The Group's objectives in "going global" are to secure continuous growth and build successful businesses rooted in local communities. From the standpoint of fulfilling corporate social responsibility (CSR), the Group is always considering how it can contribute to each of the communities and nations where it operates. This naturally involves striving to foster deep mutual understanding with all stakeholders in these diverse places around the globe, building partnerships that make the world a better place.

## Toray Group in Indonesia

For over 40 straight years, Toray Group has been in business in ASEAN countries such as Indonesia, Thailand and Malaysia. Among them, Indonesia has been home to Toray Group operations across the broadest range of fields, including fibers and textiles, plastics and chemicals, and trading. Toray has designated P.T. Indonesia Synthetic Textile Mills and P.T. Acryl Textile Mills as model companies in terms of CSR for the Group's operations in Indonesia. With a management vision of achieving continuous growth through CSR-driven management, these two companies are making steady efforts to promote safety and environmental initiatives by training local employees to take leadership roles.

### Synthetic Textile Mills and Acryl Textile Mills—Toray Group's CSR model companies in Indonesia

#### Overview of the Republic of Indonesia

**Capital city** : Jakarta

**Population** : Approximately 238 million (according to government estimates in 2010)

**Land area** : 1.89 million square kilometers (15th largest in the world)

**Official language** : Indonesian

**Ethnic groups** : More than half the population is Malay, with about 300 ethnic groups including Javanese and Sundanese

**Religious affiliation** : 88.1% Muslim; 9.3% Christian; 1.8% Hindu; 0.6% Buddhist; 0.1% Confucist; 0.1% other (according to statistics compiled by the Indonesian Ministry of Religious Affairs)



#### Overview of Group companies in Indonesia

Toray Group began operating in Indonesia in 1970 with the establishment of P.T. Century Textile Industry Tbk in Jakarta to manufacture and sell woven fabric. Today, led by the administrative company P.T. Toray Industries Indonesia, there are 11 companies engaged in trading, sales, and manufacturing of fibers, textiles, plastics and chemicals. A combined total of about 2,500 people work at these companies, including around 30 dispatched from Toray Group companies in other countries including Japan.

#### Company Profiles: Synthetic Textile Mills and Acryl Textile Mills

Synthetic Textile Mills and Acryl Textile Mills began implementing a functional integration project in March 2008, through which the management, administration, purchasing, and engineering departments of both companies were integrated in order to improve operational efficiency.

##### P.T. Indonesia Synthetic Textile Mills

**Plant location** : Tangerang

**Establishment** : August 1970

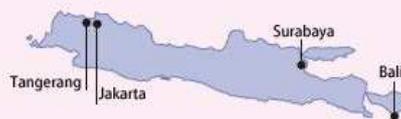
**Business activities** : Manufacture and sale of spun, woven, and dyed fabrics made of polyester and rayon

**Number of employees** : 295

##### P.T. Acryl Textile Mills

**Plant location** : Tangerang

**Establishment** : April 1973



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**Business activities** : Manufacture and sale of spun and dyed acrylic spinning thread

**Number of employees** : 204

#### Tangerang

P.T. Indonesia Toray Synthetics (Fibers and textiles, established in 1971)  
 P.T. Indonesia Synthetic Textile Mills (Fibers and textiles, established in 1970)  
 P.T. Acryl Textile Mills (Fibers and textiles, established in 1973)  
 P.T. OST Fibre Industries (Fibers and textiles, established in 1990)  
 P.T. Petnesia Resindo (Plastics and chemicals, established in 1994)  
 P.T. Toray Polytech Jakarta (Fibers and textiles, established in 2011)

#### Jakarta City

P.T. Toray Industries Indonesia (Administration of business operations in Indonesia, established in 2002)  
 P.T. Toray International Indonesia (Trading company, established in 1996)

#### Jakarta suburbs

P.T. Century Textile Industry Tbk (Fibers and textiles, established in 1970)

#### Surabaya and Bali

P.T. Easterntex (Fibers and textiles, established in 1973)  
 P.T. Jabato International (Travel agency, established in 1979)

## CSR survey in Indonesia

Toray Group has overhauled its CSR activities from the perspective of the ISO 26000 international guidance standards on corporate responsibility. As part of this process, in fiscal 2011 Toray worked to assess the status of CSR management at its Group companies around the world. A survey was conducted in Indonesia at both Synthetic Textile Mills and Acryl Textile Mills in collaboration with local and Japanese experts in the field of CSR. The results of the survey have now been analyzed and will be shared group-wide in a final report soon, which is expected to be useful for promoting Toray's global CSR management.

#### Details of the survey

Preliminary survey implementation period: December 20 – 22, 2011  
 Survey implementation period: March 13 – April 1, 2012  
 Number of people interviewed: 52

#### Organizations collaborating in the survey

CSR Asia; So-Tech Consulting, Inc.

#### Survey method

Interviews were conducted with stakeholders, namely employees, local residents and community representatives, the municipal government, supply-chain-related businesses, and customers. Based on these interviews, the relevant activities of both companies were analyzed in reference to the seven core subjects of ISO 26000, among which "community involvement and development," "human rights," and "labor practices" were given particular emphasis.

#### Overall results of the survey

Both companies' relations with stakeholders were positive. No serious problems were revealed, yet there was still room for improvement. Going forward, both companies are expected to make improvements as they dialogue with stakeholders.

#### Specific findings of the survey

- A strong awareness of safety has been instilled among employees
- Employee training has been emphasized and motivation among employees is high
- Labor relations are good, attributed to Japanese-style small-group activities
- Environmental activities were positively evaluated by all relevant stakeholders
- Community involvement was substantial and praised by local residents

### Third-party evaluations of Synthetic Textile Mills and Acryl Textile Mills

At P.T. Indonesia Synthetic Textile Mills and P.T. Acryl Textile Mills, the survey found that training programs, covering not only management but all levels of job categories, proceeded smoothly when management interacted with employees. Motivation also appeared to be very high among employees. Small-group activities undertaken in the companies promoted an atmosphere in which employees felt comfortable approaching their supervisors for advice when issues arose in their daily work. Activities of the CSR committee functioned effectively, and were perceived to be beneficial for human resources training and community contribution initiatives. English lessons were fully integrated into management, and various programs and arrangements received appreciation for their role in promoting positive communication inside the companies. The formation of such good relations inside these companies is likely to be a factor in their improved operations and higher productivity. The companies have also implemented thorough training on health and safety, not only for full-time employees but also for contract and temporary workers. The companies also appear to have adopted a Japanese health and safety system, as posters were displayed at the worksites promoting the 3S approach to safety and cleanliness commonly used in Japan.



Mizue Unno  
 Managing Director,, So-Tech Consulting, Inc.

Mizue Unno founded So-Tech Consulting, Inc., in 1996, and provides consulting for corporate operations in the fields of CSR and sustainability. She is also an adjunct graduate school lecturer at the University of Tokyo.

### Environmental activities at Synthetic Textile Mills and

### Acryl Textile Mills

Having served as a CSR advisor at many companies, I have visited a large number of businesses in Indonesia. Comparatively speaking, P.T. Indonesia Synthetic Textile Mills and P.T. Acryl Textile Mills are implementing outstanding environmental initiatives. Both companies have acquired ISO 14000 certification and the Blue rating under Indonesia’s Performance Level Evaluation Program (PROPER), the corporate environmental performance standards system set up by the Ministry of Environment.

I was impressed by the strict wastewater management being implemented at each company. I confirmed that wastewater collected from each factory flowed and emptied from the various treatment tanks, then flowed through the waterway made of long and thin white tiles after passing through the goldfish pond, and finally discharged. I could see that employees were proud of these wastewater drainage facilities, which meet standards expected in inspections by the Indonesian government and Tangerang city officials.

As such, Synthetic Textile Mills and Acryl Textile Mills are alleviating the burden on the sewage system in the surrounding area by conducting proper wastewater treatment. I understand that this is highly appreciated by the local community.



Jalal Ramalan  
Local researcher in  
Indonesia for CSR Asia  
Representative of A+ CSR  
Indonesia

Mr. Ramalan co-founded A+ CSR Indonesia in 2006 as a social business aimed at promoting CSR in Indonesia. He contributes articles to national newspapers as well as domestic and international professional journals as a CSR specialist in Indonesia. Mr. Ramalan also serves as an adjunct university lecturer, corporate training instructor, and judge for CSR awards.

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CSR initiatives at Synthetic Textile Mills and Acryl Textile Mills

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## CSR initiatives at Synthetic Textile Mills and Acryl Textile Mills

As two companies producing spun and dyed fabrics and thread made of polyester and acrylic in the Tangerang area, Synthetic Textile Mills and Acryl Textile Mills integrated their management in 2007. Since then, they have stepped up efforts to provide leadership training for young local staff, improve environmental and safety measures, and positively contribute to the surrounding area, with the overarching goal of achieving sustainable growth.

For both companies, CSR begins with considerations about how their business activities can bring more happiness to communities, employees, families, and everyone in society. Each and every employee participates in promoting strategic CSR management so that the companies can earn the trust of customers and stay respected in all aspects of environmental and safety activities.



- 1 A specialized production process for acrylic spun threads
- 2 Information about previous worksite accidents is posted at the entrance of this building (the last accident occurred at the building in 1999)
- 3 The "6 Cs" management motto of Synthetic Textile Mills and Acryl Textile Mills
- 4 This poster uses illustrations to show the location of emergency exits
- 5 The company mosque is not only available for employees but also open to the public
- 6 Signs promoting safety have been set up at pedestrian crossings

### Focusing on globally accepted standards for CSR to secure sustainable growth

I have been transferred twice to Synthetic Textile Mills and Acryl Textile Mills. From the time of my first appointment, I continuously examined the reasons for the wildly fluctuating performance of the two companies, and concluded that the main reason was not the changing conditions in the market but rather instability in all of their operations. Indeed, management policies, product quality, supervision, corporate ethics, communication, the earnings structure, and human resources training were all out of balance. To ensure stability and sustainability, these aspects of operations have to be made consistent and constant over time, without changing significantly even when the president or Japanese managers changes. Accordingly, we are focusing on CSR as the basis for globally accepted standards of conduct, which must be respected in any religious or social context and by all individuals. Furthermore, we have appointed key personnel as CSR advocates, and they are steadily instilling



Tsuyoshi Sumida  
President of ISTEM and  
ACTEM (as of May 2012)

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constant and consistent standards in our local staff. In this way, we are realizing sustainable growth for both companies.

Synthetic Textile Mills and Acryl Textile Mills have moved from that previous time of instability to the stable period of today. To motivate everyone to move toward a new era of sustainable growth in the future, we formulated a management motto called the "6 Cs": "For the Company, good Communication, Customer satisfaction, Corporate social responsibility, and Challenge to Change." In this context, employees transferred from Japan have a duty not only to set an example but to pass along skills and know-how that lead to reliability and sustainability. To use a car metaphor, however, they need to teach safe driving from the passenger's seat, not just take the wheel.

## CSR initiatives pursued by Synthetic Textile Mills and Acryl Textile Mills

### › Implementing CSR activities

#### Training key personnel and making English the common language in the workplace

Synthetic Textile Mills and Acryl Textile Mills are both placing priority on training key personnel. They hold regular training sessions led by the president and department managers with the goal of instilling the principles in the 6 Cs management motto. As a part of these efforts, the companies have been working on making English the common language in workplaces since 2008. Looking to continuously expand business, the companies recognize the importance of English for promoting business policies and sharing essential information in-house, as well as for improving communication with personnel dispatched from Japan.



1. The president lectures in a leadership training session for local staff
2. Classes are provided to promote English as the common language in the companies/p>

### › Safety

#### Awards for excellence won at Toray Group Safety Meeting

The factories of Synthetic Textile Mills and Textile Mills both received awards for excellence at the 30th Toray Group Safety Meeting held in 2011. Drawing on the collective experience of Toray Group, Indonesian and Japanese employees at the factories have combined their knowledge to create highly safe workplaces. Having firmly instilled safety systems such as the point-and-call-out method and the 3S initiative for safety and cleanliness, Synthetic Textile Mills and Acryl Textile Mills achieved 2,709 and 2,026 consecutive accident-free days, respectively, as of May 31, 2012.



1. Japanese safety-related terms are used at worksites in Indonesia
2. A banner for the 3S initiative

### › The environment

#### Acquiring the Blue rating of Indonesia's PROPER standards

As a measure for helping conserve the local environment, Synthetic Textile Mills and Acryl Textile Mills have installed highly effective wastewater treatment facilities that perform better than legal standards. The companies' employees are particularly proud of the wastewater treatment pond that is clean enough for goldfish to live in. In recognition of these endeavors, both companies were certified with the Blue rating under the Performance Level Evaluation Program (PROPER) environmental standards. Only six businesses in the Tangerang area have acquired this rating. Employees at the companies are now working together to acquire the Green rating, which only 40 companies in Indonesia have successfully acquired.



- White tiles are used in the waterway of the wastewater treatment facilities (left);  
checking the color of the wastewater for abnormalities

> External evaluations

**Awarded second prize in an ISO Activities Report Contest**

Synthetic Textile Mills and Acryl Textile Mills jointly received second prize at the ISO Activities Report Contest in September 2011 in Jakarta. The contest was held as part of the 10th SGS Indonesia Quality Network Conference sponsored by P.T. SGS Indonesia, an organization that certifies companies with ISO 9001 and ISO 14001 in Indonesia. It has granted ISO certification to about 3,000 companies in Indonesia, including a large number of Japanese firms.



At the contest awards ceremony

> Contributing to local communities

**Helping local communities through dialogue**

At Synthetic Textile Mills and Acryl Textile Mills, CSR leaders are appointed by the president to promote an array of voluntary activities intended to contribute to local communities. Events are held to encourage interaction with members of these communities, including soccer lessons for elementary school students and a photo contest for high school students. In addition, the companies' mosque, established onsite for Muslim employees, is open to the local community as a place of worship.



1. Children from an orphanage visit company premises
2. Former president Sumida and winner of the photo contest

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**The Toray Arrows women's volleyball team**

The women's team was originally called the Unitika Phoenix. That team suspended operations in July 2000 and was re-launched as the Toray Arrows in September 2000 after being relocated. The team now makes its home at Toray's Shiga Plant.

**The Toray Arrows men's volleyball team**

The team was originally established in 1947 as the Toray Kurin Kai, based at Toray's Shiga Plant. The team moved to its current home at Toray's Mishima Plant in 1964, and later changed its name to Toray Arrows in 1991.

The Toray Arrows volleyball teams are an important part of Japan's professional volleyball community, and they are warmly supported by Toray employees, fans, and local communities. Team members make a difference in their local communities by offering volleyball lessons and participating in volunteer activities.

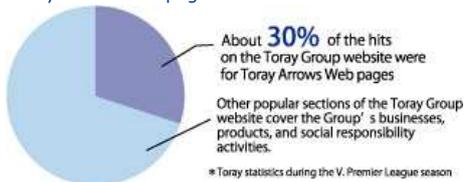
**Toray Arrows bring employees and communities together**

The Toray Arrows are Toray Industries' volleyball clubs. Toray's Mishima Plant is home to the men's team, and the Shiga Plant hosts the women's team. Each team is made up of 16 members, respectively (as of June 30, 2012).

The team name and logo of the Toray Arrows were selected in 1991 from among 223 suggestions submitted by Toray Group employees to the company newsletter. Named according to the wishes of employees, the Toray Arrows have developed into strong teams that are as "sharp as arrows," and are now highly appreciated as a source of inspiration in the Group. With a large number of fans outside the Group, as well, the Toray Arrows are helping to promote volleyball in Japan. During the V. Premier League season, a high percentage of hits on Toray Group website are for the Toray Arrows pages, reflecting the enthusiastic support they receive from many people. In the V. Premier League season spanning 2011 to 2012, the women's team won the championship, and the men's team reached the semifinals. Both teams have performed very well in the past, with the men's team winning two championships and placing runner-up five times, and the women's team winning four championships and placing runner-up twice. Many players on the Toray Arrows have been selected as members of Japan's Olympic teams and national teams. Many current players are registered as national team members.



**Toray Arrows webpage traffic**



**Japan's women's volleyball team wins the Bronze Medal at the 2012 London Olympic Games**

The following four players from the Olympic team play for the Toray Arrows:



(From left)  
Erika Araki  
Hitomi Nakamichi  
Saori Sakoda  
Saori Kimura \*

\* transferred to the Turkish Women's Volleyball League in October 2012

**Related Information**

- Toray Arrows webpage (only in Japanese)



**Social contributions of the Toray Arrows in fiscal 2011**

Volleyball lesson locations and volunteer activities

Men's team	Women's team

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Great East Japan Earthquake relief event in Urayasu (Chiba Prefecture)	May	
Nagaizumi-chou, Sunto-gun; Imazawa school district of Numazu; Haruno-chou, Hamamatsu (Shizuoka Prefecture)	June	Otsu (Shiga Prefecture) Tohoku disaster relief tour in Hachinohe (Aomori Prefecture), Morioka (Iwate Prefecture), Kesenuma (Miyagi Prefecture)
Mishima and Numazu (Shizuoka Prefecture) Kakogawa (Hyogo Prefecture) Hakodate (Hokkaido Prefecture) Tsuchiura (Ibaraki Prefecture)	July	Kanazawa and Nomi (Ishikawa Prefecture)
Tokai and Okazaki (Aichi Prefecture) Yokosuka and Yokohama (Kanagawa Prefecture) Shizuoka Volleyball Festival	August	Matsue (Shimane Prefecture) Okazaki and Nagoya (Aichi Prefecture) Otsu (Shiga Prefecture)
Great East Japan Earthquake relief charity match in Sumida, Tokyo)	September	Shiga Volleyball Festival
Fuji and Nirayama-chou, Tagata-gun (Shizuoka Prefecture)	November	

## Volleyball can make the world a better place

The Toray Arrows hold volleyball lessons for children all around the country. The men's and women's teams held lessons a total of 36 times in fiscal 2011. The teams also helped support the recovery of areas struck by the Great East Japan Earthquake in fiscal 2010, with men's team participating in a charity match and the women's team visiting the areas to offer a four-day volleyball school. Activities like these demonstrate the strong sense of mission felt by each player on the teams.

Toray Group is dedicated to providing ongoing support for science and technology, the arts and humanities, and sports in accordance with Toray Group Social Initiative Policies. The activities of the Toray Arrows are beneficial for society from the perspectives of promoting sports, facilitating community interaction, and helping the growth of young people. As such, the Group intends to actively expand these activities in the future.

### A letter of appreciation from a community where volleyball lessons are given

Koichi Shibata

Chairman of Okazaki Sports Association; Mayor of Okazaki

I would like to express my appreciation for the ongoing encouragement and cooperation of the activities of the Okazaki Sports Association. Volleyball lessons offered by the Toray Arrows have now become a regular event that brings joy to elementary and junior high school students every year. I hope we can continue our good cooperation in the future and continue holding these lessons, which are highly valued by the Okazaki Sports Association. Finally, we wish all members of the Toray Arrows even greater success in their pursuits and endeavors.



On August 3, 2011, 351 elementary and junior high school students participated in volleyball lessons taught by players of both the Toray Arrows men's and women's teams in Okazaki.

### Using my experience playing for the Toray Arrows to help educate children and promote sports

In the previous fiscal year, I worked actively to help support the recovery of areas affected by the Great East Japan Earthquake, because the disaster felt very real for me. Just two months before the earthquake struck, I was involved in volleyball lessons in the city of Rikuzentakata, which was almost completely destroyed by tidal waves.

Therefore, I wanted to help in anyway I could, no matter how small, so I traveled to the disaster areas many times. Each time I went, I could feel the powerful effect that sports can have in putting smiles on people's faces and raising their spirits. And having received so much support during my time as a volleyball player, I wanted to return my gratitude and make the most of my experience playing for the Toray Arrows to help educate kids and promote sports.

The Toray Arrows volleyball teams have become close to the hearts of Toray employees and are popular in their local areas, known as good teams that develop players for the national teams. The Toray Arrows are also engaged in a broad range of community programs, providing volleyball lessons and joining volunteer activities as ways to actively contribute to society.

The sentiments that motivate these endeavors are the same for all social contribution activities, whether helping rebuild disaster areas or educating the younger generation. My personal mission going forward is to teach



Kana Oyama  
Corporate Communications  
Department,  
Toray Industries, Inc.

Former player for the Toray Arrows,  
Japan National Team, and Athens  
Olympic Team

younger people the things I have learned in my experiences playing volleyball professionally and to give something back to the community. This is the next stage of my path. I know that I can only make a minor contribution, but I still hope to make good use of my experience playing for the Toray Arrows in initiatives aimed at making the world a little bit better place to live.



At an evacuation shelter soon after the Great East Japan Earthquake

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Disaster Response in the Aftermath of the Great East Japan Earthquake

Toray Group is working to upgrade its earthquake countermeasures and business continuity plan while prioritizing related tasks specific to each company, office and plant, and to the Group as a whole. This process is being driven by the lessons learned from the Great East Japan Earthquake and updated estimates of the potential damage in future earthquakes. All members of Toray Group have reaffirmed the importance of securing their own safety and that of their families, and of fulfilling the individual roles they are expected to take to ensure the Group's business can continue. To properly accomplish these tasks in the event of a disaster, Toray Group is making ongoing improvements to disaster countermeasures and emergency response training.

In addition, the Toray Arrows volleyball team is helping with the recovery effort in the disaster-affected areas, for instance by offering volleyball lessons for children to encourage them.

Improving Earthquake Countermeasures

Simulation Drill Held on Setting up a Company-Wide Earthquake Response Headquarters

In July 2012, Toray held divisional simulation drills on setting up a company-wide earthquake response headquarters, based on a scenario of an earthquake of level six on the Japanese seismic scale striking directly below the Tokyo metropolitan area. Toray set up company-wide emergency response headquarters called for by the Company's business continuity plan. At the Toray Tokyo Office, the simulation included setting up a local emergency response headquarters and a drill on confirmation of employee safety on a division by division basis. In this way, the drills verified how accurately the Company as a whole would be able to respond immediately after an earthquake.

The drills also tested the Company's initial response to a scenario in which plants in the Tokyo metropolitan area suffer serious damage from the earthquake. The drills checked the handling of information and response measures particularly by the Company's eight response teams \*1 and the emergency headquarters administrative support office, which reports directly to the headquarters chief. Toray gained valuable experience and insights through these drills, and intends to make the most of them in its earthquake countermeasures in the future.

\*1: Disaster Victim Support Team, Damaged Plant Support Team, Group Company Response Team, Customer Response Team, Purchasing/Distribution Response Team, Social Contribution Response Team, PR Response Team, and Central Government Response Team



Company-wide emergency response headquarters meets during drill, with video-conferencing connecting divisions.

Various Initiatives at Offices and Plants

The Toray Tokyo Office is updating its safety reporting criteria, revising emergency response plans for large-scale earthquakes, and switching to more decentralized stockpiling of emergency supplies. Meanwhile, all of Toray's plants are implementing emergency evacuation countermeasures for a tsunami triple the height of modern tsunamis of record, and safety and disaster measures to deal with widespread power blackouts.

At the Shiga Plant, about 3,700 employees participated in comprehensive emergency drills covering the entire factory in March 2012. The plant effectively used these drills to check its immediate response to a major earthquake and identify next steps.

Toray is also carrying out measures to ensure business continuity, such as reviewing which relief efforts have priority during a disaster, studying alternative supply sources to broaden purchasing options, decentralizing inventory warehousing, and establishing a new standard that gives consideration to water damage risks.



The Shiga Plant identified evacuation sites, designated activities at each evacuation site, and confirmed the role and actions of its onsite emergency headquarters, prioritizing indicating evacuation routes, confirming safety, and properly using the reporting system.



The Toray Tokyo Office revised its emergency response plans in May 2012. Safety reporting criteria were expanded to cover earthquakes with a seismic intensity of five or over, below the previous level of six or over.

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Everyone at Toray Group hopes for the full recovery of disaster-affected areas, and the Group is working in unison to assist these areas in rebuilding. As of June 30, 2012, Toray Group as a whole had donated about 180 million yen to the recovery effort for the Great East Japan Earthquake through various organizations. \*2 Moreover, Toray Group employees are actively involved in volunteer activities, and Toray participates as a member company of the volunteer program for business persons of the Japan Business Federation (Keidanren). The Toray Arrows volleyball team also plays charity matches and gives volleyball lessons to children in Japan's Tohoku region, which was heavily damaged by the Great East Japan Earthquake.

Toray Group is committed to continuing its activities to support disaster-affected areas.

\*2: Red Cross societies in and outside Japan, as well as the Japanese Chamber of Commerce and Industry.



Employees helped recover photographs in Fukushima Prefecture through a corporate volunteer program.

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**Responding to Major Flooding in Thailand**

Beginning in early October 2011, four plants operated by two Toray Group companies temporarily suspended operations due to major flooding in Thailand, with one of the plants sustaining serious damage from inundation with floodwater. Fortunately, no one was injured at the plants. The plant that had been flooded resumed full operations in May 2012, and all the plants are currently operating normally. Toray Group is working to improve disaster countermeasures at each of its companies, learning from this experience of flood damage in Thailand.

**Establishment of an Emergency Response Headquarters when the Flooding Began**

Reports of flooding caused by torrential rainfall in the northern part of Thailand began appearing in the middle of July 2011. Later, repeated typhoons and heavy rains made rivers overflow, causing major damage. Amid these circumstances, Thai Toray Synthetics Co., Ltd., suspended operations at its Ayutthaya Plant on October 6. After that, an emergency response headquarters for Thailand was set up at the flooded site on October 10, and an emergency task force was established at Toray head office on October 18.

**Assessing Damage and Taking Steps to Resume Operations**

Details of flood damage to Toray's plants and resumption of operations are shown in the table below. The greatest amount of damage occurred at Thai Toray Synthetics' Ayutthaya Plant, which was flooded by as much as 2.3 meters of water. All plants quickly resumed operations thanks to the dedicated efforts of local employees and assistance and cooperation from throughout Toray Group. Moreover, the Group ensured that the suspension of operations led to no major disruptions in product supply, with Toray's Mishima, Ishikawa, Aichi, and Okazaki plants in Japan stepping up production output, and subsidiaries in Indonesia, South Korea and China promptly coordinating replacement production efforts.

Damage Caused by Flooding and Resumption of Operations

Company	Plant	Main products produced	Effects of damage	Date when operations resumed
Thai Toray Synthetics Co., Ltd.	Bangkok Plant	Nylon and polyester yarns, PBT resin	Suspended operations on October 26, although not due to flooding of the plant	December 1, 2011
	Ayutthaya Plant	Nylon and polyester yarns	Suspended operations on October 6 The surrounding industrial park was flooded on October 12, causing the first floor of the plant to be flooded with up to 2.3 meters of water	March 9, 2012 (full operations resumed in May)
	Nakhon Pathom Plant	Evaporated film, non-stretching polypropylene film	Suspended operations on October 29 due to partial flooding of the plant	December 4, 2011
Thai Toray Textile Mills Public Co., Ltd.	Nakhon Pathom Plant	Polyester-rayon blended yarn	Suspended operations on November 1 due to partial flooding of the plant	November 21, 2011

**Disaster Countermeasures for the Future**

Having experienced this large-scale flooding, Toray's group companies in Thailand have initiated permanent countermeasures to deal with flood disasters. They are carrying out various improvements, including waterproofing equipment and moving it to safer areas inside the facilities, reinforcing flood barriers around plant sites, and increasing the capacity of drainage channels.

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### Helping Communities Recover

In October 2011, Toray Group donated 10 million yen to three organizations in Thailand—the Thai Red Cross Society, Princess Jullapong Foundation, and Princess Pa Foundation—to help communities cope with the massive damage caused by the flooding.

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**Global Environment Activities**



In order to fulfill its responsibilities as a materials manufacturer, Toray Group is working to reduce its environmental load, while promoting ongoing activities in areas that include safety and accident prevention.

The global population has grown from 1.6 billion to 6.7 billion since the beginning of the 20th century, and this figure is projected to rise to 9.5 billion by 2050. Although significant advances

have been made in science and technology alongside economic growth, issues such as global warming, the depletion of fossil fuels, and shortages in both water and food resources have emerged. Toray Group recognizes that companies must proactively engage in activities to address these critical issues and protect the global environment for future generations. Based on the approach that all business strategies should be grounded in concerns for the environment and contribute to realizing a sustainable low-carbon society, Toray adopted an operating policy in 2008, and was a leader in introducing and promoting life cycle management (LCM) as a diversified chemical company. In addition to reducing the environmental load of products and services across their entire life cycle, LCM entails activities aimed at promoting sustainable development. In promoting life cycle assessment (LCA) across all of its business areas, Toray has also adopted Contribution Factor of CO<sub>2</sub> Reduction, a proprietary environmental contribution indicator that incorporates the practice. In order to further boost LCM, Toray developed T-E2A, a method for comprehensively evaluating environmental load reduction and economic efficiency. In addition to its application in appraising the Company's own business strategies and investment activities, Toray is looking to promote its use across all industries.

As a part of efforts to carry out LCM, Toray has adopted ECODREAM® as an overall brand name for its environmentally friendly products, and has been actively promoting Project EcoChallenge, an initiative that recognizes the broad range of ecological concerns. To further the initiative, Toray is in the process of vigorously advancing a Green Innovation Business Expansion (GR) Project under the leadership of the president. The Company is expanding its Green Innovation products business through the provision of solutions for global environmental issues. Toray will take the lead in these initiatives in order to help realize a sustainable low-carbon society.

**Initiatives for Green Innovation Businesses**

1. Life Cycle Management (LCM) and T-E2A
  - (1) Life Cycle Management
  - (2) T-E2A
2. Promoting Life Cycle Management
3. Pursuing Environmentally Conscious Design
4. Transition from Project EcoChallenge to the Green Innovation Business Expansion Project
5. Advances in Green Innovation Products
6. Promoting Recycling

**Safety and the Environment**

1. Ten Basic Environmental Rules
2. Toray Group Biodiversity Basic Policy
3. Safety, Health, Accident Prevention and Environmental Preservation Management System
4. Initiatives to Fight Global Warming
5. Voluntary Reduction of Atmospheric Emissions of Chemical Substances
6. Initiatives to Prevent Air and Water Pollution
7. Initiatives to Reduce Waste
8. Environmental Risk Management
9. Environmental Accounting
10. Environmental Data

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		Toray Group's Framework for Implementing CSR	
		CSR Guidelines, CSR Road Map, and Key Performance Indicators	
		Toray Group Corporate Governance	
		Implementing CSR Activities and Improving CSR Education	
		Toray Group Stakeholder Dialogue	
Human rights	1. Due diligence		
	2. Human rights risk situations		
	3. Avoidance of complicity		Toray Group's CSR Procurement and Purchasing
			Committed to Human Rights
	4. Resolving grievances		Emphasizing Corporate Ethics and Legal Compliance
	5. Discrimination and vulnerable groups		Committed to Human Rights
			Promoting Diversity
	6. Civil and political rights		
	7. Economic, social and cultural rights		
	8. Fundamental principles and rights at work		Committed to Human Rights
Labor practices	1. Employment and employment relationships	Committed to Human Rights	
		Retaining Core Staff	
		Developing Human Resources to Create New Value	
		Promoting Diversity	
	2. Conditions of work and social protection		Creating a Positive Workplace for Employees
3. Social dialogue		Toray Group Corporate Governance	
		Communication with Employees	
4. Health and safety at work		Occupational Safety and Accident Prevention Activities	
5. Human development and training in the workplace		Developing Human Resources to Create New Value	

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The environment	1. Prevention of pollution	Highlight 1: Driving Innovation with the Power of Materials
		Safety, Health, Accident Prevention and Environmental Preservation Management
		Initiatives to Protect the Ozone Layer
		Voluntary Initiatives to Reduce Atmospheric Emissions of Chemical Substances
		Initiatives to Prevent Air and Water Pollution
		Initiatives to Reduce Waste
		Environmental Risk Management
		Environmental Data
	2. Sustainable resource use	Highlight 1: Driving Innovation with the Power of Materials
		Initiatives for Green Innovation Businesses
		Promoting Recycling Initiatives
		Toray Group Distribution Initiatives
		Initiatives to Fight Global Warming
		Initiatives for Managing Water Resources
		Initiatives to Reduce Waste
		Environmental Data
	3. Climate change mitigation and adaptation	Highlight 1: Driving Innovation with the Power of Materials
		Moving Forward with the Green Innovation Business Expansion Project
		Toray Group Distribution Initiatives
		Initiatives to Fight Global Warming
		Environmental Data
4. Protection of the environment, biodiversity and restoration of natural habitats	Biodiversity Initiatives	
Fair operating practices	1. Anti-corruption	Emphasizing Corporate Ethics and Legal Compliance
	2. Responsible political involvement	Emphasizing Corporate Ethics and Legal Compliance
	3. Fair competition	Antitrust Law Compliance
	4. Promoting social responsibility in the value chain	Toray Group's CSR Procurement and Purchasing
		Toray Group Distribution Initiative
		Distribution Safety Initiatives
Communication with Business Partners		
5. Respect for property rights		
	1. Fair marketing, factual and unbiased information and fair contractual practices	

Consumer issues	2. Protecting consumers' health and safety	Initiatives for Product Safety and Quality Assurance
	3. Sustainable consumption	Promoting Life Cycle Management
	4. Consumer service, support, and complaint and dispute resolution	Initiatives for Product Safety and Quality Assurance
	5. Consumer data protection and privacy	
	6. Access to essential services	
	7. Education and awareness	Initiatives for Product Safety and Quality Assurance
	Community involvement and development	1. Community involvement
Communication with Local Communities		
2. Education and culture		Highlight 3: A Single Ball Can Build Bridges between Many People and Communities
		Promoting Science and Technology
		Raising up Future Generations/a>
3. Employment creation and skills development		Highlight 2: Building Businesses with Deep Roots in the Community to Promote Local Development
4. Technology development and access		
5. Wealth and income creation		
6. Health		Contributing to Local Communities and Protecting the Global Environment as a Good Corporate Citizen
7. Social investment		

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