

TORAY Group Social Responsibility

2013

**TORAY**

Innovation by Chemistry

The entire site of "Social Responsibility" as of December 16, 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

Back Number

Dec. 13, 2013

"Activities of TORAY Group" has been updated

Sept. 27, 2013

Toray to Continue with PPO Tennis in 2014 and Onwards

Aug. 26, 2013

Outline of the Toray Pan Pacific Open Tennis Tournament 2013

August 9, 2013 [Republic of Korea]

STEMCO, Ltd. (STEMCO)

National Park Cleanup (June 21, 2013)

August 8, 2013 [China]

Toray Group Companies in Hong Kong and South China

Participating in Organic Life at Leisure (June 16, 2013)

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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



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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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## Safety and Disaster Preparedness

Since 2011, a series of accidents and explosions have occurred at chemical plants in Japan. These accidents have not only been dreadful for local communities, but also had an economic impact by disrupting supply chains. Toray Group's operations were also seriously affected by these supply problems.

Regrettably, Toray Group itself has experienced more fires and near accidents recently. In 2012, the Group saw more of these incidents than in any other year since the Fire Prevention Project started in 1998. In response, we launched a second phase of the project in June 2012. All Toray plants in Japan are now carrying out comprehensive inspections of all ductwork—one of the most common places for industrial fires to start—and an expert taskforce has been set up to conduct onsite inspections of plants thought to be higher risk and review safety best practices from within and outside Toray Group.

At the end of March 2012, Japan's Ministry of Culture, Education, Sports, Science and Technology released its final report on a special project for responding to and minimizing damage in the event of a major earthquake striking directly below the Tokyo metropolitan area. Based on the scenario in the report, in July 2012 Toray carried out its first drills, simulating emergency setup of a company-wide earthquake response headquarters. I participated in these drills, leading meetings at the earthquake response headquarters with personnel in Tokyo and Shiga Prefecture via teleconferencing. Offices and plants in Tokyo and Mishima, Chiba, Tsuchiura, and Kamakura joined the drills, based on a scenario where they also incurred damage. This was a valuable exercise, in that we confirmed that we are prepared to respond immediately to an earthquake and that all systems are in place for confirming the safety of employees and collecting damage reports.

Learning from the drills, we created a new management protocol for the earthquake response headquarters, which also addresses risks from the earthquake projected to occur in the Nankai Trough off Japan's Pacific coast. We will continue to hold regular drills simulating even greater damage to facilities. We are determined to keep improving our earthquake-response measures and business continuity plan in the context of Toray's overall disaster preparedness.

## Top Management Highlights in Fiscal 2012



**April 8 – 11, 2012**  
President Nikkaku visits subsidiaries and affiliates in India and Singapore as well as Toray's representative office in India to meet local employees.



**May 9, 2012**  
President Nikkaku attends the inauguration ceremony for Toray Medical (Qingdao) Co., Ltd., established in June 2011 to manufacture and market dialysis-related equipment in Qingdao, China.



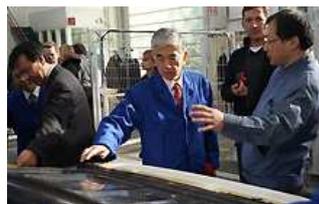
**June 28 – 29, 2012**  
President Nikkaku attends the first stone-laying ceremony for a new carbon fiber plant to be operated by Toray Carbon Fibers Europe S.A. Located in France, the plant is scheduled to begin production in 2014. On the same trip, the president visited the headquarters of Airbus SAS, a partner with which Toray concluded a basic agreement on long-term supply of carbon fiber composite materials in May 2010.



**July 31, 2012**  
President Nikkaku participates in drills setting up a company-wide earthquake response headquarters, based on the scenario of an earthquake striking directly below the Tokyo metropolitan area. The drills demonstrated that Toray's is prepared to establish the headquarters and verified how precisely



**August 8 – 13, 2012**  
President Nikkaku visits Thailand, Bangladesh, and Vietnam. In Thailand, the president followed up on previous visits to production plants damaged by massive flooding in 2011 to check on the progress of repair work and flooding countermeasures.



**October 14 – 16, 2012**  
President Nikkaku travels to Germany to visit Toray International Europe GmbH, a trading company, and Euro Advanced Carbon Fiber Composites GmbH, which manufactures and markets carbon fiber composite materials for automobile parts.



February 17 – 21, 2013  
President Nikkaku travels to Brazil to visit Toray do Brasil Ltda., established in November 2012, where he also met with the Japanese Consulate General and other officials.



March 18 and 20, April 10, 2013  
President Nikkaku attends ceremonies to commemorate Toray's expansion into Southeast Asia 50 years ago in Thailand and 40 years ago in Indonesia and Malaysia, respectively.



April 19, 2013  
President Nikkaku visits Toray Carbon Magic Co., Ltd., which joined Toray Group on April 1, located in Maibara, Shiga Prefecture, Japan. The president inspected the company's facilities for designing and manufacturing carbon fiber composite materials for automobiles and other parts.

## Toray Group today

Toray has been in the materials manufacturing business since its establishment in 1926. Toray has always been driven by a keen focus on advanced research and development. Our management priorities have also remained unchanged: 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 42,584 people at a total of 236 subsidiaries and affiliates—100 in Japan and 136 in 22 other countries and regions around the world. In the fiscal year ended March 31, 2013, Toray Group recorded consolidated net sales of 1,592 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.

Issues concerning the global environment, natural resources and energy are growing more acute by the day. Toray Group is determined to develop businesses that can help to solve these issues—our Green Innovation Businesses—as we strive to grow internationally. This is part of our effort to continually increase revenues and profits. To achieve that, Toray Group is in the process of carrying out the AP-Growth Toray 2020 long-term corporate vision, which started in April 2011 and runs for ten years. For the first three years of this vision through March 2014, we are targeting capital expenditures of 350 billion yen and investing 160 billion yen in new research and development. This will enable us to leverage our R&D strategies of deepening core technologies to ensure continued innovation and strengthening basic research capabilities to ensure we can create new fundamental technologies.

## The goal of sustainable growth

The global economy is finally recovering from the worldwide recession that was triggered by the financial crisis and the symbolic collapse of Lehman Brothers in 2008. Although the economy in Europe continues to stagnate owing to the debt crisis, the shale gas revolution in the United States has the potential to transform the country's economic structure, and continuous growth in China, ASEAN nations and other emerging countries is driving progress in the global economy. Under these conditions, we believe that the best way to ensure sustainable growth is to continue tapping markets around the world by creating products and businesses ahead of the changing trends. At Toray, we are confident that the technological capabilities we have built up over the years and our cutting-edge research will enable us to succeed.

Along with economic development, solutions to environmental issues and other global-scale challenges facing humanity will be essential for the international community to grow on a sustainable path. Likewise, corporations that can continuously grow while helping solve the pressing problems of the age with their products and businesses will be the ones that earn sustainable growth. This means that, while we vigorously pursue our growth strategy, we also recognize that sustainable business development requires all employees and workplaces to practice corporate social responsibility (CSR). This is why we are re-emphasizing Toray's long-standing commitment to safety, accident prevention, environmental preservation, corporate ethics and legal compliance throughout the Group.

This "Social Responsibility" section of our English website presents an in-depth report on the results of Toray Group's CSR-related initiatives in fiscal 2012, and explains the policies and objectives that underpin these activities. I warmly invite all Toray stakeholders to make the most of this information to find out more about our approach to CSR.

August 2013



## Toray Group's Corporate Social Responsibility

Toray Group established the CSR Committee in 2003, which is regarded as the inaugural year of promoting corporate social responsibility in Japan. In the following year, the committee formulated CSR Guidelines to provide a basis for deciding on tasks and goals for the Group to pursue. Accordingly, Toray Group has been pursuing "CSR Guideline activities" together with "CSR line activities." These two kinds of activities have become an integral part of Toray Group's corporate culture, and they are now systematically implemented under management policies set in the Project AP-G 2013 medium-term management program, as well as the Group's Fourth CSR Road Map.

In recent years, issues involving corporations have become increasingly diverse, so an accurate grasp of these issues is needed to raise awareness of associated risks. In that light, promoting corporate social responsibility is extremely important. Every one of our employees must undertake day-to-day tasks with a keen sense of CSR, and work toward our shared vision. This is the key to our ability to offer solutions to social problems and expand business in emerging countries responsibly to assist and accompany their growth.

As senior vice president in charge of CSR activities, I am making every effort to propose strategic, group-wide CSR initiatives in order to help build a more sustainable world and achieving continuous growth for Toray Group.

### 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 groups of stakeholders—customers, employees, shareholders, and society as a whole—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 underpins the Management Philosophy and serves as a specific guide on appropriate behavior for all employees.

#### Related information

- › [Corporate Philosophy](#)
- › [Corporate Missions](#)
- › [Corporate Guiding Principles](#)

### Toray's Group's CSR Framework

Toray Group established the CSR Committee in 2003 and formulated its First CSR Road Map as a three-year plan. The CSR Guidelines were drawn up in the following year to provide a framework for precisely responding to a wide spectrum of requests from the public. The Group set the stage for more proactive initiatives in 2007 with the establishment of the CSR Operations Department and the position of director in charge of CSR activities.

The Toray Group CSR Guidelines consist of ten items that clearly define the scope of CSR activities for the Group to pursue. These items cover activities aimed at reducing environmental impact already outlined and promoted under the Ten Basic Environmental Rules, as well as other key issues concerning social responsibility.

#### Items in the Toray Group CSR Guidelines

1. Corporate Governance and Management Transparency
2. Corporate Ethics and Legal Compliance
3. Safety, Accident Prevention, and Environmental Preservation
4. Product Safety and Quality
5. Risk Management
6. Communication
7. Green Innovation Businesses
8. Train Personnel and Promote Human Rights
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10. Social Contribution Activities

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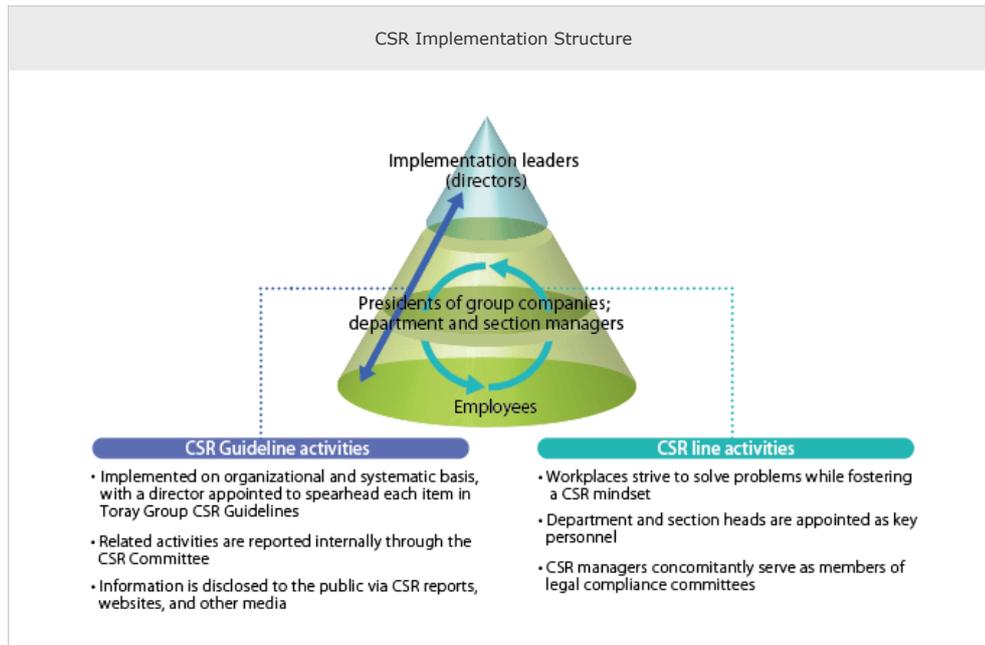
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## Promoting CSR Through Parallel Activities

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 intended to raise awareness of corporate social responsibility and promote solutions to related issues through voluntary initiatives proposed by any employee at the Group’s worksites, led by section and department managers appointed as key personnel. These activities are being implemented at all group companies in Japan, and Toray is expanding the activities to group companies outside the country, tailoring them to suit local circumstances. In fiscal 2012, Toray Group stepped up these efforts and encouraged employees to embrace them by sharing best practices corresponding to each item in the CSR Guidelines throughout the Group.



### 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

Under the Fourth CSR Road Map, launched in fiscal 2011, Toray Group is working to ensure further alignment in group-wide management strategies. The Company has changed the road map goals from an annual basis to a three-year term in tandem with Project AP-G 2013 medium-term management program and has specified numerical targets for key performance indicators corresponding to each item in the CSR Guidelines. The goals also take into consideration the ISO 26000 international guidance standards for social responsibility.

## Progress on Key Performance Indicators in Fiscal 2012

Toray Group made steady progress in carrying out the Fourth CSR Road Map according to overall plans in fiscal 2012. The Group achieved almost all of the targets under its key performance indicators. Looking ahead, the Group intends to intensify its efforts by taking special measures on every designated item to ensure targets are achieved by the end

**Related Information**

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

## CSR Guidelines

<b>FY2013</b>	FY2012	FY2011
---------------	--------	--------

CSR Road Map and KPI

Adopted December 2004 and revised June 2012

[View All details](#)

### 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.

#### 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.

### 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.

#### 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.

### 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.

#### 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.

### 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.

#### Road Map (FY2011-2013)

- (1) Achieve zero product accidents.

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(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.

## **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.

### **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.

## **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.

### **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.

## **7. 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 Industries, Inc.

## **8. 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.

## **9. 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**

Takashi Kato  
General Manager, Purchasing & Logistics Division, Toray Industries, Inc.

**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.

**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.

## 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: To provide new value to our customers through high-quality products and superior services				
<b>7. Green Innovation Businesses</b> 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 2012		
		Fiscal 2012 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) 450 billion yen (2) Once per year	(1) 450.4 billion yen (2) Held once	○ ○
<b>4. Product Safety and Quality</b> 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 2012		
		Fiscal 2012 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) 80% of the fiscal 2010 level	(1) 1 product defect (2) 83% of the fiscal 2010 level	× △
<b>9. CSR Procurement</b> 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 2012		
		Fiscal 2012 targets	Results	Degree of success
(1) Ratio of principal suppliers and subcontractors participating in CSR				

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procurement (Toray)				
(2) Ratio of subsidiaries and affiliates that have implemented the CSR procurement system (Toray Group companies in Japan)	(1) 90% or more	(1) N.A. (Once every 2 years)	(1) N.A. (Once every 2 years)	N.A.
(3) Ratio of responses to CSR procurement survey requests from corporate customers (Toray)	(2) 100%	(2) 76% of companies	(2) 55% of companies	△
(4) Ratio of modal shift to sea or rail for transport across distances for 500 km or more (Toray)	(3) 100%	(3) 100%	(3) 100%	○
	(4) 30%	(4) 25%	(4) 25%	○

### For Our Employees:

#### To provide our 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 2012		
		Fiscal 2012 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 companies 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 (29 of 29) (3) No numerical target determined (4) No numerical target determined (5) No numerical target determined (6) At least once per year	(1) 3.90% (2) 55.2% of companies (16 of 29) (3) 87.6% (4) 79,682 yen (5) 248 employees (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 2012		
		Fiscal 2012 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) 0.15 (2) 0 accidents (3) 95.8%	x ○ △

### For Our Shareholders:

#### To provide 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 2012		
		Fiscal 2012 targets	Results	Degree of success
(1) Percentage of matters subject to disclosure requirements that are disclosed via website (Toray) (2) Number/ratio of subsidiaries/affiliates performing CSR training (Toray Group) (3) Number of meetings of the CSR Committee (Toray)	(1) 90% (2) 100% (3) At least twice per year	(1) 88% (2) 80% of companies (3) At least twice per year	(1) 89% (2) 96% (95 companies) (3) Held twice	○ ○ ○

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 2012		
		Fiscal 2012 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 34 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 2012		
		Fiscal 2012 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	(1) 100% (2) No numerical target determined (3) 50% of the fiscal 2010 level (4) 100% (5) At least twice per year	(1) 90% (2) No numerical target determined (3) 65% of the fiscal 2010 level (4) 100% (5) At least twice per year	(1) 100% (2) 8 companies (3) 128% of the fiscal 2010 level (4) 86% (5) Held twice	○ N.A. △ △ ○

**For Society:****To establish 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 2012		
		Fiscal 2012 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) (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)	(1) 3 million page views per month on average (2) Once every 2 years (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	(1) 2.8 million page views per month on average (2) N.A. (3) N.A. (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	(1) 3 million page views per month on average (2) N.A. (Conducted in fiscal 2011) (3) N.A. (Conducted in fiscal 2011) (4) Held 13 meetings (5) Held 89 meetings (6) Participated in 209 events (7) Received 694 enquiries (8) Received 374 enquiries (9) Held twice	○ N.A. N.A. N.A. N.A. N.A. N.A. ○

**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 2012		
		Fiscal 2012 targets	Results	Degree of success
(1) Social contribution expenditure (Toray Group) (2) Number of science education activities, and institutions provided with educational materials (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) 40 or more	(1) 1.23% of consolidated ordinary income (2) 41	○ ○

**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 2012		
		Fiscal 2012 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) 85% 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) 71% reduction (2) 96.9% of improvements (3) 90% of waste recycled (4) 14% reduction (5) 0 activities implemented (6) 512 suppliers	N.A. △ N.A. ○ N.A. N.A.

## 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
	2000	Three-Year Environmental Plan started, Ten Basic Environmental Rules adopted
		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
	1991	Global Environment Committee and Product Safety Committee established
		Industrial Waste Reduction Project started
Admitted into Keidanren's 1% Club	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 Hatto* express the sensation of shock after near accidents.

## External Commendations

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 impact and provide solutions for customer issues.

■ 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.

■ 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.

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## Moving Forward with the Green Innovation Business Expansion Project

Under the leadership of the company president, all of Toray Group's business divisions are focusing their efforts on the Green Innovation Business Expansion Project, which is one of the business expansion strategies in growth business fields under the Project AP-G 2013 medium-term management program.

### 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	Main products
1. Energy-Saving	Products that reduce the energy consumed during their product life cycle	Carbon fibers for automobiles, aircrafts, and compressor tanks; cooling and insulating micro fibers
2. New Energy	Any parts, materials, and technologies used in industries relating to new energy	Solar panel backsheets, separators for lithium ion batteries
3. Biomass-Derived	Products derived from non-petroleum raw materials	Bio-based PET; 3GT fibers; polylactic acid for textiles, plastics, and film
4. Water treatment	Parts, devices, and systems, etc. used in water treatment	Reverse osmosis (RO), ultrafiltration (UF) and microfiltration (MF) membranes; TORAYVINO® home-use water filter
5. Air purification	Parts, devices, and systems, etc. used in air purification	Dust collector filters and air filters
6. Low environmental impact	Products that control the emissions or use of hazardous substances	Non-halogen flame retardants for fibers, textiles, plastics, and films; TORAY WATERLESS PLATE
7. Recycling	Products made from recycled materials or featuring a recyclable design	Reusable and recyclable products; material and chemical recycling technologies
8. Process innovation	Innovative manufacturing technology that greatly reduces the environmental impact of an existing process	Chemical processes that reduce gas emissions

### Green Innovation Business Targets and Fiscal 2012 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 450.4 billion yen in fiscal 2012, surpassing the target of 450 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 36 million tons\*<sup>1</sup> from 32 million tons in the previous fiscal year.

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

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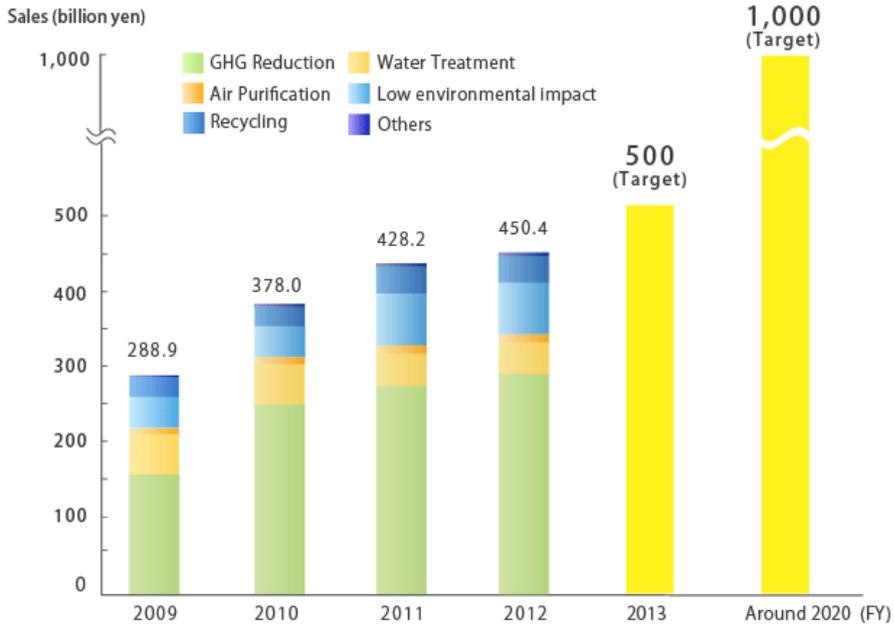
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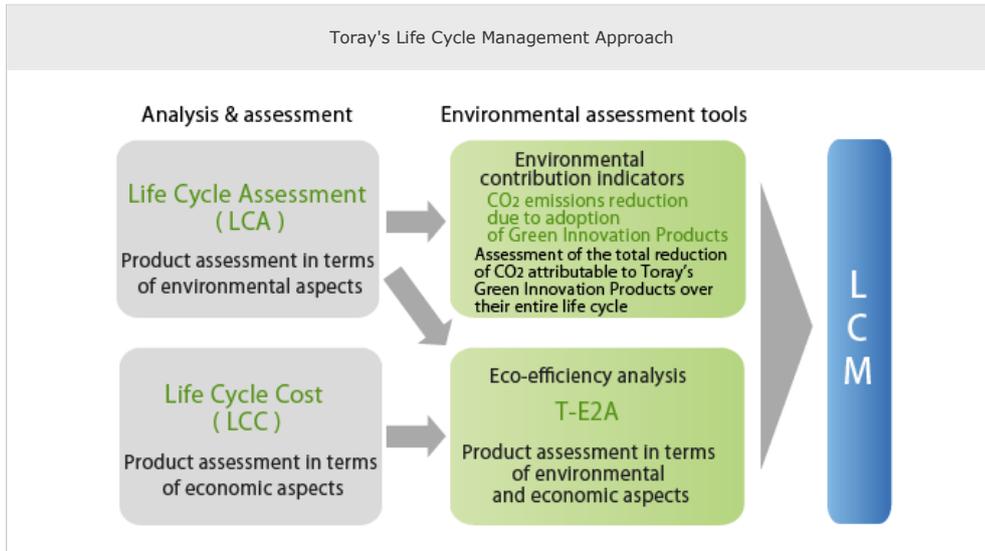
## Promoting Life Cycle Management

Toray Group implements environmentally responsible management considering the entire produce life cycle. The Group considers the entire life cycle of products and services in all business activities with the aim of reducing its 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\*<sup>1</sup> methods and the Toray Eco-Efficiency Analysis (T-E2A) tool,\*<sup>2</sup> and is working to entrench and promote them throughout its business activities.

\*1: Life Cycle Assessment is a method for quantitatively assessing the resources that have gone into a product and the impact the product will have on the environment and ecosystems over its life cycle.

\*2: T-E2A is an environmental analysis tool developed by Toray. It produces a map of multiple products plotted along the axes of environmental impact and economic performance, enabling users to select the most environmentally friendly and economical products.



In June 2012, Toray and the Japan Environmental Management Association for Industry announced that they had fully integrated the T-E2A tool and Multiple Interface Life Cycle Assessment (MiLCA) software, developed and utilized by Toray and the association, respectively. Reporting on this progress, in March 2013 Toray gave a keynote speech at the 8th Meeting of the Institute of Life Cycle Assessment, Japan, and won praise for these efforts from participants. In addition, Toray has been actively involved in the Japan Chemical Industry Association's production of guidelines for calculating the CO<sub>2</sub> reduction amounts attributable to LCM-based environmental management initiatives. The association published the Japanese edition of the guidelines in February 2012 and is currently preparing a version for international use, scheduled for completion in 2013.

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## Approach to Green Innovation Product Sector

The following diagram outlines the Toray Group process and procedures for certifying Green Innovation Products. Products are subjected to a two-stage screening process conducted by the divisional committees of group companies and by the group-wide Green Innovation Certification Committee. Those able to demonstrate objective evidence of effectiveness are certified as Green Innovation Products.



### Green Innovation Products Newly Certified in Fiscal 2012

#### Energy-saving

##### AMILAN® BK black nylon yarn

Since the material is colored black in an earlier process, no energy is needed for a conventional dyeing method. That also means that no dyed wastewater is generated.

Tights made with AMILAN® BK



#### Energy-saving /low environmental impact

##### Halogen-free, flame-retardant, high fluid retention nylon resin

For this resin, Toray combined special branched polymers to improve fluid retention, thereby enabling molding processes at low temperature, which, in turn, reduces energy consumption. Furthermore, since the resin is made with halogen-free flame-retardants, no harmful substances are emitted when it is incinerated.

#### Biomass-derived

##### Partially bio-based spunbond non-woven fabric

Biomass-derived polyethylene is used for a portion of the composite fiber polyethylene in this non-woven fabric. The fabric is used for sanitary materials such as disposable diapers.

#### Low environmental impact

##### Halogen-free, flame-retardant, low-halogen dyed artificial leather

Applications for this artificial leather include automobile interiors and covers for handheld devices. It is made using flame-retardant processing agents containing no halogen, and stained using dyes made with limited amounts of halogen. As a result, fewer harmful substances are emitted if the material is incinerated.

### Green Innovation Products at the Development Stage

Toray Group carries out a broad spectrum of research and development to create new Green Innovation Products. The outcomes of these R&D efforts in fiscal 2012 are described below.

#### Biodegradable Microporous Film

Toray succeeded in developing a biodegradable micro-porous polylactic acid film that has excellent moisture permeability and waterproof properties. While moisture permeable and water-repellent films are used in a wide range of applications in agriculture, healthcare, and other products, biodegradable products have been needed

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as a means to cut down on waste generation. In response, Toray successfully developed technologies for creating microscopic pores in biodegradable polylactic acid film by employing a highly productive drying method, which had been seen as a difficult technical challenge.

#### **Polymerized Bio-Based Polybutylene Terephthalate**

Toray has been working in partnership with Genomatica, Inc., a leading US company in renewable chemical process technology located in San Diego, California. Through this partnership, Toray has successfully polymerized partially bio-based polybutylene terephthalate (PBT) using 1,4-butanediol (BDO) made with Genomatica's bio-based process technology in small-volume trial production. Furthermore, Toray succeeded in making prototypes of molded components using the partially bio-based PBT.



Molded components made using partially bio-based PBT

#### **Participating in the Tahara Solar/Wind Electricity Generation Cooperative Operation**

Toray is participating in the Tahara Solar/Wind Electricity Generation Cooperative Operation, a project to build Japan's largest solar and wind power generation facility. Construction commenced in 2012, and operations are planned to begin in October 2014. Participating companies are aiming to make technological advances by exchanging technical know-how and information on challenges they will face over the long-term management of the facility. Power will be generated using solar cells made with Toray's materials. By participating in the project, Toray expects to acquire technical knowledge and feedback on its technological development.



Architect's rendering

## Promoting Recycling Initiatives

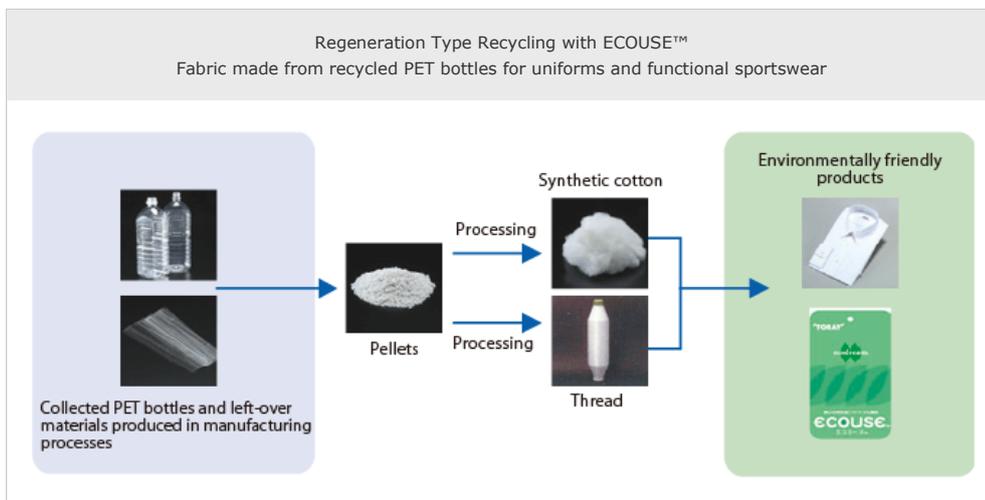
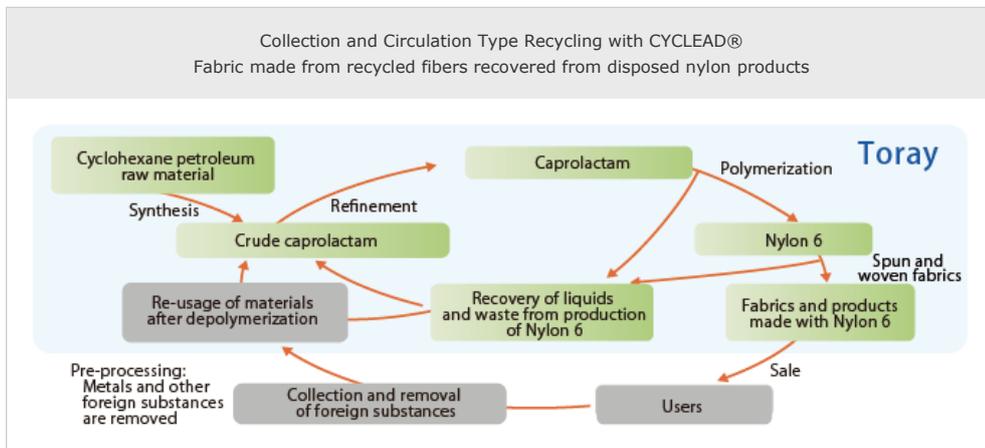
As a manufacturer of a wide range of materials, Toray Group is promoting various recycling initiatives that ensure that the earth's precious resources are efficiently utilized.

### 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.

### Fiber and Textile Recycling

Pursuing recycling of fibers and textiles, Toray Group has developed two brands—CYCLEAD® and ECOUSE™—of nylon 6 and polyester fibers that are produced using recycled materials.



### Resin Recycling

In accordance with Japan's Home Appliance Recycling Law, and in cooperation with customers, Toray practices closed-loop material recycling by taking the fans from discarded home air conditioners and reusing them to produce new air conditioner fans. Moreover, the Group is producing various products by reusing pre-consumer materials derived from manufacturing processes as well as post-consumer materials derived from discarded PET bottles and other items.

Reusing PET Materials

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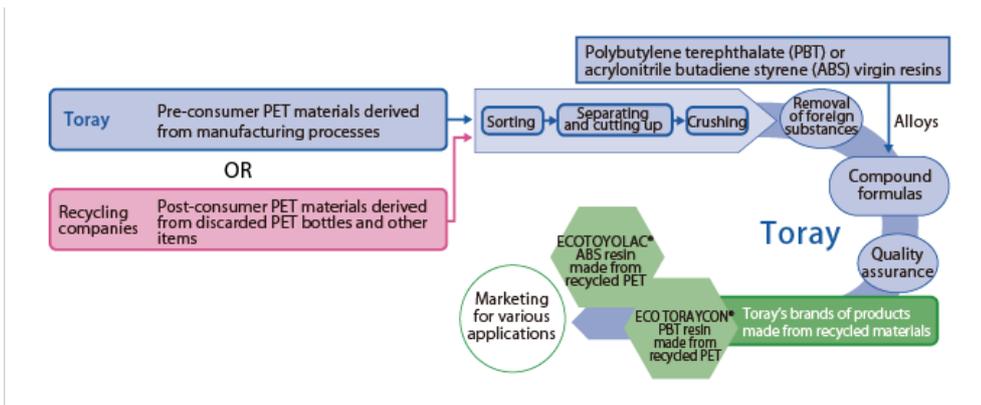
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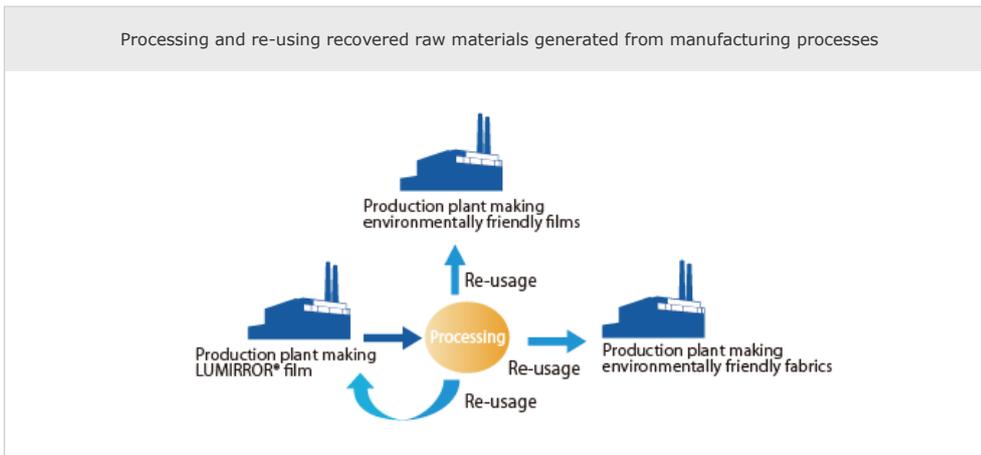
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## Film Recycling

Toray is recovering and processing raw materials used to make its LUMIRROR® optical-use PET film and re-using them to produce environmentally friendly films and fabric products.



## Carbon Fiber Recycling

Carbon fiber is an advanced material that can contribute to solving global environmental issues, and its applications are expanding in the transportation, energy, and other industries. Recently, recycling of carbon fiber and carbon fiber reinforced plastic (CFRP) is in the spotlight.

In this context, Toray, Toho Tenex Co., Ltd., and Mitsubishi Rayon Co., Ltd. have established a Consortium for Carbon Fiber Recycling Technology Development through a joint investment. The consortium has taken over a pilot recycling plant in the city of Omuta, Fukuoka Prefecture, from the Japan Carbon Fiber Manufacturers Association, and is proceeding to develop recycling technologies for future industrial use.

## Product Safety and Quality

### 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. As a result of ongoing activities, a number of business segments and group companies accomplished their tasks in fiscal 2012. 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.

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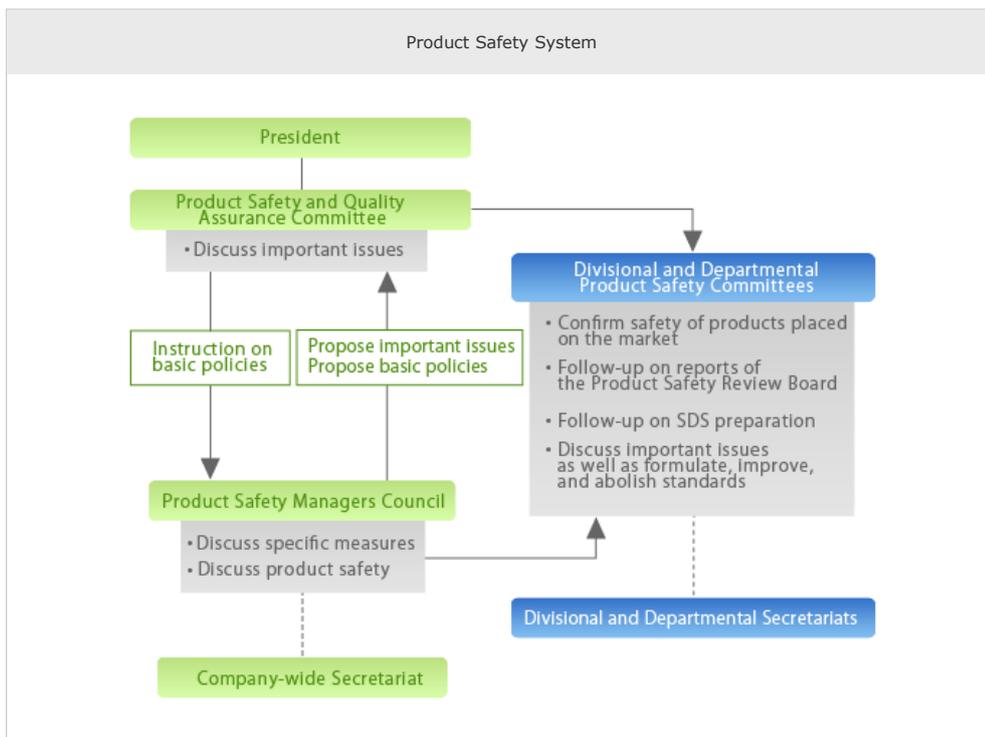
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## Initiatives for Product Safety

### 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.

Toray established a group-wide system in fiscal 2011 for standardizing and analyzing data concerning the occurrences of accidents involving its products and the progress of product safety reviews. The system is now in place at group companies in Japan and other countries.



### A Stronger Product Safety Review System

Toray Group always inspects the safety of the products it provides. Under its 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 safety data sheets (SDS),\*1 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.

\*1: Safety data sheets are a means of ensuring international standards for sharing safety-related information. In March 2012, the relevant Japanese Industrial Standard (JIS) was revised to comply with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS). While the revised JIS does not go into full effect until 2017, Toray Group has been progressively adopting the new standards in its SDS since fiscal 2012.

Product Safety Review Flow Chart

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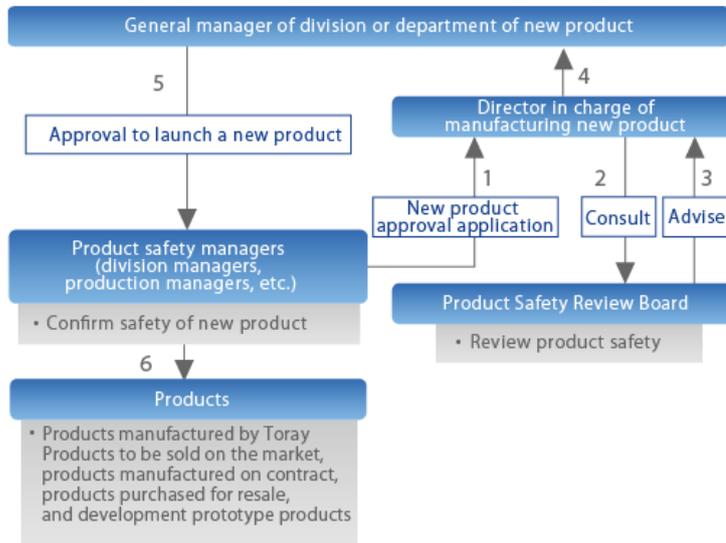
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### Product Safety Education and Training

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 group companies 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 group companies outside Japan, relevant divisions at Toray provide assistance in product safety training to help improve education and training.

### Responding to an Accident Caused by Product Failure

In fiscal 2012, one accident was reported related to a volleyball net pole made from carbon fiber manufactured and sold by Toray. A volleyball player suffered a broken arm after the attached net winder handle suddenly spun backwards when the player was winding the net wire to extend the net. The cause of the accident was that the part designed to prevent the net winder from reversing had become worn down with age. A notice was sent to all customers using the product, requesting them to stop using the net winder if the part was worn and to exchange the product at the store where it was originally purchased. Customers also received a revised instruction manual and an updated product information sticker.

### 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

- [Respecting the Eight Basic Consumer Rights](#)

## 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. In fiscal 2012, Toray took steps to confirm that this system was being implemented properly.

Group companies in and outside Japan also worked to set up a full-fledged framework for quality assurance initiatives by no later than fiscal 2011. In fiscal 2012, under the goal of improving the framework, Toray undertook a detailed study of quality assurance systems and routine quality assurance activities at these companies, and provided recommendations for how to enhance such activities to the companies that needed improvement.

#### VOICE

Working hard to maintain and improve our quality assurance system with the goal to be the top company in China's water treatment membrane industry

Toray BlueStar Membrane manufactures and sells reverse osmosis membrane products used to filter out impurities, including ions, from water. As manager of the Product Quality Assurance Section, I am responsible for our quality assurance operations.

Nowadays, water resource shortages are occurring in more and more places here in China as well as other countries around the world. Good quality water is essential not only for our daily lives, but also for industrial use in large quantities in many countries.

At the same time, there is growing concern around the world about serious environmental impact from industrial wastewater and other types of polluted water. The public expects water quality to be improved, and cutting-edge technologies like our reverse osmosis membranes can meet this need, even helping to recover and reuse wastewater.

Toray BlueStar Membrane is a fairly new company that began manufacturing in 2011. I have been at the forefront of setting up systems for quality assurance and other matters since the manufacturing preparation stage. In November 2011, the company acquired ISO 9001 certification for quality management systems, ISO 14001 certification for environmental management systems, and GB/T28001 certification, China's national standard for occupational health and safety management systems.

Our company aims to be the number-one company in China's water treatment membrane industry, helping to solve the country's water and environmental problems. In accordance with this goal, I will work hard to maintain and improve our quality assurance system.



**Jing Yuhui**  
Manager, Product Quality Assurance Section, Beijing Plant, Toray BlueStar Membrane Co., Ltd.

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## 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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## 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 (Revised in December 2004)

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 (Adopted in December 2004)

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 surveys its suppliers to determine the status of their CSR initiatives. After collecting and analyzing their replies, 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.

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**Surveying Suppliers about CSR**

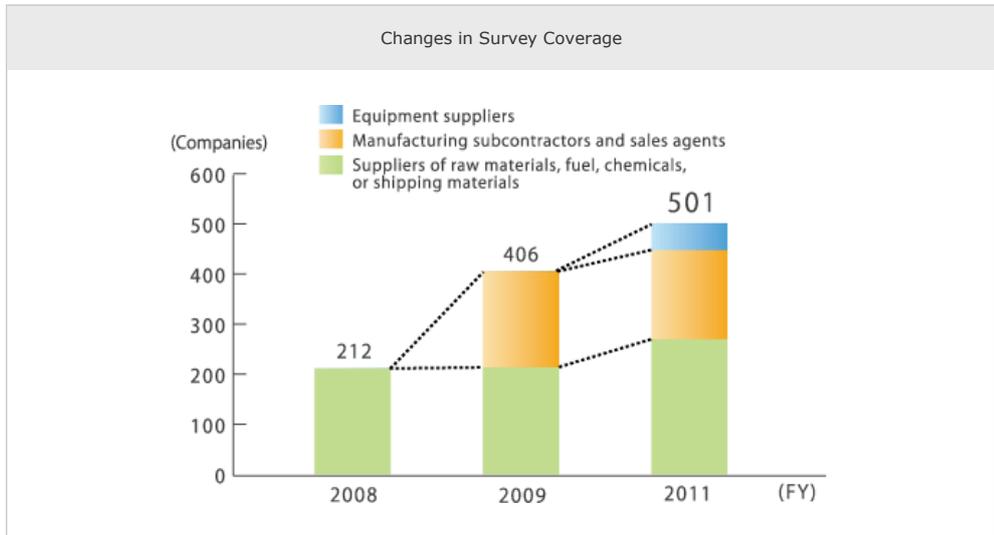
As a general rule, every two years Toray surveys its principal suppliers, manufacturing subcontractors, and sales agents, which together account for about 90% of the Company’s total purchases, to verify their commitment to CSR. Through fiscal 2009, the survey covered suppliers of shipping materials and raw materials used in product manufacturing processes. Its scope was expanded to include main equipment manufacturers in fiscal 2011. As a result, the survey is now sent to a total of 501 supplier companies.

The survey was designed to check the status of CSR initiatives in reference to Toray’s CSR Procurement Guidelines at all of these companies. In fiscal 2011, Toray included new items to identify each supplier’s awareness of biodiversity protection, a topic which has been attracting attention in recent years, as well as to check for any 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, Republic of Congo, 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.

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

✓ : Covered by the survey

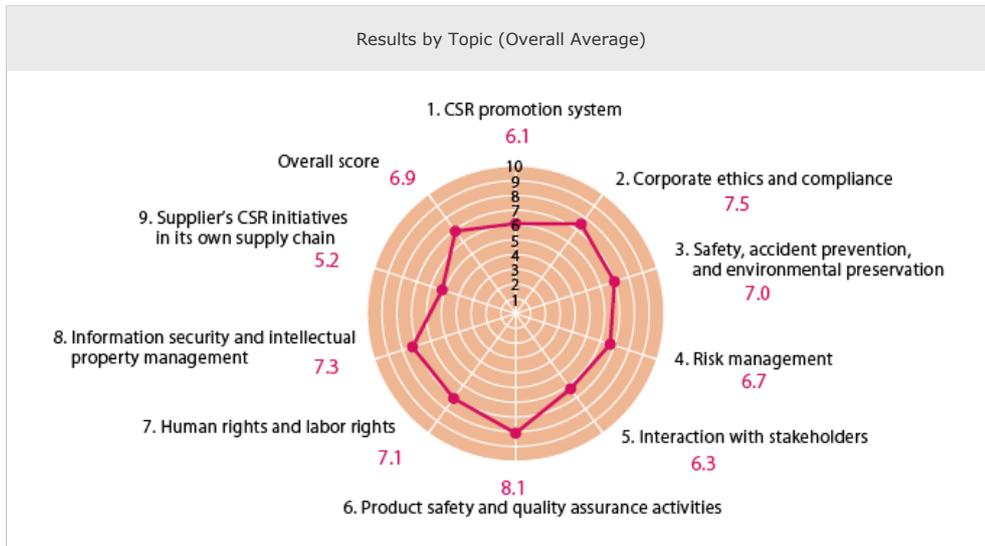


**Analysis of the Survey Results**

An analysis of the results of the survey conducted in fiscal 2011 showed that 82% (total of “excellent,” “very good,” and “good” in the chart below) of respondents had made progress in CSR enough to build a sound partnership with Toray. Only 18% (total of “fair” and “needs improvement” in the chart below) of companies were considered to



Results of the survey by topic are shown in the chart below. The survey covered a total of nine topics, including all eight items specified in Toray’s CSR Procurement Guidelines, as well as an additional ninth item concerning the supplier’s CSR initiatives in its own supply chain. Evaluations were rated according to a 10-point scale. The highest average score was 8.1 for the extent of product safety and quality assurance, while the lowest score was 5.2 for the existence of CSR initiatives in supplier supply chains.



Toray provided all companies responding to the survey with an analysis of the survey evaluation results. When providing this feedback, Toray distributed its CSR Procurement Guidebook in an effort to promote a fuller understanding of CSR activities across Toray Group’s entire supply chain. The Company also requested each respondent to continue carrying out ongoing CSR activities.

Revised in fiscal 2012, the Guidebook contains Toray’s expectations for suppliers in relation to CSR procurement, as well as useful information about high-profile topics including ISO 26000 standards, preservation of biodiversity, and information disclosure related to conflict minerals, in order to improve the level of understanding across the supply chain. The section on preserving biodiversity in particular includes the Toray Group Biodiversity Initiatives, established in 2010, and lays out the fundamental approach to biodiversity and action guidelines that Toray expects its suppliers to follow.

**Related Information**

- [Biodiversity Initiatives](#)

**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, revised and renewed. Furthermore, Toray requests that its existing suppliers make a written pledge to uphold these CSR-related provisions.

\*2: Fiber Frontier Co., Ltd., was established as a joint venture with several synthetic fiber companies to administer membership-based E-commerce websites.

**Measures against Conflict Minerals**

In August 2012, legislation in the United States was adopted requiring companies registered with the Securities and Exchange Commission to disclose their usage of conflict minerals. This does not directly apply to Toray since the Company is not registered with the commission. Nevertheless, Toray conducted a concurrent in-house survey to determine whether or not conflict materials are entering its supply chain and eventually being used in Toray products. In cases where those kinds of minerals are being used, Toray is requesting suppliers to complete detailed questionnaires to confirm the location of the mines and smelter sites.

### Holding CSR Procurement Seminars for Group Companies in Japan

In the same manner as Toray, subsidiaries and affiliates in Japan have put CSR procurement rules in place and follow them accordingly. Toray holds seminars on the promotion of CSR procurement with a view to help each of these companies make further progress in their CSR activities. Thirty-six group companies in Japan participated in the seminars in fiscal 2012. In addition to providing training on the basics of CSR, the seminars explained how CSR procurement can progress through action plans. By raising awareness of CSR procurement promotion at each of the participating companies, Toray is aiming to make advances in CSR procurement group-wide.



CSR procurement seminar for group companies in Japan

### Promoting CSR Procurement Initiatives at Group Companies outside Japan

Every year, regional representatives of subsidiaries and affiliates outside Japan gather in a meeting to share information on general CSR-related issues and report on CSR procurement activities. The participants are making progress toward establishing a framework for promoting CSR procurement across the entire Toray Group.

Overview of Plans for CSR Procurement Initiatives	
	Future plans
Toray	<ul style="list-style-type: none"> <li>• Determine the status of suppliers' progress in CSR</li> <li>• Conduct meetings and onsite inspections of suppliers that do not meet set standards</li> </ul>
Group companies in Japan	<ul style="list-style-type: none"> <li>• Expand CSR procurement activities and initiatives</li> <li>• Determine the status of suppliers' progress in CSR</li> </ul>
Group companies outside Japan	Establish a CSR procurement framework

## Toray Group Distribution Initiatives

Toray's Basic Distribution Policies emphasize 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 (Adopted in December 2004)

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 900 tons in fiscal 2012 by promoting a modal shift to alleviate the impact of its transport activities on the environment, and by 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 2012 amounted to approximately 29,000 tons, about 4% below the level in fiscal 2011.

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 1% in fiscal 2013 compared to fiscal 2011.

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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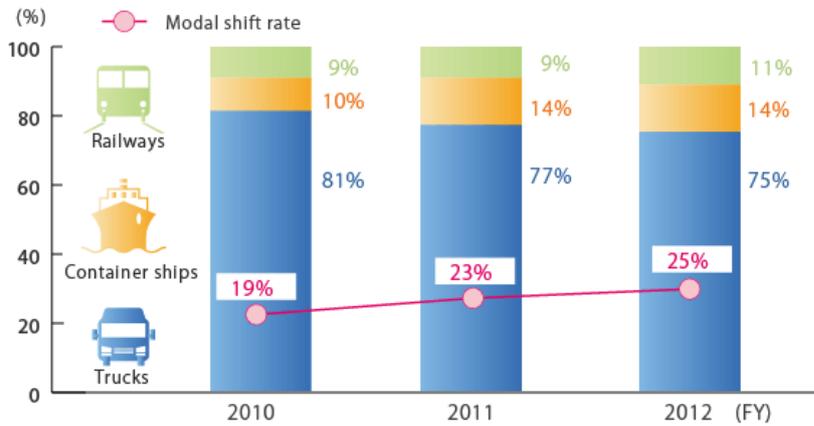
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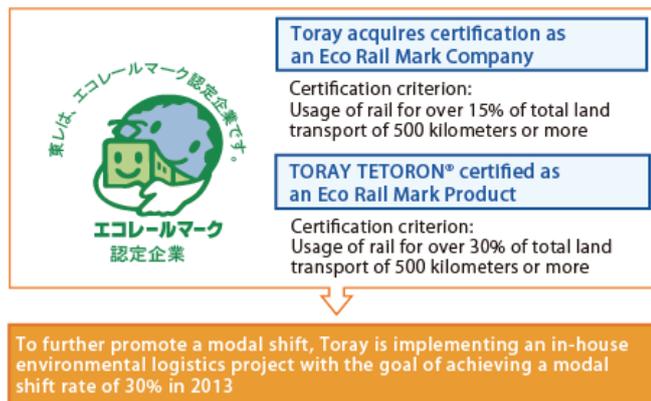
## Eco Rail Mark Acquisition

In March 2011, 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, aiming to achieve a modal shift rate of 30% on a weight basis in fiscal 2013. To achieve this, Toray will change the specifications of its flexible containers to improve the loading ratio of rail transport. Toray will continue to pursue the switch to rail transport.

Breakdown of Toray's Transport Usage and Modal Shift Rate (Toray)



Promoting a Modal Shift



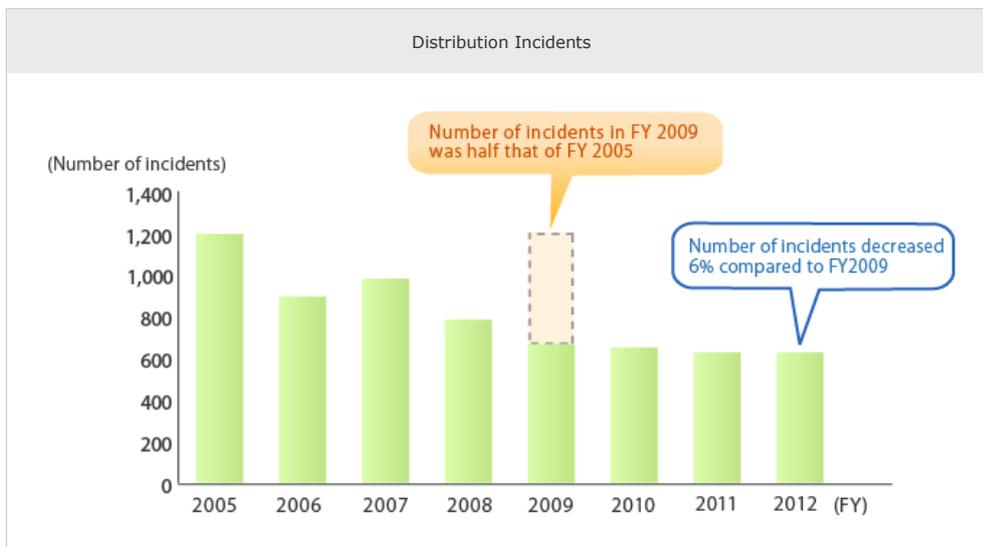
## Initiatives to Improve Safety in Distribution

### 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 reducing by half 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 Company is also carrying out new initiatives, such as issuing accident analysis reports, providing an E-mail magazine, and distributing a video about improving transport and warehousing operations. As a result of these efforts, the number of these problems has continued to decline each year, and it has consistently remained below the fiscal 2009 level.

In addition, each year Toray presents awards to its distribution partners in recognition of their significant contributions to quality improvement. Eight companies\*<sup>1</sup> were given awards in fiscal 2012.

\*1 : Distribution-partner companies receiving awards in fiscal 2012 (alphabetical order):  
Daisei Warehousing & Transportation Co., Ltd., Enshu Truck Co., Ltd., Ichimiya Logistics Co., Ltd., Iyoshoun Co., Ltd., Japan Transcity Corporation, Meiko Trans Co., Ltd., Nagaoka Sangyou Co., Ltd., Okudakazu Co., Ltd.



### Safety and Energy Conservation Initiatives

Toray is encouraging its distribution partners to install digital tachographs in their vehicles to help them conserve energy and achieve safer operations as shipping companies. 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 have improved their drivers' skills, raised safety awareness, prevented dangerous driving habits, reduced the number of accidents, and improved mileage via more fuel-efficient driving.

### Yellow Card Emergency Response Measures

Drivers of shipping vehicles carry a yellow card\*<sup>2</sup> 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: 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

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 the 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.

\*3: 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

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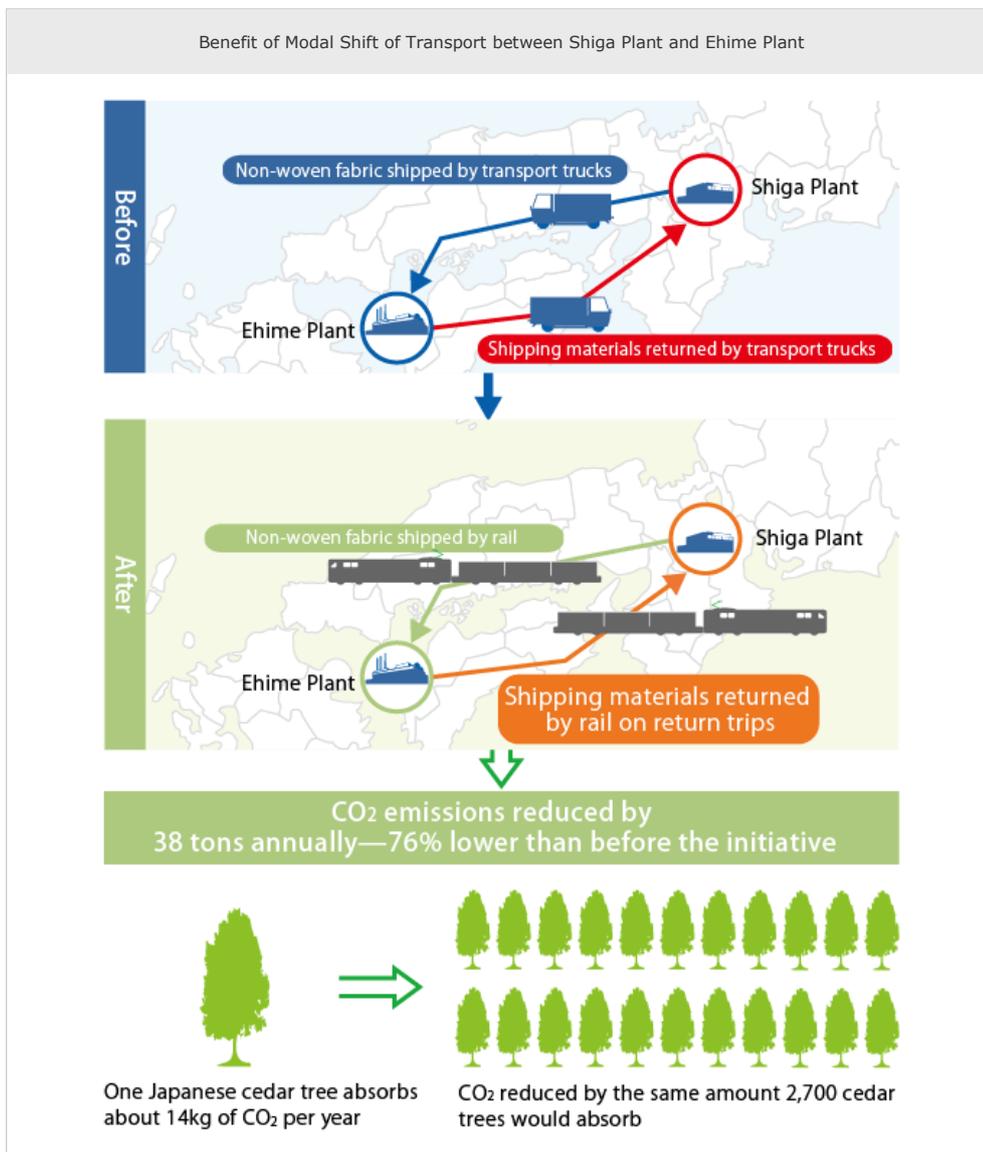
importing goods into the US.  
\*4: A status implemented by the EU in December 2006 that gives priority in customs procedures to importers and exporters with a high level of compliance for cargo security. The Japanese Customs Act was also revised in 2007, and a similar qualification system was established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

## Environmentally Friendly Distribution

Toray is proactively pursuing environmentally friendly distribution. Major initiatives are shown below.

### Implementing a Modal Shift between Plants

In the past, Toray used transport trucks to ship its AXTAR® non-woven fabric from the Shiga Plant in Shiga Prefecture, to the Ehime Plant in Ehime Prefecture. Metal frames and other shipping materials were then returned to the Shiga Plant by truck. Recently, however, Toray has implemented a modal shift to rail transport for both directions on this route, utilizing Japan Rail freight trains as a means to effectively save a significant amount of energy and reduce costs. In Japan, rail transport is considered more cost effective than truck transport for distances over 500 kilometers. While the distance between the Shiga and Ehime plants is about 400 kilometers, Toray made rail transport more cost effective by taking advantage of the return trips by freight trains for daily shipments from the Ehime Plant bound for the Kanto region. As a result of this initiative, CO<sub>2</sub> emissions have been decreased by 38 tons annually, a reduction of 76% compared to the previous method of truck transport.



### Making Loading Rates More Efficient

Toray's Shiga Plant increased the loading rate of some of the film products it ships from its location by over 40%. This was accomplished by installing a raised platform inside transport trucks to enable two tiers of loaded items. The plant previously transported goods on a single deck inside each truck to prevent potential damage. Through this new initiative, the Shiga Plant has reduced the number of its delivery trips by 30% and decreased CO<sub>2</sub> emissions by about the same amount compared to previous levels.

New Shipping Equipment Improves Loading Rate at Toray's Shiga Plant

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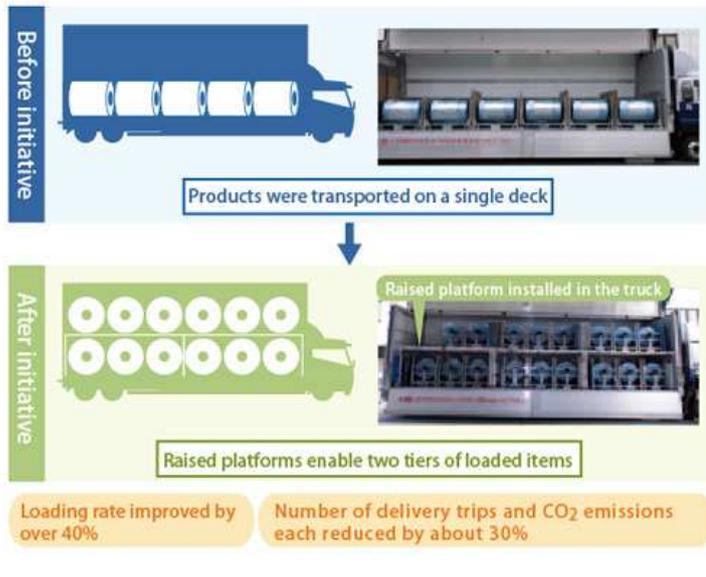
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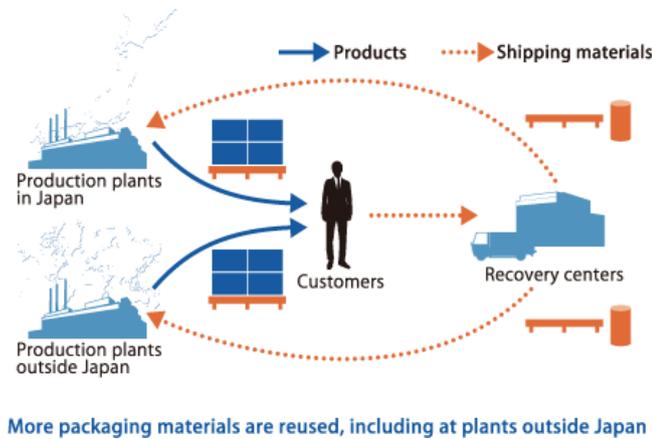


### Expanded Collection and Reuse of Packaging Materials

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.

Furthermore, Toray promotes efficient reuse of packaging materials within the Group. The Company has set up a computer bulletin board system for its group companies in Japan to post information on their unneeded or surplus shipping materials.

Toray's System for Reusing Shipping Materials



Toray Group's Bulletin Board System for Sharing Surplus Shipping Materials





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**

All Toray Group employees are striving to eliminate worksite accidents by "thinking carefully before taking action."

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## Committed to Human Rights

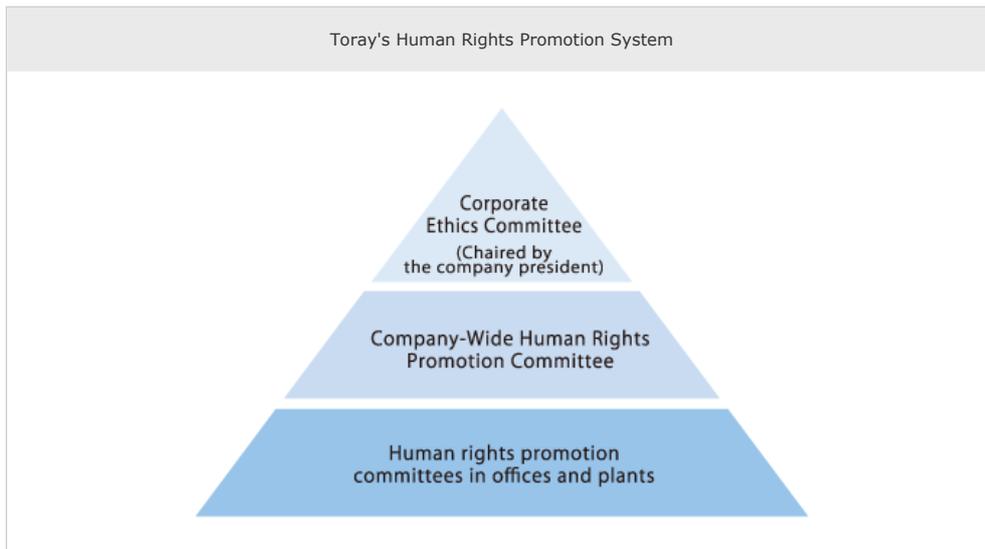
Toray Group believes that respect for human rights is a fundamental principle that is essential for the management of a company. Accordingly, the Group is working to promote and raise awareness of human rights, and has stated guidelines for respecting human rights in its Corporate Ethics and Legal Compliance 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 measures to comply with the 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.

With the progress of economic globalization, workplaces are becoming more international in character. In fiscal 2012, while re-emphasizing the basics of respect for human rights, Toray Group focused on implementing policies for creating a positive workplace environment that encourages employees to respect each other's dignity and individuality.



### Human Rights Training

Toray holds human rights promotion campaigns annually to help increase awareness and understanding of human rights issues.

With the goal of developing employees' awareness of the rights of each individual, the Company conducted a campaign in fiscal 2012 calling on employees to prevent harassment by fostering respect for others. In keeping with international trends in human rights, including the issuance of the ISO 26000 guidance on social responsibility, Toray is encouraging employees in each workplace to take an active interest in human rights issues in the context of CSR. 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 2012 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 2012 Human Rights Training and Seminar		
Type of training	Number of sessions	Number of participants
Training at head office	34	2,002
Training at offices and plants	1,209	15,554
Training at outside company	65	158

### **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**

- [CSR Procurement](#)

## Retaining Core Staff

Toray makes clear the value it places on human resources in its Corporate Guiding Principles, 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 November 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 carrying out integrated global human resources management, working to bring measures particular to group companies 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

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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. In more recent years, Toray Group has been enhancing and pursuing the development of international human resources. In addition to its Overseas Junior Training Program, Toray Business English School opened in fiscal 2011. In fiscal 2012, the Company improved its Business English Proficiency Course, and expanded joint sessions for its Toray Management School and International Senior Management Seminar.

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

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.

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### Systematic and Effective Training

Company-Wide Training Course Enrollment in Fiscal 2012	
Training Category	Persons enrolled
Management	791
Technical	705
Sales, marketing, and administration	349
Global	351

General	397
Total	2,593

## 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 fiscal 2012, a total of 420 employees have participated in the school's programs over 21 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 of 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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## Developing and Promoting Staff at Overseas Group Companies

Toray Group regards the development of core staff at its overseas group companies 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 group companies participate in training programs in Japan, organized according to managerial level. 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.

Toray set up an E-learning system that utilizes the Internet, and began offering an introductory course for new employees of each group company from April 2012. The course materials are standardized for all companies in Toray Group.

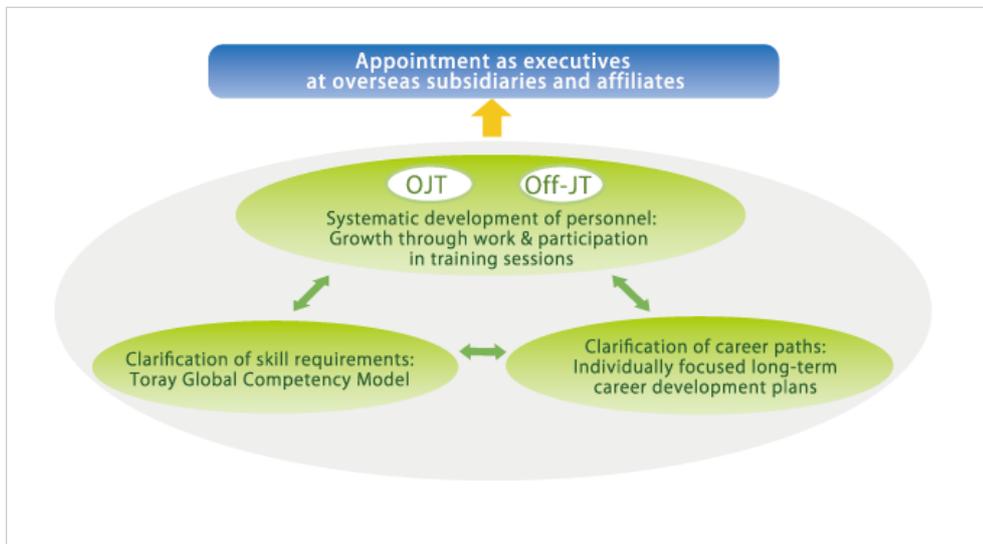


Training sessions

### 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 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.

Training System for Key Employees in Overseas Group Companies

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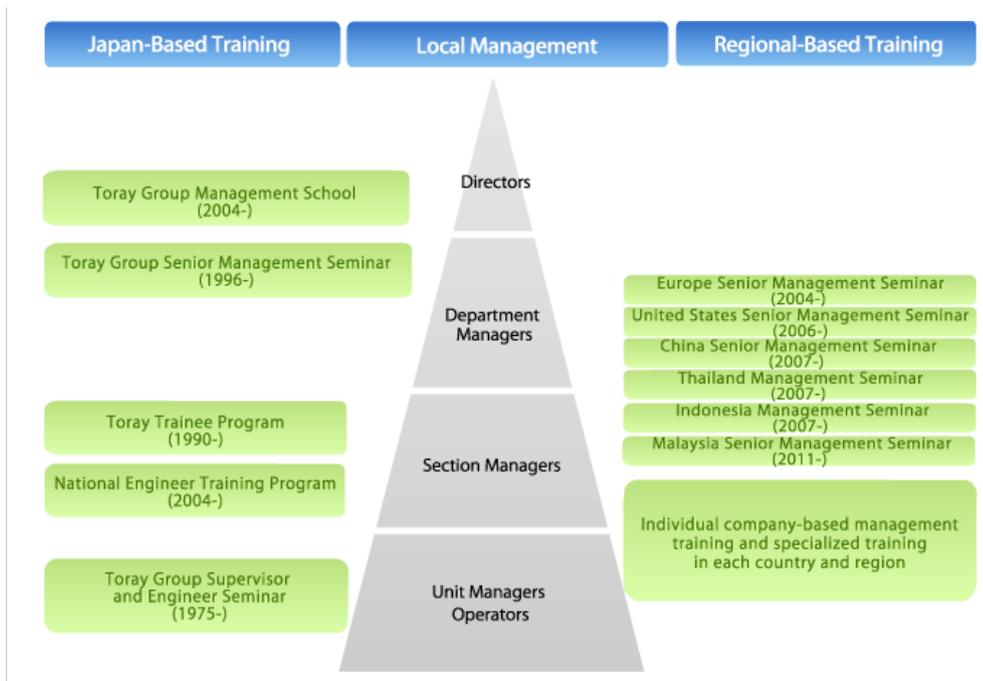
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Training Courses held for Overseas Core Staff in Fiscal 2012 (Toray Group)		
		Number of participants
Japan-Based courses	International Executive Seminar (for directors)	16
	International Senior Management Seminar (for general managers of departments)	11
	International Trainee Seminar (for section managers)	27
	National Engineer Training Program	1
	Toray Group Supervisors' Seminar	12
Courses held overseas	EU Senior Management Seminar	17
	U.S. Senior Management Seminar	12
	East and North China Senior Management Seminar	30
	South China Senior Management Seminar	25
	Indonesia Senior Management Seminar	20
	Thailand Senior Management Seminar	65
	Malaysia Senior Management Seminar	12

### Spotlight

#### Toray Human Resources Development Center Offers Diverse Training Programs for Entire Group

The success or failure of a company is decided by its people, and it is the members of a company who create its future. Guided by this concept, Toray Group considers securing and developing excellent human resources as one of its most important tasks and a fundamental policy for management.

The Toray Human Resources Development Center systematically plans, designs, and implements educational and training programs for Toray Group. Based in Mishima, Shizuoka Prefecture, the center is one of Japan's most prominent training facilities. Operated by Toray's Personnel & Industrial Relations Division, the center constantly reviews and updates its training methods and programs in consideration of recent trends and changes in the business environment.



#### Overview

Established in 1996, the Toray Human Resources Development Center is situated next to Toray's Mishima Plant in the city of Mishima, Shizuoka Prefecture. It is equipped with a 582-seat lecture hall, training rooms for up to 240 people, and lodging facilities with 185 rooms. As a comprehensive training facility for developing human resources through multiple approaches, the

### Developing Human Resources That Can Succeed Internationally

#### Holding joint sessions of the Toray Management School and International Senior Management Seminar

A joint session of the 21st convening of the Toray Management School\*<sup>1</sup> and the fiscal 2012 International Senior Management Seminar\*<sup>2</sup> was held at the Toray Human Resources Development Center from October 1 to 3, 2012. The session was conducted to foster future management leaders that can play a major role in global operations. It included lectures and seminars about foreign cultures and communications skills, as well as experiential learning in corporate management through a management simulation game. Participants developed the global mindset and preparedness expected of today's international business leaders.

\*1: Toray Management School provides training for Toray's section managers with the objective of developing future management leaders of the Company and the Group.

\*2: The International Senior Management seminar trains general managers of Toray Group companies outside Japan. The Asia session and the Europe and North America session are held in alternation, each occurring once every two years.

Management simulation game in training



Participants in joint training sessions



Lessons by native English-speaking instructors

#### Opening of the Toray Business English School

The Toray Business English School newly opened in January 2012. The school's courses are designed for employees ranging from mid-career staff to young managers and aim to develop young leaders who can succeed internationally. Six-month courses include English classes taught through online lessons and group sessions totaling 15 days of classes. Students not only learn business English and communication skills like speaking and giving presentations, but also capabilities needed by international human resources, such as a global mindset, logical thinking, and leadership. The school aims to help employees steadily improve their skills and awareness of these matters through comprehensive and practical learning.

### Incorporating Volunteer Activities in the Training of New Employees

As part of the training course for new employees, 177 employees who joined the Company in April 2013 participated in a cleanup event to collect garbage at the Tagonoura coastline in the city of Fuji, Shizuoka Prefecture. The event was part of environmental preservation activities in the area surrounding Mt. Fuji, which has been registered as a World Heritage Site. The cleanup event was newly incorporated in the training course in fiscal 2013 as a program for learning through volunteering. Lectures were also held at a training center in conjunction with the volunteer activities. A representative of Fujisan Club, an environmental NPO, gave a talk on volunteer activities and problems encountered in the environmental conservation of Mt. Fuji, and a member of Toray's CSR Operations Department gave a lecture on Toray Group's social contribution activities.

Through this new program, the employees not only gained a full understanding of company-wide CSR and social contribution activities, but also an appreciation and awareness of the importance of joining volunteer activities and social contribution initiatives on their own volition in the future.

Cleanup activities were led by members of the environmental NPO Fujisan Club



Four truckloads of garbage totaling 680kg was collected in one and a half hours

## Promoting Diversity

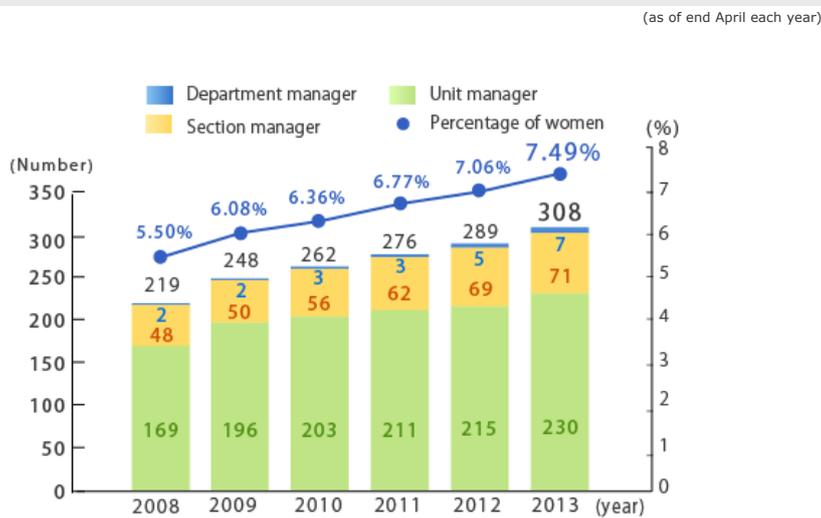
Toray Group is committed to promoting employee diversity to help build thriving workplaces where each individual's abilities can flourish.

### 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 Group company 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 number and percentage of women holding management positions at Toray continues to rise each year. As of end April 2013, 7.49% of unit manager positions and 3.90% of section manager positions or higher were held by women.

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



Major Support Systems for Employee Work and Family Life Balance

Category	Description
Long-term Childcare Leave	<ul style="list-style-type: none"> <li>Available for employees using child care center services offering a leave of absence up to the end of March of the fiscal year in which the child turns one year of age or up to the time the child turns 18 months, whichever is longer</li> </ul>
Childcare Reduced Hour Work Schedules	<ul style="list-style-type: none"> <li>A maximum reduction of two hours per day, calculated in 15-minute increments, available until the end of the fiscal year in which the child is in third grade of elementary school</li> <li>May be used concurrently with flextime system</li> </ul>
Long-term Family Care Leave	<ul style="list-style-type: none"> <li>Available for a total of 365 days per situation requiring leave to provide care</li> <li>May be used concurrently with flextime system</li> </ul>
Leave to Care for Sick Children	<ul style="list-style-type: none"> <li>Five days per year of leave per child available until the end of the fiscal year in which the child is in third grade of elementary school</li> <li>Days not taken by the end of the fiscal year may be rolled over to the following fiscal year (revised April 2013).</li> </ul>
Family Care Leave	<ul style="list-style-type: none"> <li>Five days per year of leave available per family member</li> <li>At maximum five additional days per year available when no other appropriate caregiver is available on those days (revised April 2013)</li> </ul>

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Toray Smile Support Plan	<ul style="list-style-type: none"> <li>Welfare point system offering a selection of programs with an emphasis on providing support for childcare and home acquisition</li> </ul>
Childcare Services Payment Assistance	<ul style="list-style-type: none"> <li>Childcare coupons offering a 70% discount on services provided by participating companies issued as an additional Toray Smile Support Plan service</li> <li>No restrictions on number of coupons or age of participating employee's child</li> </ul>
Telecommuting Program	<ul style="list-style-type: none"> <li>Available for employees who meet certain requirements and have a family member requiring care or a child through the end of the fiscal year in which the child is in the third grade of elementary school (introduced April 2012)</li> <li>Available up to two days (15 hours) per week and no more than a maximum of six days (45 hours) per month for approved employees</li> </ul>
Registration System for Reemployment	<ul style="list-style-type: none"> <li>Registration system providing 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</li> <li>The registration period is ten years. Registrants may be immediately eligible for regular employee positions depending on the content of their jobs, expectations of their role in the company, and their personal situations.</li> </ul>
Commuting Allowance for Bullet Train or Other Limited Express Travel	<ul style="list-style-type: none"> <li>Allowance for tickets for applicable distances on bullet trains or other limited express trains available for employees who wish to avoid (cease) living apart from their families due to job transfers or employees who bear personal responsibilities such as caring for family members</li> <li>In certain cases, employees may be required to pay a part of the commuting expenses out of pocket.</li> </ul>

## Employing a Diverse Workforce

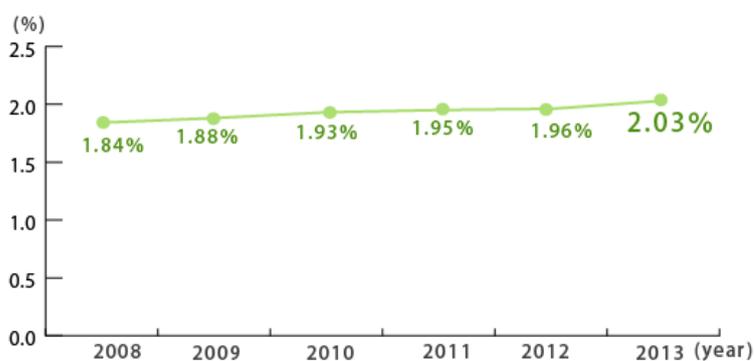
As Toray continues to globalize its operations, the Company aims to employ people who have a global perspective and mindset, highly specialized skills and strong language abilities. This is why the Company is recruiting Japanese university graduates who studied abroad, and non-Japanese graduates of either 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

Recognizing its social responsibility to employ persons with disabilities, Toray achieved Japan's legally mandated employment rate of 2.0%, which was raised from 1.8% in April 2013. Moreover, the Company strives to create suitable workplaces for people of all ability levels. Initiatives include providing barrier-free spaces and training at the time of hiring, as well as soliciting suggestions and requests from employees with disabilities to make improvements in the working environment.

Employment Rate of Persons with Disabilities (Toray)

Note: Toray announces its employment rate of persons with disabilities on June 1 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



## 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.

After acquiring the certification, Toray revamped its support systems in June 2010 in an effort to encourage male employees to make use of them. Then in April 2011, the Company launched the Toray Smile Support Program, a point-based system that lets employees choose from various programs that provide financial assistance for childcare and purchasing homes.

Toray initiated a telecommuting program in April 2012, aimed at making it easier for employees to work while raising children or caring for family members, as well as to make workplaces more dynamic by fostering diverse working styles. Toray also expanded its commuting allowance system to include bullet train travel in October 2012.

With the commencement of its fourth action plan period in April 2013, Toray is working to improve its support systems once again, offering special leave for parents to prepare children for nursery school, and extending eligibility for leave to care for sick children. The Company also revised working hours under its reduced-time work systems for childcare and family-care.



a logo mark provided by the Ministry of Health, Labor and Welfare for certified companies

Utilization of Childcare and Family Care Leave Systems (Toray)						
FY		2008	2009	2010	2011	2012
Employees taking childcare leave	Women	91	67	79	81	<b>62</b>
	Men	0	3	2	3	<b>2</b>
Employees taking family care leave	Women	1	1	2	1	<b>2</b>
	Men	1	0	1	0	<b>0</b>

Note: Figures show the number of employees taking leave.

As part of its commitment to workplace innovations, in the second half of fiscal 2008 Toray implemented four key initiatives aimed at helping employees to balance work and family life. First, discussions are held in each workplace to raise awareness of different working styles. Second, working late at night and on holidays is prohibited, in principle. Third, all lights in the workplace are turned off at 10 p.m. (9:00 pm in the head office building since fiscal 2011). Finally, company-wide "no overtime days" take place one day per month.

In October 2010, Toray set up a Work-Life Balance Committee made up of labor and management representatives. 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. In April 2012, Toray established the AP-G 2013 Labor-Management Committee to create a framework for enhancing the Company's ongoing measures to promote work-life balance.

#### VOICE

#### Toray Creates a Telecommuting Program for Employees

In April 2012, Toray launched a telecommuting program with the aims of making it easier for employees to work while raising children or caring for family members and making workplaces more dynamic by fostering more diverse working styles. For employees wanting to telecommute, the program allows them to spend a portion of their total work hours working from home (capped at an upper limit). Employees can organize their schedules according to their individual circumstances, enabling them to more effectively balance work and family life.

I plan my work in advance to make smart and flexible use of the telecommuting program.

My wife gave birth to twin girls in February 2012. Since we already have a four year old son, I suddenly found myself very busy. It became really difficult to do both my job and childcare duties, so I was struggling to find ways to handle everything at the time. But right around then, I heard the news that the Company had started up a telecommuting program. It was perfect timing for us, so I took advantage of it and registered right away. There were several days when I had to stay at home because my wife had to leave the house, whether to take the kids to the clinic when they were

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#### For Our Employees

#### Human Rights Promotion and Human Resources Development

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Retaining Core Staff

Developing Human Resources to Create New Value

Developing and Promoting Staff at Overseas Group Companies

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sick or needed a vaccination, or other reasons. Nevertheless, I was able to take care of my kids and do my work at the same time. That is very helpful for me, so I use the system to work from home about once a month. When I decide what day to telecommute, I plan my work and prepare the items I need to be able to work from home, and use our Remote Access Service.\*<sup>1</sup> In this way, I try to minimize any inconvenience for my colleagues at work.

I hope that the number of employees using the program grows and it becomes popular in the future so that many people are able to carry out their work and family duties more effectively.

\*1: Toray's Remote Access Service allows access to office networks for employees working outside the workplace, on business trips, or at home, so that they can make use of work information and resources in the same way as they would at the office.



**Daisuke Onuki**  
Senior Staff,  
Second Engineering  
Department,  
Toray Industries, Inc.

#### I have been able to spend my time more efficiently thanks to the telecommuting program.

I am continuing to work while bringing up two children. One is in the first grade and the other is in preschool, so my commute to work, which takes one and a half hours each way, is quite a burden. For that reason, when the telecommuting program started up in fiscal 2012, it looked very appealing to me.

When I work from home, it is not easy to fully understand how work in the office is progressing or to communicate with my boss and coworkers as effectively as I would in the office just by using the telephone and email. Nonetheless, because I have cut down on my commuting time, and I can get some housework done during my breaks in the day, quickly pick up my daughter from nursery school and even take a little time to play with my kids in the park near my house, I feel like I have more time and energy. This is a big advantage of the program.

Events held on weekdays at my son's elementary school have recently increased, so I have to do my job more efficiently. Therefore, I plan to make more effective use of the telecommuting program in the future. I will continue asking for the understanding of my family and coworkers as I try to achieve a satisfying work-life balance.



**Yoriko Tobiishi**  
Clinical Development Division,  
Toray Industries, Inc.

## Occupational Safety and Accident Prevention Activities

Toray Group works to ensure safe operations 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." With a spirit of respect for people, all of the Group's employees and executives recognize that safety is paramount for protecting the precious life of each individual. The entire Group is working together to carry out safety activities with the aim of completely eliminating worksite accidents.

Each year Toray selects a group-wide safety slogan. For the 2012 safety slogan, the Company focused on encouraging employees to "think carefully before taking action" to ensure safe operations. Toray Group is promoting occupational safety activities under this slogan in every country and region where it operates.

2012 Safety Slogan	<p>AP-G 2013 — We Should Achieve "Zero Accidents", Keep the Basics and Do "Anzen Koh-Doh!"**1</p>
--------------------	---

Main Priority Activities in 2012	<p>Make progress in "Power-up 3Z" activities*2</p> <ol style="list-style-type: none"> <li>1. Comprehensively implement the initiative on "thinking carefully before taking action" to ensure safety</li> <li>2. Improve countermeasures against the most serious risks at each workplace</li> <li>3. Make stricter rules for hazardous and harmful substances that are handled</li> <li>4. Strengthen safety management of onsite subcontractors</li> </ol>
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\*1: "Anzen Koh-Doh" is a Japanese phrase that implies "think carefully before taking action"

\*2: As part of Toray Group's medium-term management program implemented in fiscal 2011, Power-up 3Z activities are intended to achieve zero accidents, zero problems, and zero claims.



Scenes from the 2012 Toray Group Safety Convention

Every year, company presidents, directors, and plant managers from Toray and its group companies around the world meet at the Toray Group Safety Convention. Safety policies and important measures are presented at the convention affirming the importance of safety among participants and facilitating the implementation of activities group-wide. In additions, safety conferences are held and safety committees set up in each country and region where the Group operates. This promotes a common awareness of the Toray Group safety slogan, policies, and priority measures, enabling centralized management of safety activities across the Group.



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**Related Information**

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

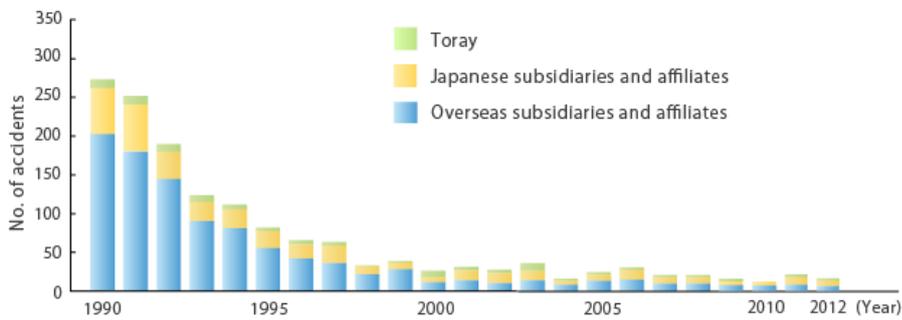
**Toray Group Safety Record**

Data on occupational accidents has been compiled by Toray since 1980 and by Toray Group as a whole since 1990. Accident information is shared group-wide, and is valuable for measures aimed at preventing the occurrence of similar accidents. Accordingly, group companies in and outside Japan have improved safety records to the level achieved by Toray.

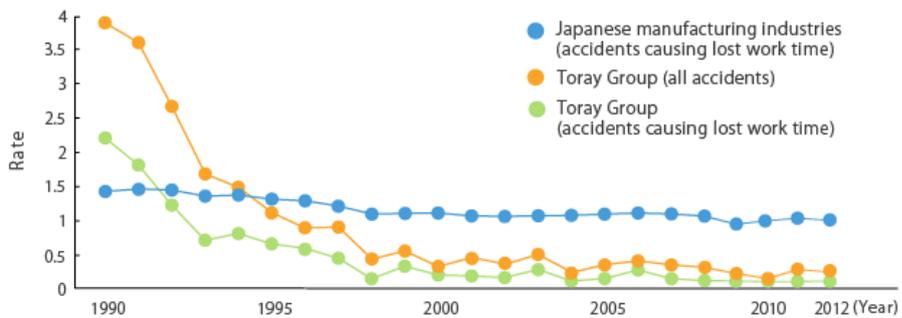
In 2012, the occupational accident frequency rate (including both those resulting in lost work time and no lost work time) per million man-hours worked was 0.12 for Toray, 0.27 for subsidiaries and affiliates in Japan, and 0.17 for subsidiaries and affiliates outside Japan. In the same year, the rate of occupational accidents resulting in lost work time was 0.15 for Toray Group as a whole, a slight improvement compared to the rate of 0.16 in 2011, but still short of the Group's target of 0.05 for this key performance indicator.

Looking forward, Toray Group intends to continue implementing safety measures to achieve its targets, eliminate worksite accidents altogether and raise the level of workplace safety even further.

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



Occupational Accident Frequency Rate: Toray Group



**Enhancing Safety and Accident-Prevention Training**

Toray Group incorporates occupational safety and accident prevention training into the curriculums of its specialized and job grade-specific organizational education programs. In addition, the Group emphasizes hands-on accident training by having employees participate in crisis situation simulations to raise hazard awareness.

Occupational safety simulation trainings are designed to simulate various accidents involving equipment, such as becoming caught or entangled in machinery and rollers, getting hit by projectiles or falling objects, receiving electric shocks, and experiencing blow-outs of gas or liquid during pressure reduction. In accident-prevention simulation training, Toray has been conducting fire and explosion demonstrations since the mid-1970s so that employees can directly experience the terrible impact such an accident could have. Toray intends to continue using sophisticated training methods and programs like these to make a clear impression on employees at its own plants and those of its group companies



Fire and explosion demonstration during training at Toray's Seta Plant



A fire and explosion demonstration at Moriyama Plant of Toray Fine Chemicals Co., Ltd.

In addition, a broad array of information concerning safety and accident-prevention is featured in Toray Group's in-house newsletter, *People*. In 2012, informative articles covering fires and explosions appeared in the newsletter, reflecting the growing number of such accidents in Japan's chemical industry in recent years.



*People*, Toray's in-house newsletter



Mascot for safety and disaster prevention activities: Mr. Safety

## Implementing Safety Management Together with Subcontractors

Toray Group carries out its operations with many subcontractors working onsite. Recognizing its duty to ensure the safety of these subcontractors, the Group undertakes safety activities in collaboration with them. For example, representatives from subcontractors are invited to participate in monthly meetings of Toray's Safety and Health Committee. Safety meetings and jointly held conferences are also held regularly as a means to ensure that subcontractors are fully aware of Toray Group's policies, plans, and measures related to safety. In addition, Toray encourages its subcontractors to actively participate in general safety activities, such as by submitting ideas for safety posters and entering slogan contests.



Safety meeting held at Toray's Ehime Plant

In 2012, Toray, its group companies in and outside Japan and its subcontractors jointly implemented a safety initiative for forklift operations. The risk of accidents is high in workplaces where forklifts operate alongside people. To separate them spatially, the measure calls for safety fences placed around forklift operation areas, and to separate them temporally, people are prohibited from entering warehouses during certain working hours.



Safety fence separates forklift area (Toyo Jitsugyo Co., Ltd.)

## Sites Conduct Their Own Fire-Prevention Inspections

As a basic disaster-prevention activity, Toray Group has its business sites conduct their own fire-prevention inspections employing a checklist covering fire- and explosion-related items. The checklist consists of 906 items compiled on the basis of lessons the Group has learned from past accidents, and it has been adopted by group companies both in and outside Japan. Toray Group intends to continue these comprehensive inspections going forward.

## Preparing for Accidents through Fire-Prevention Drills

All companies and plants in Toray Group are making efforts to improve their disaster-preparedness capabilities by carrying out fire-fighting drills specifically intended for fires and explosions. At all sites, employees practice using fire hoses in the drills, and at plants situated along coastlines, participants practice installing an oil fence to prepare for a marine fire.



Fire-fighting drills at Toray's Seta Plant



Oil fence installation drills at Toray's Chiba Plant

## Initiatives for Improving Fire-prevention Capabilities

In recent years, a spate of accidents and explosions has occurred at major chemical companies in Japan, and Toray Group has also experienced more fires and near accidents at its worksites. In response to these trends, Toray Group has started a second phase of its Fire Prevention Project, which it originally initiated in 1997, in an effort to step up its disaster-prevention capabilities.

During the first period of this second phase, spanning from June to December 2012, the general manager of Toray's Manufacturing Division led emergency inspections of all production plants. Emergency inspections of electric power capacitors and exhaust ducts were also carried out as a measure to prevent the recurrence of the near accidents that have occurred in recent years. In addition, an expert committee was set up to bring together the Group's employees and managers who have expertise in disaster prevention.

The expert committee is made up of about 40 members who specialize in internal safety of Toray Group, chemical processes, engineering, and other fields. The committee is organized into six teams responsible for determining tasks that Toray Group must take on when performing the following activities:

- **Reassessment of the causes of fires and near accidents that have occurred in Toray Group, consideration of countermeasures, onsite confirmation of the effectiveness of recurrence prevention measures**
- **Establishment of countermeasures for Toray Group based on case studies of accidents that have occurred outside the Group**
- **Inspection of procedures for suspending operations in the event of a power or fuel supply interruption and for resuming operations at Toray Group's manufacturing sites with higher fire and explosion risk**

The second period of the Fire Prevention Project's second phase commenced in January 2013. Accordingly, Toray Group has drawn from the lessons and tasks undertaken in the first period and is now examining concrete fire-prevention measures in its efforts to continue improving its ability to avoid a major accident.

### Initiatives of the Fire Prevention Project, Second Phase

- 1) Emergency inspections led by the general manager of the Manufacturing Division
- 2) Emergency inspections of electric power capacitors
- 3) Emergency inspections and overhaul of exhaust ducts
- 4) Measures initiated by the expert committee on fire prevention
  - Two teams have been put in charge of reviewing case studies of accidents that have occurred at Toray Group
  - One team has been put in charge of reviewing case studies of accidents that have occurred outside Toray Group
  - Three teams have been put in charge of in-house fire-prevention inspections



Fire-prevention inspection team examines data at Toray's Ehime Plant



Fire-prevention inspection team checks the Noda Plant of Soda Aromatic Co., Ltd.

Main Tasks Underway in the Fire Prevention Project, Second Phase

Area	Main tasks
Provision of information	<ul style="list-style-type: none"> <li>● Identify and educate employees about the particular dangers of handled substances, including points of ignition, risks of chemical reactions, and the danger of mixing certain substances</li> <li>● Determine the interrelated impact of power and fuel supply interruptions</li> </ul>
Promotion of training	<ul style="list-style-type: none"> <li>● Provide training on the general principles and rules of fire prevention, including explosive chemical mixtures and static electricity countermeasures</li> <li>● Provide training on general principles and rules concerning production processes, focusing on safety interlocks, operating conditions, and operating procedures</li> </ul>
Management of operations	<ul style="list-style-type: none"> <li>● Clarify decision-making authority and conditions for interlock cancellation</li> <li>● Confirm fixed periods of interlock operations that are important for fire prevention</li> <li>● Improve monitoring of essential data</li> <li>● Identify and designate areas requiring distributed control system alarms</li> </ul>
Improvement of equipment	<ul style="list-style-type: none"> <li>● Ensure redundancy of important equipment such as meters and drive sources</li> <li>● Secure manual monitoring systems for important meters for when the distributed control system goes down</li> <li>● Service, maintain and replace aging equipment at facilities with higher fire risk</li> </ul>
Construction management	<ul style="list-style-type: none"> <li>● Standardize comprehensive procedures needed for discussions in meetings on security measures</li> </ul>

## Distribution Safety Initiatives

Toray is working to ensure safe distribution in its operations. In an effort to manage safety when transporting hazardous substances, Toray concludes security agreements with certain customers, raw material manufacturers, and shipping companies to designate their specific safety responsibilities and roles with regards to 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 3,919 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 plants.

The health effects on former and current Toray Group employees as of March 31, 2013 are described in the table below.

	Number of individuals (figures in brackets refer to fatalities)
Certified occupational accidents (Toray Group)	60 (44)
Certified health victims based on the Asbestos Law (Toray Group)	8 (8)

### VOICE

#### Establishing rules and gaining consensus and acceptance from everyone

Toray's Mishima Plant is a large-scale production complex that also conducts research and development in three business areas: fibers and textiles, films, and pharmaceuticals. Along with the plant's employees, members of group companies and subcontractors work onsite, so we take various extra steps to ensure safety and prevent accidents. We implement basic factory-wide activities: individual safety declarations, pointing and calling, risk prediction, and "3S" (neatness, orderliness, cleanliness) campaigns. In addition, we work steadily to prevent the recurrence of past accidents.

As the manager in charge of safety and accident-prevention in the Film Production Section, I plan and run study meetings to enhance compliance with rules and prevent the recurrence of past accidents, as well as a safety conference for members of group companies and subcontractors working onsite. Based on discussions between supervisors and all subordinate employees, we promote safety activities and come to consensus on rules. We are doing all that we can to create a rule-abiding, orderly workplace environment.

The Mishima Plant has been making steady progress in each of the safety measures that have been put in place. We adhere to the basic precept that zero accidents today does not ensure zero accidents tomorrow. While making sure not to become negligent or complacent, we are carrying out basic safety measures in earnest in an effort to create a vibrant, super-safe plant.



**Takahiro Kibe**  
Film Production Section,  
Film Manufacturing  
Department,  
Mishima Plant,  
Toray Industries, Inc.

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Study meeting to improve compliance with rules



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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## 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 Its 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 2012, the auditors attended all meetings of the Board of Directors as well as ad hoc meetings involving directors and heads of divisions and departments. They also conducted regular audits of offices, plants, and group companies in and outside Japan.

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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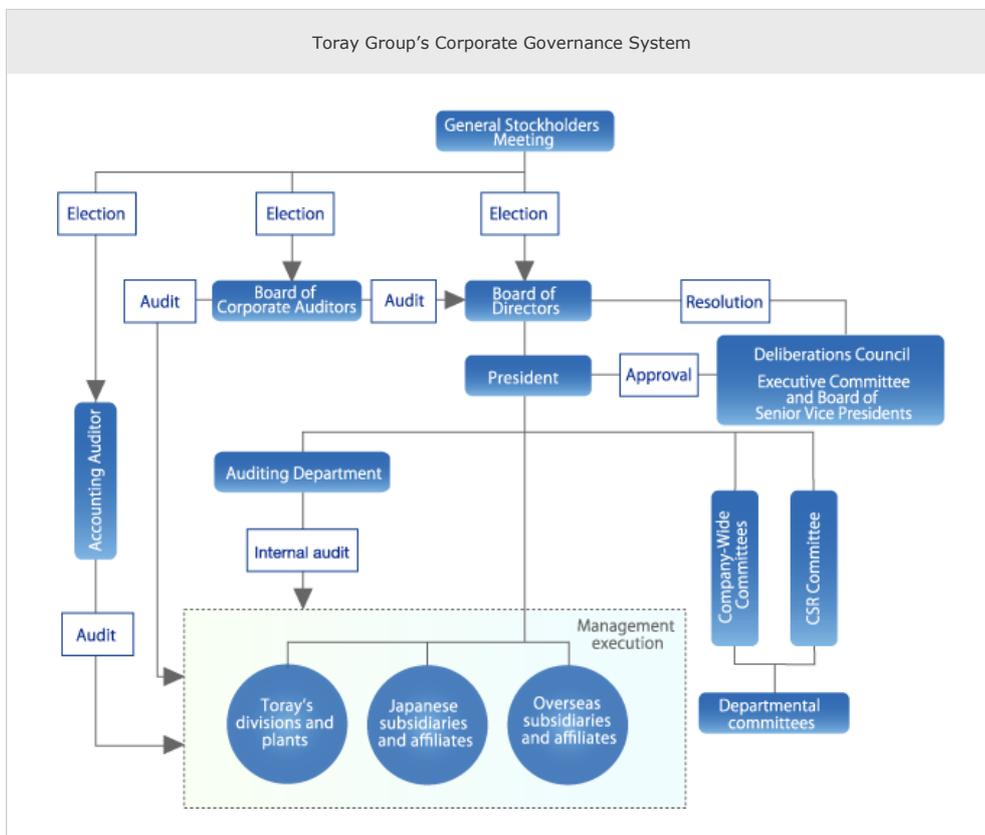
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### Ensuring Proper Business Conduct and Transparency

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.

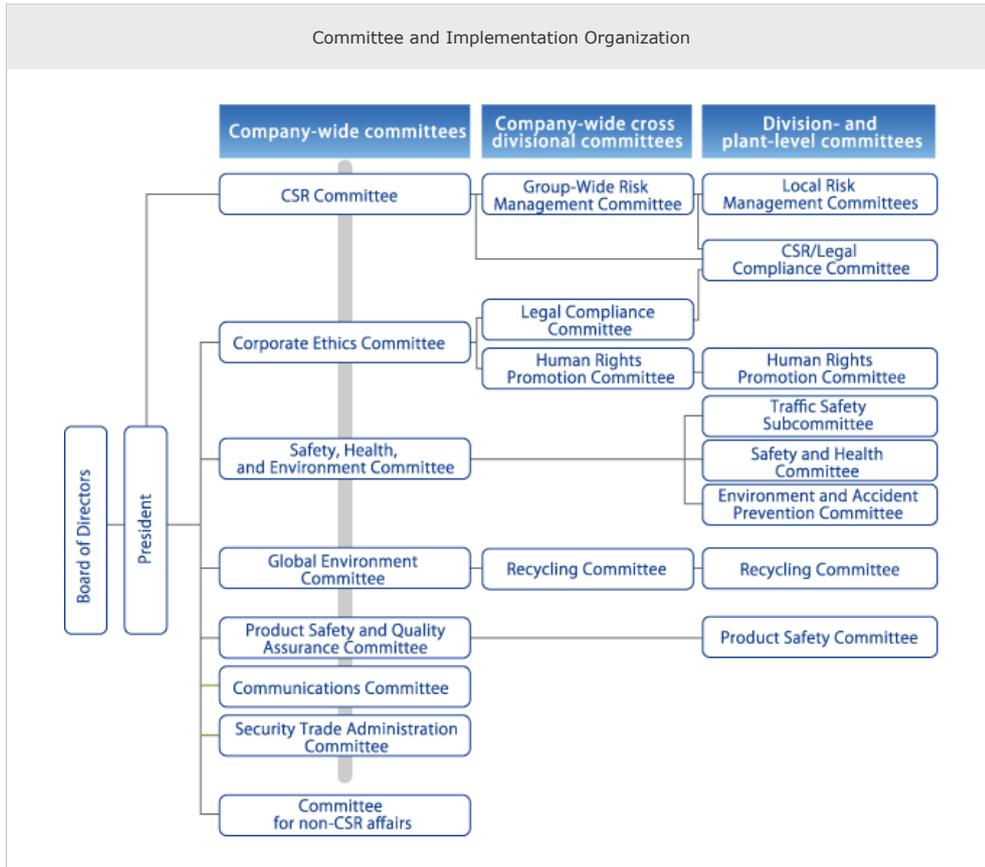
## **Dialogue with Labor Unions**

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.

## 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 group company, 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.



### 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 on the job. In every workplace, relevant departments present suggested tasks corresponding to each of the 10 items in the Group's CSR Guidelines. Based on those tasks, each workplace sets specific actions suited to their respective circumstances while pursuing initiatives in such areas as the environment, safety, and social contribution.

In fiscal 2012, Toray conducted a survey of CSR promotion systems and activities at 47 group companies outside Japan, and designated new challenges for each region based on the results.

#### Related Information

- CSR Road Map and Key Performance Indicators

### 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 2012, Toray rolled out an online CSR training program for managers of its group companies in Japan. A total of 2,205 employees at 51 group companies studied up on recent trends in CSR via this program.

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### Every workplace makes steady efforts to promote CSR

All of Toray Group's workplaces decide on actions to pursue as "CSR line activities." The actions correspond with each item in the CSR Guidelines. For example, as a task related to the first item of the guidelines concerning corporate governance and management transparency, Toray encourages employees to take steps to improve their understanding of Toray Group CSR initiatives, such as by reading the Toray Group CSR report together in small groups.

At Toray's Nagoya Branch, employees not only organized group readings but also engaged in discussions about CSR-related issues at monthly workplace meetings. In fiscal 2012, the office discussed two issues: successful initiatives related to corporate ethics and legal compliance taken at Toray and other companies, and having employees monitor each other's conduct as part of a human rights promotion campaign. The Nagoya Branch is also making steady efforts to dispatch employees to elementary schools to give science lessons, and to conduct cleanup events in the local shopping district.



A group reading of the CSR report held at Toray's Nagoya Branch.

## 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 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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## 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.



Toray has established CSR/legal compliance committees at its group companies 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/legal compliance committees have also been established at Toray's group companies 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 group companies worldwide, which have CSR/legal compliance committees, by providing similar codes of conduct, guidelines, handbooks, and other information to employees.

#### Related Information

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

#### 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)
- Protecting the intellectual property rights of Toray and other companies

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- 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)
- 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



Corporate Ethics and Legal Compliance Handbook (third edition)

## Company-wide Activities in Fiscal 2012

Toray established or undertook the following company-wide initiatives in fiscal 2012 relating to corporate ethics and legal compliance:

- Provided thorough training on security trade administration
- Maintained internal controls for financial reporting
- Provided all employees with comprehensive information on antitrust laws and insider trading regulations
- Stepped up initiatives for ensuring strict compliance

## 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, legal regulations, and 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.

In fiscal 2012, Toray provided an online training course covering corporate ethics and legal compliance for all employees, including contracted, part-time, and dispatched workers. Participants learned about necessary procedures for ensuring compliance in everyday work by reviewing case studies. Toray now also offers this online training course at its group companies in Japan.

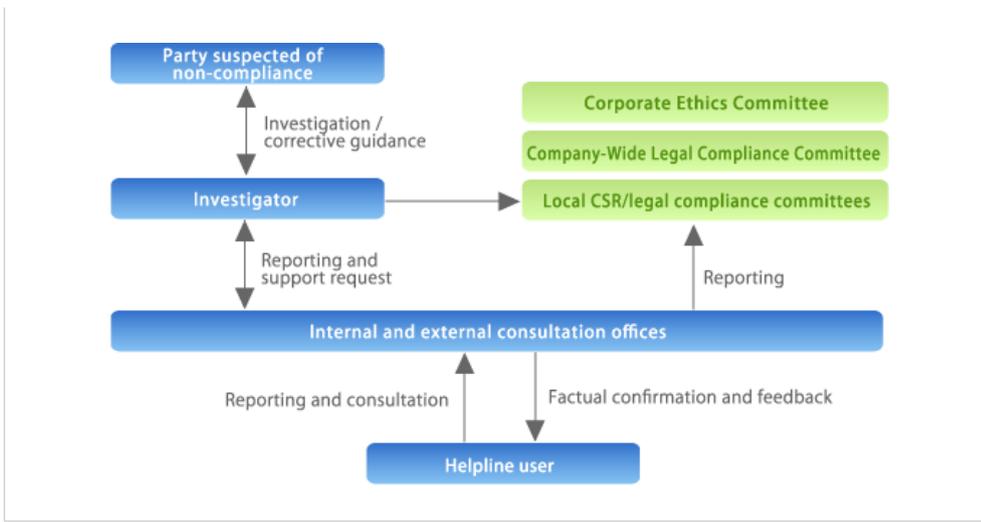
## Utilizing Internal Reporting Systems

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.

Toray's Corporate Ethics and Legal Compliance Helpline System



## Improving Training Related to Security Trade Controls

Toray Group is working to raise awareness of compliance with security trade controls among its employees. In fiscal 2012, the Group provided 24 types of detailed training programs tailored for respective job categories and organized according to themes as a means to improve employees' expertise in these regulations and initiate improvements. A total of 1,732 employees participated in the programs. Furthermore, Toray Group has been arranging for employees to take an exam authorized by the Center for Information on Security Trade Controls in Japan to test their abilities related to imports and exports governed by security trade controls. To date, a total of 1,704 employees of Toray Group have passed the exam.

### Related Information

- [Security Export Control](#)

## Compliance with Antitrust Laws in Japan and Other Countries

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.

Toray's head office Legal Department has carried out surveys at each overseas group company to determine the status of compliance with antitrust laws in their respective countries. Based on the results of these surveys, Toray has been working with managers in charge of compliance with antitrust laws at each company to raise local employees' awareness of relevant laws and regulations. Furthermore, internal audits to monitor compliance with antitrust laws are conducted throughout Toray Group around the world in an effort to prevent actions that may lead to violations.



Toray's Antitrust Law Red Card

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## Protection of Personal Information

Toray has established rules for managing personal information to ensure that the private data of customers, employees, and other individuals is securely administered and properly handled. To confirm that these rules are being followed, the Company conducts regular inspections of personal information management practices in each of its departments.

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## 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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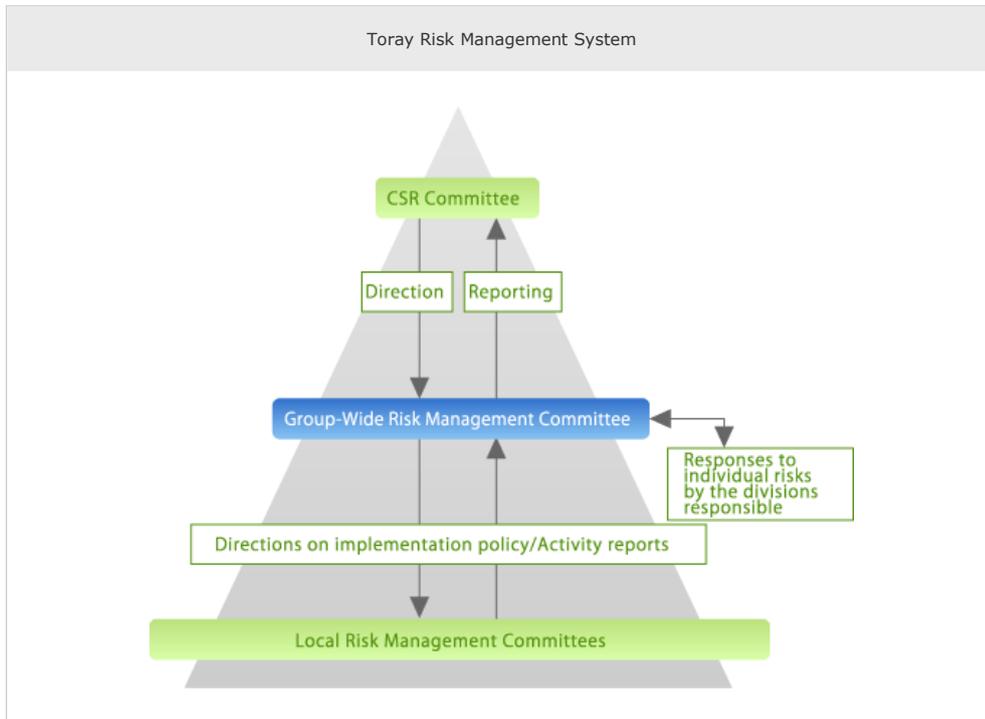
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## Risk Management System and Initiatives

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.

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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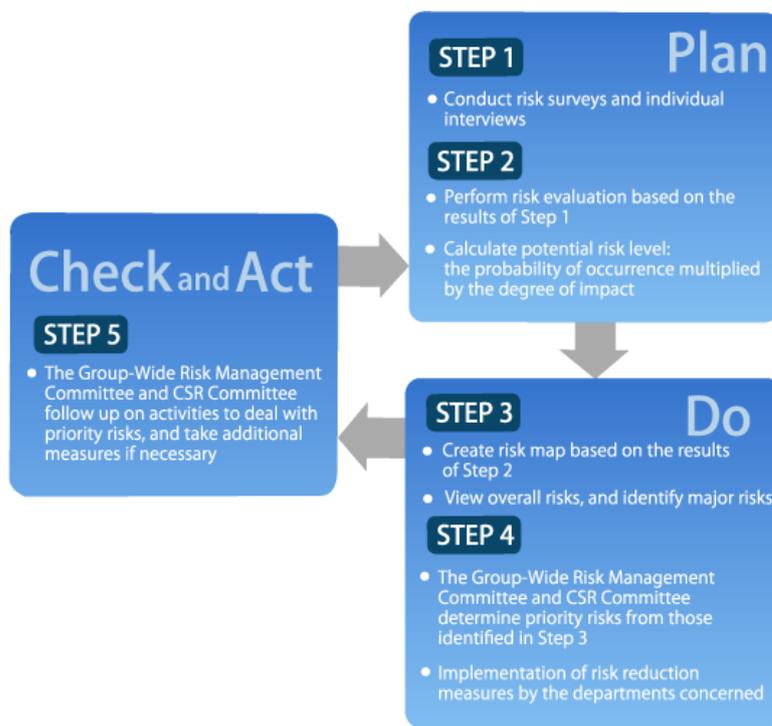
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## Dealing with Priority Risks

Company departments responsible for risk management and workgroups develop measures to reduce priority risks. Reports on the status of these priority-risk countermeasures are submitted to the Group-Wide Risk Management Committee on a regular basis. The committee then assesses the extent that the risks have been reduced, considering evaluations done by the directors with responsibility for each area. Toray has set up working groups and implemented the following measures to reduce risks identified as high priority.

### 1. Maintaining information security

Toray implemented an online training program for management to raise awareness of information security among managers. Participants numbered 1,108 in fiscal 2012.

### 2. Supply chain risk reduction

Toray improved its procedures for responding to its customers' surveys on the usage of conflict minerals, increasing the speed and efficiency of its response. Toray also confirmed the status of conflict mineral countermeasures at its group companies around the world.

## Addressing Existing Major Risks

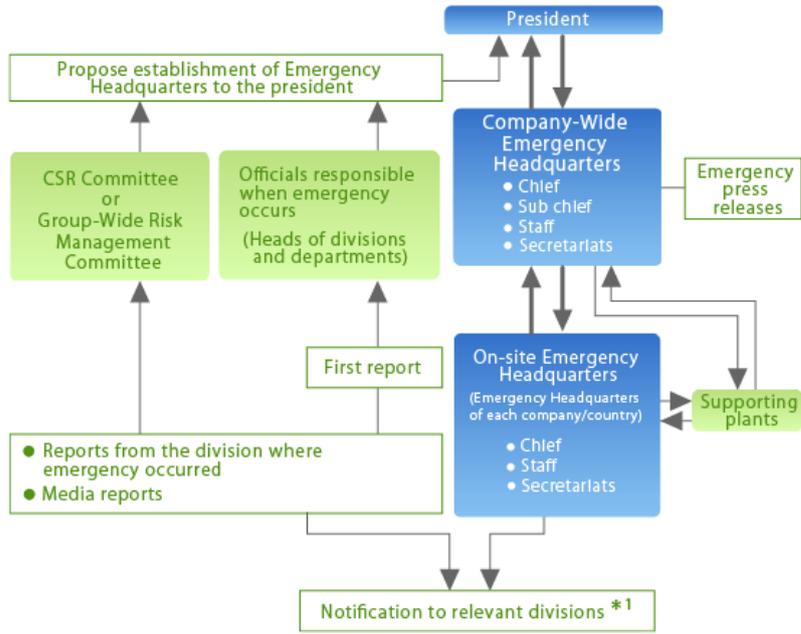
Toray is promoting ongoing risk reduction activities through Group-wide committees that deal with existing major risks separately from the priority risk reduction measures. They include legal compliance, fluctuations in raw material markets, business strategy, and fluctuations in exchange rates and economic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

## 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.

In accordance with the regulations, Toray immediately set up an emergency response headquarters to deal with the anti-Japan protests that erupted in China in August 2012. The headquarters responded promptly and responsibly, thereby minimizing the impact of the protests on Toray Group.

Emergency Quick Response System



\*1 : Notification is conducted according to the Emergency Reporting Route for Significant Disasters, Environmental Accidents, and Other Crisis Outbreaks.

## Security Export Control

Toray performs risk management of security export controls covering the export of products, devices, materials, and samples, as well as 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 2012, Toray carried out the following measures to enhance risk management in this area.

1. Skills of security trade specialists improved  
Toray established a security export specialist system, and made it mandatory for managers in charge of checking security exports to attend a specialized training program. The Company provided practical training sessions at all offices and plants.
2. Regular audits conducted  
Toray carried out paper audits and onsite audits of its plants, offices, and group companies, and comprehensively implemented plan-do-check-act (PDCA) activities based on the results.
3. Information sharing and reporting enhanced  
In addition to export control, Toray enhanced management of suspicious trade inquiries in Japan. The Company collected information on these and reported or consulted with the appropriate authorities. The Company also shared suspicious trade information at various company meetings, and took steps to improve its defenses.
4. Inspection systems improved  
Toray formulated a three-year plan for improving operational efficiency, eliminating mistakes caused by human error, and developing its next security export control system.

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## 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.

Based on lessons learned following the Great East Japan Earthquake, Toray set basic management procedures for establishing a company-wide earthquake response headquarters in fiscal 2012. The Company practiced setting up the headquarters in a drill conducted in July 2012. Based on the scenario of a major earthquake striking directly below the Tokyo metropolitan area, the drill involved about 1,000 employees.



Earthquake response headquarters were set up at the Tokyo Head Office and the Shiga Plant during the company-wide drill.

Meanwhile, all employees working at the Toray Tokyo Office participated in an online training program covering proper procedures in the initial stage of a major earthquake.

The training was based on an ordinance enacted in April 2013 concerning workers in Tokyo who have difficulty returning home following an earthquake. In addition, Toray took steps to lower risks related to its ability to continue operations. The Company introduced a system for confirming the safety of employees at all of its offices and plants, and systematically carried out seismic reinforcements of plant buildings. Toray also revised its business continuity plan for key head office operations, and identified potential problems in the supply chain for each of its products.

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## Major Countermeasures Implemented after Large-Scale Flooding in Thailand

After experiencing large-scale flooding in 2011, the companies of Toray Group Thailand have implemented initiatives to deal with flood disasters. To prevent facility submersion in the event of a flood, the companies have reinforced flood barriers around plant sites and increased the capacity of drainage channels. Furthermore, machinery and equipment inside the plants have been waterproofed and moved to safer areas. These flooding countermeasures will also be adopted at new facilities being built in Thailand as Toray Group continues to expand its operations in the country.

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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**  
**Social Contribution Activities**

With an emphasis on science and technology, Toray Group actively contributes to a healthier, more sustainable society by providing support for science education for the young, helping to conserve the environment, giving assistance to local communities, and promoting sports.

**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 to better address risks to prevent all types of worksite accidents.

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## 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.

In fiscal 2012, the second year of the Project AP-G 2013 medium-term management program, Toray worked to promote widespread understanding of the program among the Group's employees and the general public by releasing related information on its progress and achievements via in-house newsletters, websites, and various mass media outlets. The Company published the combined Japanese and English Toray Group Corporate Profile, as well as an English booklet, *Toray's Way—Corporate Fundamentals*, for distribution overseas. Toray uses these publications to foster communication with various stakeholders.

In line with its Asia and Emerging Country Business Expansion Project, a component of Project AP-G 2013, Toray expanded its global online presence by setting up websites in China and Indonesia in fiscal 2011, followed by the launch of new websites in Malaysia and Thailand as well as the United States in fiscal 2012. By increasing its localized websites in countries around the world, Toray aims to strengthen the Toray brand, leverage its websites as marketing tools, and stimulate dialogue with communities. Coming up soon, the Company will launch new websites in South Korea, India, Brazil, and European countries.



Toray Group's global website



PR publications

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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. Toray exhibited at Eco Products 2012, one of the largest environmental exhibitions in Japan, in December 2012 at Tokyo Big Sight. The event was important for creating many opportunities to explain to visitors how Toray Group's advanced materials and technologies can contribute to realizing a low-carbon society.

### Related Information

- › [Social Contribution Activities](#)

Toray Group has been conducting business in the ASEAN regions for many years. In fact, 2012 marked the 50th anniversary of Toray Group's presence in Thailand, and the 40th anniversaries of its entry into Indonesia and Malaysia. Toray held exhibitions in all three countries to present the long history of the Group's business activities and products to a greater number of local people. About 2,000 people in total visited the events.

### Related Information

- › [Highlight 1: Drawing on Experience and Strengths to Build an Even More Global Business](#)

### VOICE

#### Promoting Communication about the Environment

Since April 2011, when Toray Group launched its long-term corporate vision and medium-term management program, we have been diligently pursuing our Green Innovation Business Expansion Project. We designate Green Innovation Products as those that help solve global environmental problems and issues associated with resources and energy. This is a broader perspective than our previous approach to classifying environmentally friendly products. For our customers, we promote those products under the overall brand **ecodream®**. In addition, we strive to make our biomass-derived products familiar under the **ecodear®** brand. Through these brands, we are aiming to globally expand our Fibers & Textiles Green Innovation business and products. We are also making constructive proposals in response to the Japanese government's invitations for public comment on green purchasing. One of these resulted in the addition of new standards for plant-derived polyester fabric, one of our Fibers & Textiles Green Innovation Products, to procurement standards set under the Law on Promoting Green Purchasing. In recent years, "greenwashing"\*1 has attracted attention around the world as regulations for disclosing environmental information grow stricter. In that context, we are keeping everyone informed and sharing information in company meetings to make sure that the environment-related statements we disclose in PR publications and other documents are reasonable. I hope that we can increase people's trust in Toray Group's Green Innovation businesses and products in the future.



**Shuji Teranishi**  
Fibers & Textiles  
Green Innovation Business  
Planning Department,  
Toray Industries, Inc.



\*1: Greenwashing" refers to the practice of making excessive claims and information that could mislead consumers about environmental benefits in marketing, advertising, and other corporate communications.

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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 2012 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	687 participants
Briefings for individual investors	General Manager of the Investor Relations Department	1	163 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	694 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 2012, Toray's publications were evaluated externally by a number of organizations, as follows.

Evaluations	Organization Details
Daiwa Investor Relations Co., Ltd.	Awards for outstanding websites in 2012
Nikko Investor Relations Co., Ltd.	Most outstanding site in a completeness ranking of listed company websites in 2012
MerComm, Inc.	2012/2013 Silver Mercury Excellence Award in Annual Reports—Overall Presentation category in the field of advanced materials

### Evaluations from the Perspective of Socially Responsible Investment

Toray has been selected as a company that excels in environmental, social, and governance practices by the Tokyo Stock Exchange, effective as of March 31, 2013. The selection was part of the Tokyo Stock Exchange's +You project, through which it selects listed stocks based on special indexes and criteria, and promotes them to attract new investors in an effort to bolster the Japanese economy.

In addition, Toray was also jointly selected by the Tokyo Stock Exchange and Japan's Ministry of Economy, Trade and Industry as a "Nadeshiko Brand" company that has made outstanding achievements in advancing women's roles in the workplace.



In fiscal 2012, Toray received the following ratings from socially responsible investing (SRI) rating organizations.

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Survey Name	Rating
Integrex Inc. (Japan) "Base of Integrity Screening"	No.1 in the industry (textile products, pulp and paper sector)

In addition, Toray was included in the following SRI indices as of March 31, 2013.

- Dow Jones Sustainability Index Asia Pacific
- MSCI Global Climate Index
- Morningstar Socially Responsible Investment Index (MS-SRI)

## 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 2012, 1,279 stockholders attended the Company's ordinary general meeting of stockholders, compared to 1,405 in fiscal 2011.

### Related Information

- › [Ordinary General Meeting of Stockholders](#)

## 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

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. The In-house newsletter *People*, issued in both Japanese and English editions, is distributed to employees throughout the Group as a means of sharing information and raising awareness about management and business issues as well as the details of Toray's projects.

### Circulation of Toray Group's publications

- Japanese edition of *People* in-house newsletter: Around 15,000 copies per bimonthly issue (published six times per year)
- English edition of *People* in-house newsletter: Around 3,000 copies per quarterly issue (published four times per year)
- *Toray Management* newsletter for managers: About 6,000 copies per issue (published five times per year)



Toray President Akihiro Nikkaku has been visiting the offices and plants of group companies around the world to meet with Toray Group employees and explain and promote the AP-Growth Toray 2020 long-term corporate vision and Project AP-G 2013 medium-term management program. The meetings provide opportunities for the president to share his views and speak directly with as many employees as possible. By engaging in discussions covering a wide array of topics, President Nikkaku hopes to steer Toray Group on a single course, and encourage employees to pursue their work with pride, confidence, and a positive attitude. In fiscal 2012, about 200 employees in total met with the president in 13 meetings overall.



A meeting with employees at Toray do Brasil Ltda.



The president meets with managers from Hokkaido branches of group companies.

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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 2012 are shown below.

Press conferences	173
Press interviews given	374

### Related Information

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

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## Communication with Local Communities

All of Toray's offices, 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 events sponsored by local governments, and inviting local residents to summer festivals held on sporting grounds on plant premises.



Local residents invited to a summer festival at Toray's Ishikawa Plant



CSR activity presentation for local neighborhood association at Toray's Basic Research Laboratories in Kamakura



Meeting with ward mayors after tour of Toray's Gifu Plant



Factory tour for employees' family members at Toray Films Europe S.A.S.

### Spotlight

#### Supporting Children in Fukushima Prefecture with Volleyball Lessons

The Toray Arrows professional men's and women's volleyball teams gave volleyball lessons in three areas of Fukushima Prefecture on June 15 and 16, 2013.

Toray Group companies and the Toray Arrows decided to organize the lessons out of a strong desire to use sports to encourage and assist the reconstruction effort in the areas affected by the earthquake disaster in 2011. Five lessons were held in three places in the prefecture: the city of Nihonmatsu, which is the hometown of the coach of the women's team, Koichiro Kanno; the town of Kagamiishi, where a plant of Toray Advanced Film Co., Ltd., is based; and the city of Koriyama, home to a plant owned by Toray Group company Toyo Plastic Seiko Co., Ltd. A total of 475 elementary and junior high school students from 42 teams participated in the lessons.

Each lesson was about two hours long, and consisted of stretching, warm-up exercises with the ball, and basic drills combining passing, serving and receiving serves. A practice game was played in the second half of the lesson. Playing with members of the Toray Arrows inspired the children to practice seriously, and their excited shouts and laughter filled the gymnasiums.



Members of the Toray Arrows who are originally from the earthquake-damaged Tohoku region include (from left) women's team coach Koichiro Kanno and player Kaho Ohno, and men's team players Takaaki Tomimatsu and Hisashi Aizawa.



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## Toray Group's Approach to Social Contribution

### Toray Group's Approach to Social Contribution

Toray Group established the Toray Group Social Initiative Policies in 2005 to articulate its approach to voluntary, ongoing efforts to contribute to society as a responsible corporate citizen. These policies were formulated based on the Group's corporate philosophy of "contributing to society through the creation of new value with innovative ideas, technologies and products."

#### 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.

In fiscal 2013, Toray Group started new initiatives at all of its member companies in four priority areas: education, the environment, local communities, and employees.



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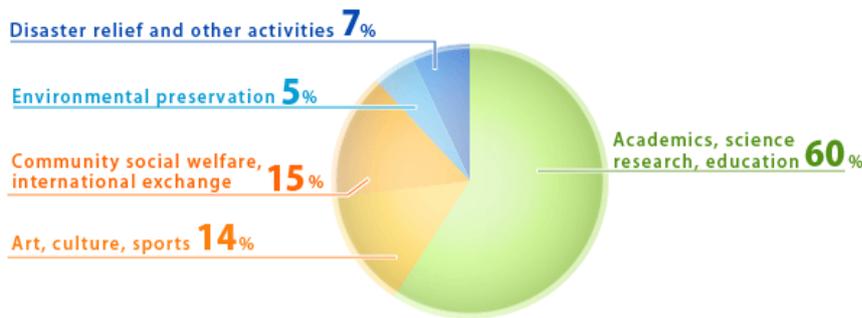
## Social Contribution Expenditure in Fiscal 2012

As a member of the 1% Club, an organization founded in 1990 by Nippon Keidanren (the Japan Business Federation), Toray has pledged to invest about 1% of its consolidated ordinary income into social contribution activities. In fiscal 2012, Toray Group donated approximately 1.1 billion yen for social contribution activities, equivalent to 1.2% of consolidated ordinary income. Of this amount, Toray Industries donated approximately 800 million yen, equivalent to about 3.3% of non-consolidated ordinary income.

In fiscal 2012, major contributions included those 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 environmental conservation activities at the Genbei River in the city of Mishima, Shizuoka Prefecture. The Group also participated in local cleanups and opened company facilities to the public.

Also in fiscal 2012, Toray built a new database for managing the Group's social initiative donations, and recorded over 2,200 cases. Toray will share this information with its subsidiaries and affiliates in Japan and abroad with the goal of making more strategic progress in its social initiatives going forward.

Breakdown of Expenditure in Fiscal 2012



### Spotlight

#### Promoting 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. Two recipients of the Toray Science and Technology Prize awarded by the foundation later went on to receive Nobel Prizes.

The 53rd presentation ceremony of the Toray Science Foundation was held on March 14, 2013 in Tokyo. At the event, two people were presented with the Toray Science and Technology Prize, nine people received the Toray Science Education Prize, which includes the Culture, Education, Sports, Science and Technology Minister's Prize, and 10 projects were awarded a Toray Science and Technology Grant. In addition, the Toray Science Foundation held its 62nd installment of the Toray Science Lecture Meeting on September 21, 2012.



Toray Science Foundation's 53rd presentation ceremony

#### Principal Toray Science Foundation Activities

- Toray Science and Technology Grant**  
The grants provide financial assistance to young researchers pursuing original and new research projects in the natural sciences.
- Toray Science and Technology Prize**  
The prize recognizes individuals for outstanding achievements in science and technology.
- Toray Science Education Prize**  
The prize publicly recognizes junior-high and high-school teachers for their contribution to science education.
- Toray Science Lecture Meeting**  
The lectures are held for the public to generate interest in the latest research topics each year.
- Toray Science Foundation International Research Grant**  
The grants provide financial assistance to young researchers conducting basic research in the natural sciences in Indonesia, Malaysia and Thailand.

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## Education

For many years, as part of its efforts to promote science and technology, Toray Group has been carrying out various educational programs for people pursuing science and engineering. The Group has broadened these activities to include elementary and junior high school students in recent years. Incorporating information on its products into teaching materials, the Group is implementing educational programs and other initiatives as it works to actively support education around the world.

### Showing Children the Fun of Studying Science and the Appeal of Manufacturing

#### Offering Science Education Support to a Thai High School

In collaboration with the Japan-Thailand Economic Cooperation Society, Toray provided teaching materials for a science experiment program carried out in the Benchama Maharat High School Japanese language camp, an event held on December 1, 2012, sponsored by the Thai-Nichi Institute of Technology. About 100 high-school students took part in the program. Teachers from the school praised the program as useful for stimulating interest in science, and expressed their desire to have more students included in the program in the future.



#### Showcasing Advanced Materials in Science Experiments

Toray exhibited at a youth science and technology festival sponsored by the Japanese government and held March 16–17, 2013 in Kyoto. Toray set up an interactive exhibition space featuring science experiments led by young researchers from the Company's research facilities in Shiga Prefecture. The event provided opportunities for students to experience the fascination of science by participating in experiments and handling various advanced materials used in smart phones and other devices.



#### Stimulating Interest in Advanced Manufacturing

The general manager of Toray's Mishima Plant at the time, Masahide Matsumura, was invited by Mishima Kita High School to give a lecture to 105 first-year high-school students on November 14, 2012. His message for young people of today touched on several topics, including Japan's place in the world and how advanced manufacturing is genuinely interesting. Samples of fibers, fabrics, films, and medical products were on display in the hall, eliciting enthusiastic questions from the students.



#### Participation in a Government-backed Career Support Project in Ofunato

As in fiscal 2012, Toray again participated in Career Challenge Day,\*1 career fairs held for all second-year junior-high students in the city of Ofunato, Iwate Prefecture. The Company's researchers gave lectures on the R&D of a diversified chemical manufacturer at the latest event, which was held on July 5, 2013. Students asked many questions about research and development jobs and the outlook for such a career.



\*1 : The event is sponsored by the Ofunato Education Committee to provide opportunities for junior-high students in earthquake and tsunami damaged areas to gain firsthand information about careers. It is part of a project carried out by Japan's Ministry of Culture, Education, Sports, Science and Technology to support the recovery of education in these areas.

#### Providing Opportunities for Students to Interact with Researchers and Engineers

Toray's Nagoya Plant welcomed high-school students from Aichi and Oita prefectures to its facilities on July 25 and August 2, 2012. The students, who are interested in pursuing a career in science, learned about carbon fiber, handled products in the plant's showroom, and conducted simple experiments. The teachers accompanying the students noted that interacting directly with company researchers and engineers was a valuable experience for the students.



#### Related Information

> [Highlight 3: Supporting Science Education to Prepare Young People for the Future](#)

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## The Environment

Recognizing that raising awareness among a wide array of stakeholders is critical to building a more sustainable society, Toray Group is carrying out initiatives intended to solve issues concerning the environment and water resources. Among these are tree-planting and cleanup activities surrounding worksites and plants, exhibitions, workshops, and collaborations with non-profit organizations.

### Raising Employees' Awareness of Nature through Environmental Preservation Activities

#### Cleanup Activities Near Worksites

All of Toray Group's offices and plants undertake various activities aimed at making local areas greener and raising employees' environmental awareness. For example, Toray's Aichi Plant cleans up the banks of the nearby Shonai River twice every year. Most recently, the plant's general manager, employees and members of their families teamed up for a cleanup activity on March 13, 2013.



### Conveying the Importance of Science and Technology for Building a Sustainable Society

#### Creating Opportunities to Experience the Usefulness of Science

Toray is holding daily workshops on the subject of filtration to encourage visitors to think about the importance of Earth's water at the Science Museum in Tokyo. In fiscal 2012, 6,702 people participated in these workshops.

Toray held science experiment classes for elementary and junior high school students at the Osaka Science Museum in Osaka on August 6, 2012. Designed to explain the relationship between fibers and the global environment, the classes were led by employees of Toray's Fibers & Textiles business. They explained the properties and structure of synthetic fibers to the children in plain language using experiments and actual examples.



Toray's science experiment classes held at Osaka Science Museum

#### Discussing the Significance of Science and Technology with the Public

On October 6, 2012, Toray Executive Vice President Nobuo Suzui gave a public lecture at the Aichi Science Festival 2012, an event sponsored by Nagoya University. Entitled, "How Materials Transform Society: From Building Aircraft to Tackling Water-resource Issues," his lecture introduced Toray products, touched on the problem of youth losing interest in science, and explained in clear language the importance of science and technology for sustaining Japan. The lecture was followed by a lively question and answer session with the audience.



#### Advocating Action for a Sustainable Society

The Company set up a Toray Group exhibition area at Eco-Products 2012, a trade fair held at Tokyo Big Sight from December 13 to 15, 2012. Toray distributed environmental education pamphlets to children and displayed its next-generation electric concept car to highlight the sorts of things people need to choose to build a more sustainable society and the actions that should be incorporated in modern lifestyles and communities.



The Toray Group exhibition area (left) and the environmental education pamphlet (below)

### Promoting International Exchanges through Environmental Education

#### Funding Projects to Provide Safe Drinking Water

Toray established the Torayvino Fund in 2010 to help provide people with safe drinking water. In fiscal 2012, it funded a project through the Japan Water Forum, a non-profit organization, to install rainwater tanks in Indonesia. The tanks are supplying drinking water and toilet water to an elementary school in the village of Kedaro on Lombok Island, the organization is providing education on safe drinking water and hygiene for children.



#### Supporting the Development of Global Environmental Leaders

Toray is supporting a program to develop community-based environmental leaders in Asia and Africa. \*1 The program has been carried out by the Tokyo University of Agriculture and Technology since fiscal 2009. On December 8, 2012, a representative of Toray's Global Environment Business Strategic Planning Department gave a lecture on environmentally responsible management that considers the entire product life cycle. Asian and African international students in attendance had many questions following the lecture.

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\*1 The program develops leaders who can contribute to understanding and solving environmental problems in Asia and Africa. The curriculum systematically combines lectures with practical training.



## Local Communities

As a good corporate citizen that understands its responsibility and stake in the growth of local communities, Toray Group is working to create more livable communities through active involvement in local cleanups, crime-fighting campaigns, disaster-prevention activities, and educational support initiatives.

### Making Local Communities More Livable As a Good Corporate Citizen

#### Helping Communities Prevent Crime and Prepare for Disasters

The Ehime Plant regularly conducts full-scale disaster-response drills together with the local community. Likewise, the Shiga Plant and Nagoya Plant help improve the disaster readiness of their communities by conducting demonstrations of fires and explosions at local fire-fighting training centers. Meanwhile, Ogaki Fuso Spinning Co., Ltd. was presented with an award from the governor of Aichi Prefecture for its outstanding efforts in local crime-fighting activities.



Toray's Ehime Plant and the local fire department jointly conduct full-scale disaster-response drills every year



Ogaki Fuso Spinning participating in a local safety convention (left); the award for outstanding efforts in local crime-fighting activities (right)

#### Supporting Local Education in the United States

As part of its social contribution activities, Toray Composites (America), Inc., has been providing assistance and donations to schools in the local Bethel School District. In recognition of these exemplary efforts to support the community, the district presented the company with the Superintendent's Civic Spirit Award on December 11, 2012.



#### Helping Improve the Educational Environment in Bangladesh

In fiscal 2012, TM Textiles & Garments Limited donated school bags and water flasks to 1,450 children in an effort to improve the educational environment in the community. The company also provided blankets and winter clothing to nearby residents to help them cope with the unseasonably cold weather.



### Contributing to the Healthy Growth of Children through Sports

#### Holding Judo Lessons in Plant Premise

Toray's Shiga Plant has been holding judo lessons continuously since 1974 to contribute to the community. On July 29, 2012, the plant held a judo meet for youth at its onsite sports facilities. Participants came from inside and outside the prefecture, including local judo clubs and members of the judo club at Toray's Okazaki Plant. In total, 127 elementary school children from 11 groups competed in the meet, applying mental discipline and techniques learned in training.



The opening ceremony of the judo meet for youth held at Toray's Shiga Plant

#### Toray Arrows

The Toray Arrows professional volleyball teams have been holding volleyball lessons on an ongoing basis for elementary and junior high school students in various locations around Japan. In fiscal 2012, lessons were given 16 times by the women's team and 11 times by the men's team, for a total of 27 lessons.



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## 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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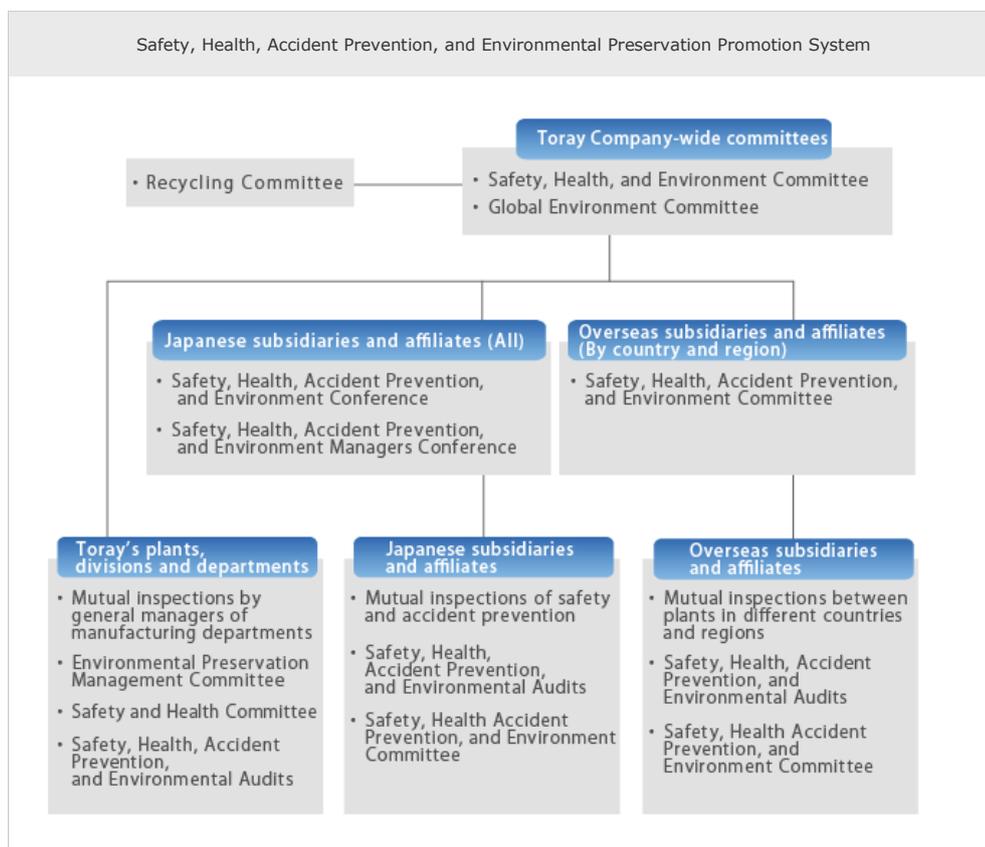
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## Safety, Health, Accident Prevention and Environmental Preservation Management

Under Toray Group's basic policy of practicing integrated global management, the Safety, Health, and Environment Committee decides on future strategies and measures, serving as the decision-making body for the entire Group. It also monitors the progress of activities in these areas at all group companies, offices and production plants. At the same time, the Global Environment Committee discusses and determines strategies for expanding the Green Innovation Business, promoting product recycling, and fighting global warming.



Toray Group formulates a safety, health, accident prevention, and environment activity policy every year, after considering the previous year's achievements. The Group implemented 15 main initiatives under this policy in fiscal 2012.

The Group uses a common internal audit sheet to conduct objective assessments of progress and management at manufacturing subsidiaries, offices and plants. Results of the audits are also used to drive future improvements, along with the safety, health, accident prevention, and environmental audits conducted by directors.

In fiscal 2012, these audits were completed at Toray's 12 plants and 1 research laboratory, 48 plants at 25 group companies in Japan, and 49 plants at 37 group companies outside Japan. The audits took a particular close look at designated tasks under special initiatives for improving safety and measures to prevent and more effectively respond to environmental incidents.



A safety, health, accident prevention, and environmental audit being conducted at Toray Advanced Materials Korea Inc.

Safety, Health, Accident Prevention, and Environment Activity Policy of Toray Group in 2012		
	Action Policy	Main Activities
Common	Implement "power-up 3Z" <sup>*1</sup> activities Accomplish risk management	<ul style="list-style-type: none"> <li>Systematically implement "power-up 3Z" activities</li> <li>Undertake measures to reduce risks</li> </ul>
Safety	Ensure safety is given the highest priority	<ul style="list-style-type: none"> <li>Comprehensively implement the initiative on "thinking carefully before taking action" to ensure safety</li> <li>Accomplish special initiatives for improving safety to eliminate accidents involving machinery with rotating parts,</li> </ul>

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		sharp-edged tools and forklifts <ul style="list-style-type: none"> <li>Strengthen safety management of Toray Group's onsite subcontractors</li> </ul>
Health	Emphasize occupational health management	<ul style="list-style-type: none"> <li>Enhance and strengthen management of chemical substances, particularly mutagenic substances and nanomaterials</li> <li>Take 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>Step up measures to respond to a major earthquake and tsunami, and enhance business continuity plans</li> <li>Improve natural disaster countermeasures</li> <li>Robustly implement fire and near-accident prevention measures</li> </ul>
Environment	Implement the Fourth Medium-Term Environmental Plan	<ul style="list-style-type: none"> <li>Reduce greenhouse gases</li> <li>Reduce atmospheric emissions of chemical substances</li> <li>Systematically pursue reductions to environmental emissions</li> <li>Implement strict measures to prevent environmental accidents</li> </ul>

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

#### Related Information

- Occupational Safety
- Business Continuity Plan Initiatives

## ISO 14001

Toray Group is promoting the acquisition of ISO 14001 certification by its subsidiaries and affiliates in an effort to improve group-wide environmental management. All of Toray's 12 plants acquired certification by the end of 2000. In fiscal 2012, overseas subsidiary Toray Membrane USA, Inc. received certification for the first time. This brings the total number of certified plants to 41 at 33 Toray Group companies outside Japan. In Japan, 35 plants at 21 Toray Group companies have been certified.

#### Sites with ISO 14001 Certification (as of March 2013)

##### Notes:

- Names in blue indicate companies or plants that first obtained certification in fiscal 2012.
- 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: 35 plants at 21 companies\*2

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], 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], Toray Medical Co., Ltd., Ichimura Sangyo Co., Ltd., Toray International, Inc., Toray Battery Separator Film Co., Ltd., Suido Kiko Kaisha, Ltd., Chori Co., Ltd.

\*2: In addition, 12 companies received certification as affiliated companies on Toray sites

Overseas subsidiaries and affiliates: 41 plants at 33 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., <a href="#">Toray Membrane USA, Inc.</a>
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.

## Responsible Care Program

Under Responsible Care programs, chemical companies pursue voluntary management of chemical substances, transparent disclosure, and communication with the public. Companies committed to Responsible Care take safety, health, and environmental measures across the entire product lifecycle, from development, manufacturing, distribution and consumer use to the disposal, and then disclose the results of their efforts.

Toray participates in the Japan Chemical Industry Association Responsible Care Council. 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 safety data sheets (SDS) for products.

## Complying with REACH and other International Chemical Substance Regulations

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 Toray Group is now working to register designated substances with deadlines in 2013 and beyond.

In addition, Toray Group is collecting information on other countries' regulations governing chemical substances and making it widely available throughout the Group. In this regard, Toray has begun utilizing the LOLI (List of Lists) Database,<sup>\*3</sup> a comprehensive database of chemical hazard and toxicity information and regulations in countries around the world, to ensure that it handles chemical substances safely and in compliance with relevant laws and regulations worldwide.

<sup>\*3</sup> Provided by the U.S. company, ChemADVISOR, Inc., LOLI is a search tool and database of regulatory lists from many countries around the world.

## Complying with Japan's Chemical Substances Control Law

With the revision of the Chemical Substances Control Law<sup>\*4</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 systematically responded to the revision and completed their report covering fiscal 2011 in June 2012.

<sup>\*4</sup> Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.

## Implementing the Fourth Medium-Term Environmental Plan

Since 2000, Toray Group has been undertaking voluntary efforts to help realize sustainable, low-carbon, recycling-based societies. The Group works to ensure progress through three-year environmental plans comprised of key measures to be implemented over the medium term.

Toray Group set new targets for reducing emissions in its Fourth Medium-Term Environmental Plan, which it commenced in fiscal 2011, stepping up its efforts. In fiscal 2012, the Group made improvements in its initiatives for achieving zero waste emissions and reducing atmospheric emissions of chemical substances. Aiming to reach its targets for fiscal 2015, the final year of the plan, the Group is dedicated to making further progress going forward.

### Progress of the Fourth Medium-Term Environmental Plan

Area	Toray Group fiscal 2015 target	Fiscal 2012 results
Curb global warming	Toray: Maintain greenhouse gas emissions at least 10% below the fiscal 1990 level*1	14% reduction
	Toray Group (Japan): 15% or greater reduction in greenhouse gas emissions per unit of sales compared to fiscal 1990*1	8% reduction
Management of chemical substances	Atmospheric emissions of PRTR Law-specified substances: 70% reduction compared to fiscal 2000	68% reduction
	Atmospheric emissions of volatile organic compounds (VOCs): 70% reduction compared to fiscal 2000	71% reduction
Waste reduction	Zero emissions goal: Achieved at 30 Toray Group Plants	Achieved at 29 plants of 17 companies
	Simply disposed waste rate: 25% or lower	22%
	Maintenance of a recycling rate of 85% or more	90%
	Landfill waste rate, Toray Group (Japan): 2% or lower	1.6%

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

### VOICE

#### Factory operations recognized with a green factory award for low impact on the local environment

Thai Toray Textile Mills Public Company Limited (TTTM) is a long-established manufacturing company now celebrating its 50th anniversary. We are located in Nakhon Pathom Province, about 40 kilometers west of Bangkok. The Tachin River flows in front of our factory, and we use it as a water source. The area surrounding the factory is residential. Therefore, we are especially careful about wastewater and exhaust gases emitted from the factory.

With respect to wastewater, we are using a system that constantly monitors the quality of water after it is treated using a combination of chemical processes and coagulation settling. We are also trying to reduce the environmental impact of this wastewater by modifying our manufacturing processes.

The company is reducing emissions of sulfur oxide (SO<sub>x</sub>) and CO<sub>2</sub> by employing solar-generated heat storage equipment, which allows us to reduce the amount of coal burned in boilers.

In 2012, TTTM received its first-ever green factory award from the Thai Ministry of Industry for these initiatives. We are thankful for the deep roots we have in the community, and we intend to keep undertaking environmental conservation activities with a commitment to being of service to our neighbors here.



**Panita Puangbunplovk**  
Acting Section Manager,  
Environment & Safety Center  
Thai Toray Textile Mills Public  
Company Limited

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Environmental management personnel on an inspection of wastewater treatment facilities

## Initiatives to Fight Global Warming

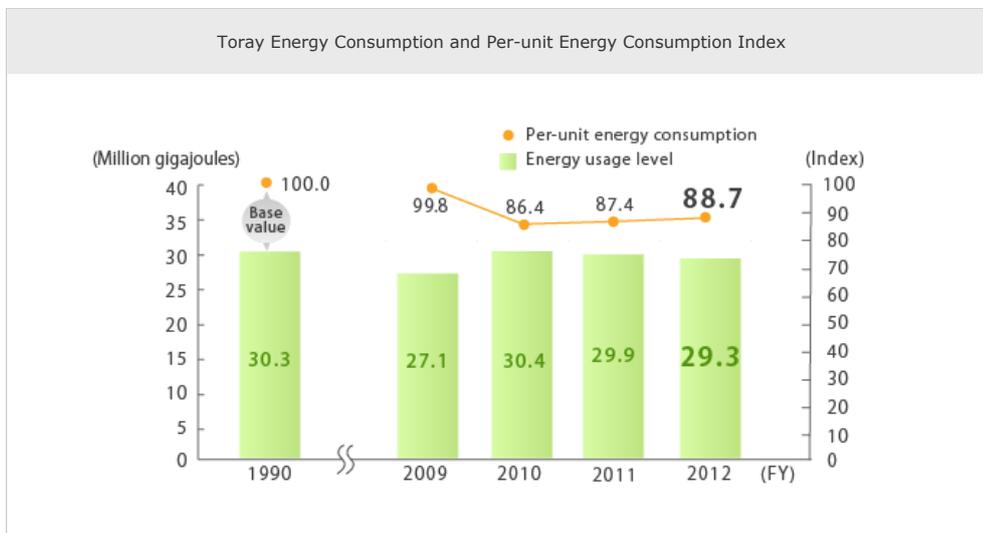
With a view to help realize sustainable, low-carbon societies, Toray Group is pursuing initiatives for reducing greenhouse gas emissions. Toward this end, the Group is reducing emissions by switching from heavy oil to natural gas, and saving energy by systematically improving manufacturing processes in accordance with its Fourth Medium-Term Environmental Plan, which was launched in fiscal 2011.

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.

### Toray Energy Conservation Activities

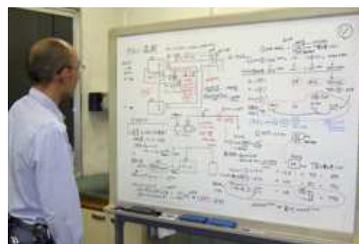
Toray is actively working on energy conservation activities, with the goal of a 2% annual reduction in the per-unit energy consumption rate.

In fiscal 2012, Toray implemented 21 different initiatives for saving energy, including improvements to the energy efficiency of manufacturing processes for its TORAYCA® carbon fiber. These initiatives led to a 2.0% reduction in the total amount of energy used compared to the previous fiscal year. On a per-unit basis, however, energy usage increased 1.5% year on year as a result of lower production efficiency due to a decrease in total production volume, which reflected the challenging economic conditions including the debt crisis in Europe. Nevertheless, per-unit energy consumption was still 11.3% lower than the base year of fiscal 1990.



### Promoting Energy Conservation Diagnostics

As it strives to reduce greenhouse gas emissions, Toray Group organizes energy conservation teams to help carry out annual energy conservation diagnostic activities at plants around the world. In fiscal 2012, these activities were conducted at five of Toray's plants, along with seven group company plants in Japan and two outside Japan. The energy saved during the year was equivalent to about 7,000 tons of CO<sub>2</sub>.



Items inspected during energy conservation diagnostic activities at Toray's Aichi Plant

### Toray's Efforts to Fight Global Warming

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

In fiscal 2012, Toray's greenhouse gas emissions increased by 2.3% compared to the previous fiscal year. The major factor in the increase was the higher CO<sub>2</sub> emissions coefficient for purchased electricity due to nuclear power plant shutdowns across Japan. Nevertheless, emissions were still 14% below the fiscal 1990 level—significantly ahead of the 10% target. Looking ahead, while production increases are expected in line with business expansion, Toray will strive to keep achieving its targets.

GHG Emissions (Toray)

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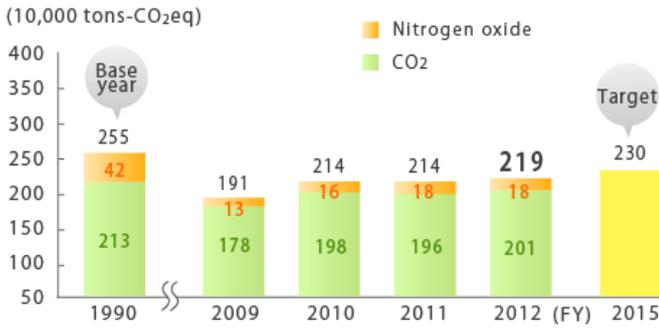
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Note: Figures for fiscal 2011 nitrogen oxide emissions have been revised for this report because certain conversion coefficients used in prior calculations were incorrect.

### 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. In fiscal 2012, the switchover was completed at the Okazaki Plant, Gifu Plant, and Ishikawa Plant. This is expected to reduce CO<sub>2</sub> emissions by about 20,000 tons in fiscal 2013 when the full effects of the measure take hold.

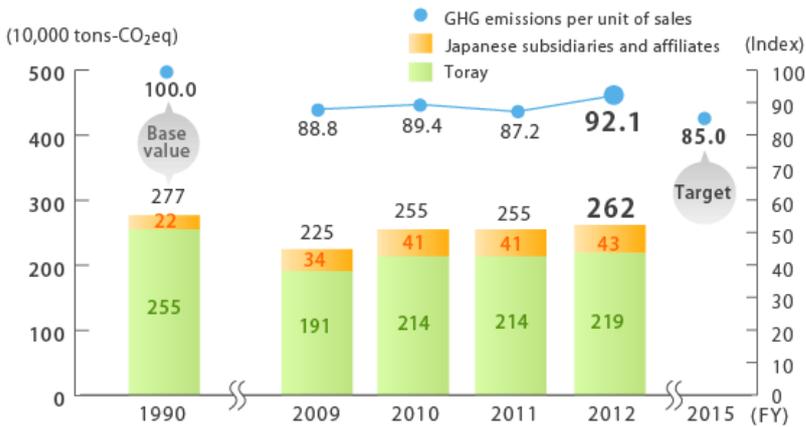


Gas boilers installed at Toray's Ishikawa Plant

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

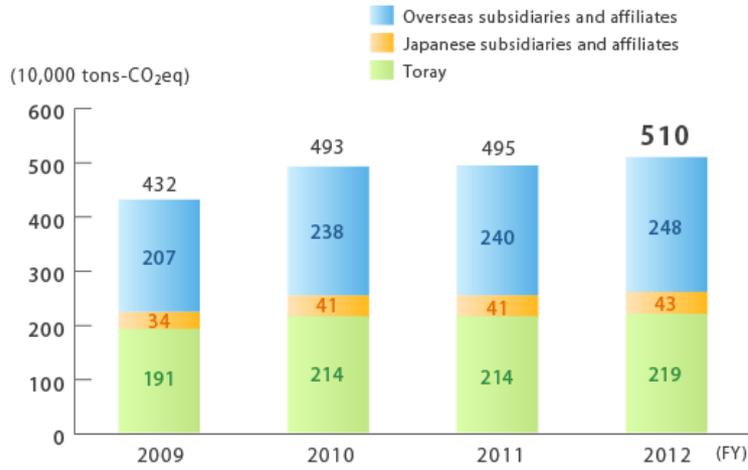
Toray and its group companies in Japan are working to curb global warming with the goal of reducing greenhouse gas emissions by 15% on a per-unit-of-sales basis by fiscal 2015 compared to the fiscal 1990 level. Total greenhouse gas emissions by Toray Group companies in Japan rose 2.7% year on year in fiscal 2012. On a per-unit-of-sales basis, this was an increase of 5.6% compared to the previous fiscal year, but still a 7.9% improvement over the base year of fiscal 1990.

Toray Group in Japan GHG Emissions and GHG Emissions Per Unit of Sales



### Toray Group Greenhouse Gas Emissions

Fiscal 2012 greenhouse gas emissions for Toray Group worldwide were 5.1 million tons-CO<sub>2</sub> equivalent, an increase of 3.0% compared to the previous year. All Toray Group manufacturing companies and plants will continue to work to achieve the Group's goal of reducing the per-unit energy consumption rate by 2% each fiscal year.



#### Related Information

- [CO<sub>2</sub> Emissions Resulting from Toray's Distribution Activities](#)

### 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 since 2008. The program uses an online system to help employees reduce their household emissions. In fiscal 2012, the program adopted Kansai Electric Power Company's system, which allows employees to keep monthly records of consumption of electricity, natural gas, gasoline, and other items, and then display the results in terms of CO<sub>2</sub> emissions. With about 2,600 households participating as of March 31, 2013, Toray Group is aiming to maintain the program's scope as part of 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. Toray's Tokai Plant installed high-efficiency refrigeration equipment that uses CFC-replacement coolant compounds, and began operating it from April 2012.

## Voluntary Initiatives to Reduce Atmospheric Emissions of Chemical Substances

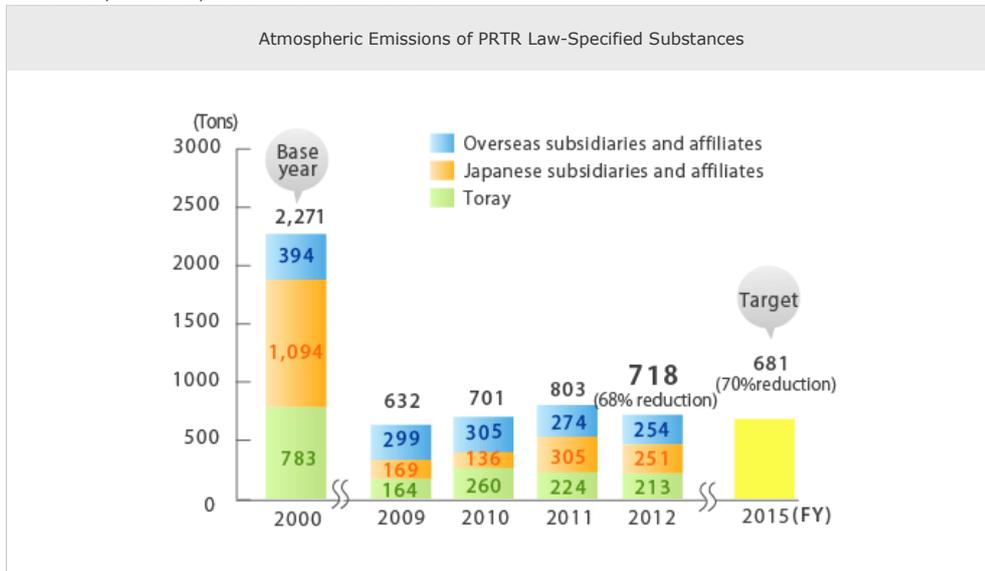
For Toray Group, one of the most important tasks for decreasing its environmental impact is reducing atmospheric emissions of chemical substances. Accordingly, the entire Group is working to make progress in this direction. Toray Group works steadily to reduce emissions of volatile organic compounds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

### Reducing Atmospheric Emissions of PRTR Law-Specified Substances

Absorption and recovery equipment was upgraded at Toray Battery Separator Film Co., Ltd., resulting in a 30-ton reduction in atmospheric emissions in fiscal 2012. Meanwhile, Toray Plastics (Malaysia) Sdn. Berhad has been implementing annual measures to recover a higher amount of organic exhaust gas emissions. Measures carried out at the end of fiscal 2011 achieved their full effect in fiscal 2012, resulting in a reduction of atmospheric emissions of 25 tons.

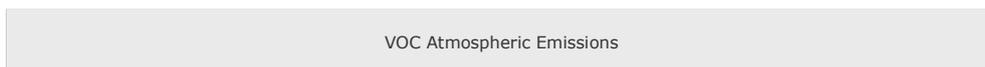
In fiscal 2012, Toray Group as a whole reduced its atmospheric emissions of substances specified under Japan's PRTR Law by 11% year on year, or 68% lower than the base value set in fiscal 2000.

Toray Group will keep striving to reduce these atmospheric emissions by, for instance, upgrading absorption recovery equipment and making improvements in recovering exhaust gas, as it carries out the Fourth Medium-Term Environmental Plan. Through these efforts, the Group is aiming to achieve the fiscal 2015 target of reducing emissions by 70% compared to the fiscal 2000 level.



### Reducing Atmospheric Emissions of VOCs

Toray Group reduced atmospheric emissions of VOCs by 9.1% in fiscal 2012 compared to the previous fiscal year. The major factor in this was the effort of Toray Coatex Co., Ltd., to reduce its emissions by 44 tons by cutting the number of products made with VOCs. The Toray Group result represents a 71% reduction compared to the base year of 2000, beating the Group's fiscal 2015 target of a 70% reduction well in advance. Toray Group will work to maintain this level by effectively operating VOC recovery equipment and by pursuing reductions via systematic facility operations.



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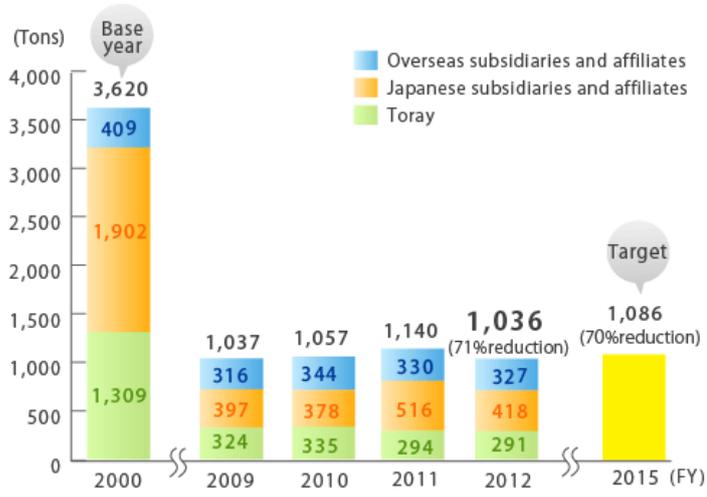
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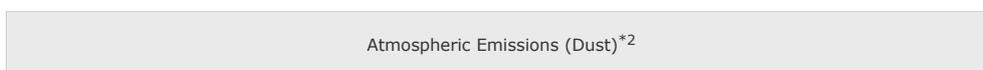
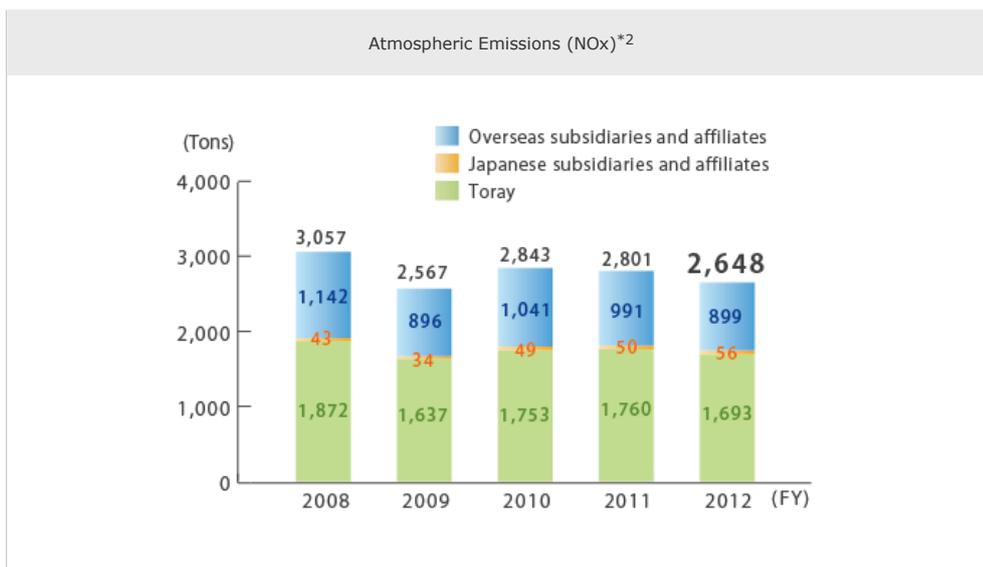
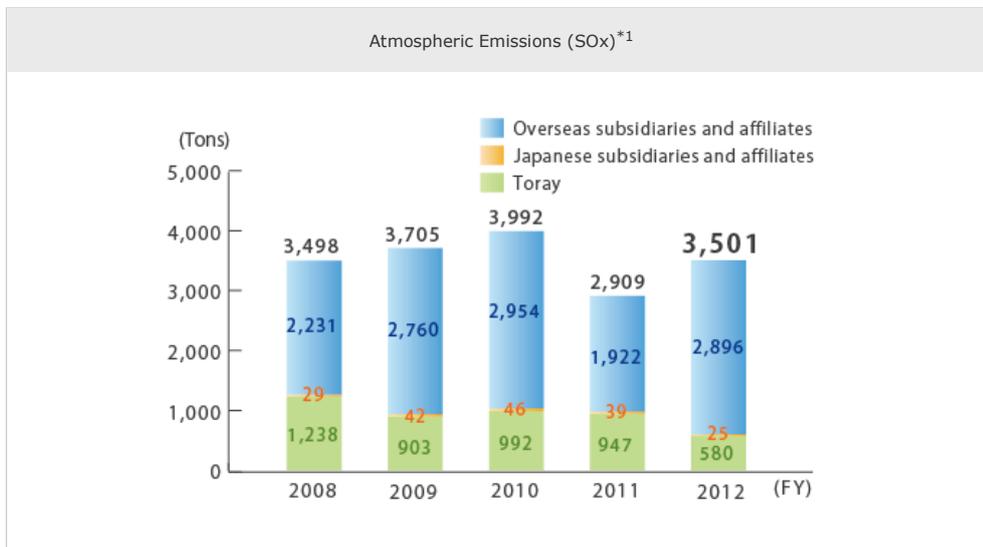


## Initiatives to Prevent Air and Water Pollution

Toray Group has ongoing environmental protection initiatives in place for the prevention of air and water pollution at its manufacturing facilities. In recent years, the Group's production plants around the world have been cutting sulfur oxide (SOx) emissions by installing desulfurization equipment and switching to cleaner fuels, and reducing chemical oxygen demand (COD) emissions by setting up high-tech wastewater treatment facilities.

### Air Quality Management

In fiscal 2012, Toray Group's emissions of SOx increased 20% year on year to 3,501 tons, while emissions of NOx decreased 5% to 2,648 tons. Dust emissions rose 18% to 385 tons compared to the previous fiscal year. On a non-consolidated basis, in fiscal 2012 Toray reduced its emissions of SOx by 39% compared to the previous fiscal year to 580 tons, and brought NOx emissions down by 4% year on year to 1,693 tons. Dust emissions, however, were up 33% to 152 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 Gifu and Okazaki plants. Total SOx emissions by Toray Group companies outside Japan rose by 974 tons due mainly to the need to use high-sulfur coal at P.T. Indonesia Toray Synthetics.



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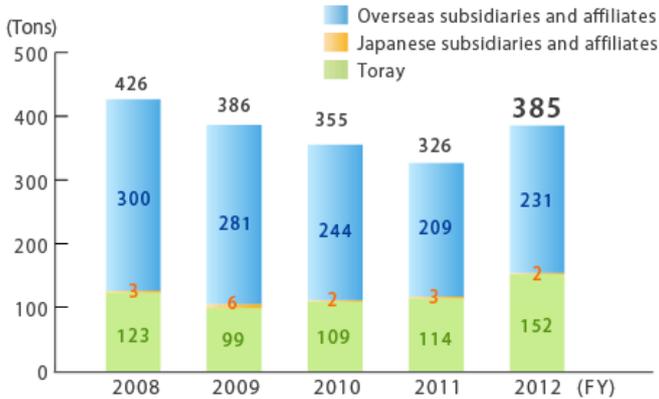
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Gas boiler at Toray's Gifu Plant



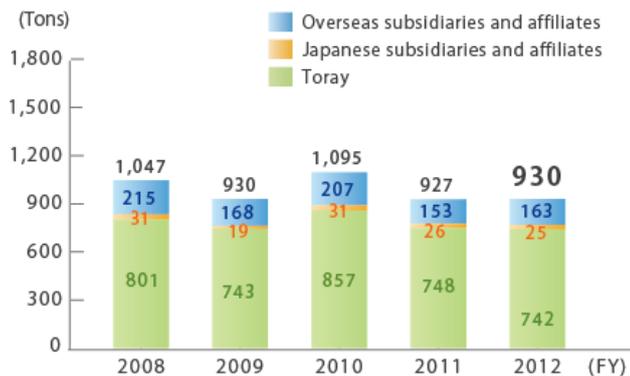
Gas boiler at Toray's Okazaki Plant

### Water Quality Management

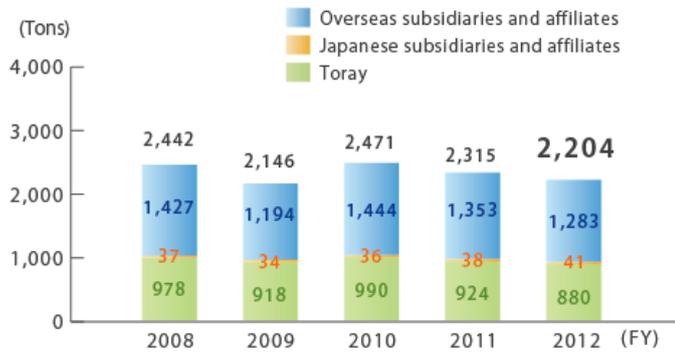
In fiscal 2012, the biochemical oxygen demand (BOD) of Toray Group's wastewater emissions was up 0.3% to 930 tons, while COD was down 4.8% to 2,204 tons, compared to the previous year.

Toray made its wastewater quality more consistent by upgrading equipment at its Nagoya Plant, Mishima Plant and other locations. Seeking to further improve its wastewater facility management, the Company brought 23 key personnel responsible for wastewater at eight plants together to share ideas and information on their management efforts and study regulatory updates.

Water Emissions (BOD)\*1



Water Emissions (COD)\*1



Toray experts responsible for wastewater meet to share best practices

- \*1: Figures for fiscal 2011 have been revised for this report because previous data for some plants of subsidiaries and affiliates had not been correctly calculated.
- \*2: Figures for fiscal 2008 to 2011 have been revised for this report because previous data for some of Toray's plants had not been properly calculated.

## Initiatives for Managing Water Resources

### 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.

### Water Usage

Toray Group used 233 million tons of water in fiscal 2012, a decrease of 3% from 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 2012 was equivalent to 75.6 points, down 1.1 points from the previous fiscal year.

Toray's water usage per unit of sales*1						
	FY2001	FY2008	FY2009	FY2010	FY2011	FY2012
Comparative water usage per unit of sales	100.0	79.4	86.5	79.6	76.7	75.6

\*1 : Figures for fiscal 2011 have been revised for this report because previous data for some plants of subsidiaries and affiliates had not been correctly calculated.

#### Related Information

- › [Environmental Impact Overview Fiscal 2012](#)

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## Initiatives to Reduce Waste

Toray Group is carrying out zero emission initiatives as it works toward the realization of a sustainable, recycling-based society. Under the Fourth Medium-Term Environmental Plan, the Group is working to achieve its fiscal 2015 targets for rates of simply disposed waste,\*1 landfill waste\*2 and recycled waste,\*3 which have been set as indicators for measuring progress toward attaining zero emissions.

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

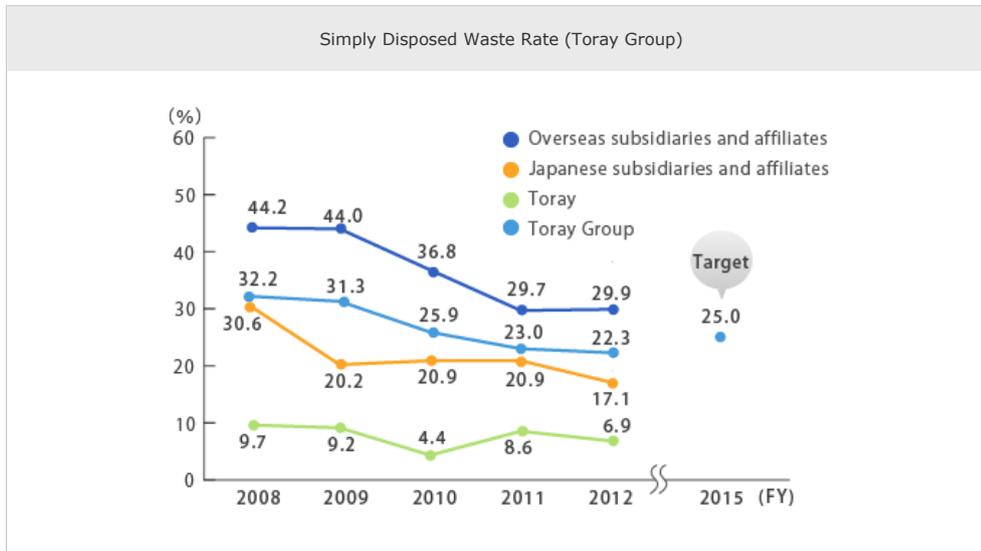
\*2 : Landfill waste/Total waste

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

### Results in Fiscal 2012

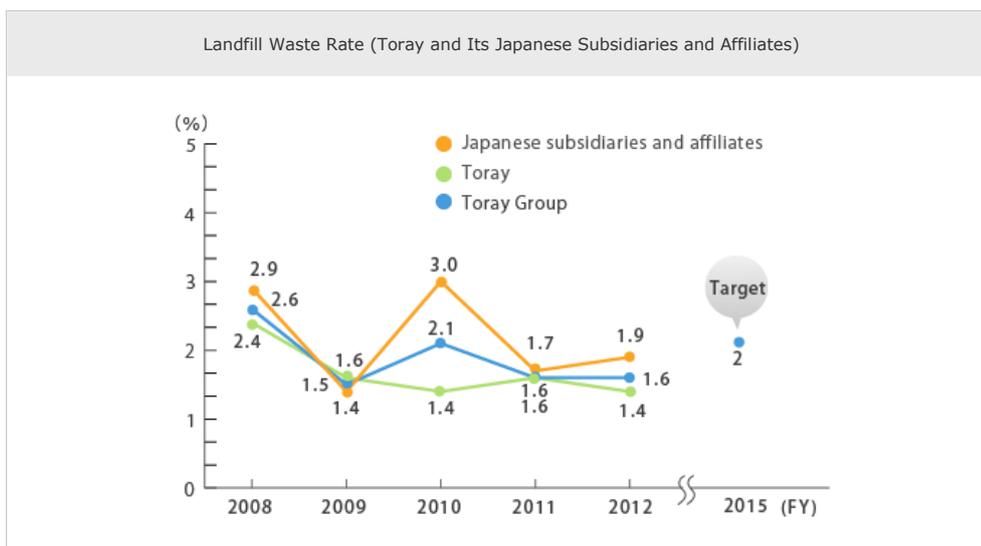
#### Simply Disposed Waste Rate

While simply disposed waste slightly increased at subsidiaries and affiliates outside Japan, it decreased at Toray and its subsidiaries and affiliates in Japan. As a result, the simply disposed waste rate for Toray Group improved 0.7 percentage points year on year to 22.3% in fiscal 2012.



#### Landfill Waste Rate

The landfill waste rate for Toray Group remained at 1.6%, unchanged from the previous fiscal year despite a slight increase at Japanese subsidiaries and affiliates.



#### Recycling Rate

The recycling rate for Toray Group increased 2.7 percentage points year on year to 89.7%, owing to increases at Toray and its group companies in Japan and overseas.

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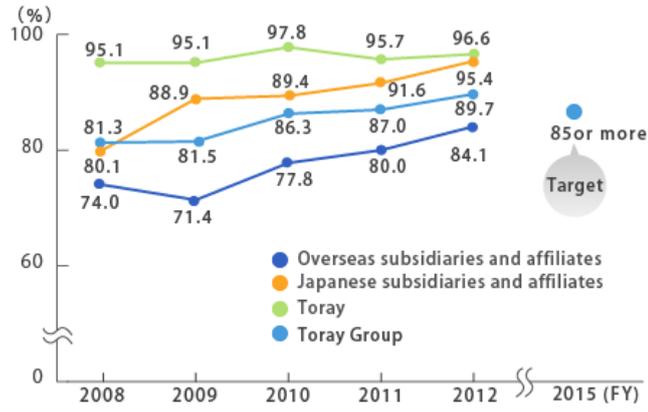
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Recycling Rate (Toray Group)



### 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. Seven more plants achieved zero emissions status in fiscal 2012, bringing the total to 29 plants at 17 companies.

Companies and Plants with Zero Emissions Status in Fiscal 2012 (Toray Group)

Notes:

- Names in blue indicate companies and plants that achieved zero emissions in fiscal 2012 for the first time
- Information in brackets refers to the names of the plants

Toray	Shiga Plant, Seta Plant, Ehime Plant, Aichi Plant, Chiba Plant, Tsuchiura Plant, Gifu Plant, Ishikawa Plant
Japanese Subsidiaries	<a href="#">Ogaki Fuso Spinning Co., Ltd. [Fuso]</a> , Toray Textiles, Inc. [Kiryu], Toray Coatex Co., Ltd., Maruichi Fiber Co., Ltd., <a href="#">Toray Monofilament Co., Ltd.</a> , <a href="#">Toyo Tire Cord Co., Ltd.</a> , Toray Engineering Co., Ltd. [Shiga, Seta], Toray Precision Co., Ltd., Toray Opelontex Co., Ltd., Soda Aromatic Co., Ltd. [Koriyama], Toyo Plastic Seiko Co., Ltd. [Mishima, <a href="#">Okazaki</a> ], Toray PEF Products Inc. [Konan], Toray Advanced Film Co., Ltd. [Nakatsugawa, Mishima, Fukushima, <a href="#">Takatsuki</a> ], <a href="#">Toray Battery Separator Film Co., Ltd.</a>
Overseas Subsidiaries	Toray Plastics (America), Inc. [Virginia], <a href="#">Toray Jifa (Qingdao) Textile Co., Ltd.</a>

## 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.

In fiscal 2012, ongoing efforts to clean up groundwater contamination discovered at Toray Monofilament Co., Ltd. as well as soil contamination at the Nagoya Plant, made progress using remediation equipment. 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 2012, one case of an administrative penalty resulting from a violation of regulations occurred at a Toray Group production plant. Specifically, at Toray's Tsuchiura Plant, soil pollution at the site of a demolished power plant exceeded standards according to a soil survey. The power plant operator, which had been leasing that section of the Tsuchiura Plant's site, conducted samples of soil and groundwater when restoring the site to original conditions after operations were discontinued, and discovered that levels of hexavalent chromium slightly exceeded regulations in 4 of 57 spots measured. These excessive levels were caused by the usage of different soil stabilizer materials than those specified in building specification documents by the construction company contracted to perform construction work by the power plant operator in 2005.

A report was submitted to the Ibaraki prefectural government in November 2012, and the four spots that exceeded regulations were designated as areas requiring countermeasures. The spots were soon dug up and the soil was subject to purification treatment. Consequently, the requirement to take countermeasures for these areas was lifted in February 2013.

The Group experienced five accidents, including a fire that caused minor damage at Toray's Shiga Plant, as well as one case of a slight but temporary violation of regulatory limits, in fiscal 2012. In each case, reports were submitted to government authorities and countermeasures designed to prevent recurrences were implemented.

In addition, Toray Group dealt with seven cases of complaints or requests from residents living near production plants regarding odors, noise, or other matters. These cases were taken seriously and improvements made as necessary.

Toray Group Environmental Incidents in Fiscal 2012

Administrative disposition due to violations of laws or ordinances*1	1
Accidents (fires, explosions, environmental accidents, etc.)	5
Standard values slightly exceeding temporarily*2	1
Complaints/requests (noise, odor, etc.)	7

\*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 fiscal 1999 to record and calculate the effectiveness of investments and costs relating to environmental preservation, energy conservation, and recycling.

### Toray Fiscal 2012 Environmental Accounting Report

In fiscal 2012, environment-related investment amounted to 1,319 million yen, a 274 million yen increase compared to the previous year. Major contributions to this total included measures to reduce atmospheric emissions of chemical substances, wastewater treatment facilities, and equipment for waste reduction.

Cost totaled 6,573 million yen, a decrease of 1,600 million yen compared to the previous year. Major expenses were air pollution prevention costs totaling 1,489 million yen and water pollution prevention costs amounting to 2,409 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 171 million yen and waste disposal costs by 40 million yen, while gaining 528 million yen from the sale of recycled resources with monetary value.

Toray Fiscal 2012 Environmental Accounting Report

Expenses				
Item	Subcategory and description	Investment (million yen)	Cost (million yen)	
Business area costs	Pollution prevention costs	Air (including CFC countermeasures)	482	1,489
		Water quality	257	2,409
		Noise and vibration	11	7
		Greening	1	258
		Odors and other	74	332
	Global environment conservation costs	Energy conservation and combating global warming	486	—
	Resource recycling costs	Waste reduction, recycling, disposal, and PCB waste disposal services	8	1,346
	Upstream and downstream costs	Product recycling	0	3
		Container and package recycling	0	1
	Management activity costs	Indirect labor costs, ISO certification and maintenance, environmental communications, and education	0	443
Social initiative costs	Regional initiatives, support for organizations, etc.	0	39	
Environmental remediation costs	SOx fines, soil purification, etc.	0	246	
Total		1,319	6,573	

Effectiveness

Item		
Financial effects	Reduction in energy costs	171million yen
	Reduction in waste disposal costs	40million yen
	Sale of valuable recycled resources with	528million yen

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	monetary value	
Quantitative environmental effects	Reduction of greenhouse gas emissions	8,300 tons-CO <sub>2</sub> equivalent

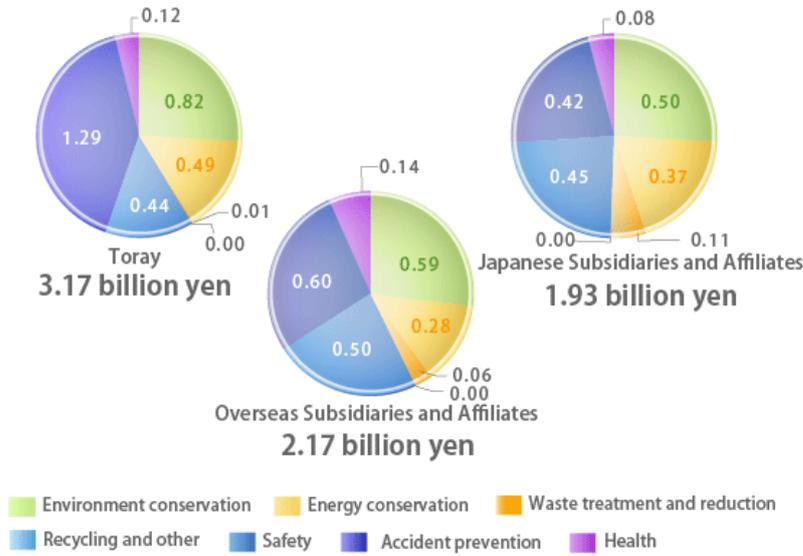
### Toray Group Facility Investment in Safety, Health, Accident Prevention, and Environmental Preservation Projects

In addition to its environmental accounting activities, Toray Group reports on its investments relating to safety, accident prevention, and health.

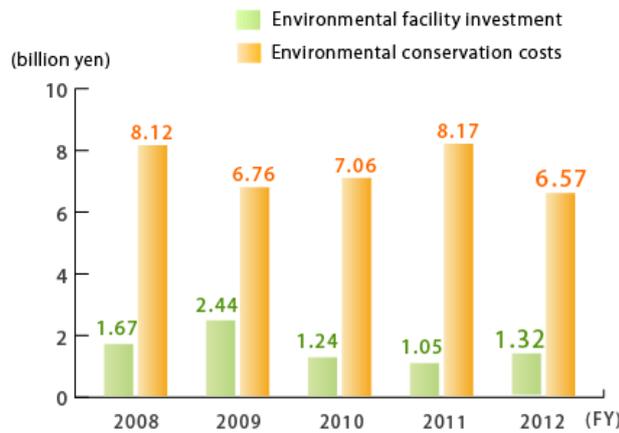
The total amount of equipment investment in fiscal 2012 was 3.17 billion yen for Toray, 1.93 billion yen for Japanese subsidiaries and affiliates, and 2.17 billion yen for overseas subsidiaries and affiliates.

In the area of safety, Toray continued to make investments including equipment security upgrades and disaster prevention projects such as seismic reinforcement of buildings. Investment in environmental conservation projects in Japan included measures to reduce industrial waste at Du Pont-Toray Co., Ltd. Outside Japan, measures were undertaken to prevent leakage of chemical substances and upgrade wastewater treatment facilities at Alcantara S.p.A.

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.

## 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 set up a working group to classify its operations and summarize the relationship between business activities and biodiversity based on the Group's Biodiversity Initiatives, formulated in 2010. The working group has also devised new initiatives in its second roadmap for helping to preserve biodiversity in the future, and it is designating priorities for their implementation.

### Main Initiatives in Fiscal 2012

#### Formulating a second roadmap

The working group formulated a second roadmap as a three-year plan covering fiscal 2013 to 2015. The new roadmap focuses on increasing green areas on Toray Group premises.

#### Increasing Green Area

Toray carries out greening activities by applying the shrine forest method,\*1 which it adopted for its basic policies on tree planting in 1973.

Toray went on to expand and revise its tree planting policies, and established its Basic Policy for Increasing Green Areas in June 2012 amidst public expectations in recent years that consideration be given to biodiversity. The new policy is intended to preserve the beauty of natural forests at Toray's factory sites, and to properly manage green areas throughout Toray Group. Guided by this policy, the Toray Group endeavors to maintain and grow lush forests and greenery while contributing to environmental conservation in the communities where it operates.

\*1: Established by Akira Miyawaki (professor emeritus 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.

### Toray Group's Basic Policy for Increasing Green Areas (Established in June 2012)

- a. Toray Group contributes to the preservation of the natural environment by promoting tree planting using planting methods suitable for the biodiversity of local habitats.
- b. Toray Group aims to surround its production plants with greenery by giving priority to tree planting in areas at the boundaries of factory sites.
- c. Toray Group sets goals for making each of its production plants greener while considering how to attain harmony with the surrounding environment as well as regulations concerning green space ratios in each respective country or region.

### 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 source for a

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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 actively involved in the project\*2 to make Mishima into a garden city.

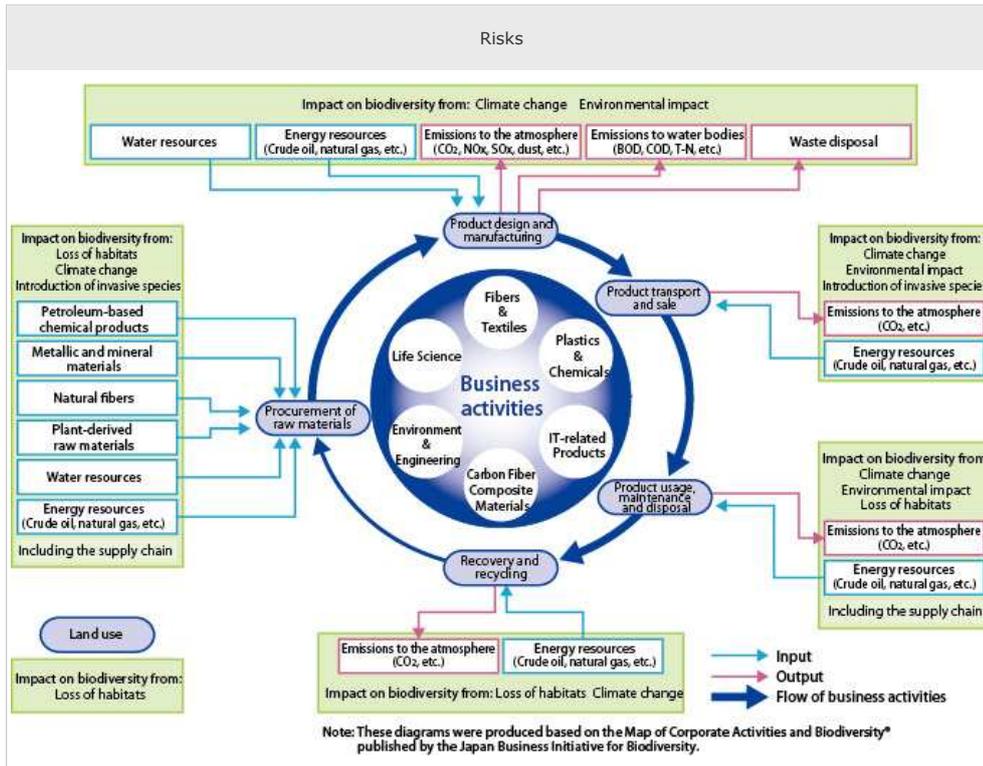
\*2: The project aims to help citizens, NPOs, and businesses collaborate with the local government to create a beautiful city. This involves making flower gardens a sightseeing attraction for residents and tourists alike, and a wonderful new asset for the city, along with its clean water, forests, culture and history.

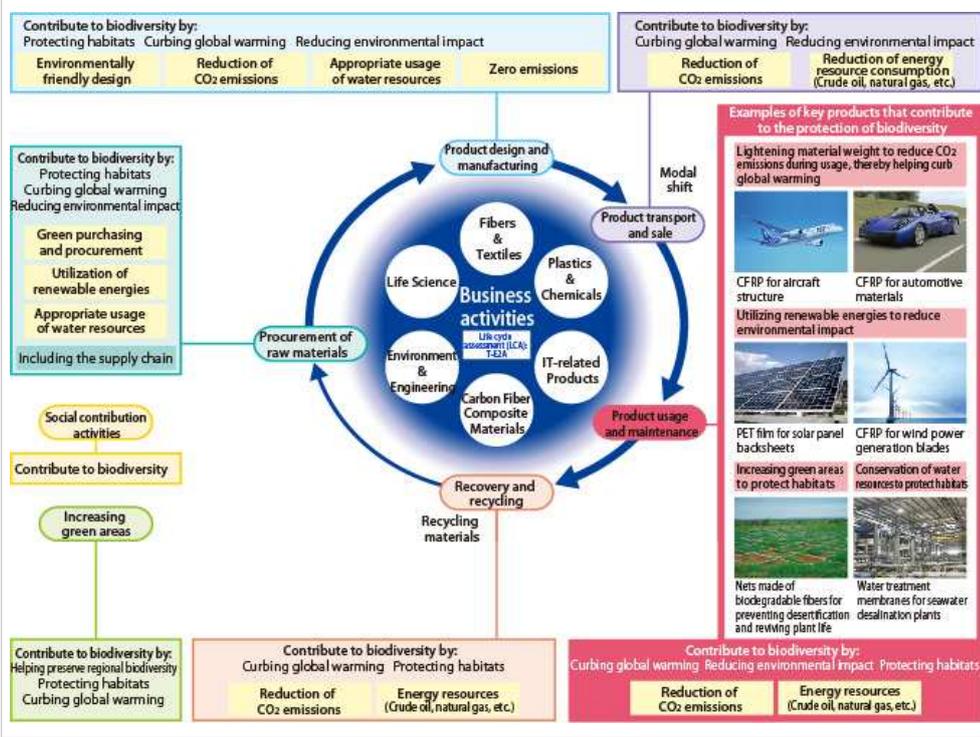


A lush forest has been planted at Toray's Nagoya Plant.

## 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.







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Unit	GHG emissions 10,000tms CO <sub>2</sub> /year	Emission volume														Principal manufactured products
		PPEW				Gas emissions				Water emissions				Waste		
		Air	Water	Soil & leachate	Waste	SO <sub>x</sub>	NO <sub>x</sub>	Dust	BOD	COD	Water	Recycled	Simple incineration	Landfill disposal		
tona/year	tona/year	tona/year	tona/year	tona/year	tona/year	tona/year	tona/year	tona/year	tona/year	million m <sup>3</sup> /year	tona/year	tona/year	tona/year	tona/year		
Shiga Plant	10.3	3	0	0	87	0	33	4	75	92	25.2	2,963	24	0	- EGSANE <sup>®</sup> man-made suede - LUMBROR <sup>®</sup> polyester film - TORAYCAL <sup>®</sup> carbon fiber - TORAYVINO <sup>®</sup> home water purifier	
Saka Plant	0.2	0	0	0	0	0	0	0	0	0	0.2	47	0	0	- TORAYLON <sup>®</sup> banded yarn - Inoue Ballon catheters - AMTRON <sup>®</sup> Fuji catheters	
Elma Plant	62.4	74	13	0	184	343	686	122	118	142	31.9	7,114	35	0	- TORAY TETORON <sup>®</sup> polyester staple fiber - TORAYCA <sup>®</sup> carbon fiber - SOMMEMBA <sup>®</sup> reverse osmosis membrane module - TORAYCOOL <sup>®</sup> PET resin	
Nagoya Plant	10.6	22	0	0	105	0	54	2	109	166	31.3	2,797	1,372	124	- AMELAN <sup>®</sup> nylon resin - TORAYCOAN <sup>®</sup> PET resin - Various fine chemicals	
Tokai Plant	81.0	63	23	0	89	13	340	5	345	348	19.2	7,690	178	236	- Caprolactone - Phosphoric acid - Polyester chips - TORELSUN <sup>®</sup> PPS resin	
Aichi Plant	2.8	0	0	0	16	0	1	0	3	-	2.2	92	1	0	- Nylon filament yarn - BATELAP <sup>®</sup> photo-optical fiber	
Okazaki Plant	11.4	14	0	0	494	24	38	8	17	29	6.0	2,494	0	63	- Nylon filament yarn - TORAY WATERLESS PLATE printing plate - Ribogen <sup>®</sup> artificial kidney - TORAYVINO <sup>®</sup> home water purifier	
Mahima Plant	17.9	2	0	0	16	7	308	1	46	30	36.6	774	10	5	- LUMBROR <sup>®</sup> polyester film - TORAY TETORON <sup>®</sup> polyester filament yarn - Demase <sup>®</sup> oral administration prozacycin PGD - Sermetec - Feron <sup>®</sup> natural interferon-β preparation	
Chiba Plant	1.5	34	0	0	1	0	9	0	6	60	4.2	2,196	9	1	- TOCHLAC <sup>®</sup> ABS resin	
Tsushima Plant	2.9	0	0	0	0	0	7	0	1	-	0.4	195	0	0	- TORAYFAN <sup>®</sup> DC polypropylene film	
Gifu Plant	9.2	0	0	0	9	149	51	2	13	5	9.1	702	0	1	- EGSANE <sup>®</sup> man-made suede - LUMBROR <sup>®</sup> polyester film - TORELSUN <sup>®</sup> PPS film	
Ichikawa Plant	7.3	1	0	0	32	43	166	7	6	8	9.6	974	3	4	- TORAY TETORON <sup>®</sup> polyester filament yarn - Nylon filament yarn - TORAYCA <sup>®</sup> carbon fiber	
Toray Fine Cord Co., Ltd. (Malaysia)	1.6	1	0	0	0	0	3	0	2	5	0.9	195	0	0	- The cord - Carpet pile fiber	
Toray Advanced Film Co., Ltd. (Malaysia)	0.9	2	0	0	49	0	1	0	0	0	0.2	529	1	1	- CEDAPESL <sup>®</sup> release film - Lumiclar <sup>®</sup> for solar panel backsheet	
Perthuis Sdn. Berhad (Fibres & Textiles)	7.7	0	0	0	0	1	1	47	2	8	0.2	163	98	53	- TORAY TETORON <sup>®</sup> polyester staple fiber	
Toray Fibres Europe S.A.S.	3.0	0	0	0	0	2	28	0	0	71	2.7	733	283	340	- LUMBROR <sup>®</sup> polyester film - TORAYFAN <sup>®</sup> polypropylene film	

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



## CSR Report Highlight 2013

### 1. Drawing on Experience and Strengths to Build an Even More Global Business

In 1963, Toray Group established its first manufacturing site outside Japan in Thailand. The Group regards Southeast Asia as a launch pad for its global business and a region where the Group can leverage its strengths. Drawing on its extensive experience and many achievements in Southeast Asia, Toray Group is continuing to expand its business worldwide.



### 2. Conserving the World's Finite Natural Resources

The world's growing population is consuming more and more resources and energy. Consequently, the world may eventually have to prepare for depleted oil reserves and energy shortages. Clearly, the efficient use and recycling of the world's finite resources and the development of alternative energy and resources have become major challenges confronting humanity. Toray is committed to helping to resolve these issues with technologies and products designed to facilitate green innovation.



### 3. Supporting Science Education to Prepare Young People for the Future

As competition in science and technology heats up around the world, improving the education of budding scientists and engineers is a pressing task for ensuring future innovation. Toray Group regards this as one of today's most pressing social issues.



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**Drawing on Experience and Strengths to Build an Even More Global Business**

**Toray's groups in Thailand, Indonesia, and Malaysia ready to spur more progress**

In 1963, Toray Group established its first manufacturing site outside Japan in Thailand. The Group regards Southeast Asia as a launch pad for its global business and a region where the Group can leverage its strengths. Drawing on its extensive experience and many achievements in Southeast Asia, Toray Group is continuing to expand its business worldwide.

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[Fifty Years at Toray Group Thailand](#)

Toray Group is now celebrating its entry into Southeast Asia with its 50th anniversary in Thailand and 40th anniversaries in Indonesia and Malaysia, respectively. Commemorative ceremonies have recently been held in each of these countries. At the ceremonies, Toray representatives expressed appreciation for the support the Group has received in its business activities to the guests in attendance. They also stated their hope that the friendships in the region will continue to develop further, and announced plans to make the most of each country as a base for expanding the Group's business in the future.

Exhibitions were held together with the commemorative ceremonies to showcase products in each business segment and present the history of Toray's business activities and social contributions in each country.



**Toray Group Thailand's 50th anniversary ceremony**



About 1,000 guests and officials attended the ceremony held at the Plaza Athenee Bangkok Hotel on March 20, 2013. The TEEWAVE® AR1 next-generation concept electric car was on display to demonstrate the full power of Toray's materials, and an exciting fashion show featured children's clothing, products from Uniqlo Co., Ltd., and sports apparel.



**Toray Group Indonesia's 40th anniversary ceremony**



On March 18, 2013, around 500 guests and officials attended the ceremony held at the Shangri-La Hotel in Jakarta. On display were Toray's automobile parts, shown clearly using a car stripped down to the frame, as well as examples of new energy sources and water treatment applications. The visitors expressed their interest with many questions.



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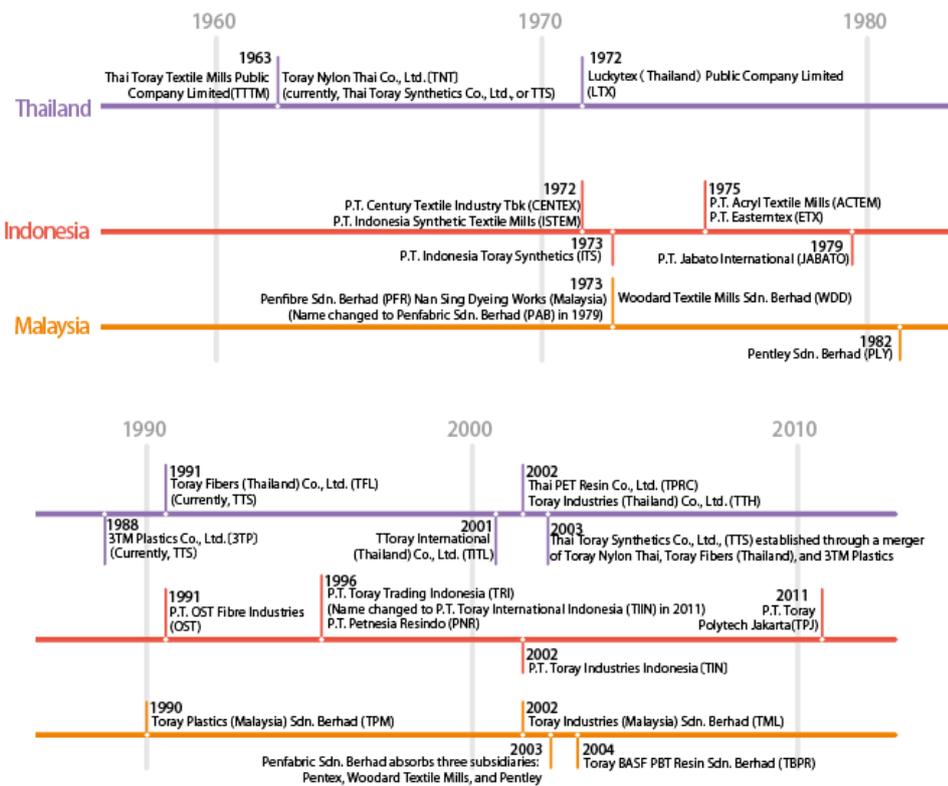
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About 500 guests and officials attended the ceremony held at the Hotel Equatorial in Penang on April 10, 2013. At the ceremony, students from the University of Science, Malaysia performed a traditional dance to express gratitude for Toray's contributions to the university.



## History of Companies Established in Each Country



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Toray's groups in Thailand, Indonesia, and Malaysia ready to spur more progress

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Forty Years at Toray Group Indonesia



## Fifty Years at Toray Group Thailand



### Business activities and CSR

Toray set up its first full-fledged production base outside Japan in 1963 when it established Thai Toray Textile Mills to produce polyester-rayon blend fabrics. Toray went on to establish numerous other subsidiaries in Thailand, each of which is currently expanding operations across a wide range of businesses. These companies include Luckytex (Thailand), which spins polyester-cotton fibers and weaves and dyes the fabrics, and also weaves and dyes polyester filament fabrics and produces materials for airbags. In addition, Thai Toray Synthetics manufactures nylon-polyester filaments, nylon-PBT resin compounds, polypropylene films, and deposition films.



A view of Toray Nylon Thai (currently Thai Toray Synthetics) around 1980



The award-winning logo

Toray Group Thailand began "CSR line activities" in 2008, and created an original CSR logo to symbolize this initiative. At present, all employees at every group company are working together in earnest to carry out CSR activities.



Winners of CSR logo contest for employees in 2008

### Damage from major flooding and recovery progress

Due to the massive flooding that hit Thailand in 2011, four plants at two companies belonging to Toray Group Thailand were affected, forcing a temporary suspension of operations in early October. Fortunately no employees were injured, but none of the factories could resume full operations until May 2012. After that, group companies carried out activities to prepare for future disasters, implementing various flood countermeasures and revamping emergency response plans. October 13 was designated as a day to remember the flooding of the Hi-Tech Industrial Estate where some factories are located. At Thai Toray Synthetics, which sustained particularly heavy damage, a flood memorial display was set up in a section of its plant so that people will not forget the terrible damage caused by the floods.



Local employees assisted flood victims in 2011.

Toray Group as a whole donated a total of 4 million baht (about 10 million yen) in relief money through several organizations. Local employees joined various efforts to provide assistance to victims of the flooding and communities surrounding Toray's factories.

### Supporting the Thailand Toray Science Foundation

Toray established the Thailand Toray Science Foundation in June 1994 through a contribution of 40 million baht (about 200 million yen at the time). Since then, the foundation has been contributing to the advancement of science and technology in Thailand. At present, it offers awards and financial assistance worth 6 million baht (about 18 million yen) annually through support from the companies of Toray Group Thailand. Since its founding, Thailand Toray Science Foundation has provided a cumulative amount of about 100 million baht (about 300 million yen) in assistance.

#### Related Information

• [Thailand Toray Science Foundation](#)

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The kind support of many people in Thailand has enabled Toray Group Thailand to continue doing business and growing over a long

period of 50 years. To show our gratitude, we are involved in a wide range of activities aimed at giving something back to society, such as the activities of the Thailand Toray Science Foundation.

Many Thais are devout Buddhists, and like to accumulate *tham bun*, which means merit from doing good deeds. Consequently, there is a strong spirit of kindness and cooperation in Thai society, providing a deep foundation for carrying out CSR initiatives.

The field of CSR is essential for the future of Toray Group Thailand and the growth of our business. With this in mind, we have been continuously promoting a corporate culture that encourages our employees to freely and fully pursue activities for helping others.



**Yasuo Yamashita**

Then-President

Toray Industries (Thailand) Co., Ltd.

(Toray's subsidiary overseeing operations in Thailand)

(Message written in March 2013)

Toray's groups in Thailand, Indonesia, and Malaysia ready to spur more progress

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Forty Years at Toray Group Indonesia

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Forty Years at Toray Group Malaysia

## Forty Years at Toray Group Indonesia

### Business activities and CSR

Toray commenced operations in Indonesia in 1972 with the establishment of Century Textile Industry, which produces polyester-cotton blend fabrics, and Indonesia Synthetic Textile Mills, which makes polyester-rayon blend fabrics. Later, Toray established Indonesia Toray Synthetics to produce nylon filaments, polyester filaments and staple yarn, then Acryl Textile Mills to spin and dye acrylic staple yarn, and finally Easterntex to produce polyester-cotton blend fabrics. Taking advantage of Indonesia's growing domestic demand and cost competitiveness, these companies expanded and increased their export markets. Looking ahead, Toray Group Indonesia will work to continue expanding its fiber and textile operations as well as peripheral businesses while proactively developing new businesses.



A view of Century Textile Industry in 1997



CSR Handbook produced in 2008

Toray Group Indonesia is fostering a new corporate culture focused on CSR, and has designated two member companies—Indonesia Synthetic Textile Mills and Acryl Textile Mills—as model CSR companies. The two companies have jointly created an original CSR handbook based on Toray Group's CSR Guidelines, and all employees are engaging in CSR activities with the goal to achieve continuous growth through CSR-driven management.

### Contributing to communities and promoting international exchange through judo

The Indonesian Judo Center was built in 1992 with assistance from Toray Group Indonesia and Japanese companies operating in the country to promote friendship between the people of Indonesia and Japan through their shared interest in Judo. Since then, the center has been utilized to improve people's mental and physical discipline, especially young people, while also raising their morale. It has a competition hall with a capacity of 3,500 people and three accommodation facilities, each large enough for about 100 people. Toray and companies in Toray Indonesia Group donated over one-third of the total expenses to build these facilities. In addition, the group is currently providing judo instructions at no charge through the Toray Judo Club, whose members range from people trying to stay fit to athletes competing in international tournaments.



Judo class in the Indonesian Judo Center in 2013

### Supporting the Indonesia Toray Science Foundation

Toray set up the Indonesia Toray Science Foundation in December 1993 through a contribution of 3 billion rupiah (about 200 million yen at the time). Since that time, the foundation has been actively contributing to the advancement of science and technology in the country. It currently offers awards and financial assistance worth about 1 billion rupiah (about 10 million yen) annually through support from the companies of Toray Group Indonesia. Since its founding, Indonesia Toray Science Foundation has provided a cumulative amount of about 15 billion rupiah (about 150 million yen) in assistance.

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▸ [Indonesia Toray Science Foundation](#)

Indonesia faces problems related to the environment, energy, water and food, with various stakeholders involved. We understand that helping to solve these problems is a central part of our social responsibility. Therefore, beyond the scope of our business activities, we are working together with local industries and academic organizations to actively utilize Toray Group's new materials and technologies to contribute to Indonesian society. We will continue to promote community interaction via sports, cultural endeavors and volunteer activities as a means to build even stronger bonds of trust with local residents and the municipal governments that have supported our business activities, so that Toray always remains a respected corporation in Indonesia.



**Hideyasu Okawara**  
President  
P.T. Toray Industries  
(Toray's subsidiary overseeing operations in Indonesia)

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[Forty Years at Toray Group Malaysia](#)

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# Drawing on Experience and Strengths to Build an Even More Global Business

Forty Years at Toray Group Indonesia 1 2 3 **4** 5

Charting a new global course by leveraging our many achievements and rich experience in Thailand, Indonesia, and Malaysia



## Forty Years at Toray Group Malaysia



### Business activities and CSR

In Malaysia, Toray established a series of subsidiaries to produce fibers in the 1970s, and is now carrying out full-scale manufacturing spanning from fibers to textiles. Companies established at that time include Penfibre, which produces polyester staple fibers, and Penfabric, which spins polyester-cotton blended yarns, and weaves and dyes textiles and printed fabric. In the 1990s, Penfibre began production of polyester film, and Toray Plastics (Malaysia) was established to produce ABS resins. Later, as Toray Group Malaysia diversified its businesses in the 2000s, Toray BASF PBT Resin was established as a joint venture to produce PBT resins. Toray Group Malaysia is working to develop and expand its businesses in tandem with the national policies for upgrading industrial structure. Based on Toray's corporate philosophy of "contributing to society through the creation of new value with innovative ideas, technologies and products," Toray Group Malaysia is actively engaged in a wide array of public activities with deep roots in the local communities where it operates.



A view of Penfibre around 1980

### Donating to University of Science, Malaysia

In conjunction with the 40th anniversary of Toray's business in Malaysia, Toray Group Malaysia donated 4 million ringgit to the University of Science, Malaysia (USM), located in Penang. The purpose of the donation was to establish the Toray USM Knowledge Transfer Center, an educational facility tasked with preserving Malaysia's culture, heritage and traditions as well as developing human resources. The center will be built on the university's main campus, and is scheduled for completion in 2015. USM is one of top universities in Malaysia and is certified as an Accelerated Programme for Excellence University by Malaysia's Ministry of Higher Education. Many employees of Toray Group Malaysia graduated from USM, which is highly appreciated for its research capabilities. Toray offers practical training for USM students, and invited five students to visit its facilities in Japan in December 2012. At Toray's Osaka Head Office, Shiga Plant and Seta Plant, the students toured facilities and attended lectures on CSR and its relation to research and development.



Toray donated 4 million ringgit to USM in 2013.

### Supporting the Malaysia Toray Science Foundation

Toray established the Malaysia Toray Science Foundation in August 1993 through a contribution of 4 million ringgits (about 200 million yen at the time). Since then, the foundation has been making steady contributions to the advancement of science and technology in Malaysia. The foundation currently offers awards and financial assistance worth about 450,000 ringgits (about 13.5 million yen) annually through support from the companies of Toray Group Malaysia. Since its establishment, the Malaysia Toray Science Foundation has provided a cumulative amount of about 7.75 million ringgits (about 230 million yen) in assistance.

#### Related Information

- [Malaysia Toray Science Foundation](#)

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I would like to express my appreciation to the government officials, various organizations, local residents, and customers for their continuous support, which has enabled Toray Group Malaysia to do business for 40 years as of 2013. Along with the support we have

received, the leadership of our predecessors and hard work of our local staff have led the group to success over the years. As Toray Group Malaysia works to expand its businesses, we recognize that the group has a part to play in achieving Malaysia's goal, set in its long-term economic plan, to become an advanced country by 2020. By capitalizing on Malaysia's many advantages, such as its location in Asia, diverse workforce, and abundant resources, we intend to grow as an important base for Toray Group in the future.



**Hiroshi Yoshimura**  
President  
Toray Industries (Malaysia) Sdn. Berhad  
(Toray's subsidiary overseeing operations in Malaysia)

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# Highlight 1 Drawing on Experience and Strengths to Build an Even More Global Business

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## Charting a new global course by leveraging our many achievements and rich experience in Thailand, Indonesia, and Malaysia



**Hiroshi Murakami**  
Senior Vice President,  
Overseas Operations, and  
Head, International  
Division  
Toray Industries, Inc.



### Toray's Asia and Emerging Country Business Expansion Project

Under its Project AP-G 2013 Medium-Term Management Program, Toray Group is implementing the Asia and Emerging Country Business Expansion Project, or AE Project for short, as a group-wide initiative for accelerating business expansion in growth countries and regions. To drive business expansion in China, India, ASEAN nations and other emerging countries around the world, organizations for promoting the AE Project have been set up in each region under the leadership of Toray's president. Focusing on market research based on the latest information from each region, the Group has taken a variety of initiatives to develop products and applications that make the most of Toray's strengths while creating new sales channels.

### The ASEAN region's role in the AE Project

We are now celebrating Toray's entry into Thailand 50 years ago and into Indonesia and Malaysia 40 years ago. These countries are vital as centers for Toray Group's business growth in the ASEAN region. It is significant that Toray chose Thailand, Indonesia, and Malaysia when it initially decided to venture outside Japan. As a Japanese company searching for a new future in the aftermath of World War II, Toray undertook local manufacturing and marketing in these countries from early on, and went on to build a strong track record over its long history in the region. We treated our recent anniversary ceremonies and exhibitions as opportunities to step up our specific efforts in each of the three countries and to promote initiatives for quickly achieving business growth in the ASEAN region. Making broad use of the knowledge gained over a history of 40 or 50 years and the facilities we have in place today will be the keys for ensuring steady progress in our AE Project.



Staff from the Toray Liaison Office and Toray International India

### Entering India and Brazil on a course to expand worldwide

In India, Toray established Toray International India Private Limited in April 2011, and the Toray Industries, Inc., India Liaison Office in September of the same year. In Brazil, Toray restructured and expanded its subsidiary, launching Toray do Brasil Ltda. in November 2012. In both India and Brazil, the markets are forecast to grow rapidly in the future. Therefore, Toray has begun examining the feasibility of expanding operations and manufacturing locally in these two countries, and is also considering, from a variety of perspectives, the possibility of business tie-ups with Indian and Brazilian companies.

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Toray Group has formulated its own principles for considering business entry into a new country. Firstly, we give importance to collaborative relations with stakeholders in that country. Secondly, we intend to conduct business over the long term while contributing to the development of communities. Finally, we actively hire local human resources and promote the localization of management. In the many regions where the Group operates, we strive to conduct business while promoting mutual understanding with local people so that we can develop trust and work together in partnership to build a brighter future.



Toray President Akihiro Nikkaku meets with leaders from Toray do Brasil Ltda.

HOME • Social Responsibility • CSR Report Highlight 2013 • 2.Conserving theWorld's Finite Natural Resources



# Conserving World's Finite Natural Resources

## Toray's green innovation contributes to the efficient use of precious resources

The world's growing population is consuming more and more resources and energy. Consequently, the world may eventually have to prepare for depleted oil reserves and energy shortages. Clearly, the efficient use and recycling of the world's finite resources and the development of alternative energy and resources have become major challenges confronting humanity. Toray is committed to helping to resolve these issues with technologies and products designed to facilitate green innovation.

## Toray's Green Innovation Business

Toray Group is promoting its Green Innovation Business Expansion Project as one of the growth strategies in its Project AP-G 2013 Medium-Term Management Program, a three-year plan launched in April 2011. The Group designates products that can contribute to solving global environmental problems as Green Innovation Products. Toray Group's goal is to see its customers adopt enough Green Innovation Products to reduce their combined annual CO<sub>2</sub> emissions by 200 million tons by around 2020.

**Targets for Green Innovation Business Expansion Project around 2020**

Sales of Green Innovation Businesses  
**1 trillion yen**

CO<sub>2</sub> emissions reduction due to adoption of Green Innovation Products  
**200 million tons annually**

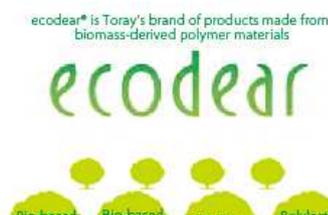
Green Innovation Product Types



Using fossil resources wisely  
Controlling CO<sub>2</sub> emissions

Providing biomass-derived polymer materials made without fossil resources

Toray Group's four core technologies are organic synthetic chemistry, polymer chemistry, biotechnology, and nanotechnology. By integrating these technologies, the Group is utilizing renewable biomass-derived raw materials and developing biomass-based polymer products. In April 2013, Toray announced plans to expand its biomass-based polymer business, and toward this end, redefined its ecodear® brand as an integrated brand of general-use biomass-based polymer materials and products. While ecodear® had previously consisted only of polylactic



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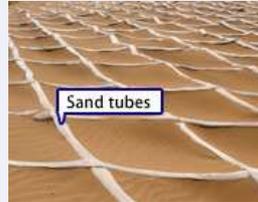
**Related Information**

- Green Innovation Businesses

**Spotlight**

**Using polylactic acid fiber to make land arable and greener**

Since 2007, Toray Group has been employing sand tubes made of polylactic acid fiber in a verification project for preventing topsoil loss and restoring vegetation in the Inner Mongolia Autonomous Region of China. Starting in fiscal 2012, the Group began employing a method combining the sand tubes and tree-planting to help prevent desertification in China, and in a new initiative, it started utilizing roll planters made of polylactic acid fiber to turn denuded areas of South Africa into arable land.



Sand tubes



**Republic of South Africa**

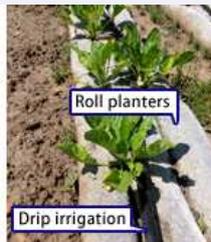
Polylactic acid fiber, a biodegradable material, is used to make roll planters. These roll planters are filled with local soil and placed on denuded land, then drip irrigation equipment is set up above them, and seeds are planted between them. The combination of the roll planters, which have high water retention, and the drip irrigation ensures that plants can grow efficiently with relatively small amounts of water and fertilizer. Furthermore, the simple setup of the equipment makes it relatively easy to convert denuded areas into arable land.



Japanese Prime Minister Shinzo Abe visited Toray's exhibition at African Fair 2013, held at Pacifico Yokohama from May 30 to June 2, 2013. Standing at left is Koji Sasaki, Manager of Toray's Fibers & Textiles Green Innovation Department.



Planting spinach seeds



Roll planters

Drip irrigation



**China**

Since 2007, Toray Group has been involved in a project for preventing topsoil loss and restoring vegetation using sand tubes in the Inner Mongolia Autonomous Region of China. Following a traditional Chinese method for preventing sand dispersion, the tubes are filled with sand and laid out in a grid-like pattern, thereby effectively preventing sand from shifting and dispersing.

In fiscal 2012, Toray Group began cooperating with the China National Sand Control and Desert Industry Society, an academic organization authorized by the country's State Forestry Administration. Together they are conducting experiments combining the sand tube method with tree planting, and verifying whether the method can be made more efficient.



Hiroshi Kajiyama (left) of Toray's Environment & Energy Development Center stands with Cao Zhidan of Toray Fibers & Textiles Research Laboratories (China) Co., Ltd.



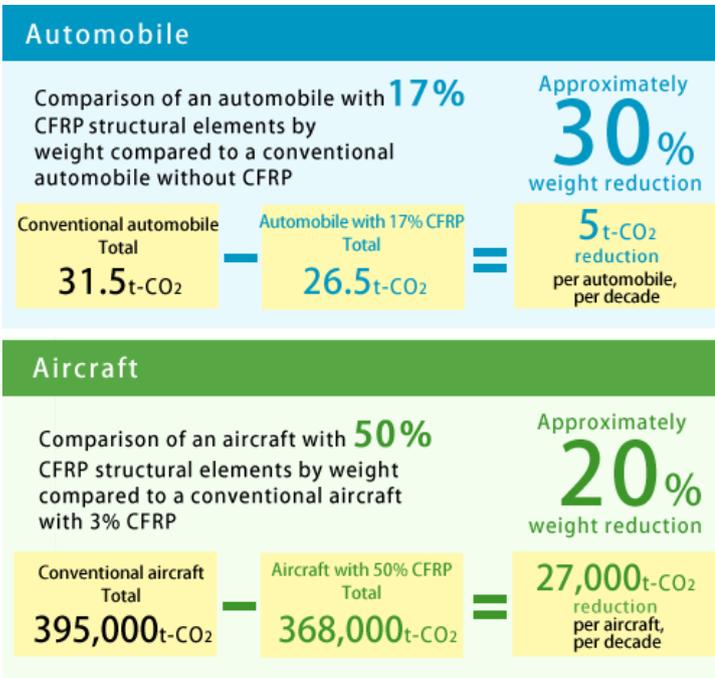
Using fossil resources wisely  
Reducing CO<sub>2</sub> emissions

**Toray's carbon fiber makes automobiles and aircraft lighter**

Carbon fiber is used to reduce the weight of automobiles and aircraft. This directly leads to lower fuel consumption, and, in turn, lower CO<sub>2</sub> emissions. In 2011, Toray's carbon fiber was chosen for the main wings, tail, fuselage, and other components of the all-new Boeing 787 passenger plane, helping to greatly reduce its weight. The 787 has since gone into service and is now flying passengers all around the world.

The next major application of carbon fiber is expected to be in the automotive industry. Toray Group has been making carbon fiber reinforced plastic (CFRP) parts for automobiles in the United States and Europe, and the Group is expanding these operations into Asia, as well. Toray Group intends to broaden CFRP applications in the automotive industry and to help develop technologies that reduce vehicle weight.

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



\*1: Japan Carbon Fiber Manufacturers Association



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



As Toray's flagship prototype, the TORAYCA® AR1 next-generation concept electric car embodies the Company's green innovation strategy. Toray used CFRP extensively in the car by applying its proprietary design and molding technologies, resulting in an extremely light vehicle weighing only 846 kilograms, about 66% lighter than a typical electric vehicle.



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 resins to produce carbon fiber composite materials.

**Spotlight**

**Toray's carbon fiber composite material wins awards in fiscal 2012**

**Toray receives the Prime Minister's Prize at the Japan Industrial Technology Awards**

Toray received the highest honor at the 41st Japan Industrial Technology Awards, sponsored by the Nikkan Kogyo Shimbun Ltd., winning the Prime Minister's Prize for its development of prepreg and carbon fiber for the Boeing 787.

(From left) Vice President Yasuo Suga, President Akihiro Nikkaku, Senior Vice President Moriyuki Onishi, and ACM Technology Department General Manager Nobuyuki Odagiri at the awards ceremony held on April 4, 2012



**Toray receives a Japan Innovators Award**

In recognition of its contribution to developing and

promoting the use of carbon fiber, epitomized by the material's application in passenger aircraft, Toray's Composite Materials Research Laboratories was awarded the Grand Prize at the 11th Japan Innovators Awards, sponsored by Nikkei Business Publications, Inc.



Then-General Manager of the Composite Materials Research Laboratories, Akihiko Kitano (third from right in the front row), at the awards ceremony held on December 4, 2012



Using water wisely

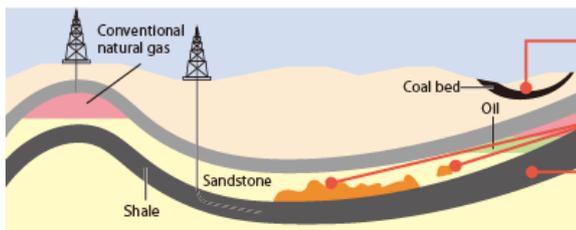
Mining new resources

## Toray's water treatment membrane technologies are utilized in the mining of non-conventional resources

### Switching to non-conventional but sustainable resources

Given the prospects of the eventual depletion of oil reserves and resultant energy shortages, the development of non-conventional resources is now a major endeavor. In this context, innovations in mining technologies have enabled rapid development of new resources in recent years. The mining industry is now focusing on a broader range of materials, particularly shale gas and oil. Commercial production has already begun for this resource as well as coal bed methane and tight sand gas. To mine these resources, vast quantities of water are used and disposed as wastewater after use. Toray's water treatment membrane technologies are being applied to purify this wastewater, allowing recycling.

#### Deposits of non-conventional resources



- Coal bed methane**  
The formation of coal from organic material is a process that generates methane, which accumulates in underground coal beds and neighboring layers of earth.
- Tight sand gas**  
This gas is found in hard layers of sandstone formations, which are usually very deep underground. The likelihood of the gas escaping to higher layers is low.
- Shale gas and oil**  
This natural gas and oil is trapped in tiny holes in shale formations of bedrock between 2,000 and 3,000 meters underground.

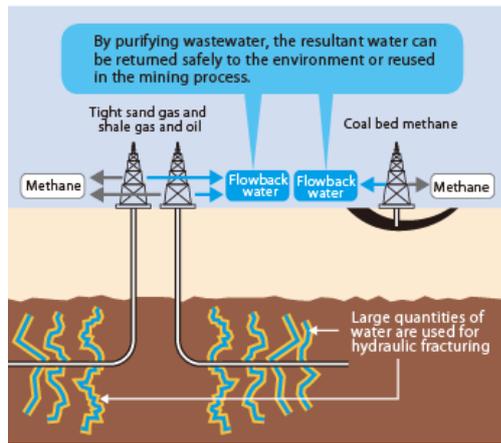
### The need for water treatment membrane technology in the mining process

In the process of mining non-conventional resources, vast amounts of water are injected into the ground and then discharged as flowback water. Toray's water treatment membrane technology is used to purify the flowback water so it can be safely discharged or reused. Toray products are already being used for flowback water treatment in coal bed methane mining in Australia and shale gas mining in the United States. Demand for water treatment technologies is steadily rising as mining projects make rapid progress in exploiting the huge reserves of non-conventional resources. Nevertheless, understanding that environmental conditions differ depending on the mining site, Toray recognizes the importance of a prompt response to any revision of laws and regulations in the future.



Toray's water treatment reverse osmosis membranes filter out impurities and ions. They can be utilized in various fields ranging from seawater desalination and ultra-pure water production to wastewater treatment and recycling.

The mining process



### Advanced technologies are necessary for mining tight sand gas and shale gas and oil

1. Drilling  
An advanced technique called horizontal well drilling is used to mine shale formations in which gas and oil are trapped.
2. Hydraulic fracturing  
Large quantities of water are injected at high pressure to produce vein-like fractures in the bedrock. These fractures allow gas and oil to escape.
3. Retrieving the hydraulic fracturing water, gas and oil  
The flowback water retrieved after fracturing contains various chemicals necessary for ensuring that gas and oil can flow efficiently.

Toray's water treatment membrane technologies are applied to purify the flowback water so that it can be safely discharged or reused.



Highlight  
3

# Supporting Science Education to Prepare Young People for the Future

## Planting the seeds of new science and technology with children

As competition in science and technology heats up around the world, improving the education of budding scientists and engineers is a pressing task for ensuring future innovation. Toray Group regards this as one of today's most pressing social issues. In Japan, children's interest in science has been on the decline, and more and more young people are pursuing careers in non-technical fields. To address this situation, children must be shown the wonders of science and technology from a young age. Efforts by industry are being encouraged, to supplement what schools can do.

Toray Group engages in dialogue with school teachers and offers examples of its technologies for use as teaching resources in class. The Group hopes to open children's eyes to the promise of science and technology for solving the problems faced by humankind today.

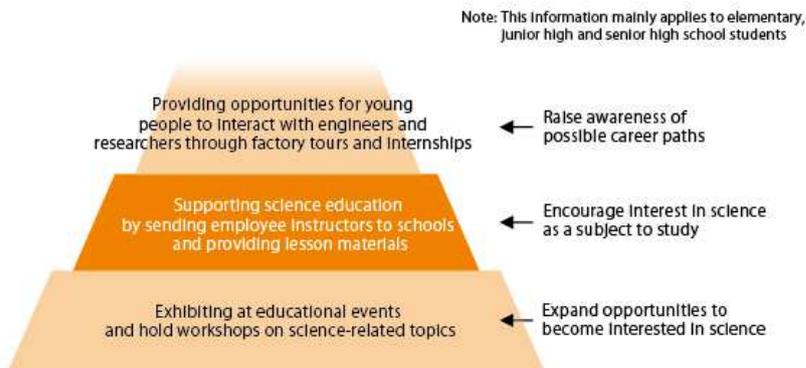
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Children learn how science is applicable in life by discovering things for themselves

## The importance of supporting science education

For many years, Toray Group has been assisting young people who express an intention to study science, for instance by providing support for science and engineering students. The Group supports the Science Camp, a hands-on advanced science and technology retreat for high school students sponsored by the Japan Science and Technology Agency, as well as students participating in the International Biology Olympiad, by donating to the Japan Science Foundation. Since 2007, Toray has been sending employees to elementary and junior high schools to give lessons, aiming to encourage children's interest in science from an early age.

Toray Group's framework for supporting science education



Results of a survey on children's interest in science

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#### 2013

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2. Conserving the World's Finite Natural Resources

#### 3. Supporting Science Education to Prepare Young People for the Future

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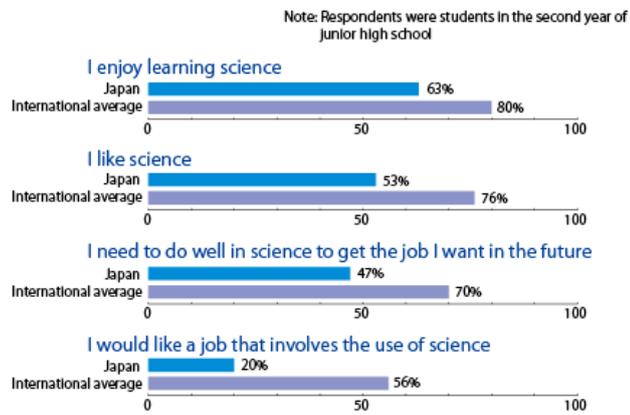
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Source: *Trends in International Mathematics and Science Study 2011*, published by the International Association for the Evaluation of Educational Achievement

## Highlights of Toray Group's science education support programs

A total of four distinct programs are currently being implemented for grades five and six at elementary schools and the first and third year at junior high schools, respectively, covering two topics: scientific experiments and environmental education. Toray provided 41 lessons in fiscal 2012 compared to 33 in fiscal 2011. Some features of the programs are described as follows:

- Extended programs are based on the school curriculum and designed with teachers
- Employee instructors are sent to schools, and they teach the class together with the school teachers
- Teaching materials and other supports are extensive

Because the programs focus on linking everyday science lessons to the real world, they are effective in encouraging children's interest in science.

Overview of Toray Group's science education support programs

	Topic	Grades	Subjects covered	Relevant sections of school curriculum	Class hours	Program name
Instructors sent to schools Teaching materials provided to schools	Scientific experiments	Fifth year of elementary school	Science	How substances dissolve	2 hours	How water filtration relates to the global environment
		First year of junior high school		Properties of aqueous solutions	1 hour	How substances exist when in water
Instructors sent to schools	Environmental education	Sixth year of elementary school	Science and integrated learning	Animals, plants and nature	1 hour	How water treatment membranes help solve global environmental problems
		Third year of junior high school		People's relationship to science and technology	1 hour	How advanced materials help solve global environmental problems

### Comment from a program advisor

#### Technologically advanced companies have a major role to play in preventing children from losing interest in science

Science education in Japan aims to teach students about our country's unique perspective on nature and to promote harmonious coexistence with the environment. Nevertheless, we are seeing Japanese children, and even adults, losing interest in science. The school system and others are addressing the situation, but it has yet to significantly improve. It is particularly important to

take steps at an early stage when children are in the upper grades of elementary school, but elementary school teachers generally lack confidence in their understanding of science, since they are generalists expected to teach all subjects.

Given these circumstances, having company workers visit school classrooms and talk about actual products and technologies helps children see how the content of their science lessons is connected to advanced science and technologies that make a difference in everyday life. That helps students to appreciate just how useful science is, and can inspire them to study it further. Students also become more interested in jobs that involve the use of science. In that light, technologically advanced companies have a big role to play in preventing children from losing interest in science. Toray's science education support programs were specifically designed to supplement school science lessons. The content of the programs are very beneficial for fostering classroom learning and encouraging children to think independently.



**Masayuki Ishii**

Associate Professor,  
Department of Child  
Studies, Faculty of Home  
Economics, Otsuma  
Women's University

1 2

Children learn how science is applicable  
in life by discovering things for  
themselves



Highlight  
3

# Supporting Science Education to Prepare Young People for the Future

## Children learn how science is applicable in life by discovering things for themselves

In the lessons, a Toray employee acts as an instructor with assistance from the classroom teacher. The schoolchildren often shout in excitement when they see how colored water, which cannot be filtered with filter paper, becomes clear and colorless when filtered using hollow fiber membranes. The students observed the presence of particles by carrying out experiments, and learned how science lessons are related to advanced technologies found in society and useful techniques for solving environmental problems.

Supporting Science Education to Prepare Young People for the Future

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### Scientific experiments

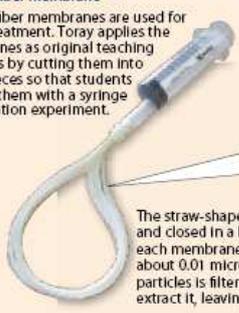
In the scientific experiment programs for fifth graders in elementary school and first-year junior high students, students observe the presence of microscopic particles in a liquid solution through filtration experiments using Toray's hollow fiber membranes. This helps children understand how substances are made up of particles, a basic concept in chemistry, and peaks their interest in science.

### Environmental education

In the environmental education programs for sixth graders in elementary school and third-year junior high students, Toray Group's advanced materials are employed to explain the role of science and technology in helping solve global environmental problems such as water shortages and climate change, and to show the relationship between cutting-edge technologies and people's lives. The Toray employee instructing the class talks about his or her own work, giving the students examples of how people have a part to play in developing and contributing to science and technology. This, in turn, encourages students to appreciate the usefulness of science lessons while stimulating their interest in high-tech manufacturing.

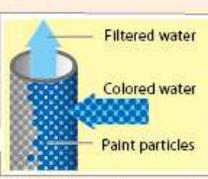
#### Materials used in the lessons

**Hollow fiber membrane**  
Hollow fiber membranes are used for water treatment. Toray applies the membranes as original teaching materials by cutting them into short pieces so that students can use them with a syringe in a filtration experiment.



The straw-shaped hollow fiber membranes are bundled up and closed in a loop shape. Liquid is then filtered through each membrane wall, which contains countless pores of about 0.01 micrometer in diameter. Water containing other particles is filtered through the pores by using a syringe to extract it, leaving only the purified water inside the syringe.

**Model of water treatment membranes**



The model represents three types of water treatment membranes with differently sized pores. Fitted with plates containing holes of different sizes, the model helps students see the differences in particle size between paint and salt, and understand the reason why they could or could not be filtered through the membranes.



### A look at the experiments

#### 1. Using hollow fiber membranes to filter colored water that cannot be filtered through filter paper

Colored water pumped through a hollow fiber membrane via a syringe passes through microscopic pores on the wall of the membrane and comes out clear and colorless inside the syringe.

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The children are astonished at the results using the hollow fiber membrane



The liquid pumped in the syringe is clear and colorless.



The pores of the hollow filter membranes are about 500 times smaller than the pores of the filter paper.

**2. Can saltwater be filtered by a hollow fiber membrane?**

In the next experiment, saltwater is filtered with a hollow filter membrane. The filtered water is then evaporated over a gas burner. When the children observe that the salt remained, they are surprised that the hollow filter membrane is not able to filter it. Some wonder if saltwater could be filtered by a membrane with even smaller holes.



**3. Saltwater can be filtered through reverse osmosis membranes**

Reverse osmosis membranes are introduced in this experiment. With the world's smallest pores, measuring one nanometer (one billionth of a meter) in diameter, these membranes are used in desalination plants and other facilities around the world. Saltwater can be filtered if Toray's reverse osmosis membranes are used.



Students taste-test bottled water made from seawater filtered through a reverse osmosis membrane.

**4. Observing microscopic particles dissolved in water**

Initially the children assume that colored water and saltwater cannot be filtered because they are liquids, but then they change their minds after observing the filtration experiment. Through the series of experiments, the students become able to confirm the presence of particles too small to see with the naked eye, including paint and salt, inside a liquid.



Students drew diagrams of the particles found in the liquid solution based on the experiment results.

**5. Learning about the relationship between filtering technologies and global water problems**

The instructor explains how the hollow fiber membranes used in the experiments are widely applied in everyday life for purifying water, also describing how water treatment membranes are related to technologies that will play an active role in solving water shortages around the world. Often indicating their new interest in the possibilities of science and technology, students exchange opinions. A typical comment is that the number of children in need of clean drinking water could be reduced by making these membranes more widely available.



### Comments from students taking the classes

- I learned that salt and paint are actually made of tiny particles. I'm glad that science is so neat. (Fifth grader in elementary school)
- Studying is usually boring because I have to memorize a lot of stuff, but in this lesson I could try to figure out the questions and consider many mysterious things about chemistry. I got motivated because it was so interesting. (First-year junior high student)
- I'm happy that I could do the experiments with the instructor's detailed explanation. Now I realize how useful studying science is for society. (Third-year junior high student)

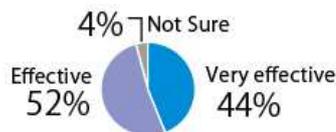
### Teachers' evaluations of Toray's programs

In evaluations conducted afterwards, teachers involved in the lessons gave high marks overall to the programs, the instructors from Toray, and other items. Some teachers noted that the lesson content was effectively applied and deepened the children's understanding of science, and that using experiment supplies not normally seen by children heightened their interest in class. All teachers expressed their hope that the Toray instructors will teach again the next school year.

#### Overall satisfaction level



#### Effectiveness in stimulating interest in science



Based on a questionnaire by Toray in fiscal 2012

※ For the questions above, respondents could select one of five evaluation answers ranging from "Not satisfied at all" to "Very satisfied," and "Not effective at all" to "Very effective."

### Comment from a teacher who participated in the lessons

#### Toray's science classes are a model for collaboration between companies and schools

The instructor from Toray was a respectable adult who still interacted with the students in a genuine and down-to-earth manner. Not only explaining the technical matters, the instructor also spoke enthusiastically about work. For our third-year students, the instructor sent a positive message about the working world. In the lesson, I could see that a narrative on how school classes are connected to science and technology, showing how this field contributes to society, made the class seem more practical for the students and helped them learn. I think that Toray's science classes provide a model for collaboration between companies and schools, which can develop alongside each other while enriching students' learning. The classes focus on a variety of Toray technologies, so they are better than using textbooks alone. I hope the programs are expanded nationwide.



**Kumiko Aoki**

Senior Teacher,  
Chitose Junior High School  
(Tokyo)

### Comment from an employee who taught lessons

#### I want to create new, added-value products that can make children's eyes light up

I explained to the children about global environmental problems and how Toray Group's advanced materials are useful for society. Compared to my usual work in technical development, teaching the students was gratifying in a different way. Many of the students who lacked confidence in science told me after the lesson that it seemed to be an interesting subject. From here on, I intend to put all my energy into creating new products that are kids like these have never imagined. The idea of inspiring kids really motivates me.



## Hopes for the future

While determining classroom needs and the effectiveness of program activities through questionnaires and other methods, Toray aims to prevent children from losing interest in science by utilizing Toray Group's resources. Since employees also grow by participating in the programs, Toray intends to continue carrying out these educational programs going forward.

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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

### CSR Procurement

### Occupational Safety

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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	
		Highlight 2: Conserving the World's Finite

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The environment	1. Prevention of pollution	Natural Resources	
		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 2: Conserving the World's Finite Natural Resources	
		Approach to Green Innovation Product Sector	
		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 2: Conserving the World's Finite Natural Resources	
		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	Compliance with Antitrust Laws in Japan and Other Countries
		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			

Consumer issues	1. Fair marketing, factual and unbiased information and fair contractual practices	
	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	Protection of Personal Information
	6. Access to essential services	
	7. Education and awareness	Initiatives for Product Safety and Quality Assurance
Community involvement and development	1. Community involvement	Highlight 1: Drawing on Experience and Strengths to Build an Even More Global Business
		Communication with Local Communities
	2. Education and culture	Highlight 3: Supporting Science Education to Prepare Young People for the Future
		Promoting Science and Technology
		Showing Children the Fun of Studying Science and the Appeal of Manufacturing
	3. Employment creation and skills development	
	4. Technology development and access	
	5. Wealth and income creation	
6. Health	Promoting International Exchanges through Environmental Education	
7. Social investment		