

Materials can change
our lives.

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Message from the President



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

The world faces a multitude of issues today, including climate change, the food and water security issues driven by population growth, resource and energy sustainability challenges, and safety and health issues. As public institutions, corporations must work to address these social issues.

At the Toray Group, we are determined to be part of the solution to the global issues addressed by the Paris Agreement on climate change and the Sustainable Development Goals (SDGs) adopted at the United Nations.

Every product people use is made from materials. This is why we believe materials can change lives. We aim to supply materials so original that only Toray can produce them. That's how we create new value for the world and fulfill our social responsibilities—true to our corporate philosophy, "Contributing to society through the creation of new value with innovative ideas, technologies and products."

At the Toray Group today, we are working hard to realize our long-term corporate vision, AP-Growth TORAY 2020, by leveraging our advanced materials to drive sustainable growth and expansion into global markets. In fiscal 2017, we launched our medium-term management program, Project AP-G 2019, which represents the third phase of our effort to achieve the long-term corporate vision.

One of our key strategies is to expand business in growth fields. Under this strategy, the entire Toray Group is focusing on our Green Innovation businesses, which contribute solutions for environmental, resource, and energy issues, and our Life Innovation businesses, which enhance the quality of medical care, reduce the burden on medical staff, and contribute to health maintenance and longevity.

Meanwhile, we have outlined five key initiatives for the Group, including new business creation. Under this initiative, the Group is prioritizing its allocation of resources to fields that are positioned for sustainable growth in 2020 and beyond. These include hydrogen and fuel cell-related materials, technologies and products based on non-fossil resources, eco-friendly printing materials, safety and health care-related products, and sensing device-related materials.

At the Toray Group, we understand that corporate social responsibility goes hand in hand with business growth, and it is at the top of our priority list. Under our Sixth CSR Road Map, we are carrying out various initiatives in the areas of corporate ethics and legal compliance, and safety, accident prevention, and environmental conservation.

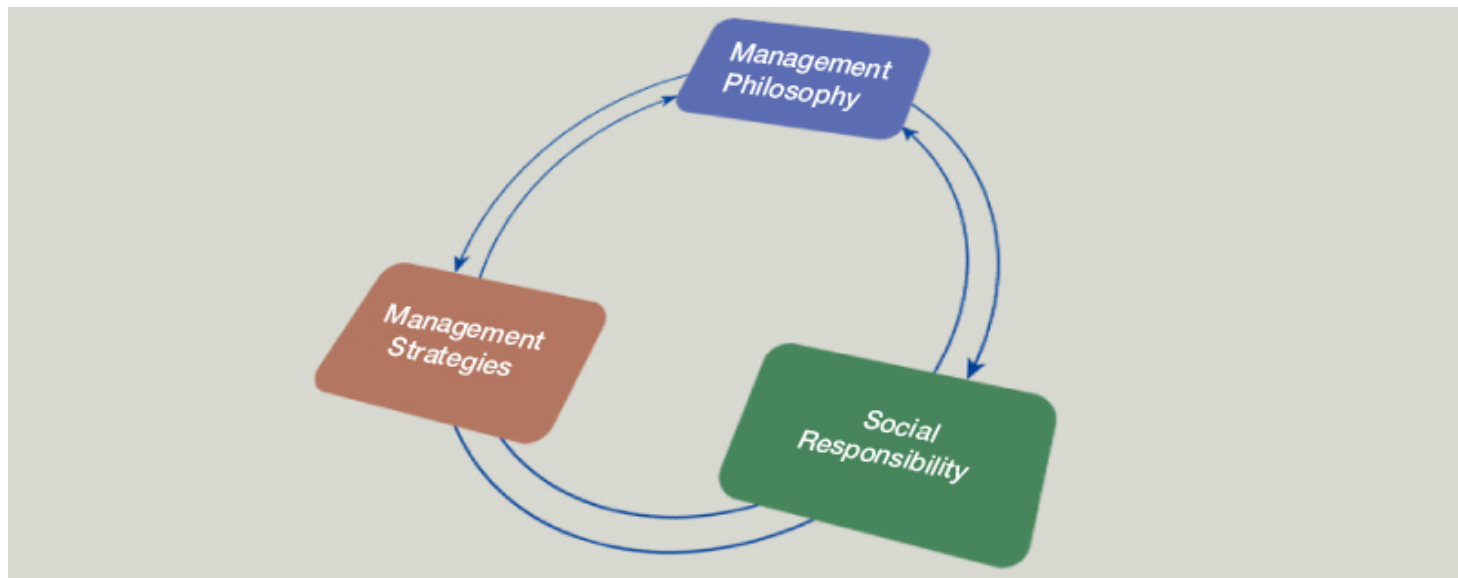
This CSR Report systematically presents our CSR initiatives in fiscal 2016 and their results, and it is designed for all of our stakeholders. I invite you to spend some time with this report and get to know the Toray Group better.

August 2017



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Toray Group's Corporate Social Responsibility



The Toray Group strategically practices social responsibility guided by its three-year CSR Road Map, aiming to achieve sustainable growth while helping to build a more sustainable world.

Report from the Chief Social Responsibility Officer

Working to Position the Toray Group as a Global Leader in Social Responsibility

The Toray Group has from the beginning pledged to have a positive impact on society through its business and has made corporate social responsibility one of its highest management priorities, as an integral part of management philosophy.

The Group has formulated CSR Guidelines and a CSR Road Map to guide its active pursuit of social initiatives, which is driven by designated implementation leaders and clear targets. Every three years, the Group sets out a medium-term management program and CSR Road Map to guide the integrated implementation of management strategies and CSR initiatives. The Group also encourages unique initiatives at the workplace level through "CSR line activities."

The Group will continue to pursue its business globally while seeking diverse opportunities to engage stakeholders and hear about their expectations for the Group, viewing this as an opportunity for growth. We will use the input we receive to shape our management execution and play an active role in addressing social issues. As we move forward, I will make every effort to position the Toray Group as a leader in social responsibility, an enterprise whose very existence is deeply valued by all stakeholders.

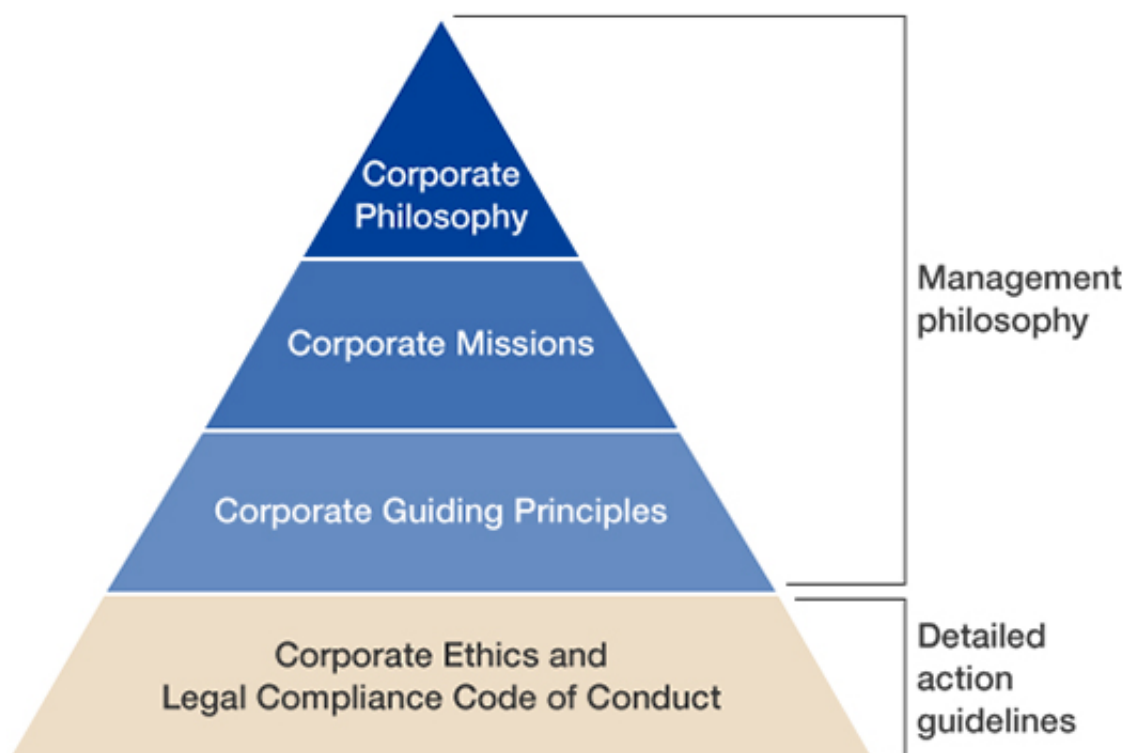


Hideki Hirabayashi
Vice President, Chief Social Responsibility
Officer, Toray Industries, Inc.

Management Philosophy and CSR

Under a corporate philosophy of "contributing to society through the creation of new value with innovative ideas, technologies and products," the Toray Group has from the beginning pledged to have a positive impact on society through its business, realizing its corporate social responsibility and management philosophy at the same time.

Management Philosophy and Code of Conduct



Related Information

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

Corporate Ethics and Legal Compliance Code of Conduct (Adopted October 2003 and revised December 2015)

1. Contribute to society

As a company aspiring to create new value, 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.

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 the 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

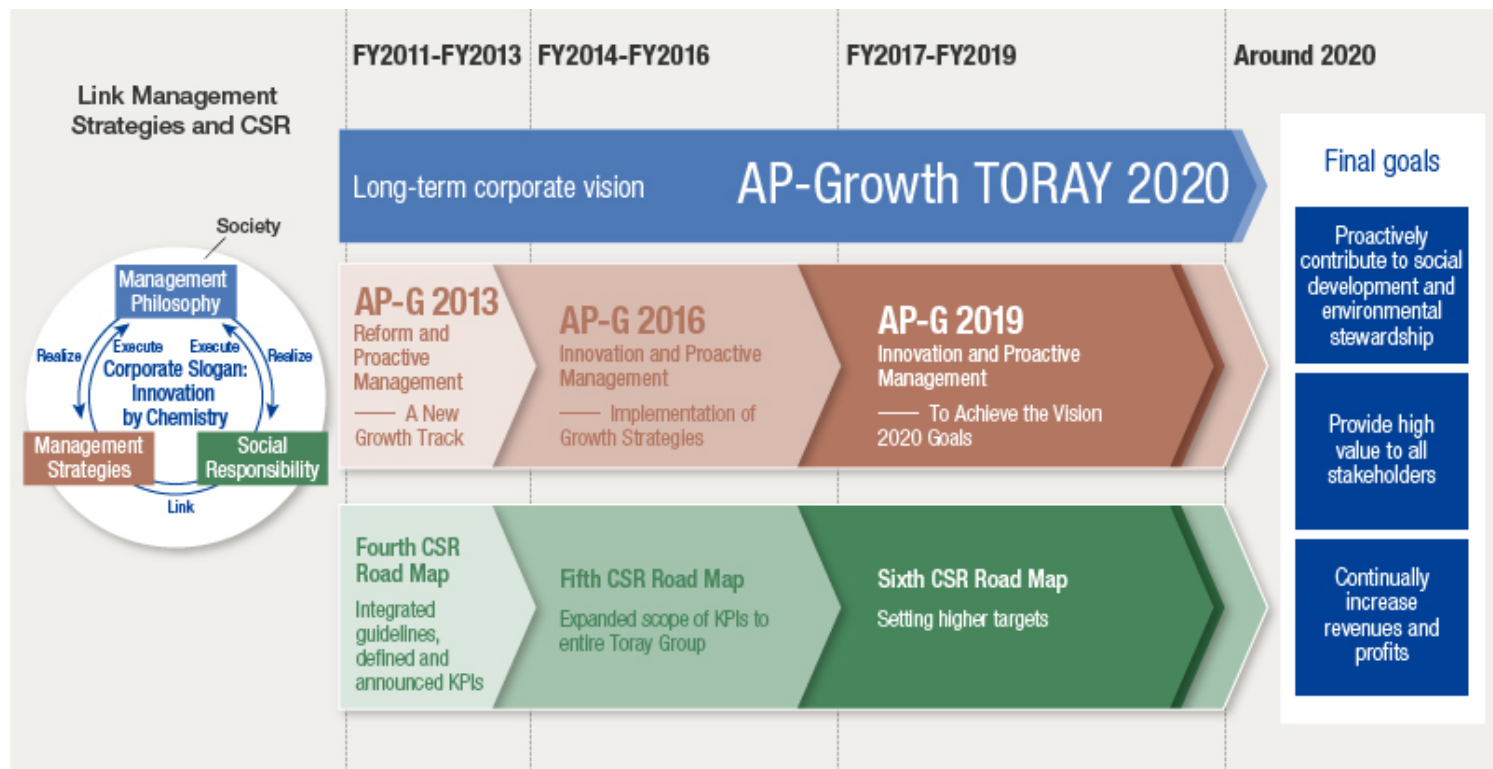
We shall deepen mutual understanding of Toray Group environmental policies and practices by widely publicizing our environmental preservation efforts and their results in environmental reports and other publications directed at local communities, investors, and the media.



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Management Strategies and CSR

In order to achieve sustainable growth, corporations must do business in a way that earns the broad trust of stakeholders. To live up to its philosophy, the Toray Group implements its management strategies hand-in-hand with its efforts to fulfill social responsibilities.



The Toray Group executes management strategies in order to remain a corporate group that continually expands its revenues and profits, guided by the long-term corporate vision, AP-Growth TORAY 2020, which was launched in April 2011. The Group began executing the medium-term management program, Project AP-G 2019, in April 2017, to pursue innovation and proactive management in order to deliver on the long-term corporate vision.

Project AP-G 2019 calls for the group-wide pursuit of the three basic strategies of business expansion in growth business fields, expansion and development of global business, and strengthening competitiveness, and also designates five key initiatives, including new business creation. These business measures are aimed at securing sustainable growth in 2020 and beyond.

In addition to business development, Project AP-G 2019 stresses the importance of practicing social responsibility through a commitment to safety, accident prevention, environmental preservation, corporate ethics, and legal compliance. Meanwhile, the Group has set out the Sixth CSR Road Map, which covers the same time frame as Project AP-G 2019. The road map mandates the Group to expand its efforts to realize value creation and implement more robust environmental, social and governance (ESG) practices.

The Toray Group will continue to take a comprehensive approach to practicing social responsibility and pursuing

business growth. This expresses the Group's commitment to making a proactive contribution to social development and environmental stewardship, providing high value to all stakeholders, and continually increasing its revenues and profits, as stated in the long-term corporate vision.

Main Points of Project AP-G 2019

Three basic strategies	1. Business expansion in growth business fields	Specific measures <ol style="list-style-type: none"> 1. Make a strong, comprehensive push to create new demand and expand business as a group-wide project. 2. Capitalize on revenue opportunities in growth countries and regions. 3. Secure total cost reductions, strengthen the profit structure, and strengthen sales and marketing.
	2. Expansion and advancement of global business	
	3. Strengthening competitiveness	
Five key initiatives	1. New business creation	Specific measures <ol style="list-style-type: none"> 1. Develop sources of revenue for the next stage of growth. 2. Develop new technologies and materials. 3. Execute 500 billion yen in capital investments. 4. Amplify and supplement growth in existing businesses. 5. Develop future management candidates; secure and develop core human resources.
	2. R&D and intellectual property	
	3. Capital investment	
	4. M&A and business alliances	
	5. Human resources	

Related Information

> [Long-Term Corporate Vision, Medium Term Management Program](#)

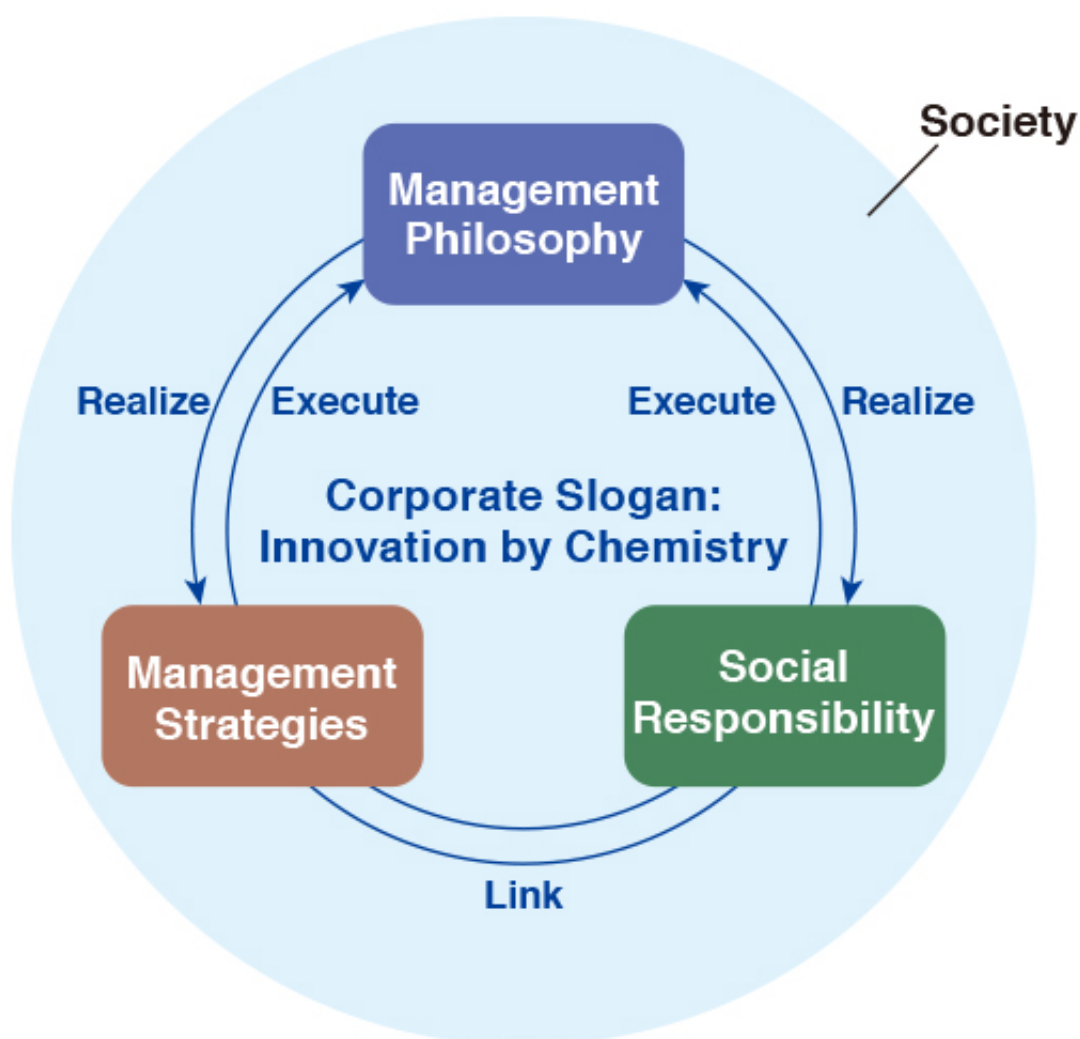


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Organizational Structure for Social Responsibility

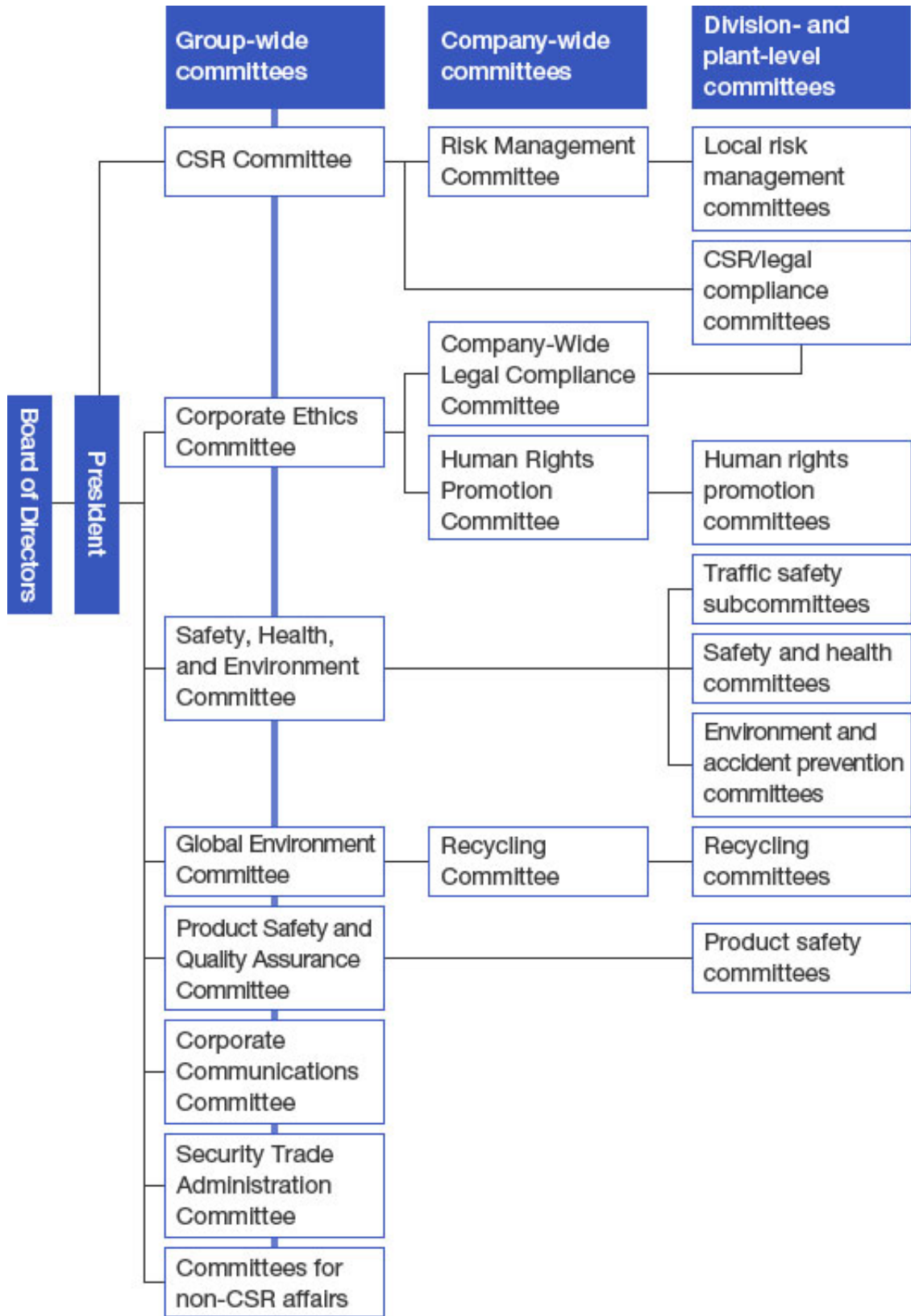
Working Comprehensively on Social Responsibility, Management Philosophy and Management Strategy

The Toray Group takes a comprehensive approach to practicing social responsibility and pursuing its management philosophy and management strategies, recognizing that fulfilling social responsibilities is integral to business growth.



Organizational Structure for Social Responsibility

The Toray Group's CSR Committee serves as a group-wide deliberative organization for important issues concerning social responsibility. The committee coordinates six other group-wide committees and assigns tasks along with the themes in the CSR Guidelines to the six committees.



CSR Guidelines

The Toray Group's CSR Guidelines are organized into 10 items. Each item is grouped under one of four themes: Value Creation (based on the corporate philosophy), Governance, Social Initiatives, or Environment. The Group systematically pursues initiatives guided by these CSR Guidelines, viewing these efforts as an integral part of its management philosophy.

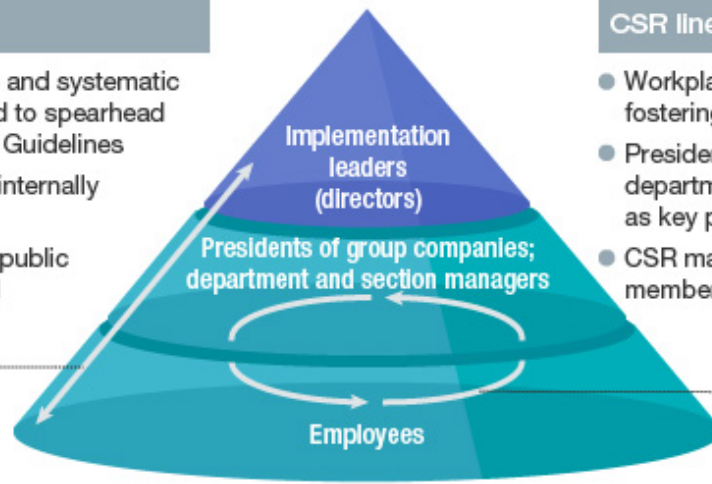
Value Creation	Contributing Solutions to Social Issues through Business Activities
Governance	Corporate Governance and Management Transparency
	Corporate Ethics and Legal Compliance
	Risk Management
Social Initiatives	Human Rights Promotion and Human Resources Development
	Product Safety and Quality
	Facilitating CSR Initiatives Throughout the Supply Chain
	Communication
	Social Contribution Activities
Environment	Safety, Accident Prevention, and Environmental Preservation

"CSR Guideline Activities" and "CSR Line Activities"

The Toray Group implements "CSR Guideline activities" (group-wide CSR activities) and "CSR line activities" (workplace-driven CSR activities) in parallel. 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

- Implemented on organizational and systematic basis, with a director appointed to spearhead each item in Toray Group CSR Guidelines
- Related activities are reported internally through the CSR Committee
- Information is disclosed to the public via CSR reports, websites, and other media



CSR line activities

- Workplaces strive to solve problems while fostering a CSR mindset
- Presidents of group companies and department/section heads are appointed as key personnel
- CSR managers concomitantly serve as members of legal compliance committees



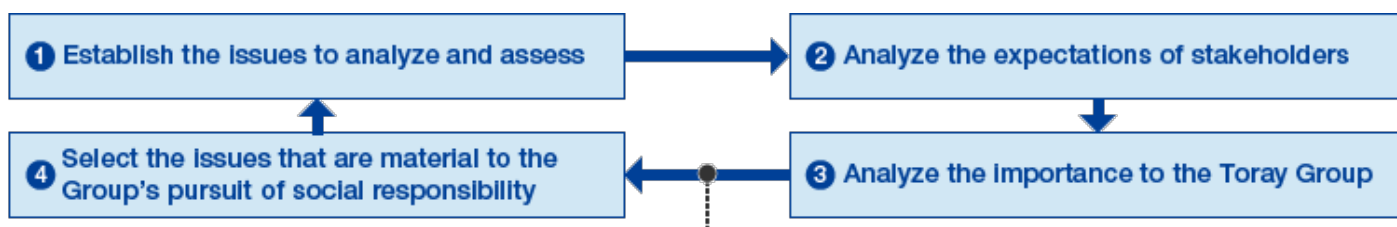
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Materiality

In fiscal 2015, the Toray Group conducted a materiality assessment to identify the issues that are most important to its pursuit of social responsibility (material issues for CSR). In fiscal 2016, the Group reevaluated the material issues when drafting its Sixth CSR Road Map, which started in fiscal 2017. This process incorporated input from thought leaders and resulted in revisions to the issues.

Materiality Assessment Cycle

The Toray Group regularly implements the following process to reevaluate its material issues for CSR.



Dialogue with Thought Leaders during the Reevaluation of Material Issues

In November 2016, the Group held a dialogue meeting with several thought leaders to share their valuable input on its material issues for CSR, seeking to benefit from their specialized knowledge. The Group incorporated the valuable advice received during the meeting into its reevaluation of material issues.



Main Input from CSR Thought Leaders

Outside of Japan, the consideration of environmental, social and governance (ESG) factors by investors is gaining more and more mainstream traction. The Toray Group is responding to the trend toward ESG investment by pursuing forward-thinking, well-rounded CSR initiatives. However, it can be difficult at times to grasp the focus of these initiatives. For example, it would be advisable for the Group to disclose the global-scale issues that it believes are most material, and why it sees them that way. Furthermore, scrutiny will shift from the products the Group makes, to the raw materials the Group is using to make them. Addressing concerns like these can also create new business opportunities for the Group. The Group would do well to thoroughly discuss its choice of material issues and CSR Road Map, as well as to examine the Sustainable Development Goals (SDGs). I believe this will help the Group to expand its vision of the issues that the global community considers most pressing.

I have three suggestions. First, human resources and labor initiatives should be disclosed on a group-wide basis, rather than only for Toray Industries, Inc. Second, exercising responsibility for the supply chain is becoming more critical, so the Group needs to fully communicate its risks in the supply chain, including where in the supply chain those risks appear. Third, the Group needs to have a true long-term vision—longer than the next three or four years. Identifying material issues is a process that will help the Group to implement and strengthen its CSR initiatives. The Group should link the material issues to the implementation of specific initiatives.

The United Nations Sustainable Development Goals (SDGs) set specific targets for the international community to achieve by 2030. I hope that the Toray Group will present its own long-term vision and use backcasting to identify the steps it will take to achieve it. It is becoming increasingly important to engage stakeholders in dialogue. The Group must establish mechanisms for gaining input from stakeholders in the supply chain and identifying their expectations, even if the Group does not directly do business with or directly employ those stakeholders. I strongly suggest that the Group perform human rights due diligence and create grievance mechanisms that are accessible to the public.



Takejiro Sueyoshi
Special Adviser,
UNEP Finance
Initiative



Professor
Yoshinao Kozuma
Faculty of Economics,
Sophia University



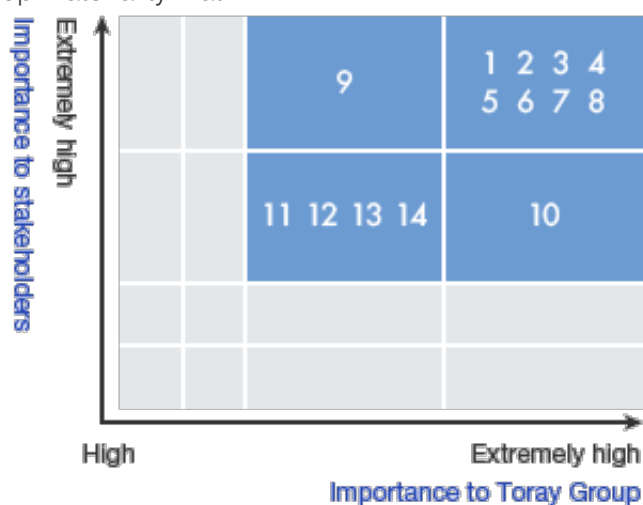
Kaori Kuroda
Executive Director,
CSO Network Japan

Updated Material Issues and Key Performance Indicators Reflected in the CSR Road Map

Based on the dialogue with thought leaders, the Group engaged in internal discussions on the material issues. The issues were then revised following discussions at the 31st meeting of the CSR Committee, which took place on June 13, 2017. First, the Group revised the CSR Road Map to reflect the updated material issues. This will enable the Group to implement specific initiatives that clearly address the material issues identified, and report on them based on the *G4 Sustainability Reporting Guidelines* from GRI. Secondly, the Group defined how the material issues are connected to the CSR Guidelines and the goals of the CSR Road Map, and established new key performance indicators (KPIs) for the revised material issues, in order to guide the implementation of initiatives.

While the Group's CSR initiatives reflect local circumstances in countries and regions, it also has shared, group-wide initiatives that are advanced under group-wide targets. The Sixth CSR Road Map includes group-wide KPIs, and calls for CSR initiatives to be implemented using the Plan-Do-Check-Act (PDCA) cycle.

Toray Group Materiality Matrix



1. Contributing to the solution of environmental issues through business activities
2. Contributing to health maintenance and longevity through business activities
3. Addressing resource and energy issues
4. Reducing greenhouse gas emissions
5. Addressing substances with negative environmental impact
6. Corporate ethics and legal compliance
7. Ensuring safety and disaster preparedness
8. Ensuring product safety and quality
9. Initiatives for managing water resources
10. Managing social and environmental impact of suppliers
11. Respecting human rights
12. Creating a positive workplace
13. Securing and developing human resources
14. Conserving biodiversity

Revising the Material Issues for CSR

The dialogue meetings with CSR thought leaders were a first for the Toray Group. The meetings gave us valuable input on ways to translate the material issues into specific initiatives and disclose useful information about what we are doing.

The Group's Sixth CSR Road Map, which spans from fiscal 2017 through fiscal 2019, specifies group-wide KPIs for the material issues we identified with the help of the input we received at the dialogue meetings. We will disclose our progress on the KPIs in the CSR report every year, and we will continue to engage with stakeholders as we strive to further strengthen our CSR initiatives.



Hideki Hirabayashi
Vice President,
Chief Social
Responsibility Officer,
Toray Industries, Inc.



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CSR Road Map and Progress on Key Performance Indicators in Fiscal 2016

The Toray Group assembles a CSR Road Map based on its CSR Guidelines every three years. This serves as the Group's medium-term plan for executing CSR initiatives. The CSR Road Map designates implementation leaders for each item of the CSR Guidelines, and sets out specific action goals as well as key performance indicators (KPIs). The progress on achieving the KPIs is quantitatively managed each fiscal year.

Fifth CSR Road Map Results and Development of Sixth CSR Road Map

Under the Fifth CSR Road Map implemented from fiscal 2014 through fiscal 2016, the Group made steady progress in the areas of CSR education, corporate ethics, legal compliance education, risk management, socially responsible procurement, and social contribution activities.

The newly assembled Sixth CSR Road Map is being implemented from fiscal 2017 through fiscal 2019, the same period as the medium-term management program, Project AP-G 2019. The Sixth CSR Road Map sets out new CSR strategies and serves as the Group's guide for addressing the material issues that have been identified as critical to stakeholders and the Group, outlining concrete initiatives to address the material issues. Moving forward, the Group will focus its efforts on initiatives that address the material issues.

The road map includes group-wide KPIs in most areas, mandating group-wide efforts to meet CSR objectives. The Group will continue to disclose its progress in executing the Sixth CSR Road Map every year in its CSR report.

CSR strategies

- 1 Improve ability to address social issues 2 Reduce risks that come with business expansion 3 Expand the boundary of CSR

Action plan

	CSR Guidelines	Implementation leader ¹	CSR Road Map goals (Fiscal 2014–2016)
Value Creation	<p>7 Contributing Solutions to Social Issues through Business Activities</p> <p>Provide solutions that help address global-scale environmental issues such as climate change, and address social issues by improving the quality of medical care, reducing the burden on medical staff, and contributing to health maintenance and longevity</p>	<p>Koichi Abe Executive Vice President, General Manager of Intellectual Property Division, Automotive Material Strategic Planning Department, Global Environment Business Strategic Planning Department, Life Innovation Business Strategic Planning Department, Technology Center, Toray Industries, Inc.</p>	<p>1 Help address social issues by developing innovative materials and new technologies, focusing on Green Innovation and Life Innovation fields</p> <p>2 Implement life cycle assessment for principal products, and contribute to greenhouse gas reduction throughout product life cycles</p>
Governance	<p>1 Corporate Governance and Management Transparency</p> <p>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</p>	<p>Toru Fukasawa Senior Vice President, Chief Social Responsibility Officer, General Manager of General Administration & Legal Division, Investor Relations Department, Corporate Communications Department, Advertising Department, Tokyo Head Office, Toray Industries, Inc.</p>	<p>1 Enhance management transparency, continually reflect stakeholder feedback in management, and fulfill responsibilities to explain corporate activities</p> <p>2 Perform monitoring based on the Basic Policy for Internal Control Systems, in accordance with Japan's Companies Act</p> <p>3 Establish a group-wide management system for social responsibility, and stimulate initiatives by expanding training and education, etc.</p>
	<p>2 Corporate Ethics and Legal Compliance</p> <p>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</p>	<p>Toru Fukasawa Senior Vice President, Chief Social Responsibility Officer, General Manager of General Administration & Legal Division, Investor Relations Department, Corporate Communications Department, Advertising Department, Tokyo Head Office, Toray Industries, Inc.</p>	<p>1 No major cases of non-compliance or violation notices throughout the Toray Group</p> <p>2 Promote compliance activities in accordance with the conditions of each country or region</p> <p>3 Enhance awareness-raising and educational activities relating to corporate ethics and legal compliance</p>
	<p>5 Risk Management</p> <p>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</p>	<p>Toru Fukasawa Senior Vice President, Chief Social Responsibility Officer, General Manager of General Administration & Legal Division, Investor Relations Department, Corporate Communications Department, Advertising Department, Tokyo Head Office, Toray Industries, Inc.</p>	<p>1 Strengthen corporate risk management throughout the Group and reduce risks in global business development</p> <p>2 Prepare and effectively operate business continuity plans for major earthquakes and influenza pandemics</p> <p>3 Ensure implementation of information security measures and reduce number of incidents</p>
Social Initiatives	<p>8 Human Rights Promotion and Human Resources Development</p> <p>Secure and train personnel, diversify and strive to protect employment, respect human rights, and continuously improve workplaces</p>	<p>Shigeki Taniguchi Vice President, General Manager of Personnel & Industrial Relations Division, Toray Industries, Inc.</p>	<p>1 Respect for human rights and fair promotion based on ability throughout the Toray Group by eliminating discrimination based on race, gender, education, nationality, religion, and physical attributes</p> <p>2 Build a vibrant and rewarding workplace culture</p> <p>3 Actively provide employees with educational opportunities, and secure and foster human resources who can play a vital role on a global stage</p>
	<p>4 Product Safety and Quality</p> <p>Provide safe, highly reliable products by striving to enhance management systems for product safety and quality assurance, and disclose appropriate information</p>	<p>Akira Umeda Senior Vice President, General Manager of Purchasing & Logistics Division, Product Safety & Quality Assurance Planning Department, Manufacturing Division, Toray Industries, Inc.</p>	<p>1 Achieve zero product accidents</p> <p>2 Enhance the group-wide framework for product safety and quality assurance</p>
	<p>9 Facilitating CSR Initiatives Throughout the Supply Chain</p> <p>Promote CSR activities throughout the entire supply chain by working closely with suppliers, processing vendors, customers and distribution companies</p>	<p>Takashi Kato General Manager, Purchasing & Logistics Division, Toray Industries, Inc.</p>	<p>1 Request major suppliers and business partners to practice CSR procurement</p> <p>2 Respond to all CSR procurement surveys from corporate customers</p> <p>3 Build group-wide CSR procurement framework</p>
	<p>6 Communication</p> <p>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</p>	<p>Toru Fukasawa Senior Vice President, Chief Social Responsibility Officer, General Manager of General Administration & Legal Division, Investor Relations Department, Corporate Communications Department, Advertising Department, Tokyo Head Office, Toray Industries, Inc.</p>	<p>1 Improve stakeholder satisfaction in accordance with the Basic Policies to Promote Dialogue with Stakeholders</p> <p>2 Reflect results of dialogue and collaboration with each stakeholder group in management activities in a timely and appropriate manner</p>
	<p>10 Social Contribution Activities</p> <p>Promote social contribution activities, including those that help foster the next generation and encourage regional development, as a good corporate citizen</p>	<p>Toru Fukasawa Senior Vice President, Chief Social Responsibility Officer, General Manager of General Administration & Legal Division, Investor Relations Department, Corporate Communications Department, Advertising Department, Tokyo Head Office, Toray Industries, Inc.</p>	<p>1 Voluntarily pursue ongoing social initiatives emphasizing education, environment, communities, and employees, focused on linking to CSR and in accordance with Toray Group Social Initiative Policies</p> <p>2 Leverage Toray Group strengths and community attributes to support high quality education</p>
Environment	<p>3 Safety, Accident Prevention, and Environmental Preservation</p> <p>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</p>	<p>Akira Umeda Senior Vice President, General Manager of Purchasing & Logistics Division, Product Safety & Quality Assurance Planning Department, Manufacturing Division, Toray Industries, Inc.</p>	<p>1 Clarify and fully comply with essential safety guidelines, and encourage employees to think carefully before taking action to prevent accidents</p> <p>2 Implement centralized initiatives based on Toray Group Safety, Health, Accident Prevention and Environmental Activity Policy</p> <p>3 Implement Fourth Medium-Term Environmental Plan and achieve targets by fiscal 2015</p>

The degree of success is defined as follows: ○ means the target was fully met; △ means the target was 50% met or better; and × means the target was less than 50% met. "N.A." means no targets were specified for the fiscal year under review.

1 Names and job titles of implementation leaders are current as of March 31, 2017.

2 For key performance indicators with no numerical targets, the results will not be categorized by degree of success but will be disclosed and monitored.

(Fiscal 2014–2016)

Medium- and long-term tasks for achieving CSR strategies

- 1 Invigorate CSR initiatives across the Toray Group 2 Expand employee education and training 3 Strengthen risk management
4 Support CSR initiatives at group companies around the world 5 Strengthen CSR initiatives throughout the supply chain

Key performance indicators	Reporting scope	Fiscal 2016 Progress ²		Degree of success
		Fiscal 2016 targets ²	Fiscal 2016 results	
<ul style="list-style-type: none"> 1 Sales of Green Innovation businesses 2 Sales of Life Innovation businesses 3 Frequency of calculating CO₂ emissions reduction due to adoption of Green Innovation products, using new LCA analysis and guidelines for calculating avoided greenhouse gas emissions 	<ul style="list-style-type: none"> 1 Toray Group 2 Toray Group 3 Toray Group 	<ul style="list-style-type: none"> 1 700 billion yen 2 170 billion yen 3 At least 6 times per year 	<ul style="list-style-type: none"> 1 628.2 billion yen 2 195.5 billion yen 3 10 times 	<ul style="list-style-type: none"> 1 △ 2 ○ 3 ○
<ul style="list-style-type: none"> 1 Percentage of matters subject to disclosure requirements that are disclosed via website 2 Percentage of group companies performing CSR training 3 Percentage of group companies performing CSR activities 4 Number of stakeholder dialog meetings 	<ul style="list-style-type: none"> 1 Toray 2 Toray Group 3 Toray Group 4 Toray 	<ul style="list-style-type: none"> 1 85% 2 100% 3 100% 4 At least twice per year 	<ul style="list-style-type: none"> 1 78% 2 100% 3 100% 4 Twice 	<ul style="list-style-type: none"> 1 △ 2 ○ 3 ○ 4 ○
<ul style="list-style-type: none"> 1 Number of major violations of laws or ordinances 2 Number of ethics training sessions for new executives 3 Number of internal legal audits, improvement rate of problems found in internal legal audits 4 Percentage of group companies implementing e-learning for corporate ethics and legal compliance 5 Percentage of group companies providing information and implementing education on major laws and regulations 	<ul style="list-style-type: none"> 1 Toray Group 2 Toray Group (Japan) 3 Toray Group (Japan) 4 Toray Group (Japan) 5 Toray Group 	<ul style="list-style-type: none"> 1 0 violations 2 At least once per year 3 At least 8 times per year/100% 4 100% 5 80% 	<ul style="list-style-type: none"> 1 1 violation 2 Once 3 N.A. 4 100% 5 100% 	<ul style="list-style-type: none"> 1 × 2 ○ 3 ○ 4 ○ 5 ○
<ul style="list-style-type: none"> 1 Ratio of group companies with enterprise risk management systems 2 Percentage of group companies in Japan implementing continuous review of risk management 3 Percentage of group companies outside Japan implementing continuous review of risk management 4 Percentage of priority risks improved 5 Percentage of group companies preparing emergency response plan for business continuity 6 Percentage of group companies experiencing information security-related incidents, compared with fiscal 2013 	<ul style="list-style-type: none"> 1 Toray Group 2 Toray Group (Japan) 3 Toray Group (Outside Japan) 4 Toray 5 Toray Group (Japan) 6 Toray Group 	<ul style="list-style-type: none"> 1 100% 2 100% 3 100% 4 90% 5 100% 6 70% 	<ul style="list-style-type: none"> 1 100% 2 100% 3 100% 4 95% 5 100% 6 142% 	<ul style="list-style-type: none"> 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ×
<ul style="list-style-type: none"> 1 Women in management positions (%) 2 Percentage of companies achieving legally mandated employment rate of persons with disabilities 3 Percentage of available annual paid leave used by employees 4 Training expenditures per employee (yen) 5 Number of local core staff outside Japan who participate in training courses 6 Percentage of group companies in Japan implementing human rights education and training 	<ul style="list-style-type: none"> 1 Toray 2 Toray Group (Japan) 3 Toray 4 Toray 5 Toray Group (Outside Japan) 6 Toray Group (Japan) 	<ul style="list-style-type: none"> 1 No numerical target determined 2 100% 3 No numerical target determined 4 No numerical target determined 5 No numerical target determined 6 100% 	<ul style="list-style-type: none"> 1 4.5% 2 59.4% 3 89.8% 4 101,607 yen 5 216 6 100% 	<ul style="list-style-type: none"> 1 N.A. 2 △ 3 N.A. 4 N.A. 5 N.A. 6 ○
<ul style="list-style-type: none"> 1 Number of product accidents 2 Ratio of complaint costs to net sales, compared with fiscal 2011–2013 average 3 Implementation rate for product safety and quality assurance education <ul style="list-style-type: none"> ● Implementation rate for company-wide education ● Implementation rate for education at business division, department or group company level 	<ul style="list-style-type: none"> 1 Toray Group 2 Toray 3 Toray Group (Japan) 	<ul style="list-style-type: none"> 1 0 product defects 2 50% 3 100% 	<ul style="list-style-type: none"> 1 0 product defects 2 101% 3 100% 	<ul style="list-style-type: none"> 1 ○ 2 × 3 ○
<ul style="list-style-type: none"> 1 Ratio of major suppliers and business partners practicing CSR procurement 2 Ratio of group companies that have implemented the CSR procurement framework 3 Ratio of responses to CSR procurement survey requests from corporate customers 4 Reduction in CO₂ emissions per unit of sales from distribution activities (year-on-year) 5 Ratio of modal shift to sea or rail for transport across distances for 500 km or more 	<ul style="list-style-type: none"> 1 Toray 2 Toray Group (Japan) 3 Toray 4 Toray 5 Toray 	<ul style="list-style-type: none"> 1 N.A. 2 100% 3 100% 4 1% 5 40% 	<ul style="list-style-type: none"> 1 90% or more 2 100% 3 100% 4 -4% 5 32% 	<ul style="list-style-type: none"> 1 ○ 2 ○ 3 ○ 4 × 5 △
<ul style="list-style-type: none"> 1 Number of corporate website page views (per month) 2 Percentage of group companies that have their own websites 3 Number of news releases 4 Number of responses to investor inquiries 5 Number of meetings with employees or labor unions 6 Number of meetings with communities 7 Number of meetings with non-profit organizations 	<ul style="list-style-type: none"> 1 Toray 2 Toray Group 3 Toray 4 Toray 5 Toray Group 6 Toray Group 7 Toray Group 	<ul style="list-style-type: none"> 1 1.7 million page views per month on average 2 Japan: 85%, outside Japan: 60% 3 200 times 4 No numerical target determined 5 No numerical target determined 6 No numerical target determined 7 No numerical target determined 	<ul style="list-style-type: none"> 1 1.51 million page views per month on average 2 Japan: 58%, outside Japan: 91% 3 187 times 4 646 inquiries 5 13 times 6 67 times 7 17 times 	<ul style="list-style-type: none"> 1 △ 2 △ 3 △ 4 N.A. 5 N.A. 6 N.A. 7 N.A.
<ul style="list-style-type: none"> 1 Social contribution expenditure (percentage compared with fiscal 2011–2013 average) 2 Number of locations implementing social initiatives 3 Number of persons reached through educational initiatives, satisfaction rate of participants, satisfaction rate of employees involved in educational projects 	<ul style="list-style-type: none"> 1 Toray Group 2 Toray Group 3 Toray 	<ul style="list-style-type: none"> 1 100% or more 2 No numerical target determined 3 10,000 persons or more, 90% or above, 90% or above 	<ul style="list-style-type: none"> 1 146% 2 140 3 15,773 persons, 95%, 95% 	<ul style="list-style-type: none"> 1 ○ 2 N.A. 3 ○
<ul style="list-style-type: none"> 1 Number of major accidents 2 Achieve world's best standard for safety management (not exceeding 0.05 frequency rate for occupational accidents resulting in lost work time) 3 Number of fire and explosion accidents 4 Number of environmental accidents 5 Reduction of atmospheric VOC emissions (%) 6 Waste recycling rate 7 Reduction of greenhouse gas emissions (%) 8 Develop greenery policy and plan, as part of biodiversity conservation initiatives (number of group companies and plants) 	<ul style="list-style-type: none"> 1 Toray Group 2 Toray Group 3 Toray Group 4 Toray Group 5 Toray Group 6 Toray Group 7 Toray 8 Toray Group 	<ul style="list-style-type: none"> 1 0 accidents 2 No more than 0.05 3 0 accidents 4 0 accidents 5 70% decrease compared to fiscal 2000 level 6 84% 7 86% or more 8 15% reduction compared to fiscal 1990 level 	<ul style="list-style-type: none"> 1 0 accidents 2 0.33 3 1 accident 4 2 accidents 5 75% 6 84% 7 21% 8 46 	<ul style="list-style-type: none"> 1 ○ 2 × 3 × 4 × 5 ○ 6 △ 7 ○ 8 ○

CSR strategies

Improve capacity to address social issues

The Toray Group will work to instill a greater awareness of CSR among employees, aiming to do its part to address social issues—such as global environmental problems as well as health maintenance and longevity. The Group will also work to improve its ability not only to seize upon opportunities, but also to deal with risks.

Step up efforts on group-wide CSR activities

Now that the Toray Group has established comprehensive policies and material issues for CSR as key performance indicators, the Group will implement CSR activities with an eye on actual conditions at individual group companies.

	CSR Guidelines	CSR Road Map goals	Key performance indicators
Value Creation	7 Contributing Solutions to Social Issues through Business Activities	<ol style="list-style-type: none"> Help address social issues by developing innovative materials and new technologies, focusing on the fields of Green Innovation and Life Innovation [Related material issues for CSR] <ul style="list-style-type: none"> Contributing to the solution of environmental issues through business activities Contributing to health maintenance and longevity through business activities Initiatives for managing water resources 	<ol style="list-style-type: none"> Sales of Green Innovation businesses (billion yen) Sales of Life Innovation businesses (billion yen) Contribution of Toray water treatment products (converted to treated water amount) (tons/day)
Governance	1 Corporate Governance and Management Transparency	<ol style="list-style-type: none"> Enhance management transparency, continually reflect stakeholder feedback in management, and fulfill responsibilities to explain corporate activities 	<ol style="list-style-type: none"> Number of stakeholder dialog meetings
		<ol style="list-style-type: none"> Perform monitoring based on the Basic Policy for Internal Control Systems, in accordance with Japan's Companies Act 	<ol style="list-style-type: none"> Board of Directors' positive assessment of the implementation of the Basic Policy for Internal Control Systems (%)
		<ol style="list-style-type: none"> Expand CSR education throughout the Toray Group to facilitate CSR activities 	<ol style="list-style-type: none"> Group companies implementing CSR education (%)
	2 Corporate Ethics and Legal Compliance	<ol style="list-style-type: none"> No major cases throughout the Toray Group of non-compliance with or violation of bribery regulations, antitrust laws, etc. [Related material for CSR] <ul style="list-style-type: none"> Corporate ethics and legal compliance 	<ol style="list-style-type: none"> Number of major violations of laws or ordinances
		<ol style="list-style-type: none"> Promote compliance activities in accordance with the conditions of each country or region 	<ol style="list-style-type: none"> Implementing internal legal audits of group companies, group companies improving problems found in internal legal audits in the previous year (%)
		<ol style="list-style-type: none"> Enhance awareness-raising and educational activities relating to corporate ethics and legal compliance 	<ol style="list-style-type: none"> Group companies providing information and implementing education on major laws and regulations (%)
5 Risk Management	<ol style="list-style-type: none"> Strengthen corporate risk management throughout the Toray Group and reduce risks 	<ol style="list-style-type: none"> Group companies implementing continuous review of risk management (%) 	
	<ol style="list-style-type: none"> Instill greater risk management among employees by rolling out risk management education throughout the Toray Group 	<ol style="list-style-type: none"> Group companies implementing risk management education (%) 	
Social Initiatives	8 Human Rights Promotion and Human Resources Development	<ol style="list-style-type: none"> Respect for human rights and fair promotion based on ability throughout the Toray Group by eliminating discrimination based on race, gender, education, nationality, religion, and physical attributes [Related material issue for CSR] <ul style="list-style-type: none"> Respecting for human rights 	<ol style="list-style-type: none"> Group companies implementing human rights education and training (%) Group companies that have achieved legally mandated employment rate of persons with disabilities (%) Women in management positions (%)
		<ol style="list-style-type: none"> Build a vibrant and rewarding workplace culture group-wide, and work systematically to secure and train personnel [Related material issue for CSR] <ul style="list-style-type: none"> Creating a positive workplace Securing and developing human resources 	<ol style="list-style-type: none"> Group companies that have adopted a mid-term human resource plan (%) Number of local core staff outside Japan who participate in training courses Training expenditures per employee (yen) Available annual paid leave used by employees (%)

Strengthen CSR activities throughout the entire supply chain

By facilitating CSR initiatives group-wide, the Toray Group will work to instill CSR awareness and promote CSR activities at suppliers.

Facilitate activities to meet the expectations of stakeholders

In order to gain a high degree of trust from all stakeholders, the Toray Group will actively disclose non-financial information and engage in dialogue with stakeholders, and make the most of this process in its CSR activities.

	Reporting scope			Fiscal 2017 targets	Fiscal 2018 targets	Fiscal 2019 targets	Implementation leader *
	Toray Group						
	Toray	Japan	overseas				
	●	●	●	① 900 billion yen (fiscal 2019 target)			Koichi Abe Executive Vice President, General Manager of Intellectual Property Division, Automotive Material Strategic Planning Department, Global Environment Business Strategic Planning Department, Life Innovation Business Strategic Planning Department, Technology Center, Toray Industries, Inc.
	●	●	●	② 270 billion yen (fiscal 2019 target)			
	●	●	●	③ 59 million tons/day (fiscal 2019 target)			
	●	●	●	① 8 times	① 8 times	① 8 times	Yukichi Deguchi Senior Vice President, General Manager of Corporate Strategic Planning Division, Toray Industries, Inc.
	●	●	●	② 90%	② 90%	② 90%	
	●	●	●	③ 100%	③ 100%	③ 100%	
	●	●	●	① 0	① 0	① 0	Toru Fukasawa 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 Audits: In fiscal 2018 at Toray and its group companies in Japan; in fiscal 2017 and 2019 at group companies outside Japan Percent that improved: 100% for all audits by the following fiscal year			
	●	●	●	③ 100%	③ 100%	③ 100%	
	●	●	●	① 100%	① 100%	① 100%	Yukichi Deguchi Senior Vice President, General Manager of Corporate Strategic Planning Division, Toray Industries, Inc.
	●	●	●	② 60%	② 80%	② 100%	
	●	●	●	① 100%	① 100%	① 100%	Shigeki Taniguchi Vice President, General Manager of Personnel & Industrial Relations Division, Toray Industries, Inc.
	●	●	—	② 100%	② 100%	② 100%	
	●	—	—	③ No numerical target determined	③ No numerical target determined	③ No numerical target determined	
	●	●	●	④ 100%	④ 100%	④ 100%	
	—	—	●	⑤ No numerical target determined	⑤ No numerical target determined	⑤ No numerical target determined	
	●	—	—	⑥ No numerical target determined	⑥ No numerical target determined	⑥ No numerical target determined	
	●	—	—	⑦ No numerical target determined	⑦ No numerical target determined	⑦ No numerical target determined	

* Names and job titles of implementation leaders are current as of June 1, 2017.

	CSR Guidelines	CSR Road Map goals	Key performance indicators
Social Initiatives	4 Product Safety and Quality	1 Achieve zero product accidents [Related material issue for CSR] • Ensuring product safety and quality	1 Number of product accidents
		2 Enhance the group-wide framework for product safety and quality assurance	2 Group companies implementing product safety and quality assurance education (%)
	9 Facilitating CSR Initiatives Throughout the Supply Chain	1 To ensure socially responsible procurement by the Toray Group, request major suppliers and business partners to practice CSR and work with suppliers to promote greater awareness of human rights, social, and environmental issues [Related material issue for CSR] • Managing social and environmental impact of suppliers	1 Number of group companies that have requested their suppliers to practice CSR
			2 Number of business partners that Toray Group companies have requested to practice CSR (cumulative)
			3 Reduction in CO ₂ emissions per unit of sales from distribution activities (year-on-year)
			4 Modal shift to sea or rail for transport across distances for 500 km or more (%)
6 Communication	1 Promote dialogue and collaboration with stakeholders 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	1 Number of corporate website page views (per month)	
		2 Group companies that have their own websites (%)	
		3 Number of news releases	
		4 Number of responses to investor inquiries	
		5 Number of meetings with employees or labor unions	
10 Social Contribution Activities	1 Pursue ongoing social initiatives emphasizing development of science and technology, the environment and local communities, and health and social welfare throughout the Toray Group	1 Social contribution expenditure (% compared with fiscal 2011–2016 average)	
		2 Number of persons reached through educational initiatives in these key fields	
Environment	3 Safety, Accident Prevention, and Environmental Preservation	1 Clarify and fully comply with essential safety guidelines, and encourage employees to think carefully before taking action to prevent accidents [Related material issue for CSR] • Ensuring safety and disaster preparedness	1 Number of major accidents
			2 Achieve world's best standard for safety management (not exceeding 0.05 frequency rate for occupational accidents resulting in lost work time)
			3 Number of fire and explosion accidents
	2 Reduce environmental impact by working to fulfill the Fifth Medium-Term Environmental Plan (achieve targets by fiscal 2020) [Related material issue for CSR] • Addressing substances with negative environmental impact • Addressing resource and energy issues • Reducing greenhouse gas emissions	4 Number of environmental accidents	
		5 Reduction of atmospheric VOC emissions (%)	
		6 Waste recycling rate (%)	
3 Pursue environmental preservation on the basis of policies on water resources and biodiversity [Related material issue for CSR] • Initiatives for managing water resources • Conserving biodiversity	7 Reduction of greenhouse gas emissions per unit of sales (%)		
	8 Water usage per unit of sales (%)		
			9 Number of companies and plants developing greenery policy and plan

	Reporting scope			Fiscal 2017 targets	Fiscal 2018 targets	Fiscal 2019 targets	Implementation leader *
	Toray Group						
	Toray	Japan	overseas				
●	●	●	① 0	① 0	① 0	Akira Umeda Senior Vice President, General Manager of Purchasing & Logistics Division, Product Safety & Quality Assurance Planning Department, Manufacturing Division, Toray Industries, Inc.	
●	●	●	② 100%	② 100%	② 100%		
●	●	●	① 40 or more (fiscal 2019 target)			Osamu Tsuneki General Manager, Purchasing & Logistics Division, Toray Industries, Inc.	
●	●	●	② No numerical target determined	② No numerical target determined	② No numerical target determined		
●	● (specified consigners)	—	③ 1%	③ 1%	③ 1%		
●	—	—	④ 40 % (fiscal 2019 target)				
●	●	●	① 1.5 million page views	① 1.5 million page views	① 1.5 million page views		
●	●	●	② Japan: 70%, outside Japan: 100%	② Japan: 80%, outside Japan: 100%	② Japan: 90%, outside Japan: 100%	Toru Fukasawa 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.	
●	●	●	③ 200	③ 200	③ 200		
●	●	●	④ No numerical target determined	④ No numerical target determined	④ No numerical target determined		
●	●	●	⑤ No numerical target determined	⑤ No numerical target determined	⑤ No numerical target determined		
●	●	●	① At least as much as fiscal 2011-2016 average	① At least as much as fiscal 2011-2016 average	① At least as much as fiscal 2011-2016 average		
●	●	●	② 15,000 or more	② 15,000 or more	② 15,000 or more	Toru Fukasawa 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.	
●	●	●	① 0	① 0	① 0	Akira Umeda Senior Vice President, General Manager of Purchasing & Logistics Division, Product Safety & Quality Assurance Planning Department, Manufacturing Division, Toray Industries, Inc.	
●	●	●	② No more than 0.05	② No more than 0.05	② No more than 0.05		
●	●	●	③ 0	③ 0	③ 0		
●	●	●	④ 0	④ 0	④ 0		
●	●	●	⑤ At least 70% lower than fiscal 2000	⑤ At least 70% lower than fiscal 2000	⑤ At least 70% lower than fiscal 2000		
●	●	●	⑥ At least 86%	⑥ At least 86%	⑥ At least 86%		
●	●	—	⑦ At least 15% lower than fiscal 1990	⑦ At least 15% lower than fiscal 1990	⑦ At least 15% lower than fiscal 1990		
●	●	●	⑧ No more than 61% of 2001 level	⑧ No more than 61% of 2001 level	⑧ No more than 61% of 2001 level		
●	●	●	⑨ 45 or more	⑨ 50 or more	⑨ 55 or more		

* Names and job titles of implementation leaders are current as of June 1, 2017.

Leveraging the Power of Materials for a Sustainable World



The Toray Group believes that materials can change lives. That's why the Group will continue to supply innovative materials based on core technologies and innovations, making every effort to help address environmental issues and social issues, including health maintenance and longevity.

The Toray Group has stated its commitment to management focused on the global environment and is strongly pursuing the Green Innovation Business Expansion Project to assist with the transition to a more sustainable, recycling-based world. Through this project, the Group aims to help address global environmental issues, for instance by offering innovative lightweight materials and energy-efficient processes that reduce greenhouse gas emissions, or by combining technologies to further propel R&D into non-fossil raw materials.

At the same time, there is a growing need to address rising medical costs and care for aging populations around the world. The Toray Group aims to develop Life Innovation solutions which leverage its years of experience in the pharmaceutical and medical sectors, as well as its strengths in advanced materials. The Group will make the most of its advanced materials, core and elemental technologies, and business platforms, while actively collaborating with research institutes, medical institutions, and partners in other industries to improve the quality of medical care, reduce the burden on medical staff, and contribute to health maintenance and longevity.



Toray Innovations That Make the World Better Place

Reducing Carbon Footprint

The Toray Group recognizes the importance of building a more sustainable, low-carbon world and has long worked to reduce greenhouse gas emissions. The Toray Group's goal is that it would achieve 200 million tons of avoided CO₂ emissions annually by around 2020 with its Green Innovation products.



Supporting the Safe Use of Renewable Energy

Recycling for the World

The Toray Group understands the importance of effectively using resources and reducing environmental impact including on air and water quality. The Group will work hard to help build a recycling-based world by advancing resin and film recycling, biomass technology, water recycling based on water treatment membranes, and materials for renewable energy.



Offering Biomass
Solutions to Resource and
Climate Challenges



Providing Water Treatment
Membranes to Secure
Safe Drinking Water for
Everyone

Contributing to Health and Public Welfare

Population aging in developed countries is causing governments to reconsider their medical systems and strategies, and demands solutions that reduce the burden on medical staff. Rising income levels in emerging and developing countries are driving demand for expanded medical care. The Toray Group is pursuing Life Innovation businesses so that people can be assured of health maintenance and longevity.



Life Innovation brand logo



Reducing the Burden on
Medical Practitioners
Fighting Infectious
Disease



Supporting Safe, Healthy
Living with Wearable
Device Technologies



Pursuing Open Innovation
for the Progress of
Cutting-Edge Medical
Treatment



Creating New Value in the
Pharmaceutical and Life
Science Fields



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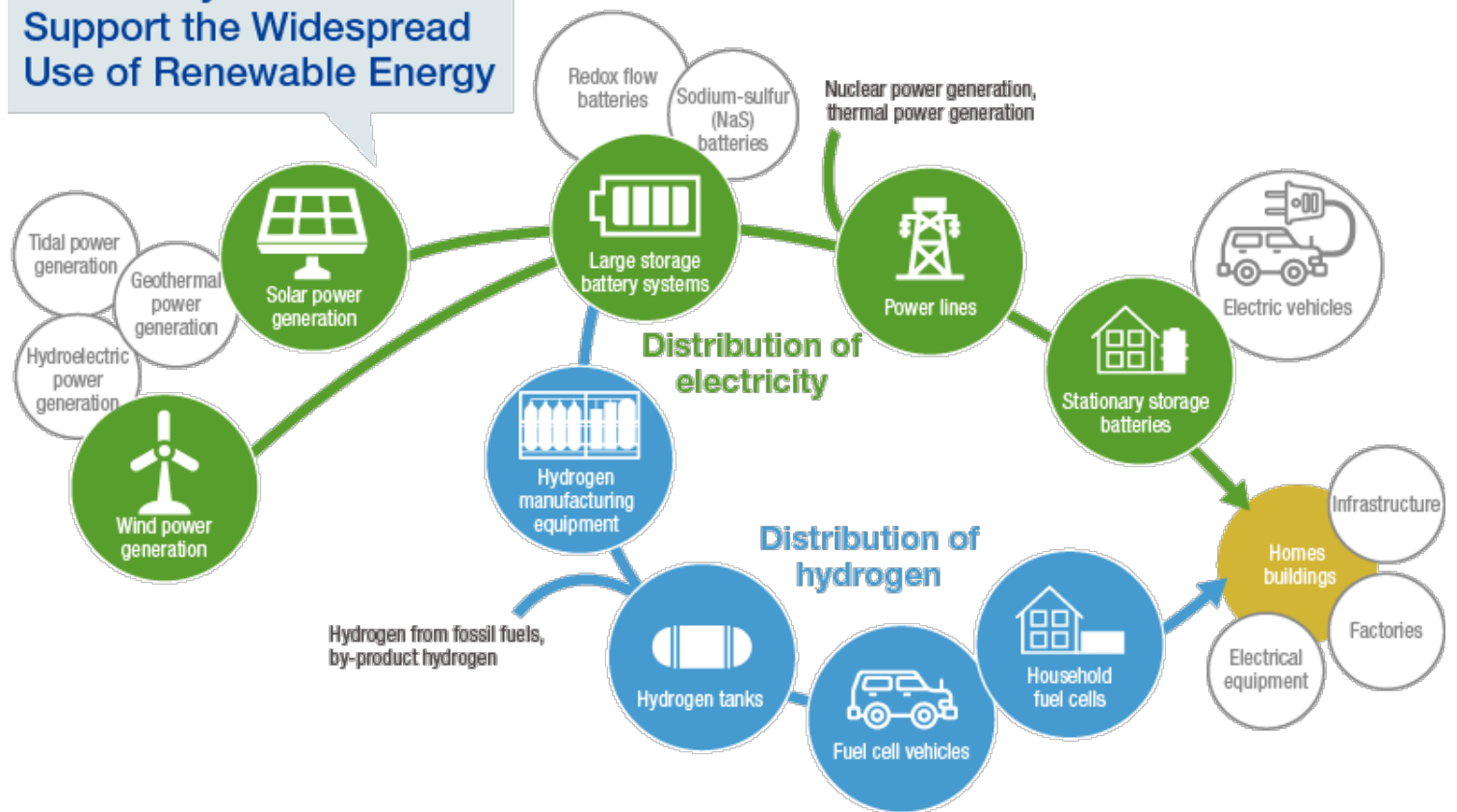
Reducing Carbon Footprint
Supporting the Safe Use of
Renewable Energy



The Toray Group embraces a management policy mandating that all business strategies must prioritize responsibility for the global environment in an effort to help build a more sustainable world with a small carbon footprint. The Group is endeavoring to realize this vision by addressing global environmental, resource, and energy issues.

It is critical that the world limit emissions of greenhouse gases linked to global warming. Toray materials are used in a wide variety of energy applications to generate and store electricity, thereby supporting products and services in diverse fields that reduce the carbon footprint of the world.

How Toray Materials Support the Widespread Use of Renewable Energy



Generating Carbon-Neutral Power

Carbon Fiber for Wind Power Generation

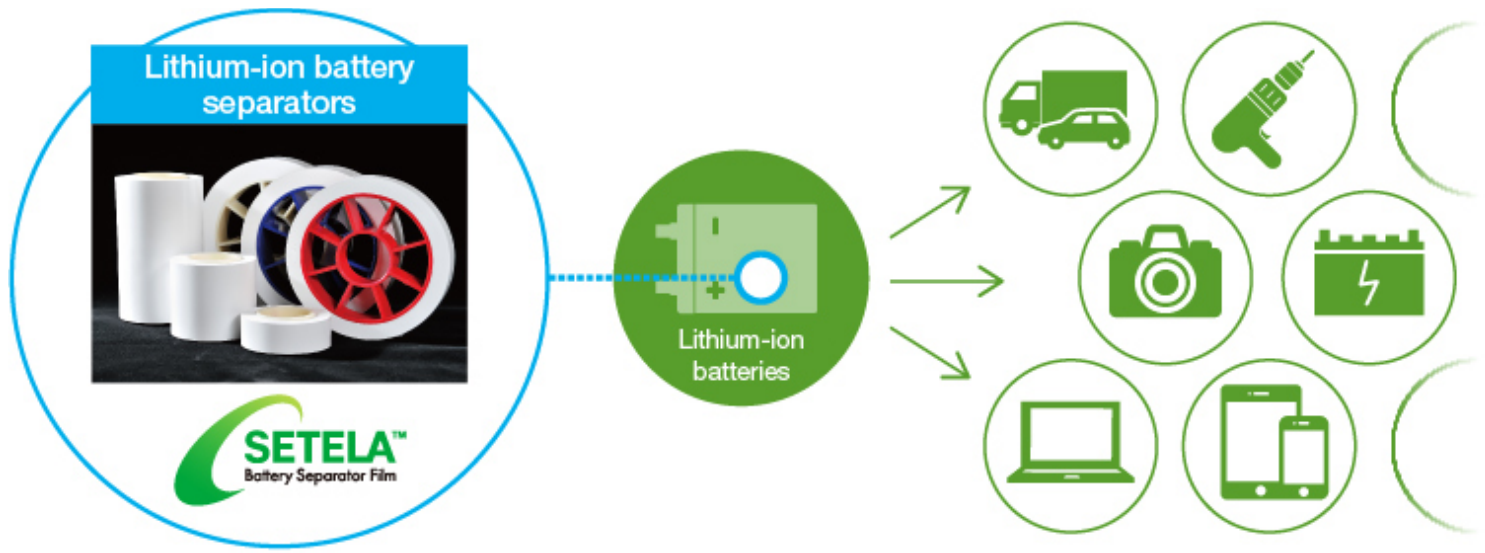
Wind power is in the spotlight as a renewable energy source that produces electricity without emitting greenhouse gases. Longer and lighter blades increase the energy efficiency of wind turbines, but the blades must have the stiffness to withstand strong winds. The carbon fiber and molding technology of the Toray Group company Zoltek make it possible to produce long wind turbine blades that are lightweight and strong. By leveraging these technologies, the Toray Group will make it possible to develop larger wind turbines, which will in turn promote greater adoption of wind power generation around the world.



Supporting Safe, Reliable Electricity Storage

Lithium-Ion Batteries

Renewable energy systems increasingly rely on lithium-ion batteries to store and supply energy, which helps to solve the problem of fluctuating electricity supply and voltage. Lithium-ion batteries use a separator that acts as an insulator between the cathode and anode. Separators are essential in providing a shutdown mechanism in case of thermal runaway within the battery cell, such as due to an overcurrent in the battery. The Toray Group manufactures battery separator films that are thin and strong with excellent insulation performance, helping to realize smaller and higher capacity lithium-ion batteries that deliver long life.



Building a Hydrogen-Driven World Powered by Fuel Cells

Electrolyte Membranes, Electrode Substrates, Carbon Fiber

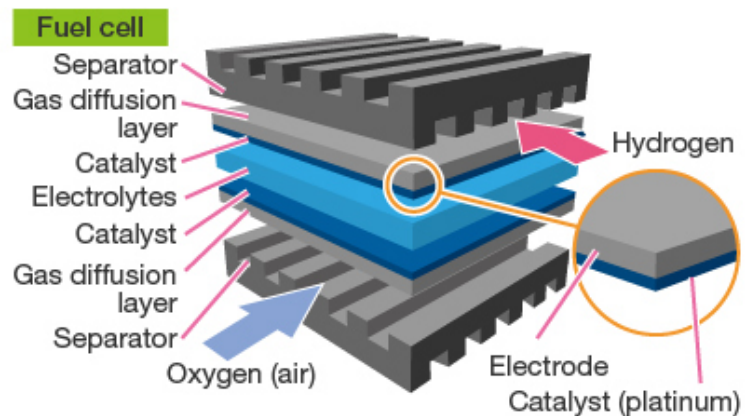
Once considered a technology of the future, fuel cells have developed to the point of practical application today. The Toray Group manufactures electrolyte membranes and electrode substrates—essential components of electrolyzers and fuel cells—and also supplies carbon fiber used to make hydrogen tanks. These diverse products are essential to the infrastructure for a hydrogen-driven world, from the hydrogen production to utilization phases. In 2017, Toray decided to make a major investment to increase its production capacity for electrode substrates at the Ehime Plant, accelerating its efforts to support the mainstreaming of hydrogen-based energy.



Hydrogen tanks



The Ehime Plant will build a large-scale production facility for electrode membranes.



Leveraging Toray's Technical Expertise as a Comprehensive Materials Manufacturer

The advantage of ELIY Power's lithium-ion batteries is their extremely reliable safety performance, as proven by a global third-party certification body. No one can manufacture a good product by just procuring excellent materials and merely assembling them. From a technical viewpoint, Toray has a variety of battery materials, a strong R&D infrastructure, and outstanding production technologies. This means we can not only discuss specific materials but also consult on all aspects of battery development with them, which helps us to find innovative solutions. Being on the same page with the material manufacturer is essential. We trust Toray's technical cooperation as a comprehensive materials manufacturer and we would like to collaborate even more closely with Toray.



Kiyomoto Kawakami
Representative Director, Senior
Executive Officer, ELIY Power
Co., Ltd.



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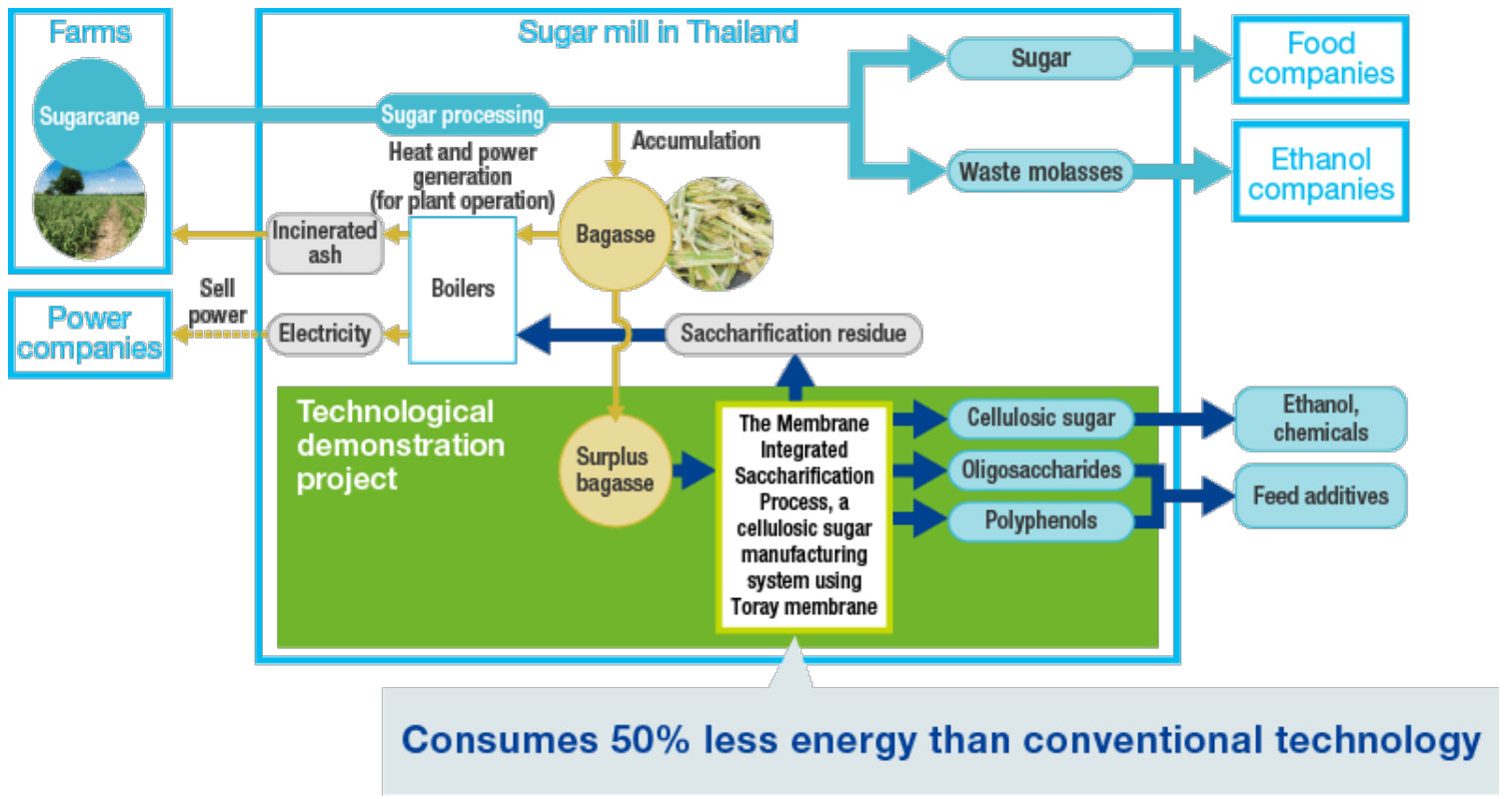
Recycling for the World

Offering Biomass Solutions to Resource and Climate Challenges



Biomass is a renewable source of energy and offers the same potential as petroleum, which is the raw material used to make plastics. It is increasingly being seen as an energy resource to replace petroleum. Unlike petroleum fuels, the use of plastics made from biomass does not increase the impact on the environment and are considered carbon neutral. In other words, the CO₂ released when incinerating bio-based plastics for waste disposal is offset by the amount of CO₂ the plants used to make those plastics absorbed during photosynthesis. There is particular interest in effectively using the non-edible parts of plants as biomass.

Toray, Mitsui Sugar Co., Ltd. and Mitsui & Co., Ltd. have started a technological demonstration project that manufactures cellulosic sugar from bagasse, a residue that is produced from sugarcane juice extraction. There are high expectations for cellulosic sugar as a common raw material for use in producing various bio-based chemical products. The project has been operating since July 2016 as part of the International Energy Conservation Technology and System Demonstration Project of Japan's New Energy and Industrial Technology Development Organization (NEDO). The process for manufacturing sugar from bagasse uses Toray's water treatment membrane technology, enabling the production of high-quality cellulosic sugar at a low cost, while using 50% less energy in manufacturing. Previously, the sole use for surplus bagasse was as a fuel source to be combusted for heat and power generation; it was difficult to recycle without generating further waste. By recycling bagasse, the project aims to expand the use of this carbon neutral biomass raw material, thereby reducing the carbon footprint of various manufacturing activities.



VOICE

Message from a Project Partner

Establishing Technology to Completely Utilize Sugarcane and Expand Biomass Use

Mitsui Sugar's role in this project is to demonstrate technologies for manufacturing polyphenols produced as a by-product from the saccharification of bagasse, and develop the market for the polyphenols. For the last two decades, we have been producing various extracts from the sugar processing, in order to completely utilize sugarcane. Sugarcane is an environmentally friendly crop that offers superior carbon fixation, and it is a sustainable resource when used as biomass generated by sugar processing plants. With the help of Toray's technology, we hope we establish new technologies to fully utilize sugarcane as biomass, thereby expanding its applications.



Toshikazu Kawai
General Manager, R&D
Division, Mitsui Sugar Co., Ltd.



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Recycling for the World

Providing Water Treatment Membranes to Secure Safe Drinking Water for Everyone

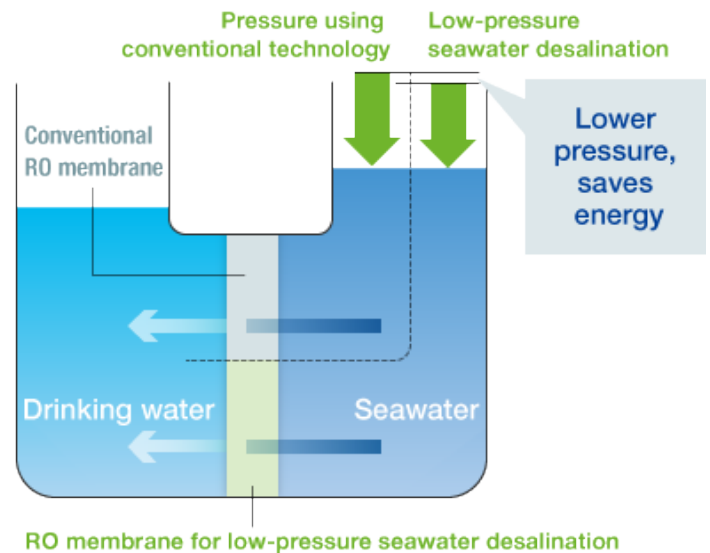


Many regions in the world rely on seawater to obtain drinking water. However, typical desalination processes consume a great deal of energy in order to generate the higher pressures needed to desalinate seawater with a high salt content. Using its background as a pioneer in the field of reverse osmosis (RO) membranes, Toray is developing water treatment membranes that filter seawater at lower pressures. These original membranes reduce energy consumption and bring down energy costs for producing drinking water in countries and regions that rely on seawater desalination, such as the Middle East. Toray will continue developing RO membranes that deliver equivalent performance at lower pressures.

ROMEMBRA™ RO/NF membrane element



How Seawater Desalination Works



In 2016, Hitachi, Ltd. adopted Toray's RO membranes for use in its water treatment systems, developing energy-saving seawater desalination plants and launching a pilot plant in Saudi Arabia. Toray will continue to develop low-cost, environmentally friendly solutions for producing clean, safe drinking water, helping to remedy the anticipated depletion of water resources.



Signing ceremony for joint venture pilot plant in Saudi Arabia

VOICE

Message from a Business Partner

Looking to Toray to Develop Solutions for Even Greater Performance and Functionality

Population growth, climate change, and economic growth in emerging countries are all contributing to acute water scarcity issues worldwide. More seawater desalination plants are being built to address the problem, but there is a great need to improve the energy consumption and environmental impact of these plants.

Toray is making the most of its original technologies to develop high-performance solutions that help address social needs like this one. Hitachi is also striving to develop systems that best leverage the performance of these newly developed solutions. We look forward to more innovation from Toray, yielding even greater performance and functionality.



Hideaki Kurokawa
Senior Chief Engineer,
Corporate Technology, Industry
and Water Business
Administration Division,
Hitachi, Ltd.

Improving Water Usage at a Toray Plant

The Toray Group is moving forward with water recycling strategies in order to address the increasing water needs accompanying the growth of its business. The Group is focused on securing environmentally friendly water sources and effectively utilizing water resources.

For instance, the Toray Group has installed water treatment facilities at its plant in Mexico to enable the self-sufficient supply of industrial water used by the plant. The system uses RO and ultrafiltration (UF) membranes to mainly treat on-site well water and spent water from the plant, producing 2,000 m³ of industrial water per day.



Water treatment facilities at a group company in Mexico

Contributing to Health and Public Welfare Reducing the Burden on Medical Practitioners Fighting Infectious Disease



Toray markets the LIVMOA™ line of limited-use protective clothing, which is entirely made by the Toray Group, including the materials. The brand includes biohazard suits that combine advanced fiber and film technologies that help to protect the wearer from viruses and other infectious disease while still being comfortable to wear.

The suits for infection control are designed to reduce the physical burden on medical practitioners who work under conditions that involve high temperatures and humidity. In 2016, Toray participated in a government-funded project to study the usability of protective clothing in the Republic of Guinea, which was facing an outbreak of the Ebola virus. The study measured changes in temperatures and humidity inside the suits as well as the usability of the suits under actual working conditions. Feedback from persons who have experience working with the Ebola outbreak was incorporated into the product design, including comments stressing that the appearance of the suit should offer a sense of reassurance and suggestions for the comfort of the suit.

Toray subsequently received a request from the Guinean government to supply the suits, based on their high performance and usability, in order to bolster the country's measures against new infectious diseases and any further outbreak of the Ebola virus. Toray donated 10,000 finished suits to the country in a sign of gratitude for the cooperation received in the development process. The donation was received with thanks by Guinean President Alpha Condé.

Toray is committed to developing and marketing biohazard clothing that meets the needs of countries such as the Republic of Guinea in the high-risk regions of Africa and Asia. This effort demonstrates Toray's commitment to developing products that leverage the Group's high-performance advanced materials to help address social issues and realize a better society.



President Alpha Condé of the Republic of Guinea (center)

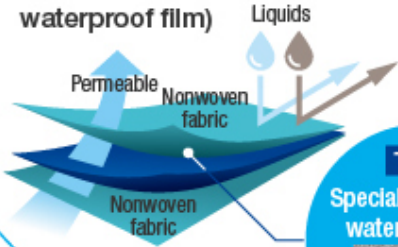


Educating workers on proper protocols for wearing biohazard suits



Superior safety,
durability, and
comfort

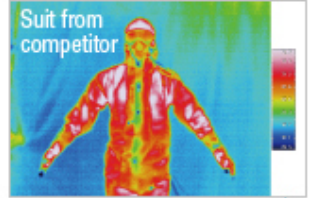
Multilayer laminated fabric
(nonwoven fabric with
special breathable
waterproof film)



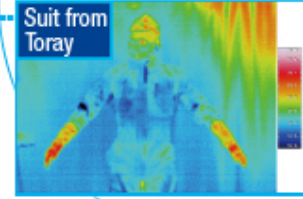
Toray
Special breathable
waterproof film



Thermographic
Images



Suit from
Toray



Testing suits in the field



 **Toray Group**

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Contributing to Health and Public Welfare

Supporting Safe, Healthy Living with Wearable Device Technologies



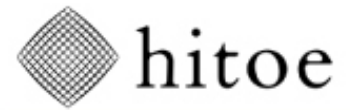
In 2014, Toray and Nippon Telegraph and Telephone Corporation (NTT) developed hitoe™, a biosensing fabric that can monitor biodata when worn.

The nanofiber knit fabric is coated with an electro-conductive polymer compound that collects faint biological signals from the human body. Clothing made from hitoe™ fabric enables continuous biosensing over extended periods of time including during exercise, while still being comfortable. The advantages of hitoe™ fabric make it useful for a number of applications including sports, occupational safety, medical situations, and nursing care.

In February 2017, Toray, Fujita Health University, NTT, and NTT Docomo, Inc. launched a joint pilot project to verify the effectiveness of a monitoring system for rehabilitating patients. The system is being tested for the effectiveness of and possibilities for using hitoe™ clothing to realize continuous monitoring of rehabilitating patients, by collecting quantitative patient data including heart rate, activity levels, and location data. The goal of the project is to confirm and validate the effectiveness of the system, with a view to developing a future system based on hitoe™ clothing.

The Toray Group expects to market services that take advantage of hitoe™ fabric after demonstrating its effectiveness.

For sports



Biosensing fabric enables continuous data monitoring



For nursing care and medical situations



For occupational safety



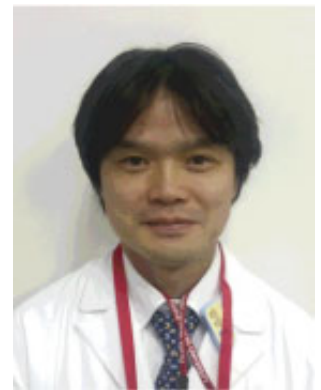
Note: hitoe™ is not a medical device.

VOICE

Message from a Research Partner

High Hopes for Wearable Technologies for Accurately Monitoring Heart Rate

In the field of rehabilitation, it is critical to monitor heart rate as an indication of the burden on patients and to gauge the effectiveness of rehabilitation. The clothing developed by Toray enables us to continuously monitor heart rate and activity levels, more easily than before. The heart-rate sensing ability of hitoe™ fabric supports broad applications for rehabilitation, such as teaching patients to stand and walk again. We expect that hitoe™ will help to improve the quality of rehabilitation as we further refine the safety and efficiency of our system.



Masahiko Mukaino
Department of Rehabilitation
Medicine I, School of Medicine,
Fujita Health University



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Contributing to Health and Public Welfare Pursuing Open Innovation for the Progress of Cutting-Edge Medicine



Toray's Pharmaceuticals and Medical Products Division is pursuing strategic open innovation, collaborating with researchers and partners from diverse fields, to make the most of cutting-edge technologies based on Toray's proprietary materials and technologies. Toray aims to leverage these efforts to achieve true innovation that delivers both social and economic values. In 2012, Toray started developing an anti-adhesive material based on the nano-scale polymer thin film technology of Nanotheta Co., Ltd., a venture business that was started based on joint industry-university research between Toray and Waseda University. The development project is currently moving forward with the goal of starting clinical trials in fiscal 2017.

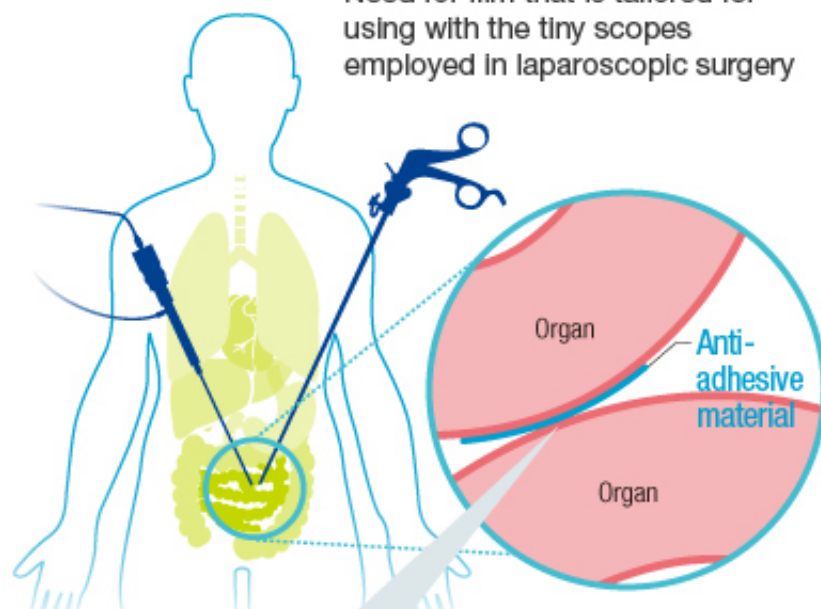
Anti-adhesive materials are typically biodegradable thin films that are applied to the surgical site after surgery, to prevent post-operative adhesion of organs, which can cause intestinal blockage and blood flow insufficiency.

Conventional anti-adhesive materials are

designed for open surgery, but there is a need for anti-adhesive materials to be used with the tiny scopes employed in laparoscopic surgery, which is being used more and more today. The goal of the project is to invent a thin film-type anti-adhesive material that easily attaches to organs and stays in place.

Toray is applying its film manufacturing technology to ensure that the development outcome will be able to be mass produced in consistently high quality.

Need for film that is tailored for using with the tiny scopes employed in laparoscopic surgery



Nano-scale thin film for ease of handling



Ultra-thin anti-adhesive material affixed to skin

Making Dreams Come True for the Next Generation

Toray shares the progressive spirit that we have at Waseda University, willingly pursuing long-term development of materials that will find application in the future, even at the expense of short-term profits. It has always been a challenge to overcome the gap between academic research and the actual needs of medical practice, but the joint research we are doing with Toray is actually closing this gap. Another benefit is the frequent communication between Toray and our junior researchers, which gives them valuable exposure to the latest research of industry.



Shinji Takeoka

Professor and Dr. of
Engineering, Department of
Life Science and Medical
Bioscience, School of
Advanced Science and
Engineering, Waseda
University



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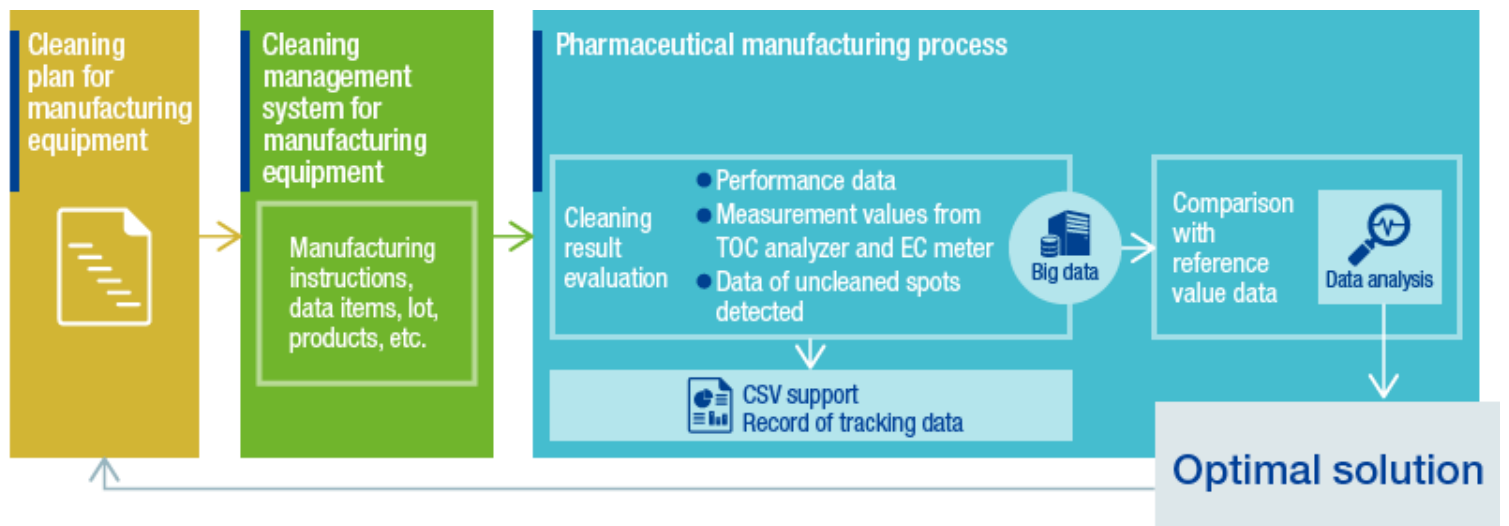
Contributing to Health and Public Welfare Creating New Value in the Pharmaceutical and Life Science Fields



Toray Engineering Co., Ltd. is creating new value in the manufacturing process for pharmaceutical and life-science products by applying the technology and expertise that Toray has accumulated during plant construction and equipment development in the manufacturing of fibers, films, and fine chemicals.

One example of this is the cleaning solution system for pharmaceutical manufacturing lines that was developed by Toray Engineering. The system detects the uncleaned parts of equipment after manufacturing, which is important for pharmaceutical manufacturing safety. Fluid analysis is used to visualize the flow of manufactured products, while sensors and inspection devices are placed at various points as part of a system that obtains and detects data online. The system was realized through joint development and proposals by the Plant Business Division, Research & Development Division, and Electronics Division. The company proposes solutions that address customer issues, by precisely determining the business issues they face and providing the needed functionality via solutions that deliver operability, environmental performance, and safety.

Cleaning Solution System for Pharmaceutical Manufacturing Lines



The company also takes this approach in the field of equipment development. Toray Engineering has entered into capital tie-ups with a venture firm started by a university to develop equipment for manufacturing microneedles (used in place of conventional hypodermic needles) and to commercialize surgical assist robots. Another project on artificial intelligence (AI) has been started in collaboration with a venture firm launched by members of a research laboratory at the University of Tokyo. In this way, the company works to develop and supply technologies and equipment that address customer issues.

Toray Engineering will continue to offer solutions that combine engineering and craftsmanship to address customer issues and create new value.



Microneedles



Endoscope manipulator robot developed by Riverfield Inc., a venture firm started by a university

VOICE

Message from a Business Partner

Collective Resources Deliver Comprehensive Engineering Solutions

In recent years, there have been considerable changes in the environment surrounding the pharmaceutical industry, with the global harmonization of clinical trial procedures for investigational new drugs and guidelines for manufacturing. These regulations require advanced cleaning operations and assurance when switching between products, to avoid the risk of cross-contamination. The cleaning solution system developed by Toray Engineering collectively draws on the resources of its various divisions, realizing a special and unique solution that will give the company a major advantage.



Shigetoshi Mochizuki
Representative,
Pharmaceutical Technology MS
Techno



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Toray Employees Helping to Build a Better World

The Toray Group operates in 26 countries and regions worldwide, and practices corporate social responsibility (CSR) through initiatives rooted in each community. Here, we highlight some of the initiatives that were implemented in fiscal 2016 and hear from Toray Group employees.



Japan



Europe and the Americas



China



Asia

 **Japan**

Promoting Traffic Safety for Safer Communities

Two employees of Ogaki Fuso Spinning Co., Ltd. enrolled as safety ambassadors with local police and participated in traffic safety education campaigns. The safety ambassadors work with businesses and organizations to promote community safety, under the slogan "Safety Japan!"



VOICE

Message from an Employee

As a safety ambassador, I help promote traffic safety by handing out flyers and promotional tissue packets at local shopping malls, wearing the ambassador uniforms issued by the police. I look forward to working with everyone to come up with ideas for expanding our activities.



Haruna Nakayama
Administration
Department,
Ogaki Fuso Spinning
Co., Ltd.

Toray Signs Agreement to Conduct R&D for Power-to-Gas System to Fully Leverage the Power of Hydrogen

On November 4, 2016, Yamanashi Prefecture, Toray, Tokyo Electric Power Company Holdings, Inc., and Takaoka Toko Co., Ltd. signed an agreement to mutually collaborate on R&D for a Power-to-Gas (P2G) system that will help build a carbon-free, hydrogen-driven world. There are high expectations for the system, which makes the most of hydrogen's capacity to be stored long-term and transported. This technology is poised to contribute to the stable production of electricity generated using renewable energy sources subject to changing weather.



Okazaki City Centennial Celebrated with Exhibition Match by Toray Arrows Volleyball Team

As part of celebrations to commemorate the 100th year founding of Okazaki City in Aichi Prefecture, a volleyball clinic and exhibition match was organized between the men's Toray Arrows and Jtekt Stings volleyball teams. The teams put on an exciting display of volleyball for the audience.



VOICE

Message from a Toray Athlete

The Toray Arrows volleyball team travels and plays all over Japan, competing to be the best club in Japan. We practice hard every day, knowing that we can inspire and excite many people through our play. Through the volleyball clinics, we draw inspiration from elementary and junior high school players. I look forward to continuing to be involved in these activities.



Naonobu Fujii
Toray Arrows
Volleyball Team

TOREFARM™ Solution Used in Farm Project at Hinosato Housing Complex in Fukuoka Prefecture

TOREFARM™ is a raised-floor, sandponic solution offered by Toray Construction Co., Ltd. that represents the future of agriculture. The Urban Renaissance Agency adopted the TOREFARM™ solution for the Hinosato Farm Project that was launched in April 2016, in the Hinosato Housing Complex in Fukuoka Prefecture. Through its vegetable farming and sales operations, the project is facilitating new interactions across the generations, from elementary school students to the elderly. This is helping to invigorate the community and motivate the elderly.



Toray Group CSR Report Receives Prize of Excellence from Environmental Communication Awards

For the second consecutive year, the Toray Group CSR Report was singled out for a Prize of Excellence at the Environmental Communication Awards. The report was praised for identifying material issues in analyzing and assessing the importance of CSR, and for communicating to stakeholders how Toray is helping to address social issues through its business.



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Europe and the Americas

France



21st Toray Europe Labor-Management Conference Held in Lyon

The Toray Group organizes an annual Europe labor-management conference as a platform for senior management and employee representatives of group companies in Europe to actively share and discuss business information. The fiscal 2016 conference included a visit to the plant facilities of Toray Films Europe S.A.S., as well as discussions about improving safety awareness. The participants were also briefed on the progress being made to achieve the targets in the medium-term management program, helping to further the mutual understanding between management and labor.



Czech Republic



Toray Group Company Receives University Students and Organizes Seminars at University

In April 2016, Toray Textiles Central Europe s.r.o. welcomed nine students from Palacky University for a tour of plant operations. During the construction period of a new waterless plate plant from 2012 to 2013, the students from Palacky assisted the company with interpreting and translation. Since that time, the company and university have enjoyed good cooperation. The visit gave the students an opportunity to directly interact with native Japanese speakers and fostered friendly relations. The company also organized a lecture at the university on the subject of declining science enrollment in Japan and initiatives to address it by Japanese corporations, given by a company employee.



In an effort to support education in our community, we have sent employees to give lectures at the Japanese department at Palacky University. These lectures are helping to foster the Japanese perspective of the Czech university students by introducing them to Japanese society and culture.



Yusaku Okumura
Manager, Corporate
Planning Section,
Toray Textiles
Central Europe s.r.o.



U.S. Safety Summit Aims to Eliminate Accidents

Toray organized the 2016 U.S. Safety Summit at the Rhode Island plant of Toray Plastics (America), Inc., with the involvement of Toray Group companies in the U.S. as well as from Mexico and France. Managers from Toray's head office also flew in from Japan for the conference. The participants discussed the importance of raising safety and environmental awareness in their respective organizations.





Celebrating Earth Day

To celebrate Earth Day, Toray Composites Materials America, Inc. invited actor Lee Stetson, a pioneering activist for nature conservancy, to give a performance of John Muir Live. In the live performance, Stetson portrayed John Muir (1831–1941), who is considered the father of America's natural parks, to a very appreciative audience.



VOICE

Message from an Employee

We organized a tree-planting event to celebrate Earth Day and commemorate the U.S. National Park Service turning 100 years old. We learned from a waste recycling company about how our recycled materials are recycled and where the process takes place, which was useful for our employees.



Mike Hendershot
Manufacturing
Department, Toray
Composite Materials
America, Inc.

Mexico



Hungary



Celebrating Family Day

Zoltek Companies, Inc. organized Family Day events for some 1,500 employees and family members at its Mexico plant and another 5,000 people at its Hungary plant. The festivities included a variety of programs that appealed to persons of all ages.



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 **China**

Clothing and Household Goods Freecycle Exchange for Employees

The CSR Committee operated by Toray Group companies in Hong Kong organized a clothing and household goods freecycle (free recycling) exchange for employees, which was held during a lunch break. The event was designed to reduce waste and encourage recycling, by inviting employees to exchange usable goods that they did not need. All employees were encouraged to participate, and more than 500 items were gathered including clothing, household goods, toys, stationery, and books. The committee plans to organize more events like this one to raise employee awareness of living sustainably, with consideration for the environment.



Visit to Nantong Child Welfare Center

June 1 is designated as International Children's Day and is marked by children's event held across the country. To commemorate Children's Day, management and labor representatives from Toray Polytech (Nantong) Co., Ltd. visited the Nantong Child Welfare Center, bringing stationery and other donations for the children. The employees took a photo with several children, holding a banner that read "Let's Walk Together, Holding Hands with Love and Hope."



For Children's Day, I visited a child welfare center with a group from our company. The children met us with open arms, and when it was time to leave, they waved goodbye with big smiles. I was moved by their positive energy and attitude.



Zhang Jian
Chief, Labor Union,
Toray Polytech
(Nantong) Co., Ltd.

Cultural and Sports Facility Opened for Employees

Toray Plastics (Shenzhen) Ltd. continues to expand its benefits and programs for employees. In addition to an existing exercise room and basketball court for employees, the company opened a cultural and sports facility featuring a billiard room, table tennis room, gym room, yoga room, go (board game) room, and library. The facility encourages increased interaction between employees while promoting employee health and wellness.



Emergency Preparedness Drill Conducted to Promote Employee Safety

Toray WBD Membrane Technology (JS) Co., Ltd. conducted its first company-wide emergency preparedness drill in November 2016. Hearing the fire drill alarm, all of the employees quickly moved to their designated evacuation locations under the direction of safety personnel. Employees also received instruction on using fire extinguishers and practiced extinguishing fires. The drill helped to raise employee awareness regarding emergency preparedness.



VOICE

Message from an Employee

The emergency preparedness drill helped our employees learn how to extinguish fires, escape in an emergency, and stay safe. The lives of our employees are of utmost importance. I hope that employees will use the knowledge they gained to act in an orderly manner without panicking in an emergency.



Qin Qin
President's Secretary,
Administration
Department, Toray
WBD Membrane
Technology (JS)
Co., Ltd.



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Asia

Singapore



Exhibiting at Singapore International Water Week 2016

Singapore International Water Week, Asia's largest comprehensive event for water treatment solutions, was held in July 2016 in Singapore, one of the ASEAN countries where the Toray Group has a presence. Group companies from Singapore and other countries in Asia organized the Toray booth together, promoting water treatment technologies and products that are used in some 70% of the water desalination and sewage treatment plants in Singapore. The booth helped to underscore Toray's contributions to addressing water issues around the world.



Indonesia



Family Walk and Awarding of Student Scholarships for Employee Families

On August 17, 2016, P.T. Indonesia Toray Synthetics held a family walk event to commemorate both Indonesia Independence Day and its 43rd year in business. After raising the national flag, balloons were released into the air to mark the start of the festivities. After the event, a ceremony was held to award scholarships to students from employee households.





Penfabric Sdn. Berhad received four second-year students from a Japanese junior high school in Penang, as part of their career education. The students learned how clothing is designed and saw how samples are prepared for customers, and had an open Q&A session with employees. The visit served as an opportunity to learn about what it means to work and for the students to think about their future.

**VOICE****Message from a Director**

As part of their career education, we welcomed a group of students and briefed them on our business activities and the role of our company. We also made time to chat with the students and field their questions, including about how we approach our daily work. The students tried cutting fabric and making items based on their own ideas. The visit from the students also gave us a fresh perspective on our work.



Kenta Nomura
Director, Penfabric
Sdn. Berhad



Thai Plant Receives 2016 CSR Award

Thai Toray Textile Mills Public Company Limited received a 2016 CSR award for plants and companies from the Department of Industrial Works of the Thai Ministry of Industry, in recognition of its excellence and high standards for corporate social responsibility. It was the fourth time for the company to receive the award and highlights the company's continuing dedication to balancing company growth with social progress.



VOICE

Message from a Manager

Our company has been dedicated to the community. Our activities include providing scholarships for students of nearby schools, donating textiles and other items on Children's Day in early January, and being involved in community initiatives. We are proud to have been singled out for this prestigious award.



Pissanu Auchana
 General Manager,
 Factory Administration
 Department, Thai
 Toray Textile Mills
 Public Company
 Limited



Toray Group Safety Summit in South Korea

In October 2016, Toray Advanced Materials Korea Inc. hosted the 3rd Toray Group Safety Summit in South Korea, with some 100 employees from group companies in attendance. The summit served to remind employees to practice thoughtful safety action to prevent accidents, by fostering a safety culture that sticks to the basics and focusing on addressing vulnerabilities.



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Responding to Employee Feedback — Exploring Career Advancement in a Group Setting



Women's Empowerment at the Toray Group Enters New Phase after Three-Year Initiative, Career Advancement Seminars for Women

The Toray Group embraces diversity in order to build workplaces in which each individual can realize their full potential and thrive. The Group has empowered women to develop and implement initiatives to address the issues they face from juggling career and personal life, and develop strategies to alleviate the burdens on them.

In 2015, women serving as general managers at the Toray Group developed and initiated a career advancement seminar for women in management or professional roles. The seminar was designed to allow the participants to explore diverse career options as well as to provide leadership training and encourage networking, in recognition of the importance of mutual growth and development. More than 80 women in management or professional roles participated in the first seminar, drawing inspiration from their diverse situations and various role models.

These participants played a central role in conducting discussion meetings for women at Toray's business locations in 2016. The discussion meetings brought together women at different stages in their careers and from diverse workplaces and family situations, while also including people of both genders in some sessions. The meetings were used to collect feedback from women, who discussed aspects that impeded or facilitated their work and issues that they faced as parents or family caregivers.

A third seminar program was implemented incorporating the feedback that was obtained from the discussion meetings. The manager of the labor affairs section participated in the discussions and offered suggestions.

Based on the outcomes of these initiatives, in fiscal 2017 the Group will foster a work culture in which all employees can further thrive.

First Seminar

Dates:

February 13 – 14, 2015

Purpose:

Build networks among participants, and share their diverse situations. Help participants to recognize what they need to do in order to further advance their careers, and foster a perspective that develops leaders who will manage organizations. In addition, discuss the direction of future seminars.



Group discussion



Fumiko Hayashi, Mayor of Yokohama City, was the keynote speaker

Second Seminar

Dates:

January 29 – 30, 2016

Purpose:

Enable participants to examine their career plans integrating career and personal life, by studying the experiences of accessible role models. Encourage each participant to draft a statement of intent about what she needs to do now and in the future to realize her career plan and help her organization achieve its medium-term goals.



Group discussion



Various themes were explored in the discussions

Discussion Meetings for Women

Dates:

From August through December 2016

Purpose:

As a result of the first two seminars, it was realized that broader input was needed from women in non-management positions and younger staff. The discussion meetings were held at different business locations and sought to directly canvass women about their work situations and the issues they face.



Five meetings were conducted at three different workplaces at the Shiga Plant



The panel discussion at the Seta Plant was open to both genders

Discussion Meetings for Women Held at All Toray Business Locations

At the second seminar, many participants expressed the thought that a broader spectrum of women would benefit from sharing information and building networks. This was the impetus behind the discussion meetings. These meetings are open to all women at Toray, and 31 sessions have been conducted at all 15 of its business locations in Japan. Approximately 1,000 women (comprising roughly 60% of women in the

workplace) have attended the meetings, together with another 300 male colleagues. The meetings served as a useful platform for employees to mutually and frankly discuss the issues they face, including balancing work and family life, in order to establish common ground and learn from one another.

VOICE

From a Male Participant

Seminars Encourage Women to Expand Their Networks to Share Information and Ask Others for Input

I worked with the women in management who organized the seminars to split the participants into discussion teams in order to create an environment that would lead to meaningful discussions. We asked many male managers to attend the meetings, which made a particular difference in fostering mutual understanding with the female participants.

I am confident that it is worthwhile to continue with the meetings, after hearing so much positive feedback from the women who attended. I hope that women will continue to expand their networks in their business locations, so that they can easily share information and ask others for input.



Yutaka Kutsuzawa
Manager, Labor
Affairs Section,
Administration
Department,
Mishima Plant,
Toray Industries,
Inc.

Note: Job title
is as of February
2017.

Third Seminar

Dates:

February 28 – March 1, 2017

Purpose:

Analyze the feedback obtained from the discussion meetings and the issues identified in the workplaces, and come up with suggested solutions. Employ this chain of action to strengthen the problem-solving skills that are needed by managers and professionals. The execution of the statement of intent made in second seminar will be checked to follow-up on the level of execution.



Plenty of data and materials were collected to spark further discussion



General Manager of Personnel & Industrial Relations Division addresses the participants

Feedback from Employees Who Led the Discussion Groups at the Third Seminar

“ Although there are issues and obstacles that we face today, through the discussions I realized that I needed to have future career goals. ”

“ It was valuable to be able to work out solutions, while hearing opinions from different perspectives. ”

“ There are many employees who can help when you run into a problem. Don't isolate yourself, but reach out and ask others for input. ”



VOICE

From Toray President Akihiro Nikkaku

Solutions are Always Found in the Workplace— Significant Efforts Developed by Women

Toray fully embraces diversity and equal career opportunities for women. We must remember that attitudes and individual circumstances differ for everyone, and that it is women who best understand the issues they face. It is very significant that the women serving as general managers took the initiative to plan these seminars.

The three seminars and the discussion meetings for women helped to crystallize what needs to be done. I hope it will serve as a springboard for women to develop career plans and further build their careers.

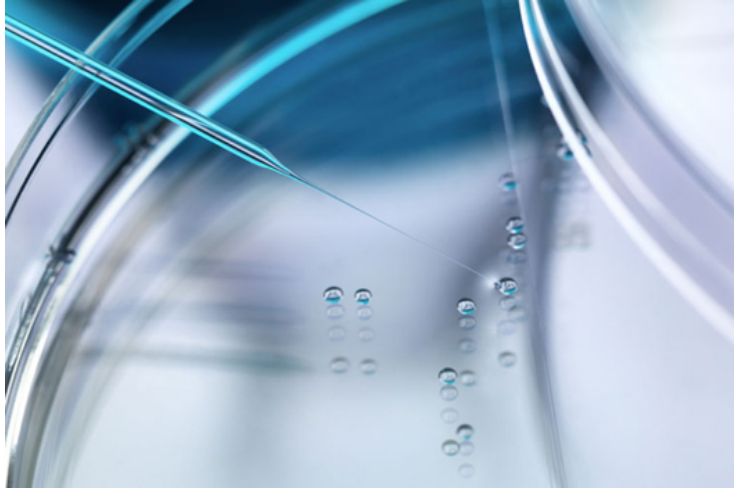


The women serving as general managers who took the initiative to organize the seminars, with President Akihiro Nikkaku



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Fiscal 2016 Activity Report



Value Creation

Contributing Solutions to Social Issues
through Business Activities



Governance

Corporate Governance and Management
Transparency
Corporate Ethics and Legal Compliance
Risk Management



Social Initiatives

Human Rights Promotion and Human Resources Development
Product Safety and Quality
Facilitating CSR Initiatives Throughout the Supply Chain
Communication
Social Contribution Activities



Environment

Safety, Accident Prevention, and Environmental Preservation

 **Toray Group**

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Contributing Solutions to Social Issues through Business Activities

Provide solutions that help address global-scale environmental issues such as climate change, and address social issues by improving the quality of medical care, reducing the burden on medical staff, and contributing to health maintenance and longevity.

Fifth CSR Road Map goals

1. Help address social issues by developing innovative materials and new technologies, focusing on Green Innovation and Life Innovation fields
2. Implement life cycle assessment for principal products, and contribute to greenhouse gas reduction throughout product life cycles

Management

Under the medium-term management program, Project AP-G 2016, the Toray Group has implemented the Green Innovation Business Expansion Project and the Life Innovation Business Expansion Project to expand business in growth sectors. The Group is continuing to implement these group-wide projects under the medium-term management program, Project AP-G 2019, which began in fiscal 2017 and is personally overseen by the president.

Green Innovation Business Expansion Project

> Materiality Focus

Sales of Green Innovation businesses

Reporting scope : Toray Group

Fiscal 2016 target:

700 billion
yen



Result:

**628.2 billion
yen**

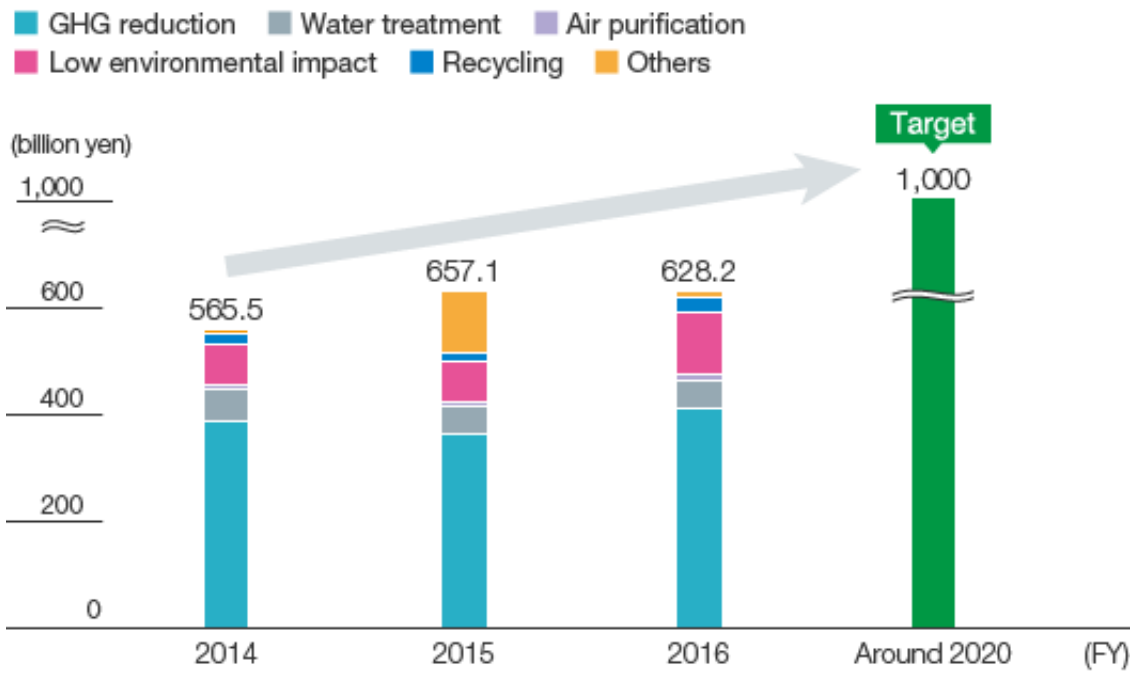
The Toray Group embraces a management policy mandating that all business strategies must prioritize responsibility for the global environment in an effort to help build a more sustainable world with a small carbon footprint. The Group is endeavoring to realize this vision by addressing global environmental, resource, and energy issues through the continued implementation of the Green Innovation Business Expansion Project.

In fiscal 2016, net sales from Green Innovation businesses were 628.2 billion yen, indicating steady growth since the strategy was launched under Project AP-G 2016. The Group has set a goal of generating 900 billion yen in net sales from Green Innovation businesses by the end of Project AP-G 2019.

Green Innovation products sold in fiscal 2016 accounted for a 108 million ton annual reduction of CO₂ emissions.¹

¹ Calculated CO₂ emissions reduction arising from principal Green Innovation products, based on Toray's life cycle assessment analysis

Sales of Green Innovation Businesses (Toray Group) (Billion yen, Consolidated)



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Promoting Life Cycle Management

> Materiality Focus

Frequency of calculating CO₂ emissions reduction due to adoption of Green Innovation products, using new LCA analysis and guidelines for calculating avoided greenhouse gas emissions

Reporting scope :Toray Group

Fiscal 2016 target:

At least **6 times**
per year



Result:

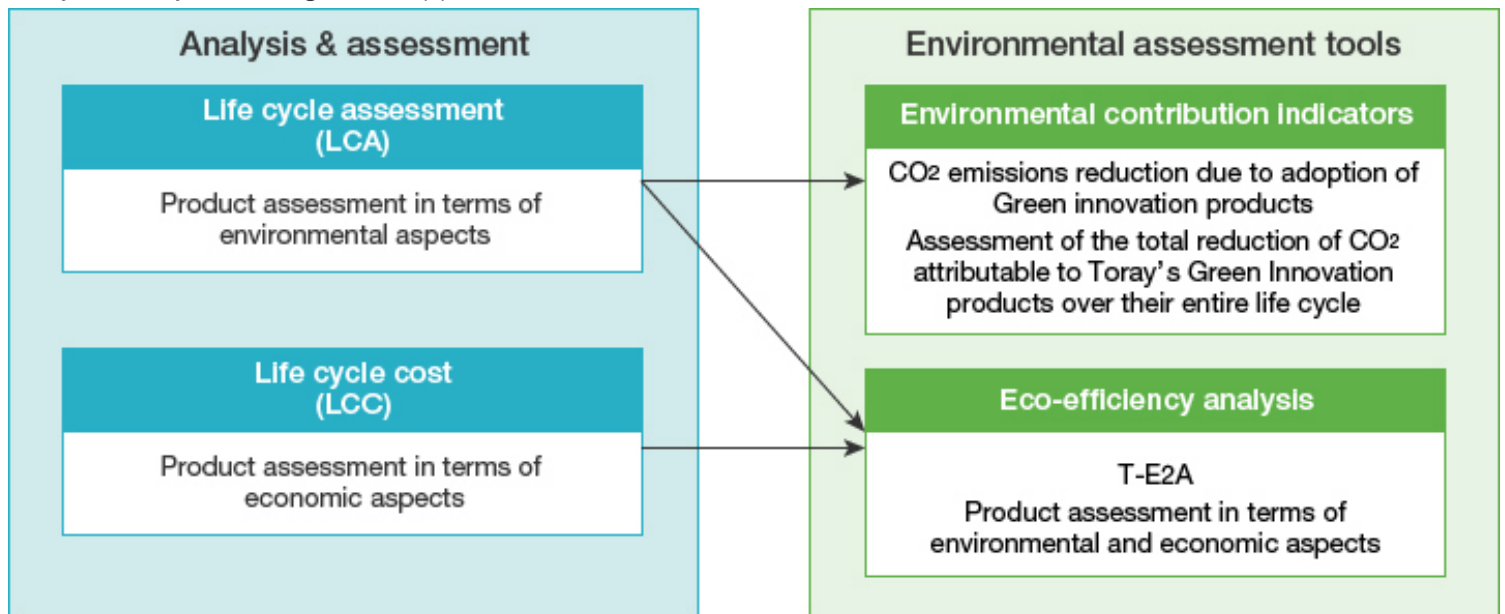
10 times

In addressing global environmental issues, it is vital to consider the entire life cycle of products and services in order to reduce environmental impact while also delivering improved economic and social value. To this end, the Toray Group practices life cycle management. Life cycle management is the basis for Toray's Green Innovation products, and the Group has adopted life cycle assessment¹ and the Toray Eco-Efficiency Analysis (T-E2A)² tool and is working to ensure these are employed thoroughly in all of its businesses.

¹ Life cycle assessment is a method for quantitatively assessing the resources that have gone into a product and the impact the product

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.

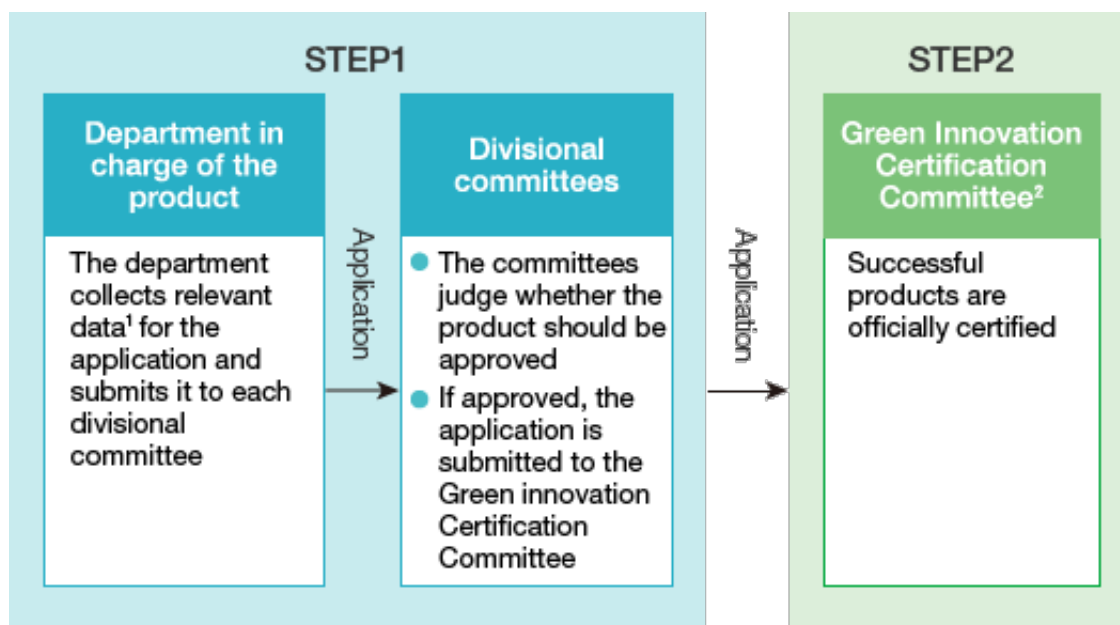
Toray's Life Cycle Management Approach



Approach to Green Innovation Products

The following diagram outlines the Toray Group's 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 Product Certification Process



¹ This includes LCA-related data, T-E2A data, and estimates of CO₂ reductions attributable to the product.

² Comprised of members of Toray's Global Environment Business Strategic Planning Department, Marketing Planning Department, and Technology Center Planning Department, as well as outside experts when necessary.

Fiscal 2016 Highlights

Introducing the World's First Waterless UV Offset Printing System Using Water Soluble Inks

Offset printing with conventional oil-based inks involves using cleaning agents that contain volatile organic compounds (VOCs) to wash plates and pieces of equipment. These VOCs are thought to contribute to PM2.5 formation, making it desirable to replace oil-based inks with water-soluble inks.

In fiscal 2016, Toray developed ink materials that incorporate hydrophilic polymers to enable manufacturing of VOC-free inks. The inks are used with Toray's Waterless Plate technology to realize a waterless UV offset printing system using water soluble-inks.

This system is considered to be the most environmentally friendly VOC-free offset printing system of its kind, as it enables waterless printing that does not use VOC-containing dampening water while also using VOC-free water-soluble inks and water-based cleaning agents for washing.

Developing High-Efficiency Organic Thin-Film Solar Cell Module for Indoor Sensors

Society today is being shaped in dramatic ways by the emerging Internet of Things (IoT), creating a need for solutions to power the wireless communication devices which connect all those many things. These devices typically run on AC or battery power, which require wiring or the labor and cost of replacing batteries. Neither solution is sufficient to power the more than a trillion devices that are predicted to be connected via the Internet annually in the future.

In February 2017, Toray developed an efficient organic thin-film solar cell module that is being piloted to supply stable power to drive wireless sensors, in darkly lit indoor conditions such as those only lit by fluorescent light. Toray will further refine the technology with the aim of introducing a commercial thin-film solar cell module by around 2019.



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Promoting Recycling Initiatives

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

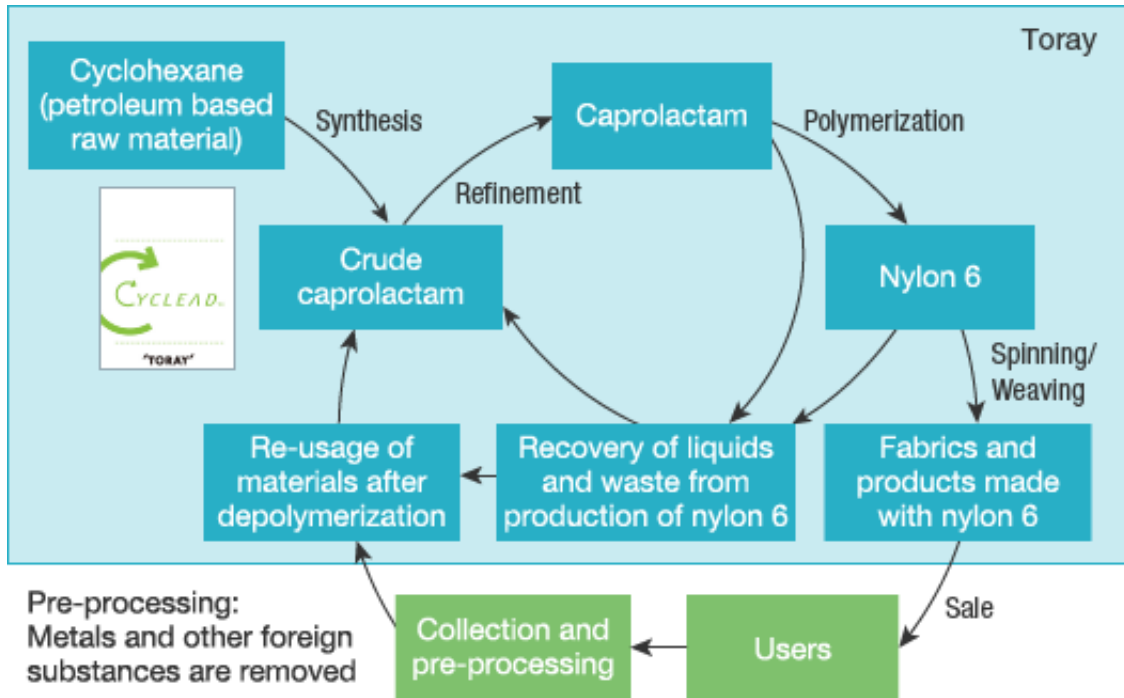
Fiber and Textile Recycling

Toray offers CYCLEAD™ fabric made from recycled nylon 6 fibers, and Ecouse™ polyester fabric¹ made from recycled PET bottles.

¹ In fiscal 2015, Toray expanded the Ecouse™ brand to encompass non-fiber products, as an integrated brand name for recycled materials and products offered by Toray.

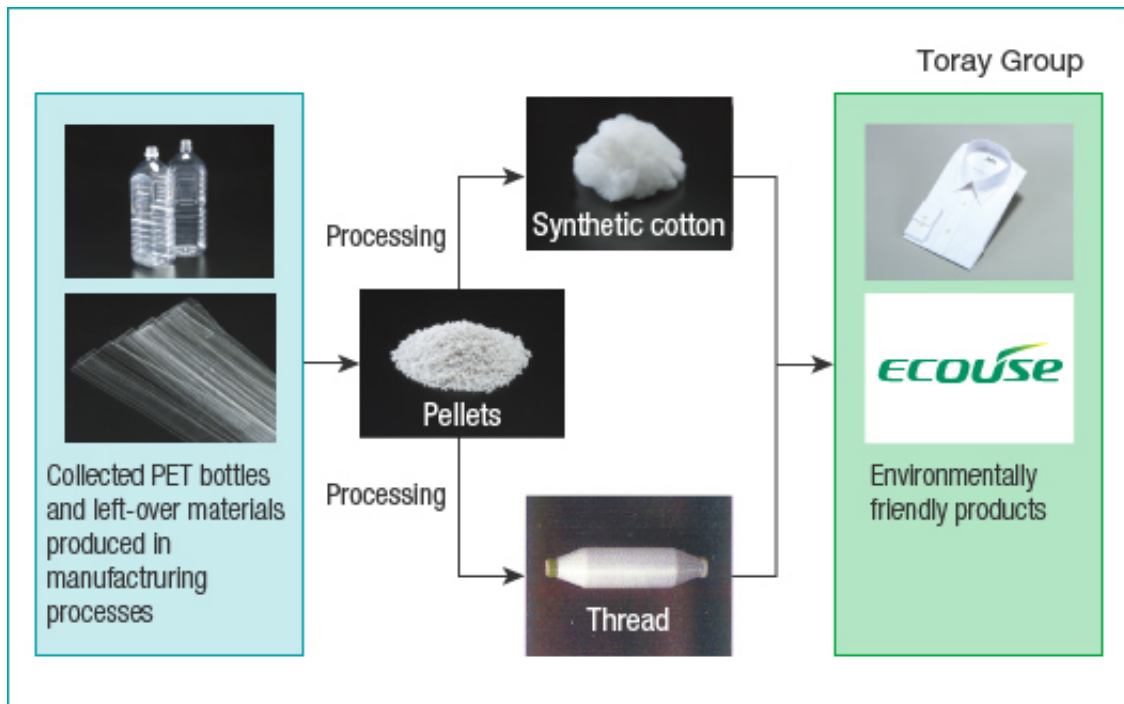
Collection and Circulation Type Recycling with CYCLEAD™

Fabric made from recycled fibers recovered from disposed nylon products



Regeneration Type Recycling with EcoUse™

Fabric made from recycled PET bottles for uniforms and functional sportswear

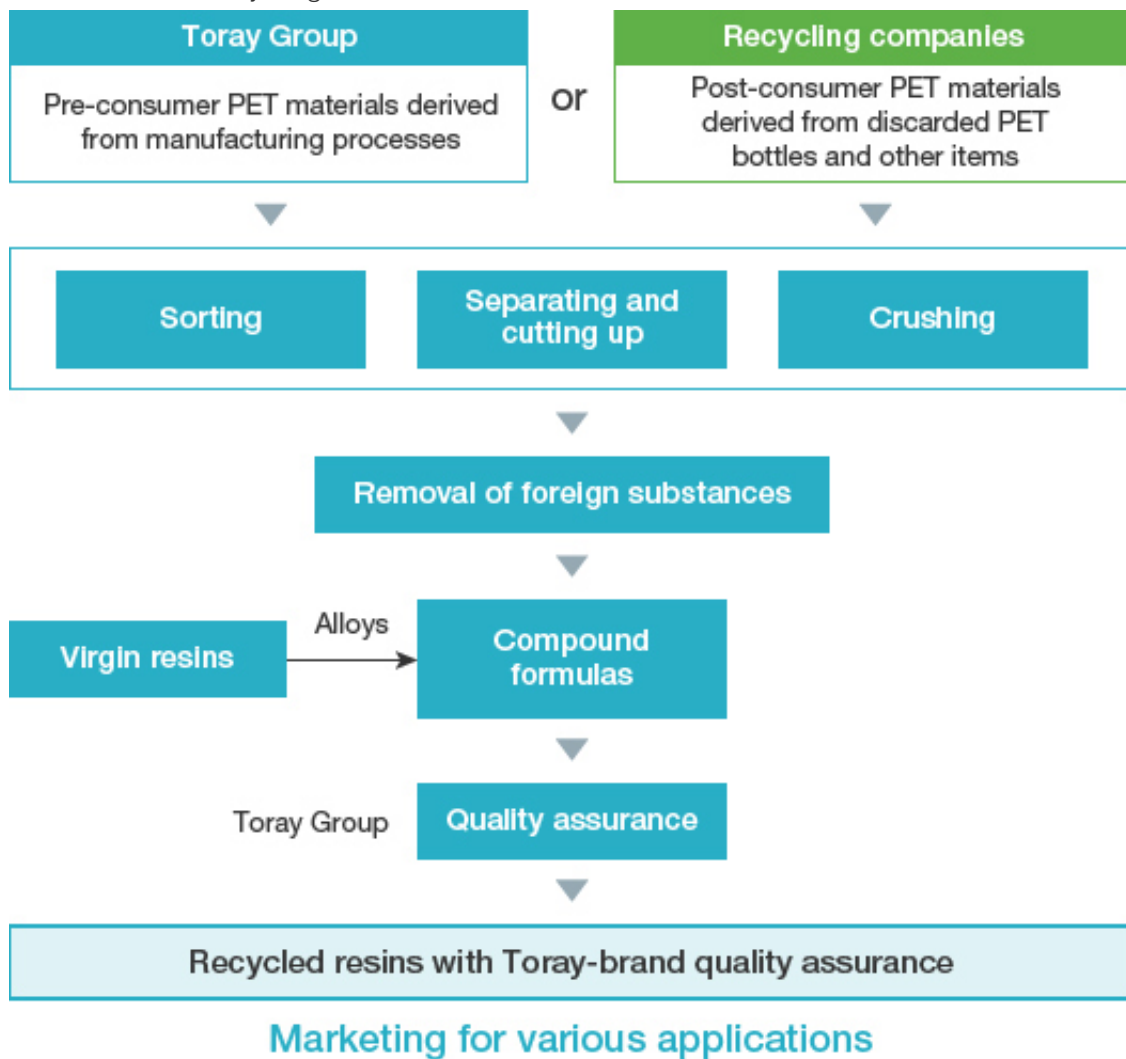


Resin Recycling

The fans inside home air conditioners are designated for recycling under Japan's Act on Recycling of Specified Kinds of Home Appliances. While continuing to conduct closed-loop recycling (in which end-of-life products are recycled into the same product) of fans and other products, the Toray Group is also diversifying its procurement sources for fans to address growing market needs.

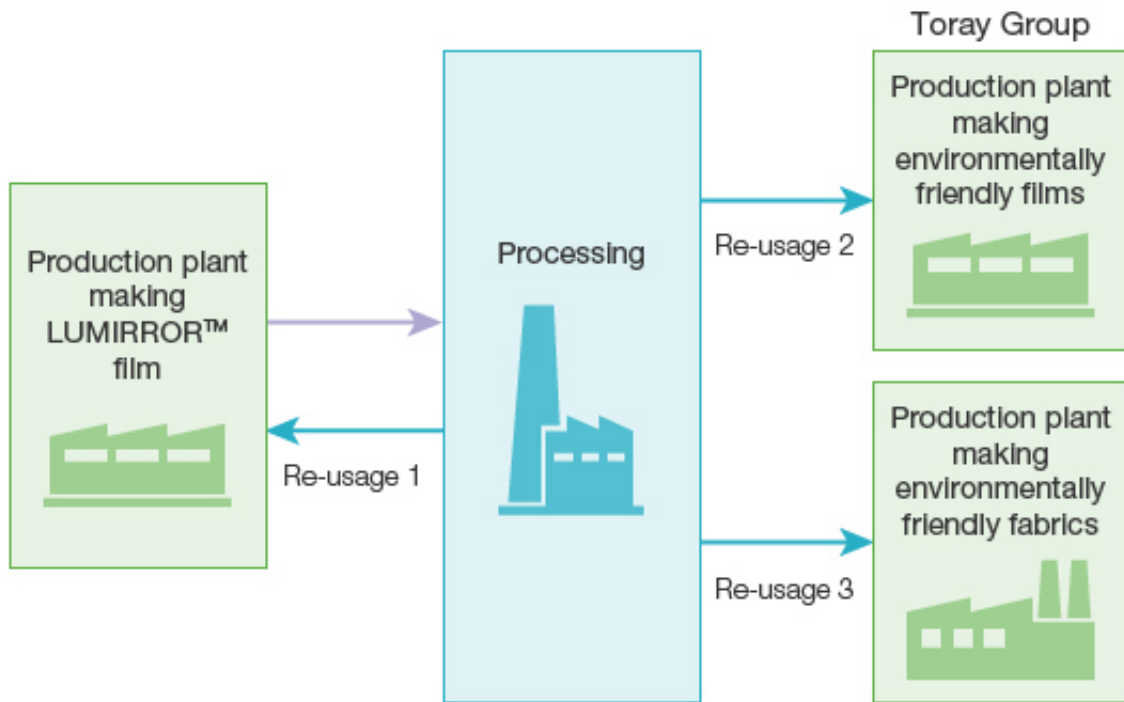
In addition, the Toray Group actively engages in pre-consumer recycling, by reusing byproducts from internal manufacturing processes such as film scraps and fiber scraps. Furthermore, the Group promotes post-consumer recycling using PET bottle scraps and computer plastic scraps, in order to comply with green procurement regulations in and outside Japan.

Pre-consumer/Post-consumer 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.

Processing and Re-using Recovered Raw Materials Generated from Manufacturing Processes



Carbon Fiber Recycling

Carbon fiber is a lightweight material that significantly curbs CO₂ emissions over the entire lifecycle of the products in which it is used. It is viewed as an important tool for helping to solve global environmental issues. As a result, demand for carbon fiber is expanding across a wide range of applications, including aircraft and automobile parts. As demand grows, market expectations for the development of carbon fiber recycling technologies are also on the rise.

As a member of the Consortium for Carbon Fiber Recycling Technology Development (dissolved at the end of March 2015), Toray has taken steps to develop carbon fiber recycling technologies. The successful development of recycled carbon fiber and associated applications requires collaboration with a wide range of customers to explore various possibilities for use in specific parts and materials.

One example of this collaboration is the joint proposal made by Toray and Toyota Tsusho Corporation for the development of a highly efficient recycled carbon fiber manufacturing technology that uses an innovative and energy-efficient thermal decomposition method.² This proposal was selected by Japan's New Energy and Industrial Technology Development Organization (NEDO) as part of its fiscal 2015 "Strategic Innovation Program for Energy Conservation Technologies." This new technology uses combustible gas from matrix resin as the energy source for the thermal decomposition process, which is the process that consumes the most energy in this type of carbon fiber recycling. As a result, the companies expect to significantly reduce the amount of energy consumed in the recycling process.

With an eye towards future commercialization, in November 2016, Toray constructed a pilot plant to test energy-efficient recycled carbon fiber manufacturing technologies. In addition, the Toray Group will promote the development of new applications for recycled carbon fiber.

² Thermal decomposition method: A recycling method in which carbon fiber is recovered by heating carbon fiber composite materials and thermally decomposing the matrix resins.

Life Innovation Business Expansion Project

> Materiality Focus

Sales of Life Innovation businesses

Reporting scope : Toray Group

Fiscal 2016 target:

170 billion
yen



Result:

**195.5 billion
yen**

Today, with the global population at over seven billion and life expectancy rising and birth rates declining not only in developed countries, but also in emerging countries, the world faces issues related to a rapidly aging population. The entire international community must find ways to provide healthcare that helps patients lead healthy, independent lives and ways to deliver high-quality medical care that reduces the burden on both patients and medical staff.

Recognizing that innovation is essential to solving these social issues, Toray introduced its Life Innovation Business Expansion Project in fiscal 2014. This project aims to apply the Group's technologies and business platforms to addressing social issues in the medical and healthcare field. The Life Innovation business was developed to help improve the quality of medical care, reduce the burden on medical staff, and contribute to health maintenance and longevity. The Toray Group selects important products and services for Life Innovation and is developing these businesses group-wide.

Product Definitions and Guidelines

Improving the quality of medical care and reducing burden on medical staff

- Products used in medical treatment: Pharmaceuticals, therapeutic devices, materials/components related to preparation of therapeutic agents
- Products used in medical testing and diagnosis: Testing devices and diagnostic systems
- Supplies for hospitals: Functional, special-grade products
- Other: Analysis services, manufacturing equipment/facilities

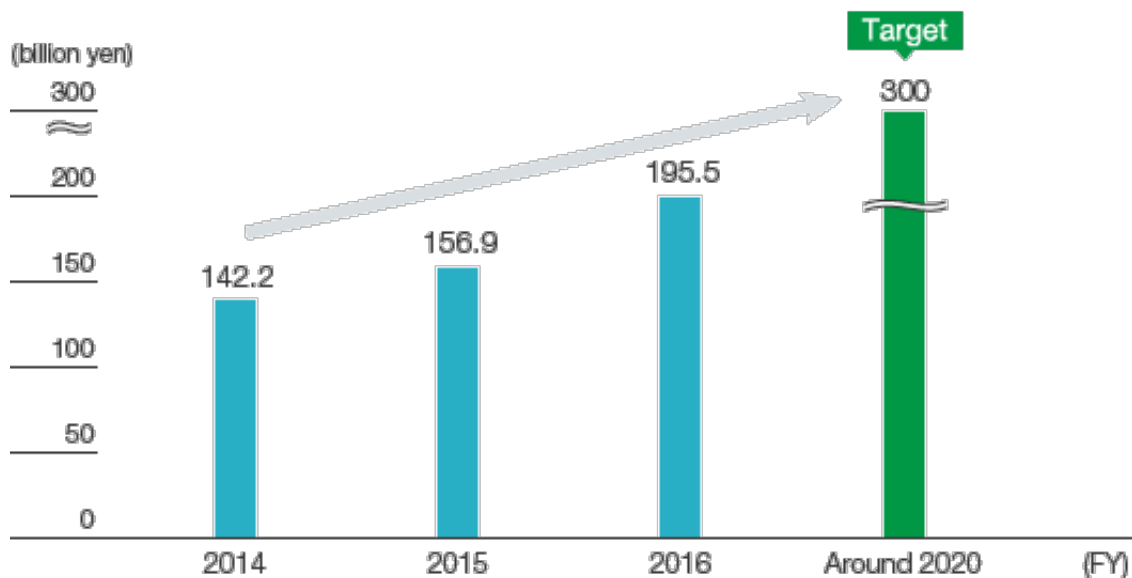
Contributing to health maintenance and longevity

- Products that improve quality of life for the elderly, persons with disabilities, and patients
- Products that prevent diseases and disorders
- Nursing care products

Note: Includes materials and components used in the above products

In fiscal 2016, net sales from Life Innovation businesses were 195.5 billion yen, up from 142.2 billion yen in fiscal 2014. The Group has set a goal of generating 270 billion yen in net sales from Life Innovation businesses by fiscal 2019.

Sales of Life Innovation Businesses (Toray Group)



Fiscal 2016 Highlights

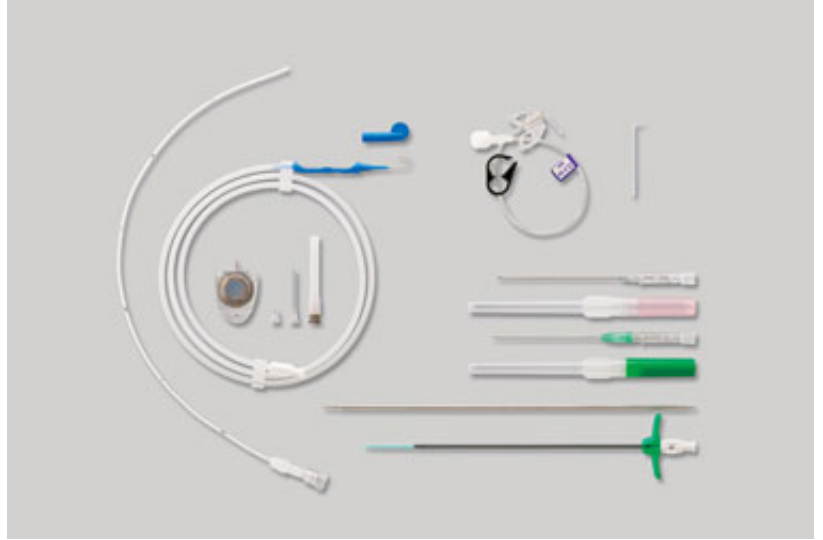
Clinical Trials Launched for Cancer Treatment TRK-950

Toray has obtained approval from the U.S. Food and Drug Administration (FDA) to launch phase 1 clinical trials¹ of TRK-950 for solid tumors. Toray has identified cancer treatment as a priority area for developing original new drugs.

¹ Phase 1 clinical trials are used to test the safety and pharmacokinetics of new drug candidates on human subjects.

Full Product Launch of P-U CELSITE PORT™ EV for Catheter Access Port

Toray supplies catheter access ports, which are medical devices intended for the continuous infusion of chemotherapy and total parenteral nutrition. In March 2017, Toray conducted a full product launch of two new versions of its P-U CELSITE PORT™, with an improved catheter and added accessories. The latest versions feature a catheter tip with greater contrast media to improve the visibility under X-ray fluoroscopy and make it easier to verify the catheter tip location.



Manufacturing and Sales Approval for RAPROS™ Veterinary Drug to Treat Chronic Kidney Disease in Cats

In January 2017, Toray obtained approval for manufacturing and sales of RAPROS™, an oral prostacyclin (PGI₂) used to treat chronic kidney disease in cats. RAPROS™ was launched in April 2017, through Toray's marketing partner Kyoritsuseiyaku Corporation. RAPROS™ is the first preparation to receive approval for its efficacy in controlling declining kidney function, expanding the treatment options for cats.



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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

Fifth 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 Companies Act
3. Establish a group-wide management system for social responsibility, and stimulate initiatives by expanding training and education, etc.

Management

From the outset, one of the Toray Group's managerial principles has been that the purpose of a company is to contribute to society. The Group has developed a Management Philosophy that incorporates this principle. The Group's Management Philosophy is structured with the following components: the Corporate Philosophy, Corporate Missions, and Corporate Guiding Principles. The Corporate Missions specify the Group's commitment "To provide our shareholders with dependable and trustworthy management," and the Corporate Guiding Principles stipulate the Group's commitment to "Obtaining the trust of society and meeting the expectations by acting fairly while maintaining high ethical standards and a strong sense of responsibility and maintaining transparency in management." In all of its corporate governance efforts, the Group's basic policy is to live up to these philosophies.

Related Information

- > [Corporate Governance](#)
- > [Basic Policy on Corporate Governance](#)

Toray's Management Structure

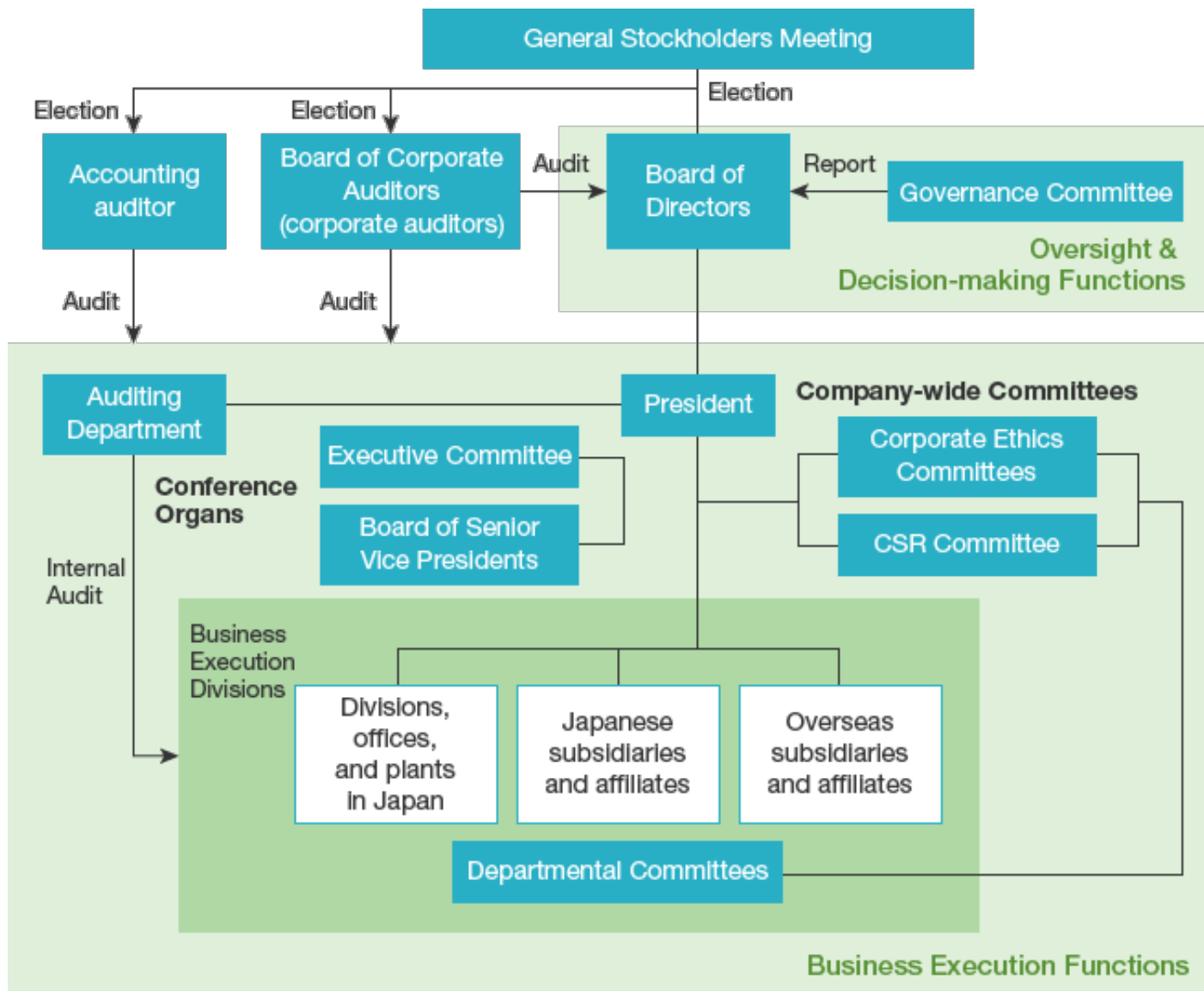
Toray's Board of Directors is made up of 25 members (two of whom are outside directors). The Toray Group operates in a broad spectrum of business fields at a global level. Business management and decision-making, as well as oversight, require expertise related to the day-to-day operations of Toray worksites. To that end, the composition of the Board of Directors is designed to ensure that members bring a diverse range of perspectives to management oversight and decision-making based on their expertise in the Group's businesses.

The Board of Corporate Auditors (four auditors, two of whom are outside corporate auditors) is entirely independent of the Board of Directors. Based on professional expertise in finance, accounting, and law, as well as an understanding of the Group's businesses, the Board of Corporate Auditors exercises oversight over directors' execution of their duties.

Toray operates a Governance Committee to advise the Board of Directors on important governance issues for the medium- and long-range future. The committee met twice in fiscal 2016 and comprises the chairman, president, and all outside directors, with one of the outside director heading the committee.

Remuneration for directors 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. 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 paid 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.

Toray Group's Corporate Governance System



Related Information

> [Corporate Governance](#)

[Corporate Governance Report](#) [PDF](#)

Ensuring Proper Business Conduct and Transparency

Percentage of matters subject to disclosure requirements that are disclosed via website

Reporting scope: Toray

Fiscal 2016 target:

85%



Result:

78%

Toray operates a Basic Policy on Corporate Governance based on Japan's Corporate Governance Code, and regularly publishes a Corporate Governance Report, which also summarizes the status of internal control systems.

In fiscal 2016, Toray centrally surveyed the internal controls for business operations at each worksite, and established a system for self-inspection and mutual assessment. These changes were aimed at further enhancing risk management awareness at group companies in and outside of Japan, and improving the self-monitoring of internal controls. Toray will continue to comprehensively implement internal controls as a way to ensure legal compliance, efficient job execution, information preservation and management, and exercise control over risk of loss.

Toray employs internal guidelines on information disclosure and strives to secure management transparency, using its own indicators to measure information disclosure. As shown above, Toray reported a 78% achievement rate in fiscal 2016, up two percentage points from fiscal 2015 but short of the target of 85% online disclosure.

Related Information

> [Basic Policy on Corporate Governance](#)

[Corporate Governance Report](#) 

> [Basic Policy on Internal Control System](#)

> [Information Disclosure Principles](#)

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. In addition to briefing the union on management information about the Toray Group, the meetings facilitate ongoing dialogue with the union. Resolution of labor issues is undertaken at separate Labor and Management Council meetings. As of March 2017, Toray Workers' Union membership stood at 8,416 workers.

Implementing CSR Activities and Improving CSR Education

Percentage of group companies performing CSR activities

Reporting scope: Toray Group

Fiscal 2016 target:

100%



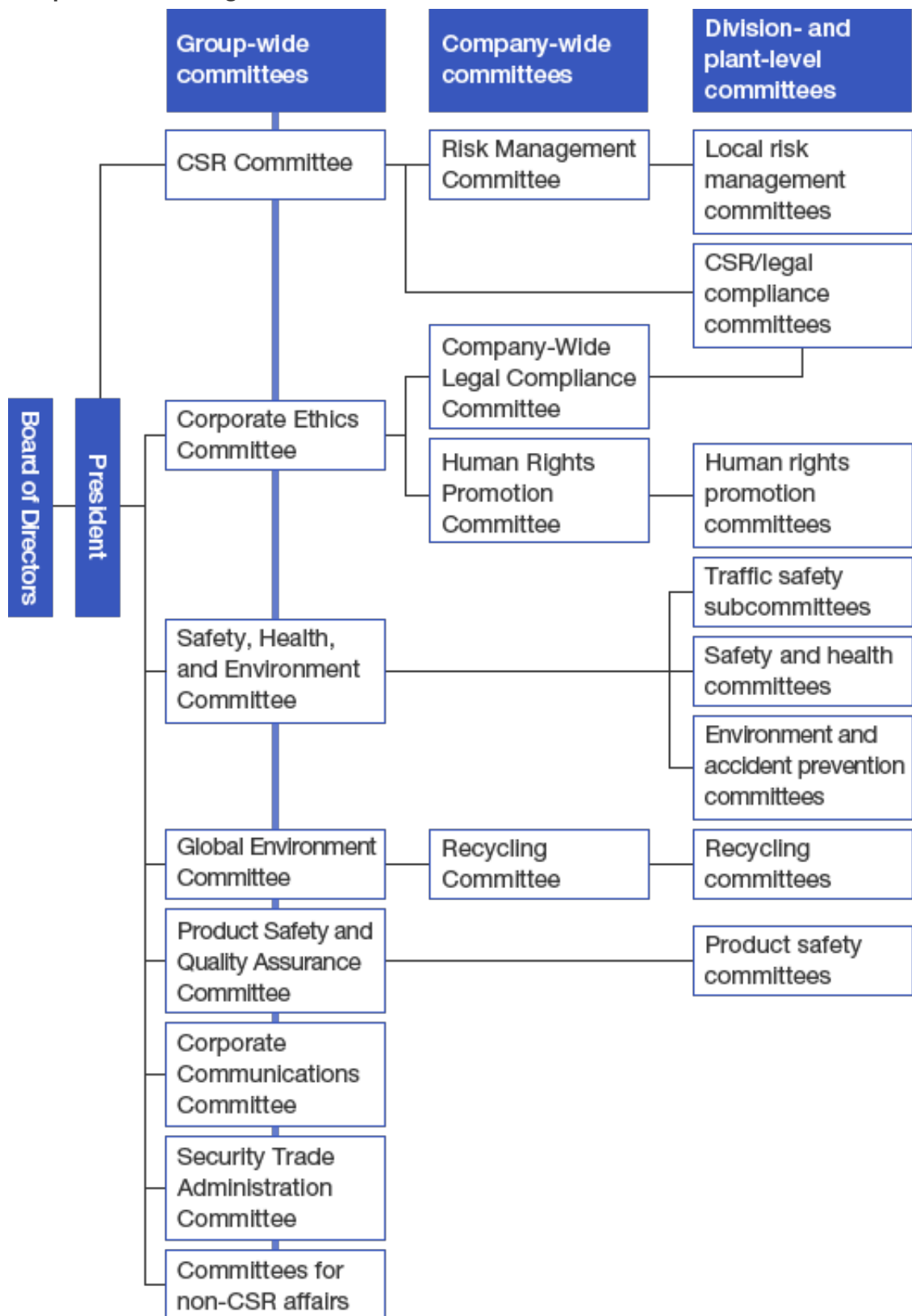
Result:

100%

Organizational Structure for Social Responsibility

The CSR Committee is headed by the chief social responsibility officer and coordinates six other group-wide committees, assigning tasks under each of the themes of the CSR Guidelines to them, in order to ensure the Toray Group comprehensively implements CSR initiatives. Furthermore, CSR/legal compliance committees have been established at each group company, division, and plant to help implement group-wide CSR activities.

Committee and Implementation Organization



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 and continues to work accordingly.

Group companies also implement various other initiatives. In November 2016, group company Alcantara S.p.A. organized a CSR symposium in Tokyo. Toray Engineering Co., Ltd. issued CSR Report 2017, which featured its activities in fiscal 2016.



CSR symposium organized by Alcantara S.p.A.



CSR Report 2017 issued by Toray Engineering Co., Ltd.

In-House Training on CSR-Related Issues

Percentage of group companies performing CSR training

Reporting scope: Toray Group

Fiscal 2016 target:
100%



Result:
100%

The Toray Group strives to ensure that social responsibility is firmly rooted in its culture by providing various training opportunities. In fiscal 2016, 100% of Group companies implemented CSR education, achieving the target implementation rate.

In fiscal 2016, Toray and group companies in Japan implemented e-learning education for their employees. Head office staff gave lectures at group companies in Japan and interviewed employees about CSR initiatives in order to increase awareness of CSR.

第1章 CSRってなんだろう？

CSR講座初級編にようこそ！

CSR講座の初級編にお集まりいただき、ありがとうございます。よろしくお願ひします。
さて皆さん、講義の進め方に要望はありますか？
お一人ずつご意見をお聞かせください。



E-learning CSR course for beginners

Interviewing employees of Toray Battery Separator Film Co., Ltd.



Lecture at Kansai TEK Co., Ltd.

VOICE

Message from an Outside Director

As a global player aiming for long-term development, the Toray Group must identify future growth segments where it can leverage its strengths, while keeping a keen eye on the overarching global trends. Japan faces significant issues including low birth rates, aging demographics, and a shortage of energy resources. Meanwhile, the global community must address common issues facing humanity, such as those identified in the Sustainable Developing Goals (SDGs) adopted at the United Nations. Corporations around the world are shaping their policies around the SDG framework, while young investors are incorporating environmental responsibility and observation of basic human rights into their investment criteria.

The Toray Group has maintained a corporate philosophy of contributing to society while developing unsurpassed manufacturing technology. I hope that the young employees who will lead the company in the future will develop a vision for



Ryoji Noyori
Vice President (Member of the Board)

addressing global-scale issues and work to realize the vision.

As an outside director, I will face up to the demands and expectations that society places on the Toray Group, and work to ensure that we continue to earn the confidence of the global community.

VOICE

Message from an Outside Corporate Auditor

Human beings are flexible and can easily accept divergent views, which differentiates them from machines. I believe that the success or failure of corporate management is determined by its flexibility in listening to many divergent views. The company must not shy away from engaging stakeholders in dialogue, and when necessary, accept and recognize criticism in order to realize sustainable growth as a company.

I have served as an outside corporate auditor for two years, and in that time we have made definite progress in strengthening governance at the Toray Group, including adopting a framework for self-inspection and assessment of internal controls. The Toray Group has maintained an infrastructure for accepting divergent views. I will continue to share my observations as an outside corporate auditor and work to help the Toray Group realize sustainable growth.



Kazuya Jono
Corporate Auditor

Holding Stakeholder Dialogue

The Toray Group's Corporate Missions call for contributing to customers, employees, shareholders, and society, by emphasizing stakeholders in its practice of business management. The Group is increasing its dialogue with stakeholders, both through its business operations and through briefing sessions and meetings in each region. In fiscal 2016, Toray conducted regular dialogue with shareholders and employees, and sought input from thought leaders in the fields of CSR and social trends during the process of reevaluating its material issues.

The Group will continue to seek opportunities to hear from stakeholders and gauge their expectations with the involvement of corporate management, in order to shape the direction of its management.

Related Information

> [Materiality](#)

Number of stakeholder dialogue meetings

Reporting scope: Toray

Fiscal 2016 target:

At least **twice** per
year



Result:

Twice



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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.

Fifth CSR Road Map Goals

1. No major cases of non-compliance or violation notices throughout the Toray Group
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

Management

The Toray Group recognizes the absolute importance of compliance with laws, regulations, and social norms. Top management takes a clear position on corporate ethics and legal compliance in the execution of their own duties and guides the entire Group's approach to compliance.

Promoting Corporate Ethics and Legal Compliance at Toray

Toray operates a Corporate Ethics Committee chaired by the president. The committee oversees corporate policies relating to corporate ethics, and implements initiatives through the joint efforts of labor and management. As a subordinate organization of this committee, Toray also operates a Company-Wide Legal Compliance Committee comprised of section managers of worksites which communicates with senior management and addresses company-wide compliance issues. This second committee shares the approach of top management and the policies determined by the Corporate Ethics Committee, while also reporting progress on corporate ethics and legal initiatives on the frontlines to senior management. Furthermore, CSR/legal compliance committees are operated at the divisional and plant levels to implement initiatives rooted in the workplace and carried out by all employees.

Framework for Promoting Corporate Ethics and Legal Compliance at Toray



Toray has established CSR/legal compliance committees at its group companies in Japan, and appointed executives and section managers in charge of legal compliance. Group companies in Japan collaborate with Toray Headquarters 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.

Company-wide Activities in Fiscal 2016

Toray established or undertook the following company-wide initiatives in fiscal 2016 relating to corporate ethics and legal compliance. Group companies in and outside Japan also work independently on their own activities based on these initiatives.

- Implemented self-monitoring and mutual inspection system for internal control
- Provided thorough training on security trade controls
- Provided all employees with comprehensive information on antitrust laws and anti-bribery rules around the world
- Implemented initiatives to ensure strict compliance

Internal Rules Established for Corporate Ethics and Legal Compliance

In October 2016, Toray established a set of internal rules for corporate ethics and legal compliance, together with related standards and procedures. These internal rules set out the framework for practicing corporate ethics and legal compliance, and they are designed to foster a healthy corporate culture. The rules also outline how to respond to issues, identify causes and prevent recurrence, as well as initiatives to be taken by group companies in and outside Japan.

Establishing a Corporate Culture of Total Respect for Corporate Ethics and Legal Compliance

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. In the event that a violation is discovered, strict discipline is carried out in consultation with the Company's Rewards and Sanctions Committee.

At Toray and its group companies in Japan, all executives and employees, including contracted, part-time and dispatched workers, receive a copy of the Corporate Ethics and Legal Compliance Handbook, which explains expectations for proper conduct and Toray's Helpline, an internal whistle-blowing system. All employees are expected to be well-versed in the stipulations of this code.

Group companies outside Japan prepare national and regional editions of the Corporate Ethics and Legal Compliance Handbooks. Every executive and employee of group companies outside Japan receives a copy of the handbook to ensure that they are fully informed of the corporate policy.



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 Antimonopoly Act, Subcontract Act, and Act against Unjustifiable Premiums and Misleading Representations)
- Protecting the intellectual property rights of Toray and other companies
- 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 Companies Act, all tax-related laws, and the 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 whistle-blowing system
- Framework for promoting corporate ethics and legal compliance at Toray

Related Information

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

Corporate Ethics and Legal Compliance Education

Percentage of group companies providing information and implementing education on major laws and regulations

Reporting scope: Toray Group

Fiscal 2016 target:

80%



Result:

100%

Number of ethics training sessions for new executives

Reporting scope: Toray Group (Japan)

Fiscal 2016 target:

At least **once** per
year



Result:

**Once
meeting**

Percentage of group companies implementing e-learning for corporate ethics and legal compliance

Reporting scope: Toray Group (Japan)

Fiscal 2016 target:

100%



Result:

100%

Toray posts information on CSR and legal compliance on its corporate intranet, and conducts monthly workshops at worksites where cases of misconduct by other companies are reviewed to foster workplace discussion. In addition, Toray relays important information about Japanese and other national legislation that relates to its business, such as antitrust laws, labor laws, and anti-bribery rules, to all group companies including those outside Japan. Beginning in fiscal 2012, Toray has provided online training courses covering corporate ethics and legal compliance for all employees, including contracted, part-time and dispatched workers. In fiscal 2016, the courses focused on human rights, covering the topics of abuse of power, sexual harassment, discrimination based on pregnancy, and LGBT issues. Group companies in Japan are also implementing the courses using the same materials.

Toray and group companies in Japan implemented bookkeeping and accounting compliance training, and discussed misconduct prevention at departments and group companies.

Expanding the Whistle-Blowing System

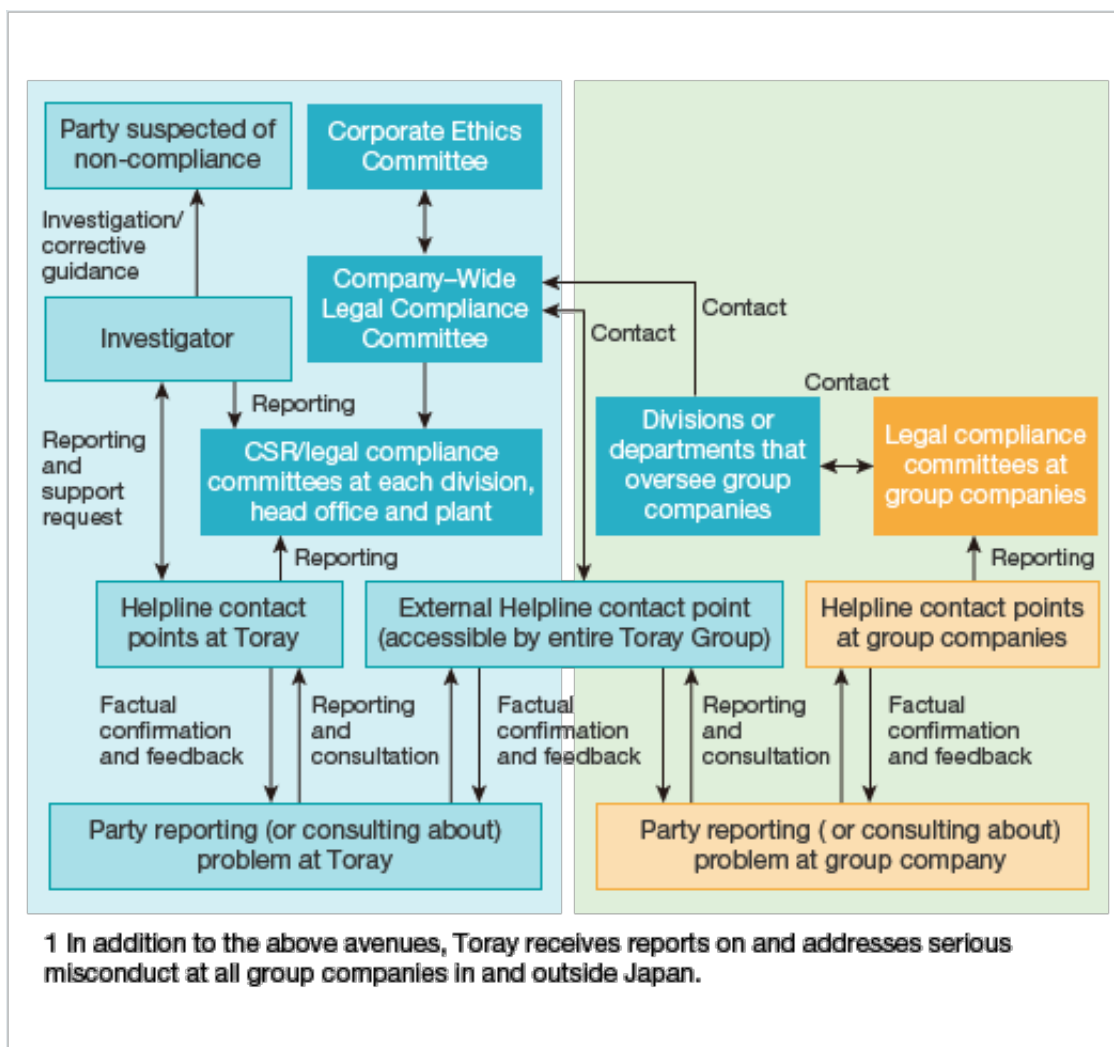
Toray established the Corporate Ethics and Legal Compliance Helpline as a whistle-blowing system in fiscal 2003 and expanded the system to include all Toray Group companies in Japan in fiscal 2010. By introducing this system, Toray expects employees first to take the initiative in managing conduct with regard to corporate ethics and legal compliance, and to consult with a supervisor as soon as an issue arises.

Recognizing that reporting or consulting with supervisors may be difficult, Toray ensures that employees have access to alternative means of reporting and consulting 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.

In addition, each Toray Group company in Japan has established a Helpline contact point. Moreover, Toray has also created an external Helpline contact point shared by all group companies in Japan to make it easier for employees to report and consult. Group companies outside Japan have established internal contact points and started operating the Helpline in most regions.

In fiscal 2016, Toray established a whistle-blowing system for group companies to directly report serious misconduct such as violations of antitrust laws and bribery.

Corporate Ethics and Legal Compliance Helpline System (Toray and its Group Companies in Japan)¹



Implementing Legal Internal Audits

In fiscal 2016, Toray adopted a group-wide system for self-inspections and mutual internal control audits. Designated divisions of Toray and designated group companies in and outside Japan must receive a legal internal audit every other year.

In the first year of the system, legal internal audits were implemented for all designated divisions of Toray and designated group companies in Japan. The Group changed the implementation method for legal internal audits and timing for aggregating data. Consequently, the rate of improvement for deficiencies that were identified in fiscal 2016 will be disclosed in fiscal 2017.



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Improving Security Trade Controls

Providing Thorough Training

The Toray Group recognizes that the reliable execution of security trade controls requires employees to be equipped with the necessary knowledge and management procedures and to follow those procedures. In order to boost the abilities of employees in this regard, the Group conducted 16 different types of training focused on specific topics for a total of 14,108 employees in fiscal 2016.

Furthermore, the 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. In fiscal 2016, a total of 245 Toray Group employees passed the exam, bringing the cumulative total of Toray Group employees who have passed the exam to 3,018.

Practically Addressing Risks

The Toray Group performs risk management of security trade controls with regard to the export of all 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.

The following measures to enhance risk management associated with security trade controls have been implemented based on conditions in and outside of Japan.

(1) Enhanced employees' capacity for accurate judgment

A new system that ensures the reliability of export control compliance checks has already become well-established. To further enhance the accuracy and efficiency of the checks conducted by employees, Toray reviewed past filings and identified issues at the division level. Additionally, Toray reviewed its specialized training program and implemented practical training at its main offices and plants.

(2) Conducted regular audits

Toray carried out paper audits and onsite audits of group companies, and provided individualized guidance based on the results to help group companies make improvements.

(3) Enhanced information sharing and reporting

Toray integrated and centralized information on concerns such as suspicious trade inquiries, reported or consulted with the appropriate authorities as required, and took the appropriate measures. The Company also shared suspicious trade information at various company meetings, and took steps to improve its risk management.

(4) Improved inspection systems

Toray is pursuing a three-term plan for developing the next security trade control system. The Company launched a new system for conducting export control compliance checks and issuing compliance certificates efficiently and unerringly in April 2015, and it also added a system to manage reviews of business deals in March 2017.



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Compliance with Antitrust Laws and Global Anti-Bribery Regulations

The Toray Group prepares compliance training materials and gathers examples of compliance violations to ensure that employees comply with each country's antitrust laws. Regular compliance training is also conducted, including at group companies outside Japan. To address regulations relating to bribery outside Japan, in fiscal 2016, the Toray Group introduced voluntary anti-bribery standards at group companies in Japan and at high-risk group companies outside Japan.

Under the group-wide system for self-inspections and mutual internal control audits, which was adopted in fiscal 2016, internal audits of these matters were implemented.



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Protection of Personal Information

Toray operates internal rules for the management of personal information and conducts regular departmental inspections. Toray is currently working to verify that its group companies in and outside Japan have appropriate rules in place for managing personal information.

In fiscal 2016, Toray revised the internal rules to address the introduction of Individual Number Cards in Japan. Additionally, Toray established a company-wide secretariat comprising members from departments that handle information related to the cards in their work. While taking organizational, physical, technical, and human security control measures at each department, Toray worked to update related IT systems and train employees. Briefing sessions were conducted for group companies in Japan to communicate basic information as well as Toray Group policies and the need for action.



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Violations Reported in Fiscal 2016

Number of major violations of laws or ordinances

Reporting scope: Toray Group

Fiscal 2016 target:

0
violations



Result:

1 violation

On June 6, 2016, it was discovered that tire cord manufacturer Toray Hybrid Cord, Inc. had improperly received subsidies from a public institution. An application was made for subsidies by falsely claiming that the expenses were for hiring a consultant to establish a new manufacturing facility outside Japan. The company discovered the impropriety through its own internal investigation and returned the illegally received subsidies, which amounted to approximately two million yen. The Toray Group is taking steps to prevent similar incidents from occurring again and is reinforcing its compliance.



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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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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.

Fifth CSR Road Map Goals

1. Strengthen corporate risk management throughout the Group and reduce risks in global business development
2. Prepare and effectively operate business continuity plans for major earthquakes and influenza pandemics
3. Ensure implementation of information security measures and reduce number of incidents

Management

The Toray Group believes risk management is a fundamental element of corporate management and periodically identifies potential management risks to reduce and prevent risks from materializing. The Group employs Crisis Management Rules that set procedures for establishing an Emergency Quick Response System in the event of a major emergency to mitigate damage and rapidly secure business continuity.



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Risk Management System and Initiatives

Developing a Risk Management System

Percentage of group companies with enterprise risk management systems

Reporting scope: Toray Group

Fiscal 2016 target:
100%



Result:
100%

Percentage of group companies in Japan implementing continuous review of risk management

Reporting scope: Toray Group (Japan)

Fiscal 2016 target:
100%



Result:
100%

Percentage of group companies outside Japan implementing continuous review of risk management

Reporting scope: Toray Group (Outside Japan)

Fiscal 2016 target:
100%



Result:
100%

Toray has established a Risk Management Committee under the CSR Committee to regularly monitor the progress of risk reduction measures across the Toray Group and conduct planning and promotion of risk management measures. Under the Risk Management Committee, local risk management committees have been established at each of Toray's divisions, departments, offices, and plants. Company-wide measures decided by the Risk Management Committee are communicated to local risk management committees, which work to reduce risks by implementing company-wide measures together with individual measures decided by committees.

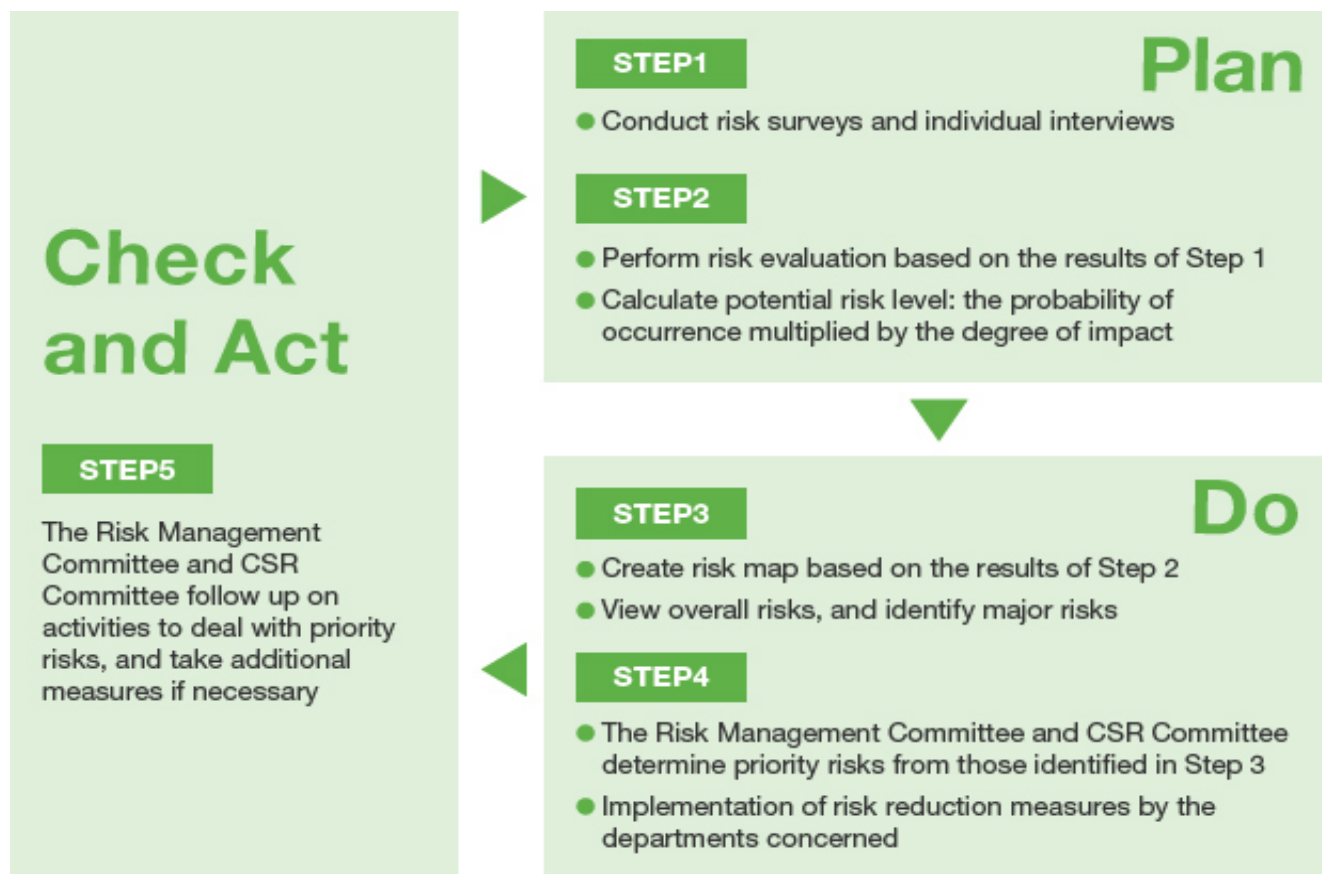
At group companies around the world, risk management systems are established under the leadership of their presidents. The system promotes initiatives to reduce the specific risks faced by each company. Each group company reports on the results of these initiatives to Toray's Risk Management Committee every fiscal year.

Toray evaluates overall risk and identifies priorities according to the scale of a risk's potential impact on the Toray Group's business. These issues are incorporated into plan-do-check-act (PDCA) cycles to reduce the risk that they pose.

Toray Group Risk Management System



PDCA Cycle for Enterprise Risk Management



Dealing with Priority Risks

Percentage of priority risks improved

Reporting scope: Toray

Fiscal 2016 target:

90%

Result:

95%

Priority risks are reevaluated every three years. Fiscal 2016 was the second year in the current cycle of priority risks. Designated departments implemented risk reduction initiatives in accordance with the three-year action plan, which enabled Toray to surpass its targets for percentage of priority risks improved. In particular, Toray significantly improved the business continuity plans for a major earthquake and influenza pandemic. Additionally, information security measures were implemented for certain areas of business, significantly raising the level of information security beyond company-wide standards.

Toray also conducted a basic survey for risk assessment among department managers in fiscal 2016, to determine if potential risks had significantly increased since the company-wide assessment that was conducted in fiscal 2014. The survey confirmed that no priority risks needed to be added during the current cycle. Group companies in Japan implemented surveys to determine the current risk management situation at their companies, as well as implementing

direct interviews at certain group companies. Issues that were identified at each company were communicated to the supervising head office department, which discussed future concrete measures. Additionally, Toray started to examine methods and procedures for centralized risk assessment for the entire Toray Group.

Addressing Existing Major Risks

(1) Supply chain risk reduction

In fiscal 2016, Toray analyzed the results from its CSR survey of suppliers that was implemented in fiscal 2015 and provided feedback to suppliers. Toray also studied ways to address global human rights issues in the Group's supply chains, centering on international supply chains.

The Toray Group conducts checks for the use of conflict minerals¹ in all products and has been working to make its responses to customers' requests for surveys quicker and more efficient by integrating data management.

¹ The four minerals of gold, tin, tantalum and tungsten mined in the Democratic Republic of Congo and the nine surrounding countries. The aim is to cut off sources of funding for armed groups in the Democratic Republic of Congo by imposing disclosure and reporting obligations on manufacturers that use conflict minerals.

(2) Maintaining information security

The IT Promotion Committee had been worked on diverse IT initiatives for Toray and, in fiscal 2016, it was reorganized to focus on group-wide information security.

Toray also operates company-wide committees that focus on specific important risks including legal compliance, market conditions for raw materials, business strategy, climate change, currency fluctuations, and security trade control. These committees work to continually reduce risks and keep the Board of Directors informed through progress reports.

Percentage of group companies experiencing information security-related incidents, compared with fiscal 2013

Reporting scope: Toray Group

Fiscal 2016 target:

70%



Result:

142%

In fiscal 2014, the Toray Group adopted new rules requiring the loss or theft of mobile phones and security cards to be filed as incident reports. Incidents of this type were not covered back in fiscal 2013 when establishing the incident rate targets for fiscal 2014 to 2016. Since the targets have not been revised to reflect the broader inclusion, the target for fiscal 2016 was not achieved.

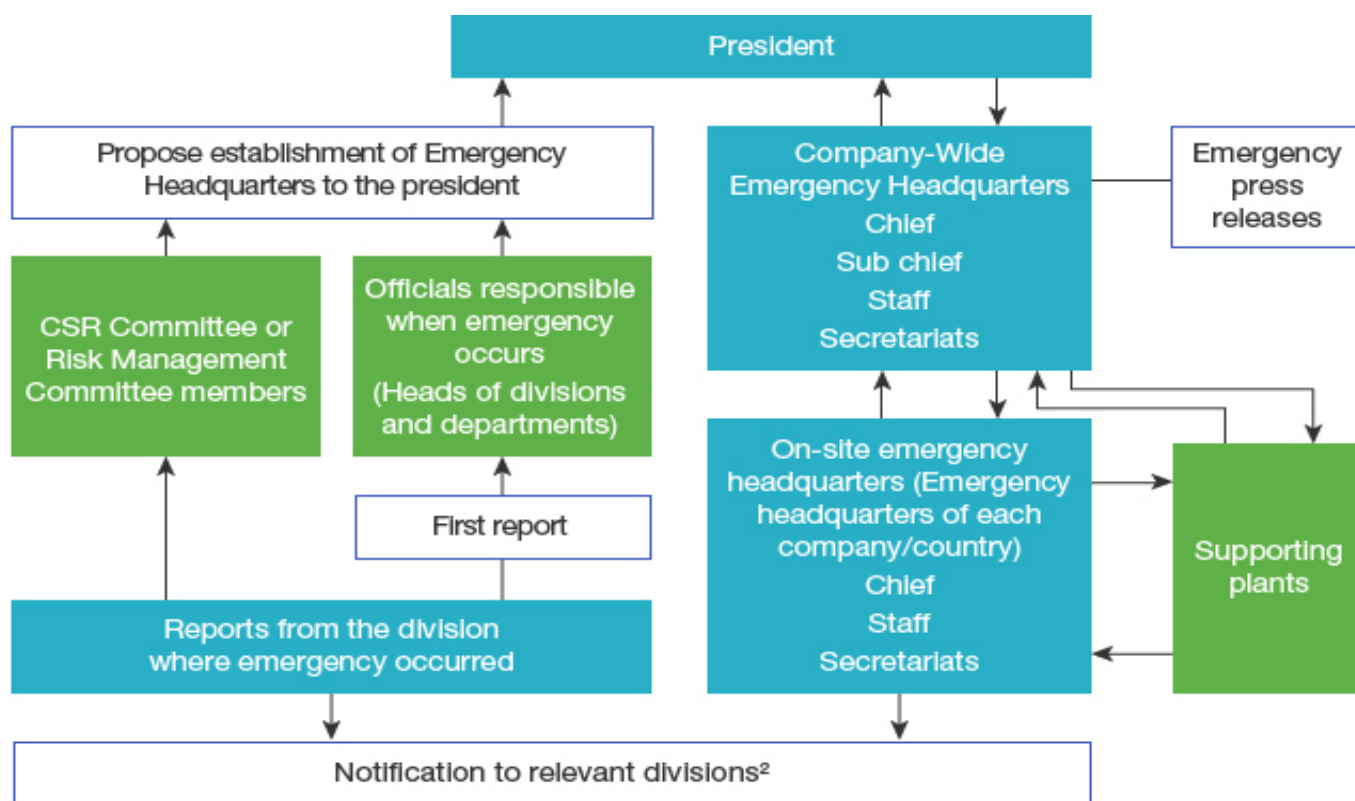
Crisis Management Systems

The Toray Group has established Crisis Management Rules, a set of clear fundamental principles that form the basis of a company-wide response in the event of a major crisis. The Group works to ensure the thorough implementation of these rules when required. Moreover, the Group reviews the rules as appropriate to prepare for new risks that emerge due to changes in the social environment.

In fiscal 2016, Toray reviewed the rules, focusing on risk management by the parent company for group companies in and outside Japan. The updated rules were put into effect in May 2017.

The Group also recognizes the importance of security control for international business travel as well as political instability and terrorism risks, and strives to reduce the risk by keeping employees informed with up-to-date information.

Emergency Quick Response System



² Notification is conducted according to the Emergency Reporting Route for Significant Disasters, Environmental Accidents, and Other Crisis Outbreaks.



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Business Continuity Plan Initiatives

Percentage of group companies preparing emergency response plan for business continuity

Reporting scope: Toray Group (Japan)

Fiscal 2016 target:

100%



Result:

100%

Ensuring Preparedness for Major Earthquakes

The Toray Group maintains a business continuity plan (BCP) in case of a major earthquake, which has been identified as a priority risk to address.

In fiscal 2016, the Toray Group developed a major earthquake BCP to systematically organize its earthquake preparedness. The Group also outlined procedures for developing BCPs for designated priority products in an earthquake and selected the products. In fiscal 2017, the Group will develop BCPs for these products. In addition, Toray finished introducing an employee safety verification system at group companies in Japan and continued with systematic seismic upgrades for plant buildings.

Since fiscal 2012, Toray has conducted company-wide drills to establish an emergency response headquarters. In fiscal 2016, Toray conducted company-wide emergency response headquarters drills based on a scenario involving the simultaneous occurrence of an earthquake comparable in intensity to the Great East Japan Earthquake and an earthquake with an epicenter directly under the Tokyo metropolitan area, resulting in extensive damage to group companies and plants situated in Shizuoka Prefecture and further west. Toray practiced setting up a temporary company-wide emergency headquarters in Kansai and simulated relocating the company-wide emergency headquarters once the Tokyo Head Office was restored to functionality. Some aspects of the scenario were not disclosed beforehand in order to make the drill more realistic. In conjunction with the drills, Head Office staff and divisions reviewed the work that they considered to be highest in priority.

The Group also deployed a damage mapping system after the Great East Japan Earthquake, in order to rapidly and accurately map damage to group companies and business partners in an emergency. The system proved useful in helping the Group secure business continuity during the Kumamoto Earthquake that occurred in April 2016.



Training to set up a temporary company-wide emergency headquarters in Kansai

Addressing Influenza Pandemics

Toray's recent preparedness efforts for influenza pandemics included revising the Toray Group Influenza Pandemic Response Plan in June 2015 to address high and low pathogenic viruses. Toray also used this opportunity to revise the risk management framework and infectious disease control measures at the divisional, departmental, office, and plant levels, and put the changes into effect.

In fiscal 2016, Toray worked on preparing a business continuity and scale-back plan to prevent the further spread of infectious disease in a pandemic, and enable the company to meet its social responsibility to continue supplying products. The plan directs the company to classify products and operations by importance, and designates the business structure at different stages of a pandemic and business resources to secure including supply chains. Group companies in Japan also prepared and began operating risk management frameworks and infectious disease control measures. Group companies outside Japan are implementing measures based on the situation in the countries they operate in.



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Human Rights Promotion and Human Resources Development

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

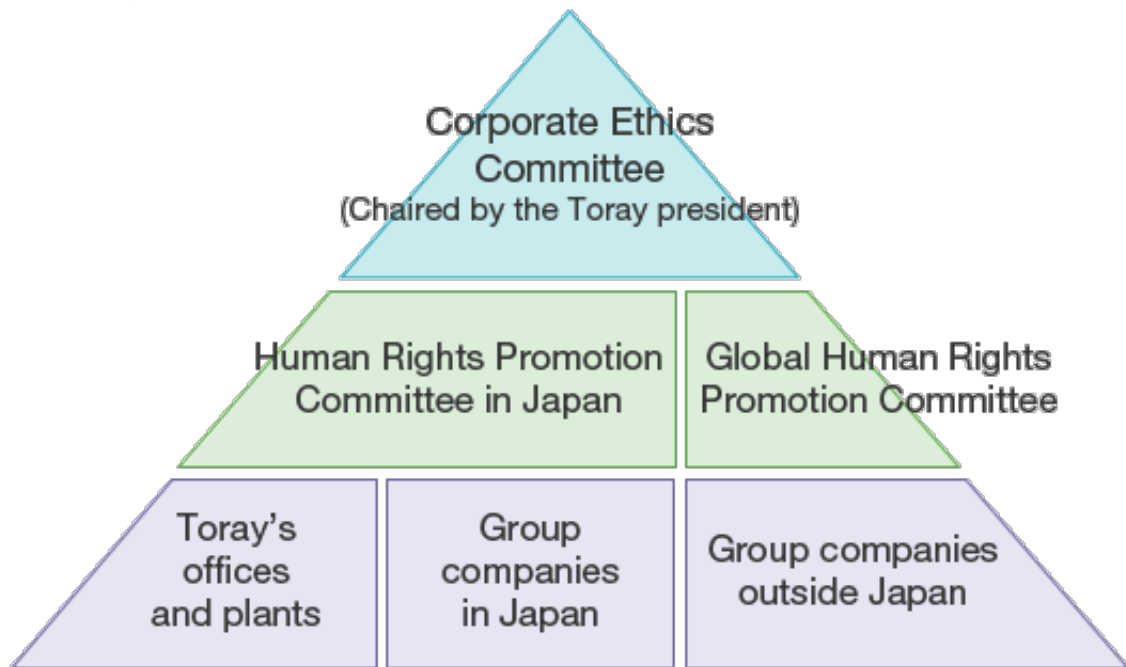
Fifth CSR Road Map goals

1. Respect for human rights and fair promotion based on ability throughout the Toray Group by eliminating discrimination based on race, gender, education, nationality, religion, and physical attributes
2. Build a vibrant and rewarding workplace culture
3. Actively provide employees with educational opportunities, and secure and foster human resources who can play a vital role on a global stage

Management

Human Rights Promotion System at the Toray Group

Under a Corporate Ethics Committee chaired by the president of Toray, the Toray Group operates a Human Rights Promotion Committee in Japan and a Global Human Rights Promotion Committee. With the committee framework, the Group promotes human rights at offices and plants in order to ensure a positive working environment for employees.



At group companies, each group company works on its own human rights initiatives with support from Toray.

Committed to Human Rights

At the Toray Group, respect for human rights is a mandatory management principle for ensuring the continuity of corporate activities and building positive relationships with all of the Group's stakeholders. The Group works to promote and raise awareness of human rights, for instance by declaring its commitment to the respect of human rights in its Corporate Ethics and Legal Compliance Code of Conduct. In the Code, discrimination of any kind based on race, creed, skin color, gender, religion, nationality, language, physical characteristics, socioeconomic status, place of birth, or any other personal characteristic is strictly forbidden in every process from recruiting and hiring to work placement, compensation, training, and retirement.

Since fiscal 2014, the Group has been tackling the issue of discrimination based on gender identification and sexual orientation. In January 2017, the Group established an employee hotline specifically for LGBT issues, which is operated by the Industrial Relations Department of Toray, a dedicated section for human rights promotion. The Group addresses global human rights issues through a working group formed by relevant departments, which studied measures for building a shared awareness of global human rights issues throughout the Group.

Human Rights Training

Percentage of group companies in Japan implementing human rights education and training

Reporting scope: Toray Group (Japan)

Fiscal 2016 target:
100%



Result:
100%

Toray holds human rights promotion campaigns annually to help increase awareness and understanding of human rights issues. In fiscal 2016, the campaign focused on increasing sensitivity to human rights and building workplaces that are free of discrimination and harassment. The campaign was aimed at preventing sexual, power, and maternity harassment (the latter being discrimination based on pregnancy) and encouraged an understanding of LGBT issues while fostering a corporate climate that respects the dignity of others.

Furthermore, at each workplace, Toray communicated the increasing global emphasis that was being placed on human rights from a social responsibility perspective.



Human rights training seminar at Toray Engineering Co., Ltd.

Training sessions were held for operational and administrative supervisors at Toray's offices and plants. Workshops were also conducted in conjunction with workplace study groups. As in the previous year, in fiscal 2016 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 training seminars were conducted at 53 group companies in Japan.

Fiscal 2016 Human Rights Training and Seminar

Type of training		Number of sessions	Number of participants
Toray	Training at head office ¹	40	2,115
	Training at offices and plants	1,064	14,034
	Training at outside company	48	104
Group companies in Japan	Training at companies	161	9,970
	Training at outside company	162	261

¹ Total amount of time dedicated to training: 175,310 minutes

VOICE

Message from an Employee

Increasing Awareness of Human Rights among All Employees and Fostering an Enriching and Welcoming Plant for All

I work at the Ehime Plant, which has hired over 600 new employees in the last 10 years. More than 60% of our workforce has worked here for less than 10 years continuous years. We have a vibrant plant with a young workforce that averages 34 years of age. The plant actively promotes human rights and implements various initiatives on its own, in addition to implementing company-wide initiatives. For example, the plant operates a human rights education database on the corporate intranet, which is updated with various information on human rights topics. For each update, I carefully choose the content, hoping to support education in each workplace. Additionally, the plant incorporates lectures on human rights in its conventional education and training, while each department has a designated human rights awareness month during which workshops are implemented using DVD training materials. The plant conducts an annual survey to gauge the level of human rights awareness among employees and workplaces, and to identify any issues so that the plant can continue to expand these initiatives.



Kimie Hamabe

Labor Affairs Section,
Administration Department,
Ehime Plant, Toray Industries,
Inc.

Our efforts show that the plant views human rights initiatives as one of its highest priorities. The plant will continue to steadily implement and improve this work, to increase awareness among all employees and build a plant that is enriching and welcoming for all.



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Securing and Developing Human Resources to Create New Value

> Materiality Focus

Training expenditures per employee

Reporting scope: Toray

Fiscal 2016 target:
No annual
numerical target



Result:
101,607 yen

The success or failure of a company is decided by its people—employees shape its destiny. Guided by this concept, the Toray Group considers securing and developing outstanding human resources as one of its most important tasks and a fundamental management priority. Based on the following four goals, the Toray Group is promoting human resource development.

- 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
- Development of individuals, professionals, and leaders who can play an active role in global business

Employing a Diverse Workforce

The Toray Group employs talented human resources with high aspirations who can play an active role in global business, inclusive of gender and whether employees were hired out of university or mid-career.

Since 1998, Toray has been expanding its efforts to recruit diverse human resources, in order to drive the globalization of its business. The Company actively recruits non-Japanese students who are studying in Japan, and Japanese students who graduate from universities abroad. Then, it seeks to build a work environment where all employees are able to fully demonstrate their individual abilities and perform to their utmost potential.

Systematic and Effective Training


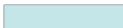
Toray develops well-designed training programs and systematically executes diverse training programs to enhance management, sales, production technology, and specialized skills, and to better equip employees to address globalization. These programs cover all levels of employees and fields, aiming to develop future management candidates while expanding and educating the base of core staff ready to employ their strong capabilities to lead on the front lines.

Over the recent years, Toray has concentrated on enhancing and expanding its development of global human resources through Overseas Training for Young Employees, the Toray Global English School, and Business English Intensive Training, as well as through joint sessions of the Toray Management School and Toray Group Senior Management Seminar. Toray also implements the Global Diversity Seminar for non-Japanese employees working at Toray. In fiscal 2016, training expenditures per employee at Toray stood at 101,607 yen.

In addition to training, the Group is adopting diverse personnel programs to develop an organization in which human resources who are ready for new challenges can play a greater and more active part in the company.

Fiscal 2016 Training Programs at Toray

	Management	Technical	Sales, marketing, and administration	Global	General
Directors	Director Training			Toray Group Executive Seminar	
Division and department managers	Management Training for General Managers			Toray Group Senior Management Seminar	
Section managers	Toray Management School Toray Group Management School Management Training for New Managers	Introductory Training for Newly-Hired Employees Training to Become Leaders in Technology Development	Training to Become Leaders in Sales/Marketing	Toray Trainee Program	Study programs for employees (at university and other institutes in and outside Japan) and overseas training for young employees Exchange Information with Different Business Fields Outside Training, Outside Seminars, Seminars to
Non-Managerial Senior Level	Management Training for Supervisors	Training to Become Leaders in Technology Development Mid-Level Engineer Training	Marketing and Merchandising Strategy Training Senior/Junior Accounting Seminar	Toray Global English School Toray Management and Technology Training	
Non-Managerial Junior Level	Toray School of Technology and Business Administration	Second Technical Training First Technical Training Management Technology Seminars Open Patent Seminar	Second Sales/Marketing Training First Sales/Marketing Training Sales/Marketing Practical Seminars	Global Diversity Seminar Business English Intensive Training	
Newly-Hired Employees	Introductory Training for Newly-Hired Employees	Practical Plant Training	Plant assignment	Intensive English Conversation Training for Newly-Hired Employees	

 Training also open to employees of group companies in Japan
 Training for employees of group companies outside Japan

Company-Wide Training Course Enrollment in Fiscal 2016 (Toray)

Training category	Persons enrolled
Management	709
Technical	666
Sales, marketing, and administration	271
Global	288
General	304
Total	2,238

Management-by-objectives system ¹	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 ¹	Designed to facilitate a fair appraisal of employee contributions in terms of duties, responsibilities, capabilities, and performance.
Individual meeting system ¹	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 G Course ² employees	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 G Course ² employees	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.

1 Applies to 100% of managers, occupational specialists, and employees pursuing G Course² and S Course³ career paths.

2 An abbreviation for Global Level Assignment Course, the G Course is the career path for employees who wish to pursue a career at the Toray Group in a top management position or advanced specialization.

3 An abbreviation for Specified Assignment Course, the S Course is the career path for employees who wish to pursue a career as a manager, supervisor or expert in a specified occupation.

Development of Future Management Candidates for the Toray Group

The Toray Group implements training in order to systematically develop future management candidates. Numerous employees who have undergone the training are already active in management positions.

Strategies for Developing Future Management Candidates

Program	Participants	Purpose	Year started	Total participants through FY2016
Management Training for General Managers	Division and department managers of Toray, Board members/officers of group companies in and outside Japan	Develop management leaders at Toray and group companies	2013	123

Toray Management School	Section managers of Toray	Develop future management candidates at Toray and group companies	1991	500
Toray Group Management School	Department managers of group companies in Japan	Develop management candidates focusing on group companies in Japan	2006	219
Toray Group Executive Seminar (Toray Management School outside Japan)	Board members/officers of group companies outside Japan	Develop local executives at group companies outside Japan	2004	83

Since fiscal 2014, the Toray Group has been working on a succession plan and personnel development plan based on a medium- and long-term perspective. The Group is drawing up a medium-term human resources plan for management positions and core staff to ensure that it can tackle important business issues with systematic personnel assignment.

Establishing a Global HR Management Fundamental Policy

The 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.

Under the policy, Toray practices a united approach to human resources management of each group company.

Toray Global HR Management ("G-HRM") Fundamental Policy

Established November 2011

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

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

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

culture, custom and company. Thus, it is necessary to promote the policy while integrating both approaches properly.

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

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

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

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

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

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

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

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

Developing and Promoting Staff at Overseas Group Companies

Number of local core staff outside Japan who participate training courses

Reporting scope: Toray Group (Outside Japan)

Fiscal 2016 target:
No annual
numerical target



Result:
216

The Toray Group regards the development of core staff at its overseas group companies as one of its priority management objectives. 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. In fiscal 2016, at Toray, four core staff outside Japan help manage the Toray Group, serving in senior director (riji) positions. To ensure thorough understanding of the Toray Group's management philosophy and policies, core staff from overseas group companies participate in training programs in Japan, organized according to managerial level.

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

The Group operates a "Toray Global HR site" online, through which employees can access information about management policies and human resources management. Employees can also access the website to take online courses that are part of a group-wide framework for training.

Training Courses Held for Core Staff outside Japan in Fiscal 2016 (Toray Group)

Japan-based training courses

Training program	Managerial category	Number of participants
Toray Group Executive Seminar	Board members/officers	14
Toray Group Senior Management Seminar	Department managers	12
Toray Trainee Program	Section managers	23
National Engineer Key Person Training	Section managers	3
Toray Management & Technical Training	Unit managers	10

Training courses held outside Japan

Training program	Managerial category	Number of participants
Toray Group U.S. Senior Management Seminar	Department managers	13
Toray Group U.S. Management Training	Section managers	23
Toray Group EU Management Seminar	Section managers	14
Toray Group Indonesia Management Seminar	Section managers	23
Toray Group Malaysia	Assistant department	20

Total number of employees receiving training	62
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Management Seminar	managers/section managers	
Toray Group Korea Senior Management Seminar	Department managers	18
Toray Group East and North China Management Seminar	Section managers	28
Toray Group South China Management Seminar	Department managers	15
Total number of employees receiving training		154



Toray Group Executive Seminar for core staff outside Japan



Toray Trainee Program for core staff outside Japan

Developing and Promoting Personnel at Group Companies Outside Japan

National staff who will take up management positions at group companies outside Japan and who are qualified for taking such management positions in the future are identified for career development. This is based on individualized plans for career development and promotion, that is jointly implemented by group companies, country/regional representatives, and the headquarters.

Human resource development is systemetically implemented through both on-the-job and off-the-job training. Off-the-job training consists of training implemented by individual companies. This is combined with management training courses that are regularly implemented in Japan and at the country or regional level, together with career development through domestic and international job rotations.

Exploring the Leadership Skills Needed for Senior Management

I participated in the Fiscal 2016 Toray Group Senior Management Seminar. During the two-week course, myself and other participants from various countries and professional backgrounds attended seminars and discussions. The course gave us information that we need as senior management, such as Toray's corporate philosophy and history. We were also briefed by head office senior management on Toray's business strategy and exchanged opinions on issues that we at Toray Group companies are tackling. Overall, it was a valuable experience.

The course addresses the key issue of developing the leadership skills of senior managers, which we explored in great depth. The course helped me to understand that human resources are the most valuable resources of the company, and that by building a good team, it is possible to achieve the company's targets and grow as an individual.



Andy Teoh

Regional Manager, Sales
Department, Penfabric Sdn.
Berhad



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Promoting Diversity

The 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

Women in management positions (%)

Reporting scope: Toray

Fiscal 2016 target:
No annual
numerical target



Result:
4.5% (As of April 2017)

Toray has long encouraged women in the workplace and implemented policies to support women to build fulfilling careers. The Company promoted its first female manager in 1958 and introduced employee provisions for taking parenting leave, nearly 20 years before parenting leave became mandatory in Japan. In 2003, a woman became president of a Toray Group company. Then, in 2004, Toray launched the Advancement of Women Project. As of April 2017, women held 8.9% of unit manager or higher positions and 4.5% of section manager or higher positions. In June 2015, Toray welcomed its first female director (riji), a position that is equivalent in scope and level of responsibility to senior management.

In fiscal 2016, Toray developed an action plan to increase the percentage of female employees promoted to managerial positions by focusing on individualized career plans and awareness of career development based on Japan's Act on Promotion of Women's Participation and Advancement in the Workplace, which was enacted on April 1, 2016. Under this action plan, Toray has set the following target, on average, for the five-year period from fiscal 2016 to fiscal 2020: ensuring a women's promotion rate that is at least 80% that of men.¹ This figure is the Japanese Ministry of Health, Labour and Welfare's yardstick for determining whether or not excessive discrepancy exists based on gender. Specifically, Toray will take the following measures to achieve this goal:

- Request individualized career plans each year to be faithfully followed;
- Conduct morale surveys every other year and follow up on issues requiring attention; and
- Bolster training designed to raise awareness of career building.

Training for female managerial staff developed by female general managers at the Toray Group was started in fiscal 2014, and a third seminar was held in in fiscal 2016. Toray is looking to incorporate these seminars into its general corporate training system in the future.

Recognizing that the advancement of women is an undertaking that will be accomplished one hurdle at a time, Toray will continue to work steadily and consistently to address this topic.

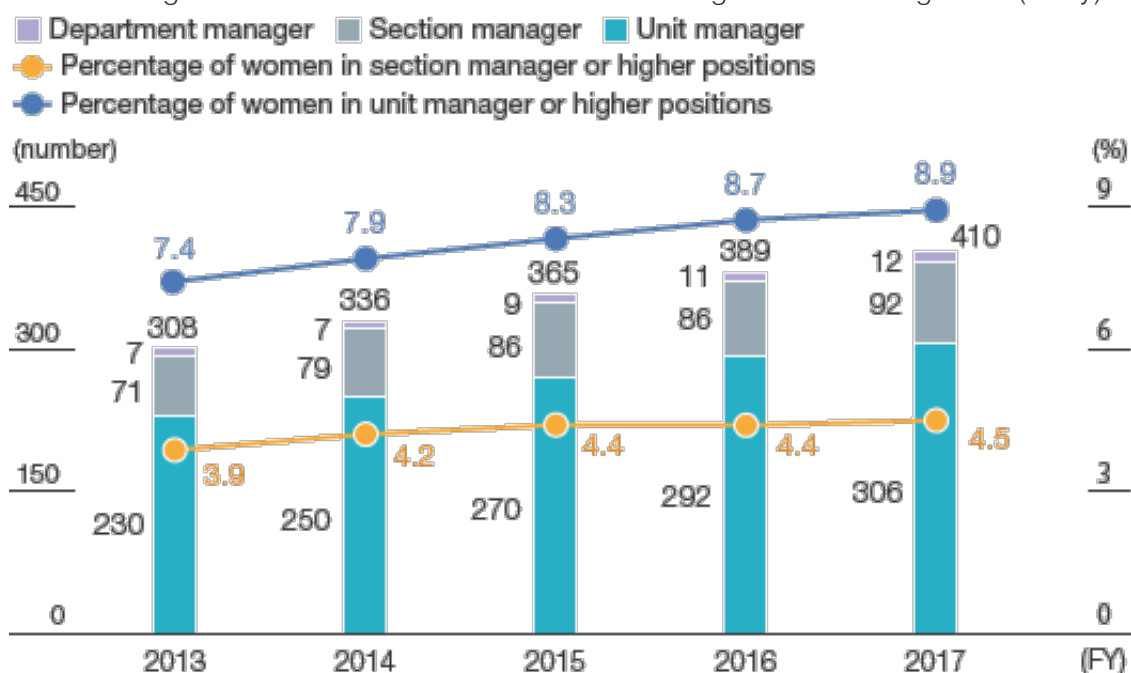
1 Promotion rate of women to managerial positions compared to that of men = Percentage of female employees promoted to managerial positions / Percentage of male employees promoted to managerial positions

Percentage promoted to managerial positions = Individuals promoted to managerial positions / No. of employees who were initially hired into the G Course who are eligible for promotion to managerial position that year

Related Information

> [Responding to Employee Feedback](#)

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



Note: As of April each year

Employment of Persons with Disabilities

Percent of companies achieving legally mandated employment rate of persons with disabilities

Reporting scope : Toray Group (Japan)

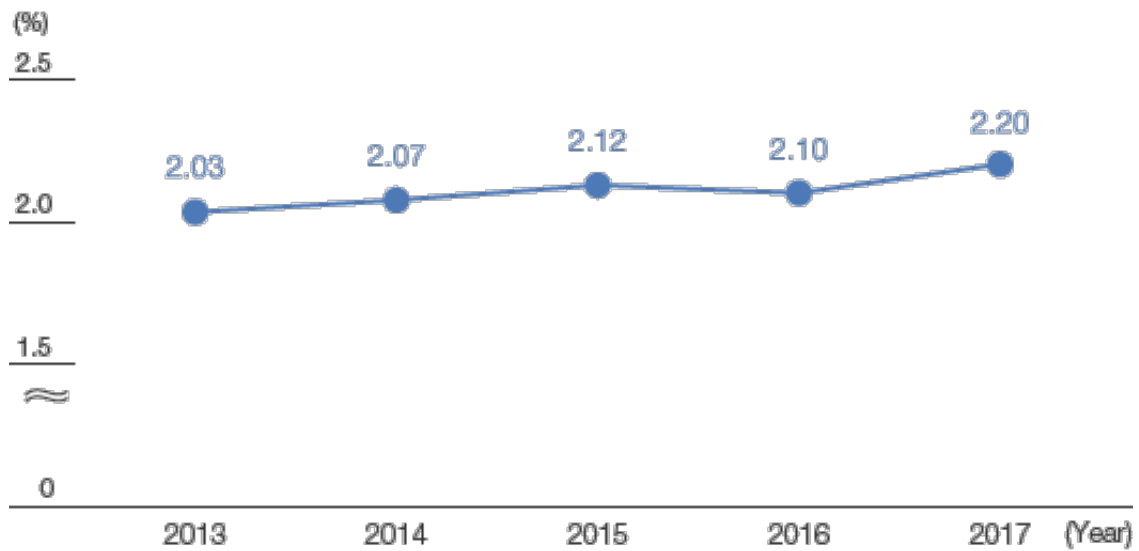
Fiscal 2016 target:
100%



Result:
59.4%

The Toray Group hires and employs persons with disabilities, from those with physical challenges to persons with intellectual and mental challenges. The Group is making workplace improvements to remove physical barriers for persons with handicaps as well as instituting safety measures. Additionally, the Group provides comprehensive training upon work placement and gathers feedback from persons with disabilities to make workplace improvements. Further, Toray meets Japan's legal minimum of 2.0% persons with disabilities, as do 58.1% of Toray Group companies in Japan. Group companies actively seek to hire persons with disabilities through public organizations and job placement agencies. However, some individual group companies do not meet the mandated legal requirement, although the group companies collectively meet the minimum. Toray will continue to focus on this issue moving forward.

Employment Rate of Persons with Disabilities (Toray)



Note: As of June 1 each year

Re-employment 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 2005 to include employees in management and specialized fields.



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Creating a Positive Workplace for Employees

Helping Employees Maintain Work-Life Balance

Percentage of available annual paid leave used by employees

Reporting scope : Toray employees (non-managerial)

Fiscal 2016 target:
No annual
numerical target



Result:
89.8%

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 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 child care 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. Toray also expanded the scope of its commuting allowance for taking the bullet train in October 2012. In April 2013, Toray improved 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. In July 2016, Toray expanded its leave provisions for employees requiring special consideration as caregivers, and in January 2017, it eliminated restrictions on the number of times that employees can use long-term family care leave and lower-hour work schedule systems for caregivers.



Major Support Systems for Employee Work and Family Life Balance

Category	Description
Long-term childcare leave	<ul style="list-style-type: none"> 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

Lower-hour work schedules for childcare	<ul style="list-style-type: none"> • 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 • May be used concurrently with flextime system
Long-term family care leave	<ul style="list-style-type: none"> • Available for a total of 365 days per situation requiring leave to provide care • May be split up
Lower-hour work schedules for caregivers	<ul style="list-style-type: none"> • May be taken multiple times per situation in the three-year period following the first day of use • May be split up • May be used concurrently with flextime system
Leave to care for sick children	<ul style="list-style-type: none"> • 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 • Days not taken by the end of the fiscal year may be rolled over to the following fiscal year.
Family care leave	<ul style="list-style-type: none"> • Five days per year of leave available per family member • At maximum five additional days per year available when no other appropriate caregiver is available on those days (revised April 2013)
Toray Smile Support Program	<ul style="list-style-type: none"> • Welfare point system offering a selection of programs with an emphasis on providing support for childcare and home acquisition
Childcare services payment assistance	<ul style="list-style-type: none"> • Childcare coupons offering a 70% discount on services provided by participating companies issued as an additional Toray Smile Support Program service • No restrictions on number of coupons or age of participating employee's child
Telecommuting program	<ul style="list-style-type: none"> • 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 • 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
Registration system for reemployment	<ul style="list-style-type: none"> • 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 • 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.
Commuting allowance for bullet train or other limited express travel	<ul style="list-style-type: none"> • 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 • In certain cases, employees may be required to pay a part of the commuting

Utilization of Childcare and Family Care Leave Systems (Toray)

FY		2012	2013	2014	2015	2016
Employees taking childcare leave	Women	62	56	71	53	64
	Men	2	3	5	3	4
Employees taking family care leave	Women	2	0	2	1	2
	Men	0	1	1	4	1

Note: Figures show the number of employees taking leave.

As part of its commitment to workplace innovation, Toray makes provisions to help employees balance work and family life. Since fiscal 2008, regular workplace discussions are held in each workplace to raise awareness of different working styles, and working late at night or on holidays is prohibited, in principle. All lights in the workplace are turned off at a certain time at night, and company-wide "no overtime days" take place one day each month. Toray has been working on ongoing initiatives to reduce overtime hours and encourage employees to take annual paid leave. (Employees used 89.8% of available annual paid leave in fiscal 2016).

In fiscal 2010, Toray set up a Work-Life Balance Committee, made up of labor and management representatives. Through this committee, labor and management have studied and executed a number of programs to help employees balance job responsibilities with home life, to build workplace environments that facilitate diverse working styles, to prevent overwork and reducing excessive working hours, and to enhance mental healthcare at worksites. In fiscal 2012, it became the AP-G 2013 Labor-Management Committee, then became the AP-G 2019 Labor-Management Committee in fiscal 2017, continuing to develop and expand provisions to enhance working conditions.

Employee Health

Toray is working to promote better health among employees, encompassing both offices and plants. Employee health management is viewed as a management priority, and strategic initiatives are underway, including some undertaken in collaboration with the employee health insurance association.

Toray is also addressing mental health, and since fiscal 2011 has been implementing employee stress check-ups through an external provider. In fiscal 2016, the stress check-ups were reviewed in accordance with partial revisions to Japan's Industrial Safety and Health Act that came into effect in December 2015. New items were added to the check-ups to reflect specific circumstances at Toray. Group companies in Japan also implement employee stress check-ups that reflect the revised legislation.

Product Safety and Quality

> Materiality Focus

Provide safe, highly reliable products by striving to enhance management systems for product safety and quality assurance, and disclose appropriate information.

Fifth CSR Road Map goals

1. Achieve zero product accidents
2. Enhance the group-wide framework for product safety and quality assurance

Management

To live up to its "customer first" and "quality first" commitments, the Toray Group has established policies on product safety and quality assurance and an organizational framework to pursue both in an integrated manner. Specifically, Toray's Product Safety and Quality Assurance Committee deliberates on basic policies and other matters, while the Product Safety and Quality Assurance Planning Department plans and proposes measures.

The medium-term management program, Project AP-G 2016, directs the Toray Group to pursue innovation and proactive management to achieve growth, and this hinges on securing product safety and quality. The Group continued to address individual areas for improvement and execute product safety measures in fiscal 2016.

Moving forward, the Toray Group will strengthen its management systems across the Group, pursuing continued synergies to enhance both product safety and quality assurance.

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.

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.

Framework for Product Safety

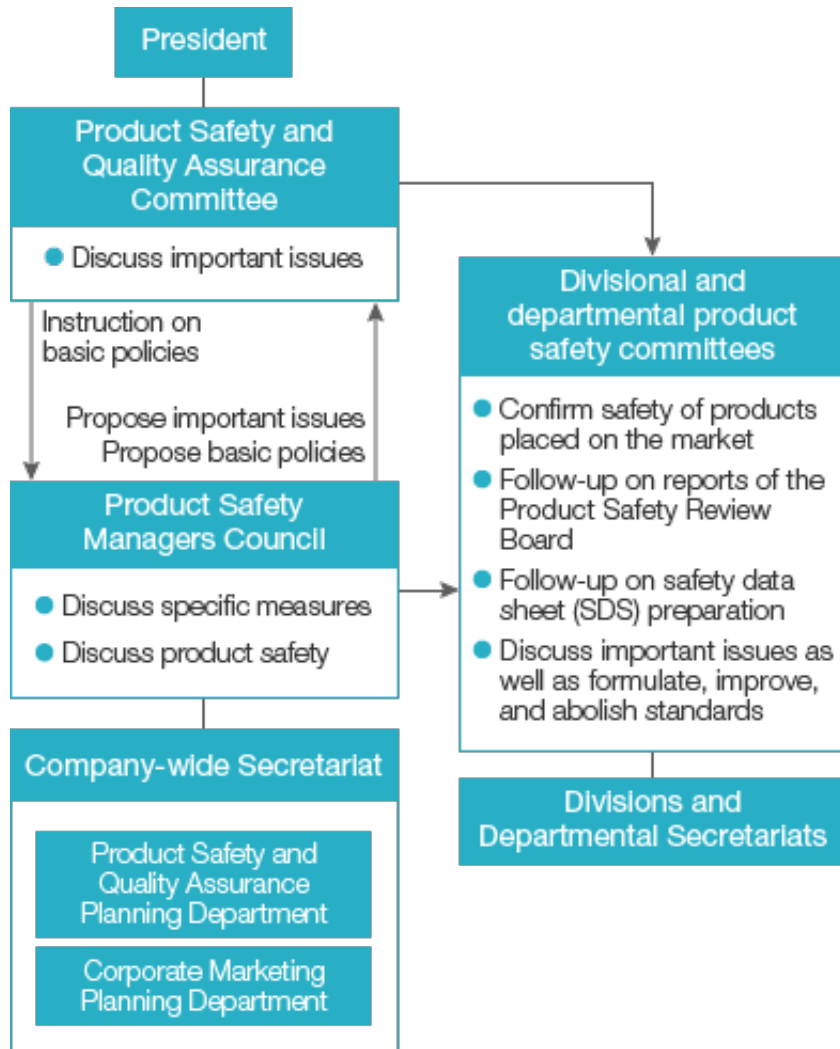
Toray's product safety framework is shown in the diagram. Based on Product Safety Control Regulations, Toray's Product Safety Managers Council promotes and implements annual group-wide product safety themes that are established by the Product Safety and Quality Assurance Committee.

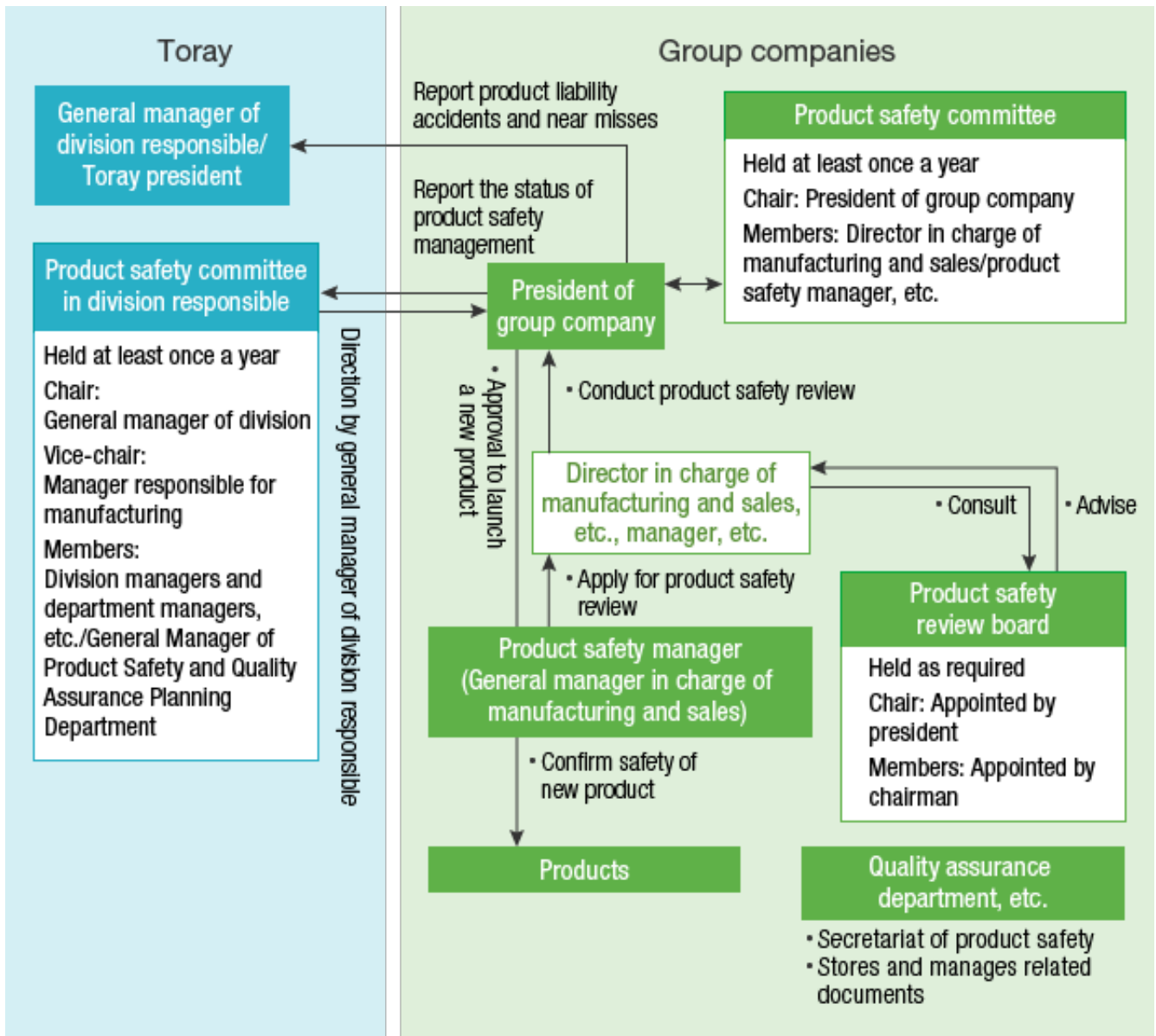
Product safety committees at the departmental and divisional level further examine the company-wide issues that have been identified by the Product Safety Managers Council, breaking them down into action items that are designated every year for implementation. The action items are executed in cooperation with production, technology, and sales organizations at the departmental and divisional levels, to ensure thorough management of product safety and continue raising the level of management.

The diagram below shows the framework for product safety at group companies in and outside Japan. Group companies operate frameworks on a scale suitable to their sizes, while receiving support and supervision from the division responsible at Toray's head office. For example, the Films Division at the head office operates a film product safety committee that includes film-related group companies in Japan. Minutes from the committee meetings are also circulated to film-related group companies outside of Japan, to ensure that product safety information is shared.

The Toray Group has been centrally tracking statistics on product accidents and the execution of product safety reviews since fiscal 2011.

Product Safety Framework



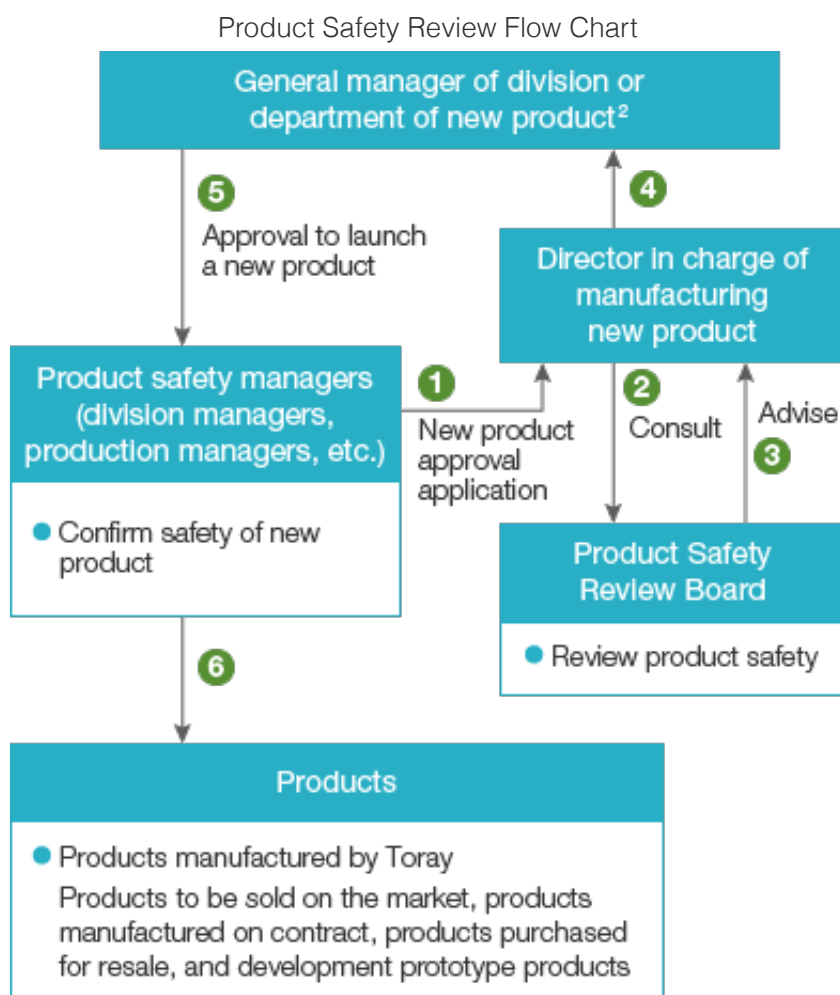


Initiatives for Product Safety and Quality Assurance

Enhancing Product Safety Reviews

Safety reviews for new products are implemented under the responsibility of the directors in charge of manufacturing at Toray and the relevant directors at its group companies. These reviews encompass safety checks for the product itself and reviews of safety information supplied to customers such as safety data sheets¹ instruction manuals, warning labels, and catalogs. The reviews also examine the product's impact on the environment. 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 Since fiscal 2012, the Toray Group has been phasing in safety data sheets (SDS) based on the latest JIS standards that comply with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS). This process was completed in fiscal 2016.



² At group companies worldwide, this position is held by the president or a director.

Education and Training for Product Safety and for Quality Assurance

Implementation rate for product safety and quality assurance education

Reporting scope: Toray Group (Japan)

Fiscal 2016 target:

100%



Result:

100%

Toray provides training every year for newly appointed department and section managers at the Company and its group companies in Japan. Sessions are focused on the importance of product safety, the relationship between product safety and quality assurance, relevant laws and regulations, and Toray Group's product safety review system and quality assurance framework. Since fiscal 2013, all group companies around the world have conducted original product safety and quality assurance training tailored to their operations.

Preventing Product Accidents

Number of product accidents

Reporting scope: Toray Group

Fiscal 2016 target:

0



Result:

0

In fiscal 2016, the Toray Group maintained the performance of the previous fiscal year, once again achieving its goal of zero product accidents.

Providing Product Safety Information

The Toray Group provides customers with product safety information specifically tailored to the product or service. In its efforts to create a convenient environment for customers, Toray makes available toll-free numbers for customers to call and inquire about its mainstay consumer products such as home water purifiers and contact lenses.

Perfecting Systems in Support of Quality Assurance Activities

Ratio of complaint costs to net sales, compared with fiscal 2011–2013 average

Reporting scope: Toray

Fiscal 2016 target:

50%



Result:

101%

Every year, the Product Safety and Quality Assurance Committee determines company-wide quality assurance tasks. Each worksite works on the tasks under the direction of a Quality Assurance Manager Council.

In fiscal 2016, Toray continued efforts from the previous fiscal year to institute solutions that address the underlying issues behind major product complaints from customers by investigating the cause and having relevant departments mutually monitor the execution of countermeasures. Toray also implements quality audits for partner companies, in an effort to further enhance quality control over outsourced products. Based on the results, Toray gives advice and provides support to enhance quality control at partner companies and ensure that improvements are permanently adopted. The target ratio for complaint-related costs to net sales was not achieved in fiscal 2016, due to an increase in complaint-related costs resulting from customers' more exacting quality requirements.

Respecting the Eight Basic Consumer Rights

In providing products and services, the Toray Group is fundamentally committed to respecting the Eight Basic Consumer Rights and strives to secure safety and quality of its products throughout the Group's business activities.

The Eight Basic Consumer Rights Excerpted from the Consumers

International website

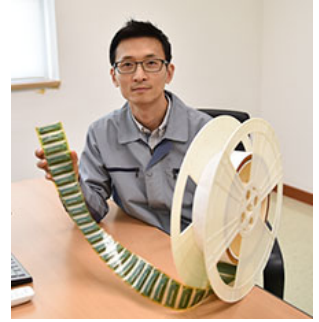
- The right to satisfaction of basic needs
- The right to safety
- The right to be informed
- The right to choose
- The right to be heard
- The right to redress
- The right to consumer education
- The right to a healthy environment

Delivering the Highest Quality to Enable Customers to Create Value

Stemco, Ltd. was established in 1995 as a joint venture between Toray and Samsung Electro-Mechanics Co., Ltd. of South Korea. We manufacture and market chip-on-film (COF) substrates for driver ICs used in LCDs and EL displays.

Specifications for COF technology continue to become more sophisticated with the miniaturization of circuits and the increased surface area of dual-sided COFs. This necessitates more advanced technologies for quality control, and so we continue to invest in facilities and human resources. We implement quality improvement activities with the involvement of all of our employees and have developed our own automated inspection equipment and systems to manage processes and inspection data in real time. We have also established a quality assurance and technical services branch in Taiwan, where many of our customers are based. We have recently started manufacturing advanced dual-sided COFs, which are being used in displays for high-performance smartphones.

In fiscal 2016, we acquired IATF 16949 certification for quality management systems, which is a new standard for the automotive industry that replaces ISO/TS 16949, to prepare for future adoption of COFs in on-board automotive displays.



Chi-Gweon Lim
Manager, Upstream Quality,
Quality Innovation Team,
Stemco, Ltd.



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Facilitating CSR Initiatives Throughout the Supply Chain

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

Fifth CSR Road Map goals

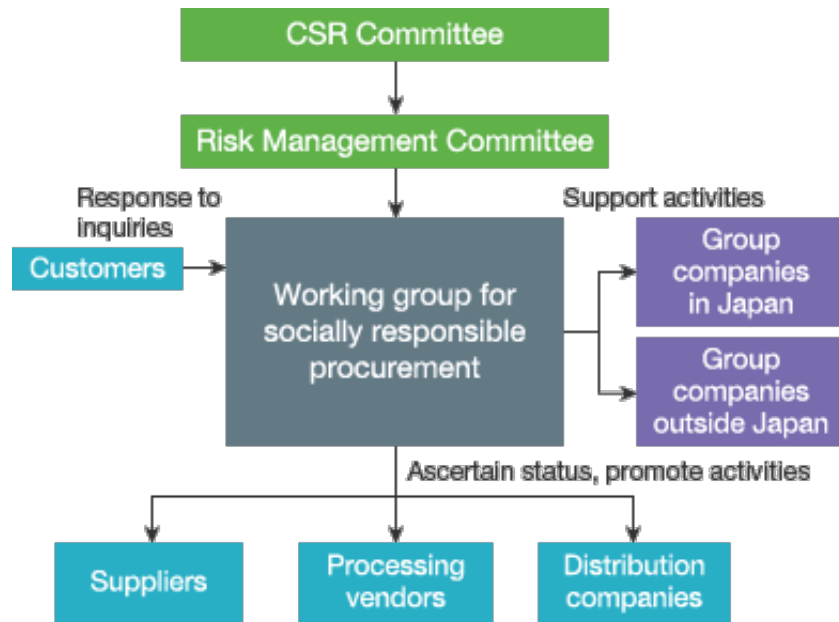
1. Request major suppliers and business partners to practice CSR procurement
2. Respond to all CSR procurement surveys from corporate customers
3. Build group-wide CSR procurement framework

Management

The Toray Group recognizes that socially responsible procurement is an issue that must be addressed throughout the supply chain. To this end, the Group's CSR Procurement Guidelines mandate the delivery to customers of materials and products that meet social and environmental requirements via environmentally friendly modes of transport. The Group seeks the understanding of suppliers and distribution partners in this effort.

To ensure socially responsible procurement across the Group, Toray has established a working group under the Risk Management Committee. In efforts spearheaded by the working group, Toray strives to ascertain the status of CSR practices at suppliers, supports group companies in this area, and responds to customer inquiries about Toray's CSR practices.

Management Framework for Socially Responsible Procurement



Related Information

> [Toray Group's CSR Procurement Guidelines](#)

Toray Group's Socially Responsible Procurement, Purchasing and Distribution

> Materiality Focus

As a manufacturer of advanced materials that supplies a wide range of materials and products, the Toray Group must engage in upstream management that reflects the needs of end users, including production facilities and the procurement of raw materials and products. Accordingly, the Group has established its Basic Purchasing Policies to emphasize this approach and ensure fair purchasing practices.

The Group also operates under Basic Distribution Policies that require fair and equitable transactions and take environmental considerations into account. The Group is committed to continually improving the quality of distribution and reducing its environmental impact.

CSR Procurement Guidelines Adopted 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

Basic Purchasing Policies Revised 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.

Basic Distribution Policies Adopted 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 fulfil 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.

Implementing CSR Procurement

Percentage of responses to CSR procurement survey requests from corporate customers

Reporting scope: Toray

Fiscal 2016 target:

100%



Result:

100%

Percentage of major suppliers and business partners practicing CSR procurement

Reporting scope: Toray

Fiscal 2016 target:

N.A.



Result:

90% or higher

Toray operates corporate rules for socially responsible procurement and has a framework in place to rapidly and precisely respond to customer inquiries on Toray's materials and CSR practices. Information on customers and suppliers is centrally managed in a shared database.

Toray conducts regular questionnaire surveys to monitor socially responsible practices at suppliers, as part of a plan-do-check-action (PDCA) cycle to encourage socially responsible practices in supply chains.

PDCA Cycle for Supply Chain Management



Surveying Suppliers about CSR

Toray asks its main suppliers and subcontractors to practice CSR procurement, targeting 90% compliance among business partners. Toray conducts a biannual survey on socially responsible practices, targeting major suppliers, manufacturing subcontractors, and sales agents who represent 90% of Toray's procurement by value. In fiscal 2016, Toray asked to survey 526 companies. The survey provides a comprehensive picture of socially responsible practices and includes questions specifically related to Toray Group's CSR Procurement Guidelines. The survey also gauges attitudes on areas of increased concern, such as biodiversity conservation and conflict minerals.

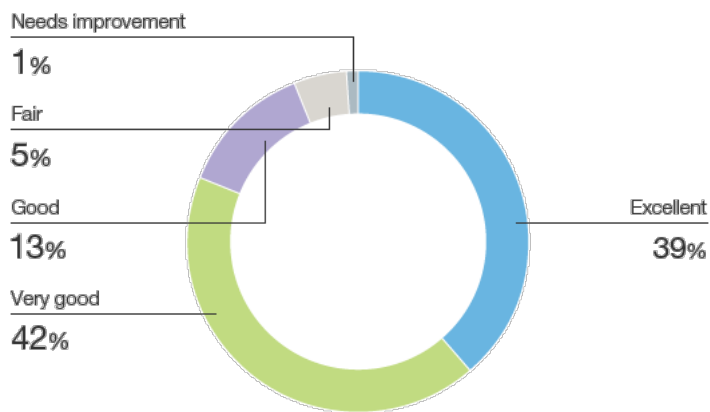
CSR Survey Results Analysis and Feedback

The survey conducted in fiscal 2016 found that 94% of companies surveyed were rated "excellent," "very good" or "good" for CSR practices, thus meeting the Group's standards for business partners. Six percent of the companies surveyed rated only "fair" or "needs improvement," requiring further investigation of their CSR practices.

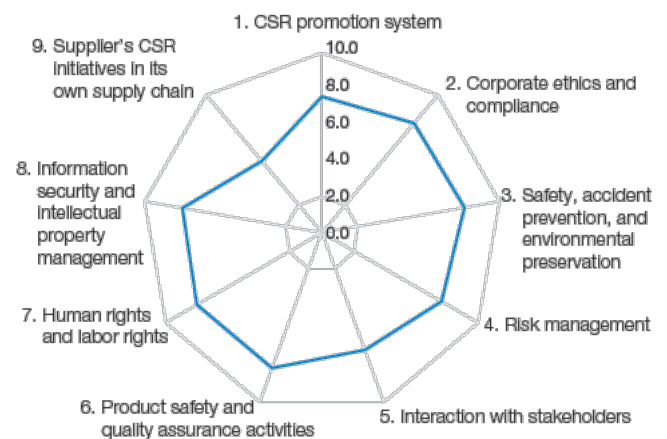
The percentage of companies rating "excellent," "very good" or "good" was up six percentage points from the previous survey conducted in fiscal 2013. This confirms that business partners are making progress in implementing CSR practices. However, the average rating for implementing CSR in the supply chain was low.

Ten companies rated "fair" or "needs improvement" in the previous survey, necessitating visits to discuss improvements. Consequently, all 10 companies rated "good" or higher in the fiscal 2016 survey, showing measurable progress in implementing CSR practices. The Group provided the survey results and its analysis to business partners as a form of feedback.

CSR Status of Suppliers



Analysis of Survey Results



Socially Responsible Procurement Initiatives throughout the Supply Chain

In fiscal 2010, Toray included conditions regarding social responsibility in its basic supplier agreement for the first time. Then, in fiscal 2016, seeking to keep adding new suppliers, Toray again updated its policy, making it mandatory to include CSR clauses in contracts with distribution companies. These clauses are now included in all new and renewed contracts.

Human Rights and Supply Chains

Toray Group's CSR Procurement Guidelines mandate a commitment to respect human rights in procurement. Toray also works with suppliers to promote human rights in supply chains.

Addressing Conflict Minerals

The U.S. Securities and Exchange Commission (SEC) has issued rules requiring companies to disclose their use of conflict minerals. To comply with the rules, Toray investigates the use of conflict minerals in all products offered by the Toray Group, as part of its supply chain management. If conflict minerals are used, Toray investigates the suppliers to determine the mining operations and geographic source of the minerals.

International Cooperation in the Textiles and Apparel Industry

The Toray Group is a member of the Sustainable Apparel Coalition, together with other apparel manufacturers and retailers from around the globe. The coalition is dedicated to reducing the environmental impact of apparel and footwear products, and improving human rights for workers.

Highlight

Follow-up Visits to Companies, Based on the Results of CSR Survey for Suppliers

Companies that score "fair" or "needs improvement" necessitate a visit to discuss changes and improvements. The Group also engages stakeholders in dialogue such as interviewing members of the community. For example, companies that operate manufacturing or production facilities in residential areas are encouraged to enhance their community relations by inviting residents to visit their facilities and implementing local cleanup activities.



Meeting to discuss a supplier's results on the CSR survey

CSR Procurement at Group Companies in Japan

Percentage of group companies that have implemented the CSR procurement framework

Reporting scope: Toray Group (Japan)

Fiscal 2016 target:

100%



Result:

100%

In fiscal 2014, the Toray Group achieved its target of ensuring that all group companies in Japan have a CSR procurement framework in place. A full 100% of group companies in Japan conducted CSR surveys of suppliers in fiscal 2015. The Group will continue to work to raise awareness of social responsible procurement and enhance these initiatives.

CSR Procurement at Group Companies Outside Japan

Group companies outside of Japan in the fibers & textiles business began surveying their subcontract manufacturers in fiscal 2016, to prioritize socially responsible procurement. Group companies outside Japan in other industries will also begin surveying their subcontractors in the future, aiming to support the practice of socially responsible procurement that reflects local circumstances and conditions.

Highlight

Penfabric Sdn. Berhad Introduces CSR Procurement Guidelines

Penfabric Sdn. Berhad has introduced a Supplier Code of Conduct outlining 27 guidelines that suppliers are expected to adhere to. The guidelines range in topic from prohibiting child labor and slavery to protecting freedom of association and prohibiting anti-competitive practices.



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Toray Group Distribution Initiatives

Toray holds annual Basic Distribution Policy Briefings as part of its ongoing effort to improve quality and reduce the environmental impact of its distribution process. In 2017, distribution managers from 65 distribution partner companies and 17 Toray Group companies in Japan participated in briefings to promote understanding of Toray distribution policies and improve distribution performance.



Basic Distribution Policy Briefing

Reducing the Environmental Impact of Distribution

Reduction in CO₂ emissions per unit of sales from distribution activities (year-on-year)

Reporting scope: Toray

Fiscal 2016 target:

1%



Result:

-4%

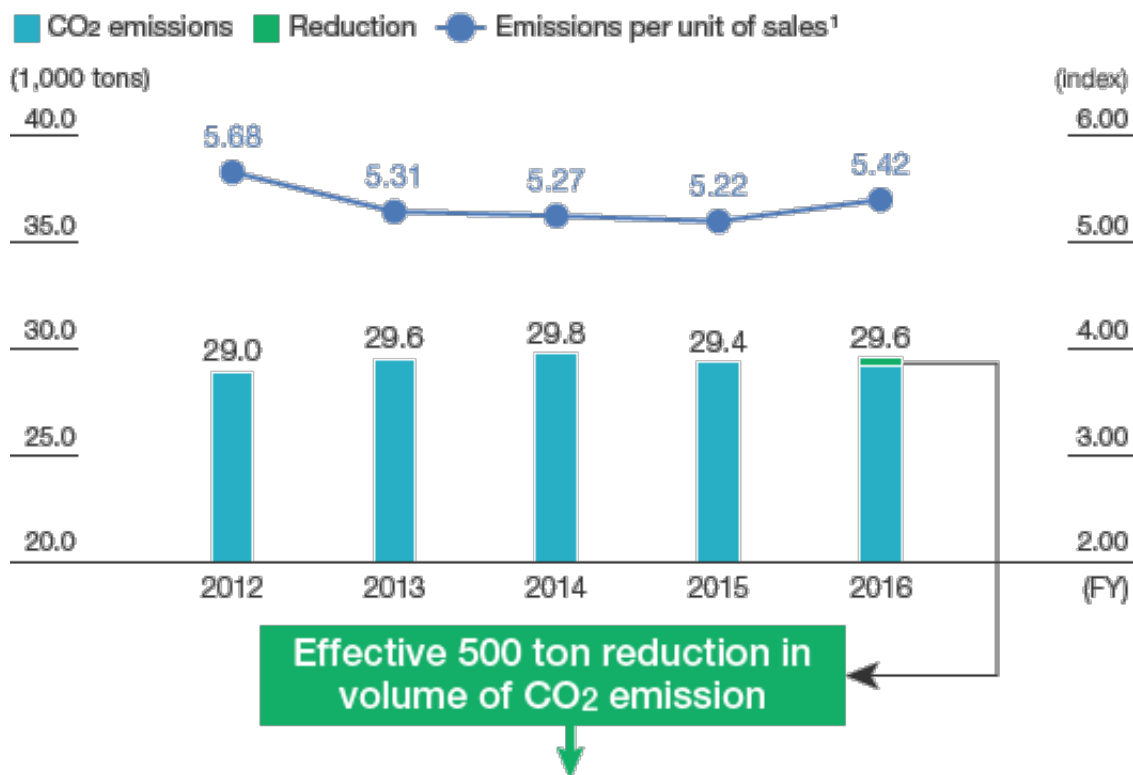
Toray is endeavoring to reduce CO₂ emissions in transport. These initiatives include reducing transport distances by reexamining inventory points and making use of regional ports, and shifting modes of transport by migrating to rail transport, which has less impact on the environment.

In fiscal 2016, CO₂ emissions from transport were 29,600 tons, up 251 tons (0.9%) year-on-year. Although emissions decreased by 522 tons, or 1.7% year-on-year, thanks to implementation of modal shift, increased loading rates and reducing inefficient transport, overall emissions were higher due to increased truck transport to adjust for transport distances and decreased load efficiencies caused by an increase in high-frequency deliveries.

Energy consumption per unit of net sales increased by 4% year-on-year, due to the abovementioned reasons and lower net sales. Despite this increase, over the last 10 years, Toray's energy consumption per unit of net sales is down by more than 24%. As a result, Toray is meeting its legal mandate as a specified consigner to reduce energy consumption intensity by an average of at least 1% every year over the medium- and long-term.

Toray will continue to seek CO₂ emissions reductions by pursuing environmentally responsible distribution. Additionally, the Company will leverage its group-wide distribution platform to track CO₂ emissions and share distribution strategies in a further effort to reduce CO₂ emissions.

CO₂ Emissions Resulting from Distribution Activities (Toray)



Details of initiatives	CO ₂ Reduction (1,000 tons)
Recognized actual reductions more precisely due to improved calculation accuracy for maximum loading capacities, average loading rates, and other values	0.23
Modal shift	0.08
Full-load transport (strategic positioning of warehouses, etc.)	0.08
Shortened transport distances (loading at the nearest port, etc.)	0.13
	0.52

¹ CO₂ emissions at the transport stage divided by sales on a per unit basis

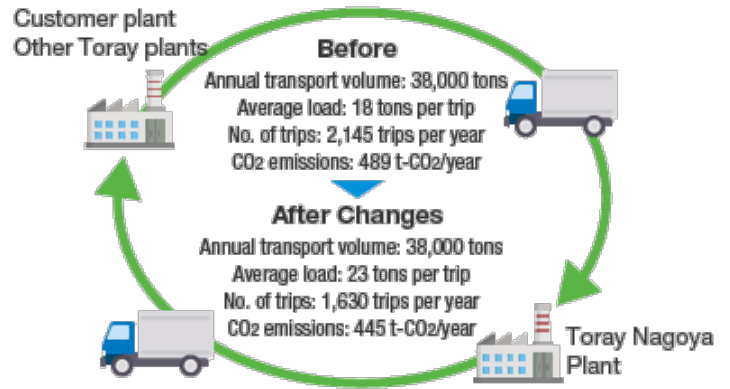
Promoting Environmentally Responsible Distribution by Increasing Loads

The Toray Group is reducing CO₂ emissions by increasing load efficiencies and increasing load volumes.

Toray's Nagoya Plant reduced 44 tons of CO₂ emissions annually by increasing loads on dedicated trucks used to deliver chemicals to customers and between plants, effectively reducing the overall number of trips.



ISO-specification tank container and transport chassis



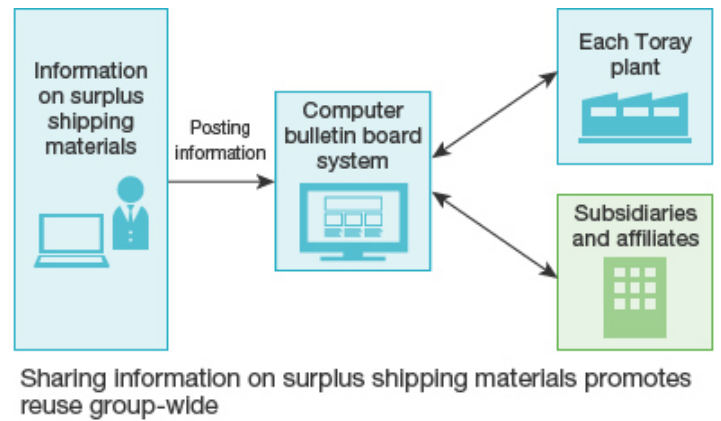
Expanding Collection and Reuse of Packaging Materials

The Toray Group is establishing a global framework to collect and recycle packaging and shipping materials that are included with products used by customers. Group companies in Japan use an internal bulletin board to inform other companies if they have surplus packaging and shipping materials available for reuse.

Toray's System for Reusing Shipping Materials



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



Promoting a Modal Shift

Percentage of modal shift to sea or rail for transport across distances for 500 km or more

Reporting scope: Toray

Fiscal 2016 target:
40%



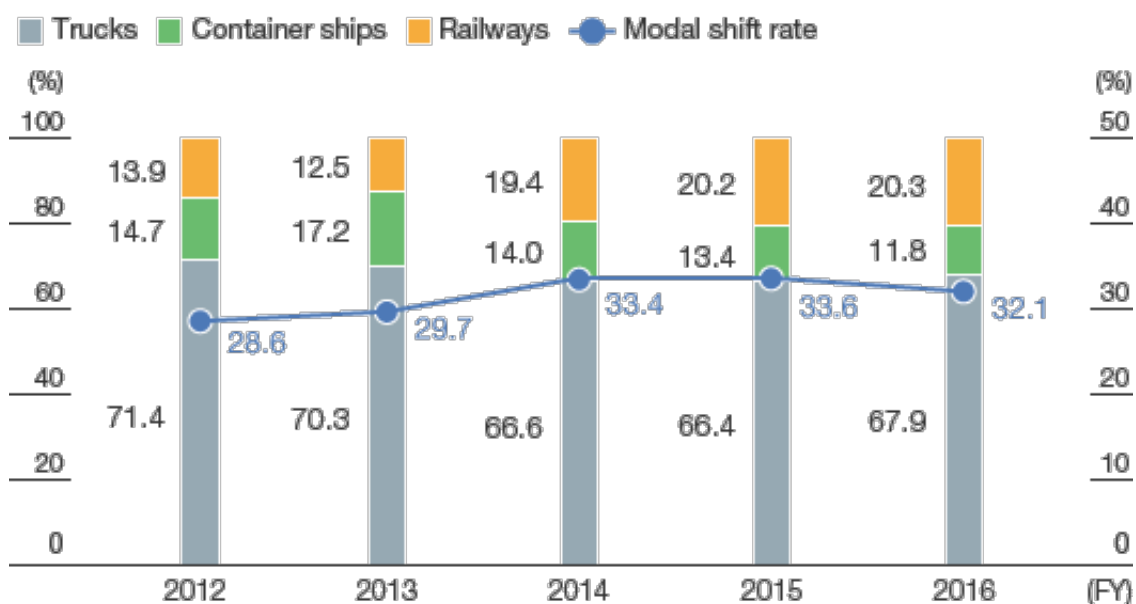
Result:
32%

The modal shift to sea or rail for transport in 2016 was 32.1%, down 1.5 percentage points year-on-year. Although the amount of truck transport used stayed even year-on-year, the amount of sea transport declined year-on-year due to changes to transport destinations.

Toray's modal shift target was 40% for fiscal 2016. Despite making an active effort to switch to rail and sea transport, the Company fell short of the target, because of changes in transport regions, an increase in high-frequency deliveries, and changes in logistics conditions.

Toray will continue working to achieve a modal shift target of 40% by pursuing modal shifts in product and materials transport, and by working more closely with distribution partners. Through these efforts, Toray will promote environmentally responsible distribution while taking into consideration the environmental impact of the distribution process.

Modal Shift to Sea or Rail for Transport (Toray)



Eco Rail Mark Acquisition

Toray has 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.

In fiscal 2016, Toray acquired Eco Rail Mark Product certification for TORAYCON™ polybutylene terephthalate (PBT) resin, as a result of switching to rail transport.



Toray acquires certification as an Eco Rail Mark Company

Certification criterion: Usage of rail for over **15%** of total land transport of 500 kilometers or more

Toray TETORON™ certified as an Eco Rail Mark Product

Certification criterion: Usage of rail for over **30%** of total land transport of 500 kilometers or more

Initiatives to Improve Safety and Quality in Distribution

Toray is working on a project to improve transport quality. The project involves sharing accident analysis data, distribution quality enhancement reports, and distribution accident hazard prediction training. Partners that make outstanding contributions to improving quality are recognized through annual awards.² These initiatives are aimed at reducing the number of problems such as those involving breakage, and reducing transport delays and incorrect shipments of Toray products. Toray works with distribution partners to improve distribution quality and safety and to reduce the incidence of problems by conducting on-site inspections and holding quality control meetings with partners. In fiscal 2016, business partner Chuo Warehouse Co., Ltd. implemented further initiatives to improve quality. These efforts enabled the company to reduce the percentage of incidents (including transport- and storage-related) damage involving Toray products by 25% year-on-year. This had a significant impact on improving quality. Toray will continue working with partner companies to improve distribution quality.

² Distribution-partner companies receiving awards in fiscal 2016 (alphabetical order): Ajinomoto Logistics Corporation, Chuo Warehouse Co., Ltd., Daiichi Storehouse & Refrigeration Co., Ltd., Daisei Warehousing & Transportation Co., Ltd., Ichimiya Logistics Co., Ltd., Masuda Transportation Co., Ltd., Nagahama Reizo Co., Ltd., Toyo Logistic Service Co., Ltd., Toyotsu Logistics Service Co., Ltd., Yamada Unso Co., Ltd.

VOICE

Message from a Distribution Partner

Distribution incidents cut by team quality improvement activities

Nariyuki Okabe

General Manager, Tokyo Branch, Chuo Warehouse Co., Ltd.

Chuo Warehouse Co., Ltd. operates 57 teams that pursue quality improvement activities throughout the company. In terms of distribution, these activities mainly focus on reducing incidents in warehouses and transport by discussing and implementing site-

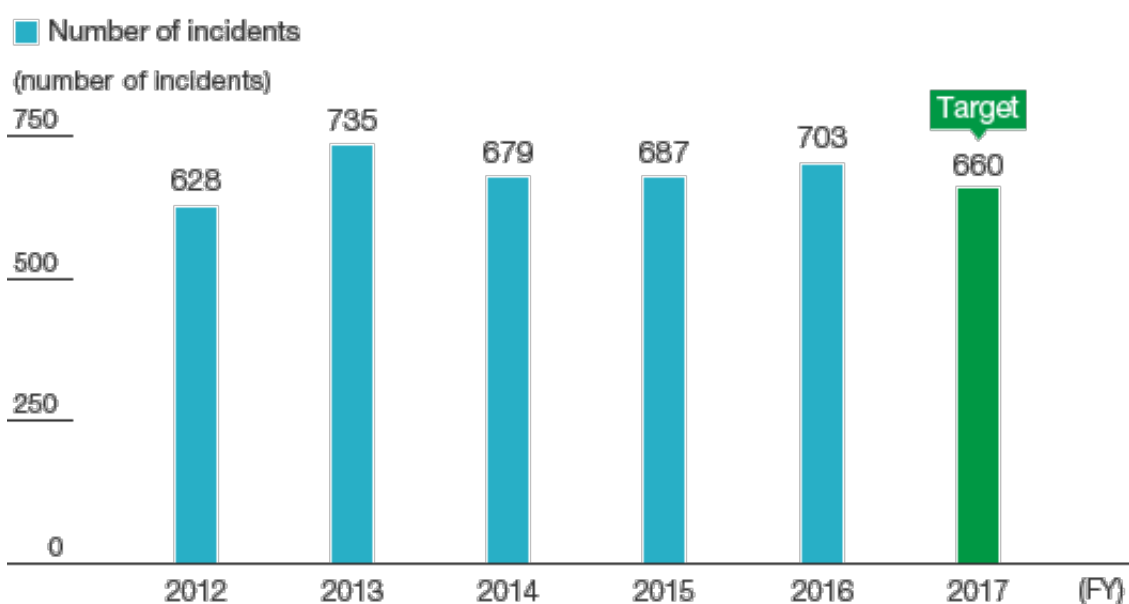


A quality improvement team at the Saitama Sales Office

level improvements. Every six months, the teams report on their activities and the company gives awards of excellence. These teams have measurably improved our distribution quality, resulting in a steady decline in the number of incidents, company-wide.

In particular, we have seen a significant reduction in incidents thanks to improved packaging for products from the Tsuchiura Plant and thoroughly protecting them during loading. At each branch, we have sought to do more transport with our own vehicles, and we visit our business partners to discuss improvements. As a result, we achieved a 25% reduction in incidents involving Toray products in fiscal 2016. We will continue working to resolve issues via these quality improvement activities so that we can provide safe, high-quality distribution services.

Distribution Incidents



Shipments of resin products, which account for 60 to 70% of all incidents, increased by 10% year-on-year. Consequently, the overall number of incidents increased by 2% year-on-year, up 16 incidents.

Recommending that Distribution Partners Acquire Third Party Certification

Toray recommends that its distribution partner acquire external certifications such as ISO 9001, ISO 14001, Green Management Certification,³ and G Mark.⁴ These certifications require companies to achieve legal compliance, improve quality, and practice environmental conservation in distribution processes. Toray also pursues CSR initiatives in collaboration with distribution partners.

³ Green Management Certification is awarded to companies that demonstrate a certain level of environmental improvement activities based on a manual for implementing green management (business management with a low environmental impact).

⁴ The G Mark is awarded to companies that meet certain criteria and demonstrate excellent safety, based on an assessment of proactive initiatives for legal compliance and safety.

Yellow Card Emergency Response Measures

Drivers of shipping vehicles carry a yellow card⁵ 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 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.

5 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.

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)⁶ 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)⁷ status.

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

7 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.



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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

Fifth 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

Management

The Toray Group communicates with diverse stakeholders throughout its business activities in accordance with its Basic Policies to Promote Dialogue with Stakeholders. A Corporate Communications Committee comprised of senior management personnel meets twice a year to discuss and receive regular reports on communication 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.

Communication via Corporate Websites

Number of corporate website page views (per month)

Reporting scope: Toray

Fiscal 2016 target:
1.7 million page views
per month on average



Result:
1.51 million page views per
month on average

Percentage of group companies that have their own websites

Reporting scope: Toray Group

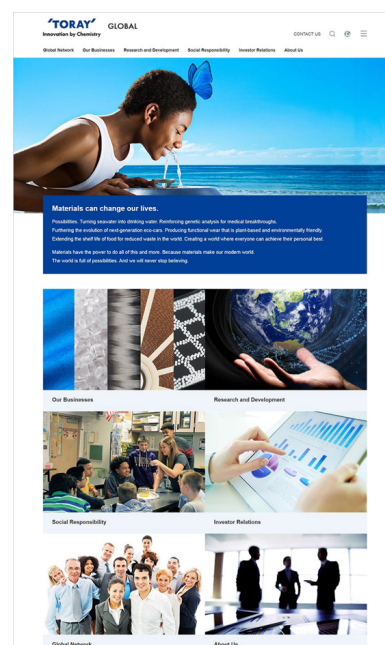
Note: Group companies covered by the Toray Website Global Guidelines

Fiscal 2016 target:
Japan **85%**
Outside Japan **60%**



Result:
Japan **58%**
Outside Japan **91%**

The Toray Group has expanded its global website and launched websites for countries and regions where the Group operates as part of the group-wide initiative, the Asia, Americas and Emerging Country Business Expansion Project. By fiscal 2015, websites were launched for the United States, China, Indonesia, Thailand, Malaysia, India, Taiwan, Europe, and Brazil, and in fiscal 2017, a site for South Korea will be added. The Group will continue to work on the global deployment of websites to contribute to its business in countries and regions around the world. The Toray Website Global Guidelines are periodically reviewed from a standpoint of usability and the appeal of the corporate brand and will be gradually rolled out to group companies.



Toray Group's global website now offers specific sites for 10 countries/regions.

Communication with Customers

Toray Advanced Materials Exhibition and Symposium 2016

Toray organized the Toray Advanced Materials Exhibition and Symposium 2016 at the Tokyo International Forum, to commemorate 90 years of business in 2016. The exhibition and symposium was part of a series of commemorative events designed to broadly engage stakeholders.

The Toray Advanced Materials Exhibition provided an accessible showcase for the latest technologies and advanced materials of the Toray Group, which continue to meet society's needs. The exhibition drew more than 10,000 visitors over three days. The Toray Advanced Materials Symposium featured prominent speakers from industry and academia, who talked about current innovations and future trends relating to Green Innovation and Life Innovation.



At the entrance of the Toray Advanced Materials Exhibition



Innovation Stage showcasing innovations to mainstream hydrogen power

Customer Satisfaction Survey

True to its "customer first" commitments, the Toray Group conducts regular customer satisfaction surveys. The survey conducted in January 2017 received responses from some 300 customer companies, similar to the previous survey in 2014. It yielded considerable useful feedback, including some requests not heard via usual customer interaction. The survey results are made available at Board meetings and published via in-house newsletters to facilitate business improvements and motivate employees. Feedback is relayed as needed to specific departments to address particular issues, and employees are encouraged to take a personal role in improving the quality of work and enhancing customer service.

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 was established directly under the president to liaise with stockholders and investors, aiming to create as many communication opportunities as possible.

Number of responses to investor inquiries

Reporting scope: Toray

Fiscal 2016 target:
No annual
numerical target



Result:
646

Holding Investor Relations Events to Meet Directly with Stockholders and Investors

Toray conducts same-day briefing sessions for institutional investors and securities analysts to coincide with the release of quarterly and annual earnings results, and fields interview requests from the media. The table below summarizes the main investor relations activities that were conducted in fiscal 2016. Feedback received at investor briefing sessions and through communication with investors and stockholders is regularly reported to the Board of Directors and Corporate Communications Committee, helping to guide management and business activities.

Activities	Attendees from Toray	Number of events	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 times/year	616
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	646

External Evaluation of Information Disclosure to Investors

In the "Investor Relations" section of its corporate website, Toray provides 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 2016, Toray's publications were evaluated externally by a number of organizations, as shown below.

Organization details	Evaluations
Daiwa Investor Relations Co., Ltd.	Awards for outstanding websites in 2016
Nikko Investor Relations Co., Ltd.	Most outstanding site in overall completeness, in a ranking of listed company websites in 2016
MerComm, Inc. (US)	2016/2017 Mercury Excellence Award in Annual Reports—Overall Presentation (Bronze in the field of chemicals)
League of American Communications Professionals (LACP)	Silver Award in the digital-based reports category, 2016 Vision Awards Annual Report Competition

Evaluations from the Perspective of Socially Responsible Investment

Toray was included in the following SRI indices as of March 31, 2017.

- Dow Jones Sustainability Index Asia Pacific
- MSCI Global Climate Index
- Ethibel Pioneer & Excellence Registers
- Morningstar Socially Responsible Investment Index (MS-SRI)
- Euronext Vigeo World 120 Index
- Sompo Japan Nipponkoa Asset Management (SNAM) Sustainability Index

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 2016, 1,756 stockholders attended the Company's ordinary general meeting of stockholders, down from 1,972 in fiscal 2015.

Communication with Business Partners

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

Related Information

> [Facilitating CSR Initiatives Throughout the Supply Chain](#)



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Communication with Employees

Communication via In-house Newsletters and Intranet

The Toray Group employs various forms of media such as printed in-house newsletters, intranet, and company-wide bulletin boards to stimulate communication among employees. Messages from the company president appear in all of these media. The in-house newsletter is published in three languages (Japanese, English, and Chinese) to keep employees informed about management and business topics as well as corporate projects.

In January 2017, the Group launched an English-language intranet for Group companies in three ASEAN countries and implemented a survey for Malaysian users, which account for a high share of viewership. The Group will expand the English-language intranet beyond ASEAN, and will survey users on the content they want while improving content management and response times.

Circulation of Toray Group's publications

Japanese edition of *People* in-house newsletter:

Around 15,000 copies per issue (published six times per year)

English edition of *People* in-house newsletter:

Around 3,000 copies per issue (published four times per year)

Chinese edition of *People* in-house newsletter:

Around 6,500 copies per issue (published four times per year)

***Toray Management* newsletter for managers:**

About 6,000 copies per issue (published five times per year)



Employee Attitude Survey

Toray conducts an employee attitude survey for its employees, including those assigned to Group companies in Japan, implementing the survey in the same time frame as the customer satisfaction survey. The survey in January 2017 received a 97% response rate. It sought to gauge the level of employee engagement, implementation of the medium-term management program, motivation level of employees, and workplace conditions. The survey results are used to identify gaps that may exist between employee attitudes and customer assessments from customer satisfaction surveys, and analyze the level of communication between managers and staff. The results of the employee attitude survey are circulated within the company to provide feedback.

Meetings with Employees and Labor Unions

Number of meetings with employees or labor unions

Reporting scope: Toray Group

Fiscal 2016 target:

No annual
numerical
target



Result:

13

Highlight

Celebrating Family Day at Zoltek Companies Plants

Zoltek Companies, Inc. organizes Family Day events every year at its main plants in Mexico and Hungary. These events are organized for employees along with the family and friends who support them, in appreciation of the daily work of employees and to bring everyone together to further strengthen their bonds and friendships. The event at the Mexico plant drew 1,500 people. In addition to giving out awards to employees with five years of perfect attendance, there were various performances and a dance contest for families, as well as other attractions such as a drawing workshop. Children of employees made handprints on panels that will be hung up on the plant walls, to gently remind employees to think carefully before acting—for their own safety and for that of their beloved family members.

The Family Day at the Hungary plant was attended by 5,000 people, setting a new attendance mark. The program included a cooking contest featuring traditional Hungarian dishes such as fish soup, stew, and *goulash* (beef stew with bell peppers). There were sports competitions, a firefighter show, and a performance by a traditional Japanese drum troupe, as well as play attractions for children. The event offered something for people of all ages, and was headlined by a well-known Hungarian rock band.

Mexico Plant



Employees receive five-year perfect attendance awards, coming up on stage with their families



Children of Zoltek employees make handprints on panels to be hung on plant walls

Hungary Plant



Children enjoy the play attractions



Attendees having fun at the concert by a well-known rock band



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Communication with the Media

Number of news releases

Reporting scope: Toray

Fiscal 2016 target:
200 times



Result:
187 times

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. In fiscal 2016, Toray issued 187 press releases and carried out 289 interviews in response to media requests.

Related Information

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



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Communication with Local Communities

Number of meetings with communities

Reporting scope: Toray Group

Fiscal 2016 target:
No annual
numerical target



Result:
67

Number of meetings with non-profit organizations

Reporting scope: Toray Group

Fiscal 2016 target:
No annual
numerical target



Result:
17

The Toray Group strives 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.



Ogaki Fuso Spinning Co., Ltd. gave a presentation and plant tour for local government officials



Toray Monofilament Co., Ltd. organized a summer festival that attracted 800 local residents and other participants



Employees of Toray's Ehime Plant participated in a local festival in Japan



Employees of Toray Medical (Qingdao) Co., Ltd. participated in a fundraising marathon

Highlight

Meeting with Japan Sports Agency Commissioner Daiichi Suzuki to Popularize and Support Judo in Indonesia

Kenichi Kuroda, Advisor to P.T. Toray Industries Indonesia, visited Indonesia to participate in the Jakarta Kizuna Ekiden 2016¹ running race. During the visit, Kuroda met with Japan Sports Agency commissioner Daichi Suzuki to discuss efforts to further popularize and support the sport of judo in Indonesia. The meeting came about at the request of commissioner Suzuki, who wanted to speak with Kuroda about his many years working to bring judo to Indonesia.

During the meeting, Kuroda told the story of how he came to teach judo to the Indonesian military and police, and how the Toray Group built the Indonesian Judo Centre in Ciloto, West Java at the request of the All Indonesian Judo Federation, in order to give back to the community. Kuroda asked the commissioner for his cooperation to send judo instructors from Japan, in order to further popularize the sport in Indonesia. On this occasion, the commissioner presented 40 donated judo uniforms to the All Indonesian Judo Federation.

¹ The Jakarta Kizuna Ekiden is organized in the spirit of further strengthening bonds between Indonesia and Japan. 2016 marked the third running of the event, which is co-sponsored by the Mainichi Shimbun and the leading Indonesian newspaper Kompas.



Commissioner Daiichi Suzuki presents donated judo uniforms

Spotlight

Toray Group CSR Report Honored at Environmental Communication Awards for Second Year in a Row

The Toray Group received the Prize of Excellence from the Environmental Communication Awards for the second year in a row. The selection committee commended the Toray Group's *CSR Report 2016* for clearly communicating to stakeholders the social contributions the Group is making through its Green Innovation and Life Innovation businesses, and for communicating its employees' deep engagement in social action.



At the award ceremony



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Social Contribution Activities

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

Fifth CSR Road Map goals

1. Voluntarily pursue ongoing social initiatives emphasizing education, environment, communities, and employees, focused on linking to CSR and in accordance with Toray Group Social Initiative Policies
2. Leverage Toray Group strengths and community attributes to support high quality education

Management

The Toray Group embraces a corporate philosophy of "contributing to society through the creation of new value with innovative ideas, technologies and products," and this philosophy guides the Toray Group Social Initiative Policies that the Group has operated since 2005. These policies direct the Group to act as a good corporate citizen and pursue social initiatives that contribute to sustainable social development, by doing business in a way that builds trust with society.

Under the Fifth CSR Road Map that ran through fiscal 2016, the Group focused on educational initiatives as one of its priority areas for social initiatives.

The Sixth CSR Road Map that was started in fiscal 2017 directs the Group to further key in on social issues addressed by the Green Innovation and Life Innovation businesses under the medium-term management program, Project AP-G 2019. The Group is pursuing initiatives in several priority areas, namely science and technology promotion, environment and communities, and health and welfare, and it will disclose its activities in fiscal 2016 based on the new priority areas. Additionally, the Group has newly established the following key performance indicators (KPIs).

(1) Social contribution expenditure

Target: At least as much as fiscal 2011-2016 average

(2) Number of persons reached through educational initiatives in these key fields

Target: 15,000 or more

The entire Toray Group will continue to pursue social initiatives beyond a certain scale, aiming to empower people to contribute to a sustainable world. Its goal is to educate a total of 100,000 people through environmental education in priority issues, such as water issues, from the start of the Fifth CSR Road Map in fiscal 2014 through the end of fiscal 2020. Additionally, the Group will hold itself accountable by actively disseminating information.

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.

Priority Areas for Social Contribution



Fiscal 2016 Results

Social contribution expenditure (percentage compared with fiscal 2011–2013 average)

Reporting scope: Toray Group

Fiscal 2016 target:

100%



Result:

146%

Number of locations implementing social initiatives

Reporting scope: Toray Group

Fiscal 2016 target:

No annual
numerical target



Result:

Toray

21

Group companies in Japan

53

Group companies outside Japan

66

Number of persons reached through educational initiatives, satisfaction rate of participants, satisfaction rate of employees involved in educational projects

Reporting scope: Toray

Fiscal 2016 target:

10,000
persons or
more
90% or
above
90% or
above



Result:

15,773

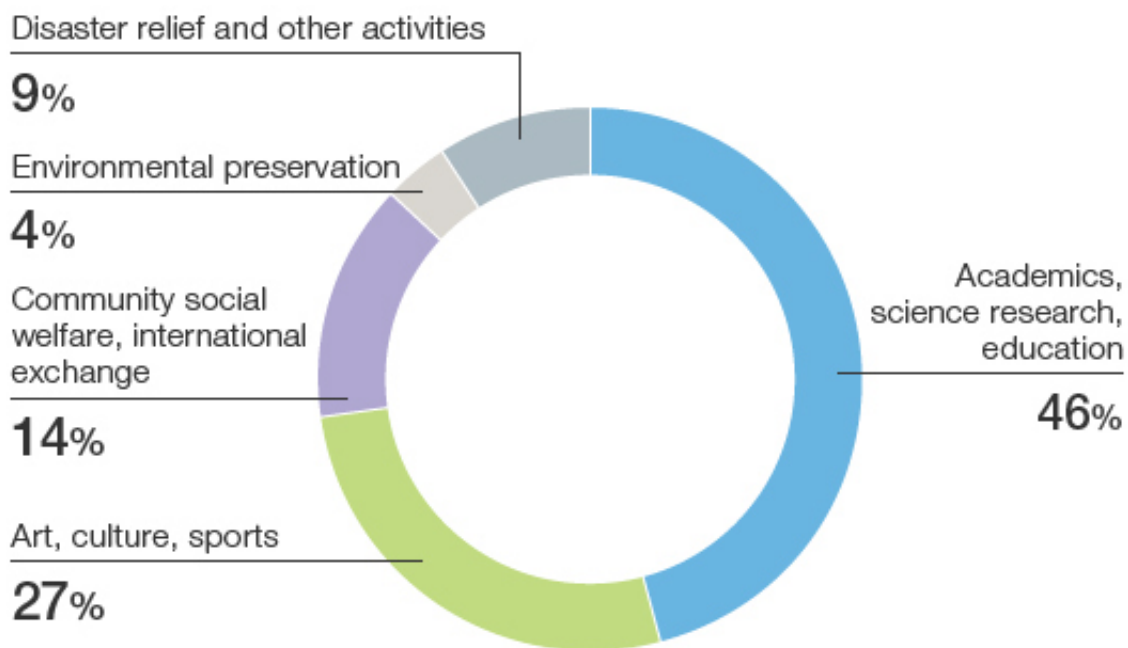
persons

95%

95%

As a member of the 1% Club, an organization founded in 1990 by Nippon Keidanren (Japan Business Federation), Toray has pledged to invest about 1% of its consolidated ordinary income into social contribution activities. In fiscal 2016 the Group invested some 1.6 billion yen on a consolidated basis (1.1% of consolidated ordinary income) and some 1.1 billion yen on a non-consolidated basis (1.8% of non-consolidated ordinary income), to achieve the one percent target. The main beneficiaries were the Toray Science Foundation in Japan and three ASEAN countries (Malaysia, Thailand, and Indonesia), and sponsorship of the Shanghai International Marathon.

Breakdown of Expenditure in Fiscal 2016



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Promoting Science and Technology

The Toray Group has outlined a corporate philosophy of "contributing to society through the creation of new value with innovative ideas, technologies and products," which the Group delivers on by practicing innovation. In order to continuously develop new technologies and materials that lead to innovation, the Group must secure and develop talented human resources. From the long-term perspective, the Group fosters human development by providing research grants and supports science education through the Toray Science Foundation and Toray science foundations in three Southeast Asian countries, to raise interest in science.

Promoting Science and Technology

Toray established the Toray Science Foundation in 1960, founding one of the first private-sector research assistance organizations in Japan, which is still highly regarded today. The objectives of the foundation are to assist and encourage research in science and technology, and to contribute to the improvement and development of science, technology and culture. To accomplish these objectives, the foundation implements the following programs:

1. Science and technology grants for young researchers
2. Prizes for outstanding achievements in science and technology
3. Prizes for science educators in junior and senior high schools, and publication of the work of award winners
4. Grants for young researchers in the natural sciences in three southeast Asian nations (Indonesia, Malaysia, and Thailand)

The foundation has awarded science and technology grants and prizes every year since it was founded in 1960. In the 57 years through fiscal 2016, the foundation has provided 627 research grants totaling 6.5 billion yen and awarded 119 Science and Technology Prizes totaling 440 million yen. The Science Education Prize was launched in fiscal 1969, and in the 48 years through fiscal 2016, 662 prizes totaling 210 million yen have been awarded. The grants for international researchers were launched in fiscal 1989, and in the 28 years through fiscal 2016, 665 grants totaling 410 million yen have been awarded.



Toray Science Foundation's 57th presentation ceremony (March 2017)



Toray Science and Technology Grant recipients at 57th presentation ceremony (for fiscal 2016)

Related Information

> [Toray Science Foundation](#)

Toray Science Foundations in ASEAN

Toray has established science foundations in three Southeast Asian nations where it has had a business presence since the 1960s. These foundations aim to contribute to the advancement of science and technology and promote science education in each country. The science foundations in Malaysia and Indonesia were established in 1993, followed by the establishment of a foundation in Thailand in 1994.

Since their establishment, the foundations have provided awards for outstanding achievements in science, technology and science education, and grants for research in the natural sciences, using funds raised by interest income from endowments, grants from the Toray Science Foundation, and annual donations from group companies in various countries. The award winners and grant recipients include outstanding science researchers, young researchers in the basic sciences, and science educators. These activities have earned great social respect in the countries of each foundation.

The foundations seek to support the medium- and long-term development of science and technology in the host countries, by generating interest among science and technology researchers, youth, and science educators. The foundations also contribute to mutual understanding, friendship, and goodwill between Japan and each country, and foster economic development there, as well.

Malaysia Toray Science Foundation

Since its inauguration in August 1993, the foundation has extended awards and grants totaling 9.4 million ringgit to 685 people. The foundation holds an annual award presentation ceremony that is attended by the Minister of Science, Technology and Innovation of Malaysia and the Japanese ambassador to Malaysia. The awards are a badge of honor

for the award winners and grant recipients. During the solicitation period for entries, the foundation collaborates with universities and the Malaysian Ministry of Education to actively publicize the grants for young researchers and Science Education Prizes throughout the country.

In fiscal 2016, the foundation extended awards and grants totaling 427,000 ringgit, comprising two Science and Technology Prizes, 17 science and technology grants, and 16 Science Education Prizes.



23rd presentation ceremony of the Malaysia Toray Science Foundation held in December 2016, with Science and Technology Prize winners



Toray President Akihiro Nikkaku speaks at the presentation ceremony

Thailand Toray Science Foundation

Since its inauguration in June 1994, the foundation has extended awards and grants totaling 118.6 million baht to 657 people. The foundation holds an annual award presentation ceremony. From the inaugural ceremony in 1995 through 2009, the ceremony was attended by President of the Privy Council His Excellency General Prem Tinsulanonda, and since 2010 has been attended by the Privy Councillor His Excellency General Surayud Chulanont. The ceremony is always a big moment for award winners and science and technology researchers receiving grants.

In fiscal 2016, the foundation extended awards and grants totaling 5.37 million baht, comprising two Science and Technology Prizes, 20 science and technology grants, and seven Science Education Prizes.



23rd presentation ceremony of the Thailand Toray Science Foundation held in March 2017, with Science Education Prize winners



Science and technology grant recipients with ceremony chair Privy Councillor H.E. General Surayud Chulanont, H.E. Ambassador to Thailand Shiro Sadoshima, and Toray President Akihiro Nikkaku

Indonesia Toray Science Foundation

Since its inauguration in December 1993, the foundation has extended awards and grants totaling 19.2 billion rupiah to 659 people. From the beginning, the foundation has enlisted the cooperation of the Indonesian Institute of Sciences, whose Director-General also heads the foundation. The foundation has assisted many individuals who are contributing to the progress of science and technology in Indonesia. Past recipients of science and technology grants now teach as professors and associate professors at leading universities, including the University of Indonesia, Bandung Institute of Technology, Gadjah Mada University, and Sekolah Tinggi Teknik Surabaya, and others conduct research at the Indonesian Institute of Sciences.

In fiscal 2016, the foundation extended awards and grants totaling 970 million rupiah, comprising 18 science and technology grants and 10 Science Education Prizes.



23rd presentation ceremony of the Indonesia Toray Science Foundation held in March 2017, with grant recipients, prize winners and guests



Presenting certificates of recognition

Supporting Science in the Classroom

For many years, as part of its efforts to promote science and technology, the Toray Group has been carrying out various educational programs for people pursuing science and engineering. In the last few years, the Group has expanded these initiatives to encompass elementary and junior high school students in local communities, through science workshops focusing on products made by group companies. The workshops teach concepts introduced in science textbooks, and are taught by Group employees using lab equipment and teaching materials donated by group companies.

In fiscal 2016, the Group conducted science workshops at senior high schools, using an advanced version of the programs for junior high school students. The Group conducted science workshops at 22 schools ranging from elementary to senior high schools in the United States and Japan (Tokyo, Aichi Prefecture, Gifu Prefecture, etc.). The Group also supplied lab equipment and teaching materials to 50 schools across Japan, and cooperated in conducting three workshops for educators in Tokyo.



Toray Group employee explains the experiment



Assisting students in the classroom



Science workshop at a senior high school



Workshop for educators



Elementary school teachers conducting an experiment



An employee shows how filtering orange juice through a hollow membrane produces a transparent liquid.

Japan Technology Weekend Exhibition in Malaysia

In September 2016, Toray Group companies in Malaysia participated in the 1st Japan Technology Weekend exhibition in Tech Dome Penang. The facility, which had opened in July 2016, is Penang's first Science Discovery Center designed to foster youth interest in science and encourage youth to enter science and technology fields. The center was built with the financial backing of the Penang State Government.

During the exhibition, Toray Group staff showcased the Group's technologies and their contributions to society through various fun activities designed to spark youth interest in science. The hands-on exhibits demonstrated filtering water treatment membranes and explored the properties of conductive films and comparative mass of carbon fiber and steel.

Booth staff also expanded their knowledge of the Group's diverse advanced technologies through their involvement with the exhibition.

Toray Group companies in Malaysia contributed 300,000 ringgit to the construction of the center, as one of its founding corporate sponsors.



Listening to an explanation from a Toray Group employee



Feeling the lightness of a carbon fiber badminton racket

Workshops at the Science Museum

Since 2012, Toray has conducted workshops at the Science Museum located in Kitanomaru Park in Tokyo, every day that the museum is open. In fiscal 2016, more than 7,300 people ranging from young children to adults attended the two workshops, which examined filtration and the importance of water, and the amazing properties of fibers.



Learning about filtration and the importance of water

Sponsoring the Japan Biology Olympiad

Since 2007, Toray has supported Japanese senior high school students to attend the International Biology Olympiad through arrangements made by the Japan Science Foundation. Four Japanese students attended the 27th Olympiad held in Vietnam in July 2016, winning gold and silver medals.



All four students from Japan won a medal (photo courtesy of Organization of Japan Biology Olympiad Committee)

Involvement with Aozora Science School

The Aozora Science School is an overnight educational camp for students in grades three to five. Launched in 2015, the camp is run by JTB Corporate Sales Inc. to foster youth interest in science through exposure to nature. Toray is involved in planning, program development, and camp operation.

The programming changes every year to provide campers with a fun menu of activities that combine nature and science. The activities included a campfire that changes color through flame reaction, filtering lake water to remove impurities, stargazing, and making rockets.



Campers get to launch the rockets they made at the rocket competition

Related Information

> [Aozora Science](#)



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Environment and Communities

The Toray Group leverages the specialized technologies and human resources of its Green Innovation businesses to raise environmental awareness, with a focus on water resources. The Group is also working to address the challenges facing communities, including environmental issues, through dialogue and cooperation with community stakeholders.

Raising Environmental Awareness, with a Focus on Water Issues

The Toray Group conducts environmental education to make the public better understand the connection between everyday life and the environment, and to educate the public on global water issues as well as raise awareness of environmental issues.

Toray Group employees from diverse professional backgrounds including engineering, sales, and research give workshops at elementary and junior high schools. The workshops for elementary school and junior high school students explore water treatment membranes and advanced materials respectively, examining their connection to global environmental issues. The

presentations expand on course units in biology and the environment, and in science & technology and society, in the science curriculum. In fiscal 2016, the Group arranged workshops at 19 schools in local communities.

Officials from Shizuoka Prefectural Mishimakita High School asked Toray to arrange a presentation on global and Japanese water issues, a theme that the school has been conducting research on. Toray invited students from the school to its training center, where a director gave a talk about global water issues and water treatment membrane technology. This contributed to the school's decision on what issues to focus on in the following year.

Toray also cooperated with Nagatadai Elementary School in Yokohama City under a career education initiative that was launched in fiscal 2016 by the Yokohama City government. The school is focusing on Education for Sustainable Development (ESD) as promoted by UNESCO, and it partnered with Toray to conduct classes on water issues in November 2016. Through the classes, the students examined water issues such as safe drinking water and everyday practices for conserving water.



A Toray Group employee speaks with students about global water issues



Presentation for first-year students of Shizuoka Prefectural Mishimakita High School



Fourth grade students at Nagatadai Elementary School in Yokohama City learn about global water issues.

Teaching Thai University Students about Natural Disaster Preparedness in Connection with Climate Change

In October 2016, students visiting Japan from the Thai-Nichi Institute of Technology in Bangkok, Thailand heard a presentation on disaster preparedness technologies and disaster preparations in Japan, given by a Toray employee. The students were received by Toray under the Japan-Asia Youth Exchange Program in Science (Sakura Exchange Program in Science¹) which is implemented by the Japan-Thailand Economic Cooperation Society with the support of the Japan Science and Technology Agency (JST).



Presentation on disaster preparedness technologies

The presentation gives Thai students interested in this field the opportunity to learn about advanced technologies being deployed by Japan against natural disasters, which may help Thailand to adopt such measures and technologies in the future.

¹ The Sakura Exchange Program in Science invites young people who have never been to Japan and exposes them to Japan's advanced science and technology in order to enhance their interest and understanding, thereby fostering human resources who can contribute to the advancement of Japanese science and technology in Asia. In fiscal 2016, the program was implemented in 35 countries and regions in Asia.

Promoting Conservation of Water Environments

The Toray Group is working in various regions to raise awareness of water environment issues and to encourage conservation.

In Tokyo, employees took the initiative to organize and participate in the annual Toray Group Arakawa Clean Aid event. On the day of the event, which was in June 2017, participants gathered to hear from members of a non-profit that has been working for a long time to raise public awareness of conservation efforts and biodiversity issues in the Arakawa River watershed. After learning about the trash problems affecting the river, the participants set out to collect and sort trash from the riverbanks. Employees and their families from eight group companies participated in the event, helping to clean up the river and directly experiencing the biological diversity that exists in and around the Arakawa River. In September 2016, employees of Toray Plastics (Shenzhen) Ltd. participated in the 2016 Shenzhen International Coastal Cleanup Day, joining others to pick up trash along the coast. The trash was classified and recorded on data cards.



Participants learned about crabs and other living organisms in and around the Arakawa River.



Employees of Toray Plastics (Shenzhen) Ltd. collect trash along the coast.

Coin Bank Project Raises Environmental Awareness in Thailand

Toray Group companies in Thailand make donations to local schools and visit schools as part of the Group's community relations efforts.

The Nakhon Pathon Plant of Thai Toray Synthetics Co., Ltd. launched a project in fiscal 2016 in cooperation with an elementary school in the Bang Kula Bao region of Thailand to find a novel way to recycle waste materials. The plant supplies the school with film end pieces generated from manufacturing, and paper rolls that have already been reused multiple times. The students fabricate coin banks from the materials, in the spirit of recycling and resource conservation. The initiative is designed to raise the environmental awareness of students and foster a spirit of conservation.



Students made coin banks from recycled materials.

Raising Crops Using Roll Planter™ Systems

Since fiscal 2012, Toray and Mitsukawa Co., Ltd. have been collaborating on initiatives to raise crops in South Africa using Roll Planter™ products. ² In the spring of 2016, students of an elementary school in an impoverished region of South Africa used the planters to successfully grow cabbages, green peppers and other crops on the school grounds. The vegetables were then served in school meals.

In March 2017, Toray took part in the Business Prospect and Support Measures in Africa symposium, which was sponsored by the Embassy of the Republic of Kenya to Japan and held at Ritsumeikan University in Japan. The general manager of the Fibers & Textiles Green Innovation & Life Innovation Business Department participated as a panelist and described Toray's initiatives involving Roll Planter™ products.

² Roll Planter™ is a registered trademark of Mitsukawa Co., Ltd. The tube-shaped planters are made from Toray's ecodear™ plant-based polylactic acid fiber and filled with local soil and sand, and then placed in rows. The product enables arid land to be revitalized into crop-producing land.



Students of an elementary school in South Africa successfully raised crops.



Business Prospect and Support Measures in Africa symposium

Toray Participates in Business Roundtable to Support Women in America

The Business Roundtable 2016: Empowerment of Women, co-hosted by the Japan-America Society of the State of Washington and the Japan Business Association of Seattle, takes place every year to discuss the current state of gender equality and the implications for the economies of the United States and Japan. The theme of the September 2016 roundtable, which aims to bridge the gap between Japan and the U.S., was women's empowerment in the workplace. Executive Vice President Nobuyuki Odagiri of Toray Composites (America), Inc. participated as a panelist, giving examples of Toray's efforts to support the social



Business Roundtable 2016: Empowerment of Women

progress of women and sharing information about women of Japanese descent who are active in American business.

Disaster Assistance

Toray Group company Ichimura Sangyo Co., Ltd. has committed to donating one percent of its total operating income each year to disaster relief. In fiscal 2016, the company directed the funds toward reconstruction from the Kumamoto Earthquake.

In Niigata Prefecture, where group company Maruichi Fiber Co., Ltd. is headquartered and operates a plant, a catastrophic fire occurred in Itoigawa City in December 2016. Three employees of the company were involved for over 10 hours fighting the blaze. Toray Group companies and employees collected funds to aid recovery from the fire, presenting a cheque to Mayor Toru Yoneda of Itoigawa City.



Governor Ikuo Kabashima of Kumamoto Prefecture (second from right) and Atsushi Fujiwara, President of Ichimaru Sangyo Co., Ltd. (second from left)



Mayor Toru Yoneda of Itoigawa City (left) with Kazuyoshi Tsuji, President of Maruichi Fiber Co., Ltd.

Volleyball Clinic for Great East Japan Earthquake Reconstruction

In June 2016, the Tohoku Branch of Toray organized a volleyball clinic in support of ongoing reconstruction efforts from the Great East Japan Earthquake. The clinic took place at the Yamoto Nishi Elementary School in Higashi Matsushima City, Miyagi Prefecture. The sixth-grade students enjoyed the energetic instruction they received from ex-national team member Kana Oyama and other former players and coaches of the Toray Arrows professional volleyball team.



Sixth grade students receive instruction from ex-national volleyball team member Kana Oyama.



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Health and Welfare

The Toray Group is engaged in Life Innovation businesses and works on social initiatives related to health maintenance and longevity around the world. These activities include promoting cancer screening, instructing youth in sports to foster the healthy development of children, promoting sports, and community volunteering.

Supporting the Pink Ribbon Campaign through Tennis

If detected at an early stage, breast cancer is largely treatable, yet it remains the leading cause of death for women in Japan.

The Toray Pan Pacific Open Tennis Tournament and the Japan Ladies Tennis Federation (JLTF) continue to support the Pink Ribbon campaign in an effort to promote breast cancer awareness. Every year, JLTF designs a new Pink Ribbon badge that is sold at the tournament.

Proceeds from badge sales go toward a Pink Ribbon Fund used to provide mammograms at medical institutions to assist with the early detection of breast cancer. In addition, every year, a mobile mammogram bus is parked at the tournament venue and provides low-cost mammograms for women.



Japan Ladies Tennis Federation booth at the tournament venue



Mobile mammogram bus provides low-cost testing at the tournament venue.

Toray Judo Club in Indonesia

The Toray Group provides judo instruction for youth in Indonesia, to support their physical and mental development. P.T. Indonesia Toray Synthetics, which is located in Tangerang city in the province of Banten, Indonesia, opened the Toray Judo Hall in 1995 within its company grounds. The Toray Judo Club operates out of the facility and provides free

judo instruction to some 50 local youth ranging in age 10–17 years, led by five employees who instruct the youth. The initiative is recognized not only in Tangerang city, but also in the broader province of Banten, with some 150 athletes participating in the Banten Provincial Judo Junior Tournament in November 2016. Judo offers youth valuable lessons about perseverance and teaches respectful behavior.

Toray Group employees who belong to corporate rowing, kendo, and volleyball clubs, in addition to judo clubs, are involved with communities by coaching youth sports and offering use of in-house facilities to youth sports camps. By supporting youth sports, the Group is helping to maintain health and enhance the welfare of local communities.



Mayor of Tangerang city with judo tournament athletes



Athletes practice at the judo club before the tournament matches.



Mayor of Tangerang city bestows a medal on one of the tournament champions.

Promoting Sports Participation by Sponsoring the Shanghai International Marathon

Toray and Toray Industries (China) Co., Ltd. are helping to promote sports in China by sponsoring the Shanghai International Marathon. The 21st event, held in 2016, attracted a record-high 38,000 participants.



Starting line of the Shanghai International Marathon

Toray Arrows Former Players and Coaches Teach Soft Volleyball Clinics at Elementary Schools

Every year, former players and coaches of the Toray Arrows men's and women's volleyball teams visit elementary schools to teach soft volleyball clinics to their physical education classes. The classes were conducted at three elementary schools in Tokyo in fiscal 2016, with current players also lending a hand to instruct the students. Teachers praised these efforts, saying that the classes were enjoyed by students of all abilities and motivated everyone to try their best.



Students play a skill-building game.



Current and former players of the Toray Arrows volleyball team instruct the students.

Visiting Elderly People Who Live Alone

In April 2016, members of the CSR Committee of the Toray Group in Hong Kong visited the homes of elderly people who live alone, as part of its initiatives to assist the elderly. A social worker first spoke to the committee members before they split into groups to visit the homes of the seniors, who shared many of their life stories.

Giving Blood and Work Day at Home for Persons with Disabilities

In May 2016, Penfibre Sdn. Berhad held its annual blood drive in cooperation with a local public hospital. In its third year, the drive collected blood from 103 persons, including employees of Toray Industries (Malaysia) Sdn. Berhad and Penfabric Sdn. Berhad. Thirty-seven liters of blood were collected, enough to save 198 lives.

In September 2016, 30 employees of Penfibre Sdn. Berhad participated in a work day at a home for persons with disabilities in Penang, Malaysia. The volunteers were given a tour of the home and made a safety pledge, before splitting into three teams to do gardening, clean up the facility, and make crafts. The volunteers mowed the lawn, cleaned the pool and inside the home, tidied up the storage area, and also made crafts for fundraising.



Toray Group employees giving blood



Helping out at a home for persons with disabilities

Fureai Trio Concerts

Toray co-sponsors concerts by the Fureai Trio for persons with disabilities, with employees helping to organize and run the concerts. In 2016, two concerts were held in Osaka and Tokyo, with Toray inviting 300 and 700 persons, respectively. The volunteers gave directions to the venue and helped people to their seats, as well as helping interested audience members to try playing a violin or come up to the stage to try body percussion.



Fureai Trio (front center) with volunteers

Sponsoring a Charity Walk to Fund School Meals

In May 2016, Chori Co., Ltd. co-sponsored the WFP Walk the World 2016 event organized by the United Nations World Food Programme (WFP). Walk the World is an annual charity walk to raise funds to alleviate hunger among children in developing countries, with part of the proceeds going to fund school meal programs operated by WFP.

The provision of nutritious meals at schools increases school enrollment and attendance, creating opportunities for learning and helping children to climb out of poverty. Chori supports these efforts and also became a corporate sponsor to promote better health among Toray Group employees. More than 200 employees and family members took part, enjoying the walk and helping to raise 173,400 yen for WFP, enough to provide 5,800 meals.



Charity walk participants

Related Information

> [Reducing the Burden on Medical Practitioners Fighting Infectious Disease](#)



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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

Fifth CSR Road Map Goals

1. Clarify and fully comply with essential safety guidelines, and encourage employees to think carefully before taking action to prevent accidents
2. Implement centralized initiatives based on Toray Group Safety, Health, Accident Prevention and Environmental Activity Policy
3. Implement Fourth Medium-Term Environmental Plan and achieve targets by fiscal 2015

Note: Since fiscal 2016, the Toray Group has been implementing the Fifth Medium-Term Environmental Plan, which extends through fiscal 2020.

Safety, Health, Accident Prevention and Environmental Preservation Management

Action Policy and Main Activities

The Toray Group operates a policy for safety, health, accident prevention, and environmental activities. The policy is revised every year to reflect the results from the previous fiscal year, and specifies the main activities to implement in each policy area.

Safety, Health, Accident Prevention, and Environment Activity Policy of Toray Group in 2016

Action policy		Main activities
Common	Accomplish risk management	<ul style="list-style-type: none"> • Undertake measures to reduce risks
Safety	3Z activities ¹ for zero accidents	<ul style="list-style-type: none"> • Encourage all employees to think carefully before taking action • Promote efforts to increase safety awareness led by unit heads and unit chiefs • Promote initiatives to eliminate occurrence of similar accidents

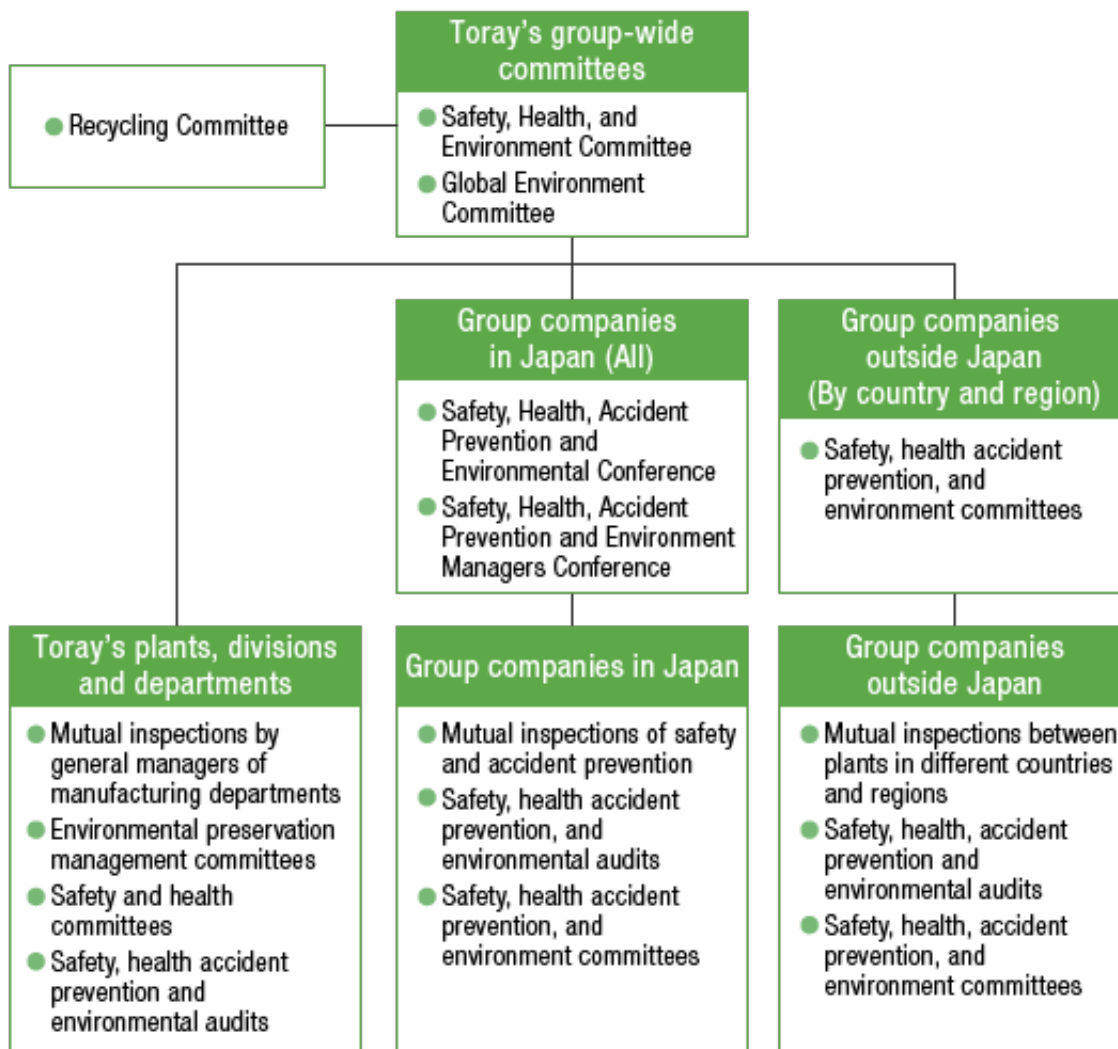
		<ul style="list-style-type: none"> • Equip managers with better grasp of production floor • Expand communication to foster positive and communicative workplaces
Health	Rigorous chemical substance management	<ul style="list-style-type: none"> • Expand and strengthen management of hazardous chemical substances and toxic chemicals
	Emphasize occupational health management	<ul style="list-style-type: none"> • Implement countermeasure plan against pandemic influenza • Enhance mental health management
Accident prevention	Achieve zero fire accidents	<ul style="list-style-type: none"> • Accomplish Fire Prevention Project's second phase
	Improve large-scale earthquake response	<ul style="list-style-type: none"> • Develop business continuity plans at group companies • Develop seismic retrofitting plans for buildings • Execute large-scale earthquake and tsunami response drills
Environment	Accomplish the Fourth Medium-Term Environmental Plan and implement the Fifth Medium-Term Environmental Plan	<ul style="list-style-type: none"> • Reduce greenhouse gases • Reduce atmospheric emissions of chemical substances • Achieve waste reduction targets
	Achieve zero environmental accidents	<ul style="list-style-type: none"> • Implement strict measures to prevent environmental accidents

¹ Namely, power-up 3Z activities, which have been implemented as part of Toray Group's medium-term management program since 2011 and are intended to help realize the goals of zero accidents, zero problems, and zero claims.

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

Toray implements its system for safety, health, accident prevention, and environmental preservation through two group-wide committees: the Safety, Health, and Environment Committee and the Global Environment Committee. (See chart below.)

The Safety, Health, and Environment Committee establishes policies and strategies for the entire Toray Group. The Global Environment Committee discusses and sets strategies aimed at securing the growth of the Green Innovation business, fighting climate change, and helping to build a recycling-oriented society.



Audits and Follow-Up Measures

The Toray Group conducts annual audits to objectively assess and improve the execution and management of safety, health, accident prevention, and environmental initiatives at offices and plants of group companies. Internal audits are conducted using a standardized audit checklist, and encompass visits and production floor guidance provided by directors and managers from other group companies.

In fiscal 2016, audits were conducted for all 12 plants and one research laboratory at Toray, 47 plants operated by 25 group companies in Japan, and 67 plants operated by 49 group companies outside Japan. The audits focused on three areas: efforts to increase safety awareness led by unit heads and unit chiefs, initiatives to eliminate the occurrence of similar accidents, and progress on development and operation of construction/repair work safety management rules. The audits helped to secure systematic improvements by identifying and addressing facility issues and issues relating to management.

ISO 14001 Certification

The Toray Group is pursuing the acquisition of ISO 14001, the certification for environmental management system, by all of its group companies, offices, and plants. Toray had completed accreditation for all 12 of its plants by the end of 2000. By fiscal 2016, 36 plants at 22 group companies in Japan and 56 plants at 43 group companies outside Japan were certified.

In fiscal 2016, two plants at two companies (Toray Advanced Film Kaohsiung Co., Ltd. of Taiwan and Zoltek Companies, Inc. of Hungary) newly acquired ISO 14001 certification.

Related Information

> [Sites with ISO 14001 Certification](#)

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 implements its program in accordance with the Responsible Care Global Charter.² In fiscal 2016, Toray set priority issues: implementing the Fifth Medium-Term Environmental Plan, strengthening accident-prevention countermeasures via the second phase of its Fire Prevention Project, and preparing for the chemical risk assessments specified in Japan's revised Industrial Safety and Health Act.

² The Responsible Care Global Charter was originally established in 2005 to encourage companies to take concrete action that is understandable to external stakeholders. The Charter was revised in 2014, and Toray was a signatory to both the original and revised Charter.

Complying with REACH and Other International Chemical Substance Regulations

All business divisions of Toray, as well as its group companies in and outside Japan, have systems in place for securing compliance with European regulations on the Registration, Evaluation, Authorization and Restriction of Chemical Substances (REACH). The Toray Group is systematically working toward registration of designated substances by the final deadline of May 31, 2018. The Group monitors chemical substance regulations in other regions and countries including Taiwan and South Korea, sharing the information about changes and providing support to secure compliance. Toray and some of its group companies in Japan use the List of Lists (LOLI) Database,³ a comprehensive database of chemical hazard and toxicity information and regulations in countries around the world, to ensure that they handle chemical substances safely and in compliance with relevant laws and regulations worldwide.

³ 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 Japan's Chemical Substances Control Law⁴ in April 2011, companies have been required to report on the manufacture, import, and utilization of general chemical substances. Toray and its group companies in Japan systematically responded to the revision and completed their report covering fiscal 2015 in June 2016.

⁴ Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.

Occupational Safety and Accident Prevention Activities

> Materiality Focus

Employees are key stakeholders of the Toray Group. Needless to say, ensuring their safety is the prerequisite to their capacity to make the most of their potential. Officers and employees work together to implement persistent safety initiatives with the goal of zero accidents, out of respect for humanity and the sanctity of life.

To raise the awareness, every year, the Toray Group creates a group-wide safety slogan. In fiscal 2016, the Group urged employees worldwide to always think carefully before acting in conducting their work, through the unique keyword of "Anzen Koh-Doh" ("thoughtful safety action"). The Toray Group is working hard to ensure that the message reaches all of its employees including those at group companies outside of Japan.

Due to the potential impact of an accident not only within the company but on surrounding communities, the Group places the highest priority on accident prevention.

2016 Safety Slogan

AP-G 2016

We Should Achieve "Zero Accidents". Each of us does "Anzen Koh-Doh"!

~ "Seriousness" "Motivation" "Awareness" ~

Every year, company presidents and plant managers from Toray and its group companies around the world meet at the Toray Group Safety Meeting. At the meeting, presentations on safety action policies and main activities, lectures by external experts, and activity reports from worksites are offered to raise awareness of safety. The Group's employees are all united under the leadership of top management in working on safety activities with the aim of achieving zero accidents.

Furthermore, the Safety Summit, safety lectures by Toray's directors, and other events are held on a national and regional basis, and at each group company and plant of the Group. These efforts promote a common awareness of the Toray Group safety slogan, policies, and main activities, enabling centralized management of safety activities across the Group.



2016 Toray Group Safety Meeting in Toray Human Resources Development Center



Toray Group Safety Summit in Indonesia

Toray Group Safety Record

Number of major accidents

Reporting scope: Toray Group

Fiscal 2016 target:

0
accidents



Result:

0 accidents

Number of fire and explosion accidents

Reporting scope: Toray Group

Fiscal 2016 target:

0
accidents



Result:

1 accident

Achieve world's best standard for safety management (not exceeding 0.05 frequency rate for occupational accidents resulting in lost work time)

Reporting scope: Toray Group

Fiscal 2016 target:

No more
than 0.05



Result:

0.33

In 2016, no major accidents occurred at the Toray Group, but there was one fire at a Group company outside Japan that caused some facilities damage. The Group responds to accidents by dispatching internal accident prevention experts to the affected site to investigate the cause and ensure that measures are put in place to prevent future accidents. The knowledge they gain in the process is then circulated within the Group.

The Group investigates the root cause of accidents and implements measures to prevent recurrence with the continued goal of achieving zero accidents, making safety its highest priority.

Toray has collected data on all occupational accidents since 1980, and for the Toray Group since 1990. Information on past accidents is used by all group companies as valuable data for implementing preventative measures. Both the number of occupational accidents and frequency of occupational accidents resulting in lost work time have declined, compared with when the data was first collected.

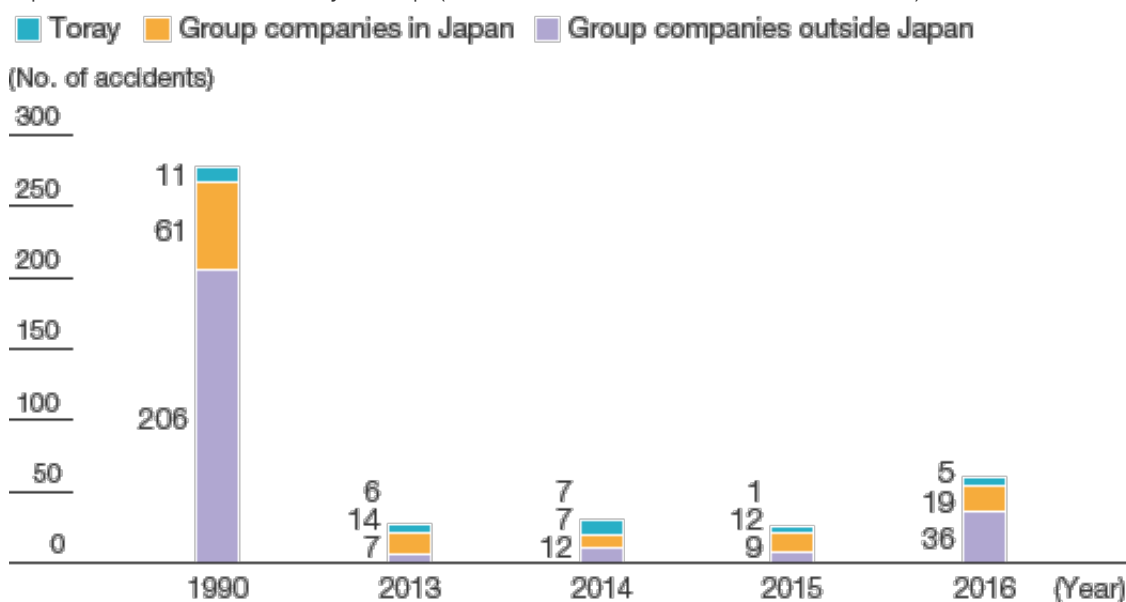
Meanwhile, the frequency rate for occupational accidents resulting in lost work time for the Toray Group overall in 2016 increased by 0.19 points to 0.33. Although this is a positive result compared with that of Japan's manufacturing industry (1.15), it fell far short of the target of 0.05 or lower.

One reason for this result was that the definition of an occupational accident was partially revised in December 2015. The Group acknowledges that there is room for improvement, and it is striving to further raise the level of safety. It works to eliminate accidents by investigating the root causes of each accident, implementing preventative measures, and further educating employees to think carefully before acting.

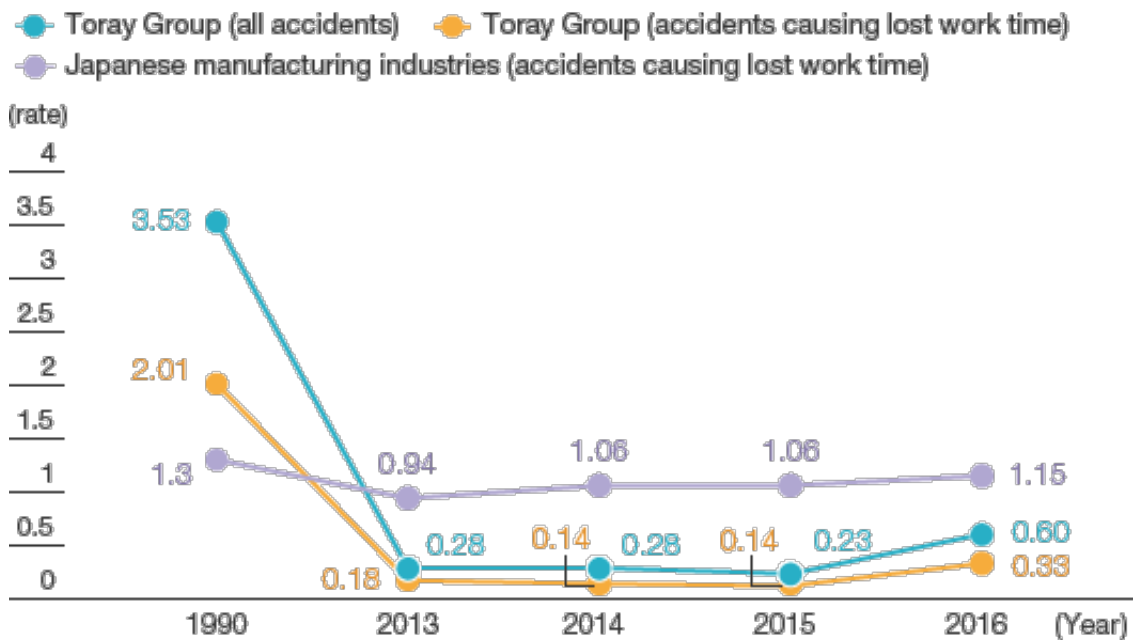


Based on keywords, employees take action to prevent occurrence of similar accidents (No. 3 Plant, Toyo Ji)

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



Occupational Accident Frequency Rate¹: Toray Group



¹ Occupational accident frequency rate: The number of fatalities and injuries at worksites per one million cumulative working hours

Enhancing Safety and Accident-Prevention Training

As part of their safety and accident prevention training, Toray Group companies and plants provide workshops and hands-on simulations to sensitize employees to dangers and hazards. Safety devices are used to simulate dangers such as getting caught up in rollers, electrocution, and residual pressure. In the area of accident prevention, the Group conducts simulation training to teach employees about the risk of fires and explosions, and provides training on the fundamentals of accident prevention.

Additionally, the Group publishes articles on safety and accident prevention in its in-house newsletter, *People*. In 2016, the newsletter published a feature that examined the basics of fires and explosions.



Demonstrating the danger of fires and explosions at Toray School of Technology and Business



Accident-prevention training room at Toray's Tokai Plant

Implementing safety training and workshops for construction employees and subcontractor personnel

I work for the Project Management Section of the Plant Business Department. We implement the following training for construction site managers, construction leaders, and foremen employed by subcontractors, and we also encouraged them to attend external workshops.

1. Occupational health and safety training (two days each year, held on first Monday and Tuesday in June)
2. Safety simulation training (once annually between July to September)
3. Safety training mandated under Industrial Safety and Health Act (as needed)
4. Workshops for operators of four-wheeled vehicles (four times per year, organized by Tokyo Metropolitan Police Department)

This training serves the common purpose of preventing occupational accidents at Suido Kiko, and raising the knowledge, skills, and awareness of front line employees. We sought to create a curriculum that is both practical and effective, by combining group classroom education with hands-on simulation training that enables participants to experience the dangers first-hand.

Occupational health and safety training is implemented every year in June. We invite the director of the supervising labor standards bureau and occupational safety instructors to come and speak to the participants about the latest trends in occupational health and safety. We also implement safety simulation training, where participants experience hanging from a safety belt to learn first-hand about the dangers that exist.

Additionally, we implement safety training mandated under the Industrial Safety and Health Act for work that is potentially dangerous or hazardous. The training is implemented internally by employees who are certified as trainers, as we seek to continually increase our pool of employees who have received the training. We currently implement eight types of special training.



Seminar for plant foremen and occupational health and safety managers



Shinobu Ide

Section Manager, Project Management Section, Project Department, Suido Kiko Kaisha, Ltd.

Implementing Safety Management Together with Subcontractors

The Toray Group recognizes its duty to ensure the safety of the many subcontractors working at its sites.

Occupational health and safety committees meet once a month with the participation of representative employees from subcontractors, to pursue safety activities with the mutual cooperation of everyone in the workplace. Regular safety and liaison meetings are conducted to gain input from subcontractors, and are used to communicate the Group's policies and measures.

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.

In fiscal 2016, presidents of 10 Toray affiliates that provide ancillary services for plant operations cooperated to conduct mutual safety inspections of their facilities. The inspections served to verify the progress of safety initiatives, by monitoring hazardous work including forklift and packaging operations. Personnel advised each other on areas needing improvement and monitored the progress of improvements.



Safety meeting at Nagoya Plant



Mutual safety inspection at Toyo Service Co., Ltd.

Preparing for Accidents through Fire-Prevention Drills

All companies and plants in the Toray Group are making efforts to improve their accident-prevention capabilities by carrying out fire-fighting drills specifically intended for fires and explosions. These drills include practice using water hoses, rescuing the injured, responding to a chemical leak, and giving emergency notification to authorities and local residents.

Group plants that are next to the sea conduct evacuation drills in the event of a tsunami triggered by a large-scale earthquake.



Fire-prevention drill at Ogaki Fuso Spinning Co., Ltd

Initiatives for Improving Fire-Prevention Capabilities

In 2016, the Toray Group outlined four key measures to strengthen fire prevention at the Toray Group and implemented fire prevention training for all Group companies. Plants in which fire related incidents occurred investigated the underlying cause based on onsite audits conducted by the Group's own accident prevention experts, and then developed countermeasures.

As a company that places the highest priority on employee safety, the Group has adopted an employee safety verification system and implemented evacuation drills to strengthen its earthquake response. Additionally, the Group conducted business continuity planning in order to meet its social responsibility to keep supply lines open in the event of a large-scale earthquake.

Four Key Measures Identified by Expert Committee and Activity Results

Key measures	Details/objectives	Results of 2016 activities
Utilize fire-prevention checklist	Enhance and effectively utilize fire-prevention checklist	<ol style="list-style-type: none"> 1. Implemented fire-prevention checklist training for group companies outside Japan 2. Established a system for trained staff to implement checklists (in Japan)
Enhance employee training	Review and issue fire-prevention textbook; prepare and implement company-wide fire-prevention training system	<ol style="list-style-type: none"> 1. Established a training system for fire prevention, encompassing basic principles for fire prevention and skills training at the pilot plant 2. Implemented fire prevention training for group companies outside Japan
Enhance management of manufacturing process change	Standardize manufacturing conditions, work and equipment change procedures	<ol style="list-style-type: none"> 1. Developed workplace standards based on company-wide standards, prepared related documentation, and implemented the standards (in Japan) 2. Established a framework for implementation at group companies outside Japan
Strengthen work security	Standardize hot work rules and procedures	<ol style="list-style-type: none"> 1. Revised the hot work standards for companies and plants (in Japan), and checked the implementation status 2. Established a framework for implementation at group companies outside Japan



Fire prevention training at Toray Human Resources Development Center for employees of group companies outside Japan

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.

Health Effects and Response to Asbestos

The 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 current and former employees who handled even small amounts of asbestos and wish to undergo an examination. The 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 the Toray Group employees as of March 31, 2017 are described below.

- Certified occupational accidents arising from handling asbestos (Toray Group): 83 (67)
- Certified health victims based on Japan's Act on Asbestos Health Damage Relief (Toray Group): 9 (9)
- Medical examination recipients involving asbestos (Toray Group): 3,981

Note: Figures in parentheses refer to fatalities.



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Progress on the Fifth Medium-Term Environmental Plan

The Toray Group is now implementing its Fifth Medium-Term Environmental Plan, which runs from fiscal 2016 to fiscal 2020. The plan aims to further reduce the Group's environmental impact.

Amid further projected increases in production volumes for high-performance films and carbon fiber, the Group will continue to pursue environmental initiatives in order to achieve the challenging targets of the new plan.

Progress on the Fifth Medium-Term Environmental Plan Targets

Area	Toray Group fiscal 2020 target	Fiscal 2016 results
Curb global warming	Maintain greenhouse gas emissions at least 15% below the fiscal 1990 level (Toray)	21% reduction
	15% or greater reduction in greenhouse gas emissions per unit of sales compared to fiscal 1990 (Toray Group in Japan)	20% reduction
Management of chemical substances	Atmospheric emissions of PRTR Law-specified substances: 70% reduction compared to fiscal 2000 (Toray Group)	71% reduction
	Atmospheric emissions of volatile organic compounds (VOCs): 70% reduction compared to fiscal 2000 (Toray Group)	75% reduction
Waste reduction	Zero emissions goal: Achieve at 45 or more Toray Group plants	Achieved at 42 plants
	Simply disposed waste rate: 22.5% or lower (Toray Group)	25.6%
	Recycling rate: Maintain at 86% or more (Toray Group)	84.0%
	Landfill waste rate: 1.3% or lower (Toray Group in Japan)	0.6%

Conserving Energy and Curbing Global Warming

> Materiality Focus

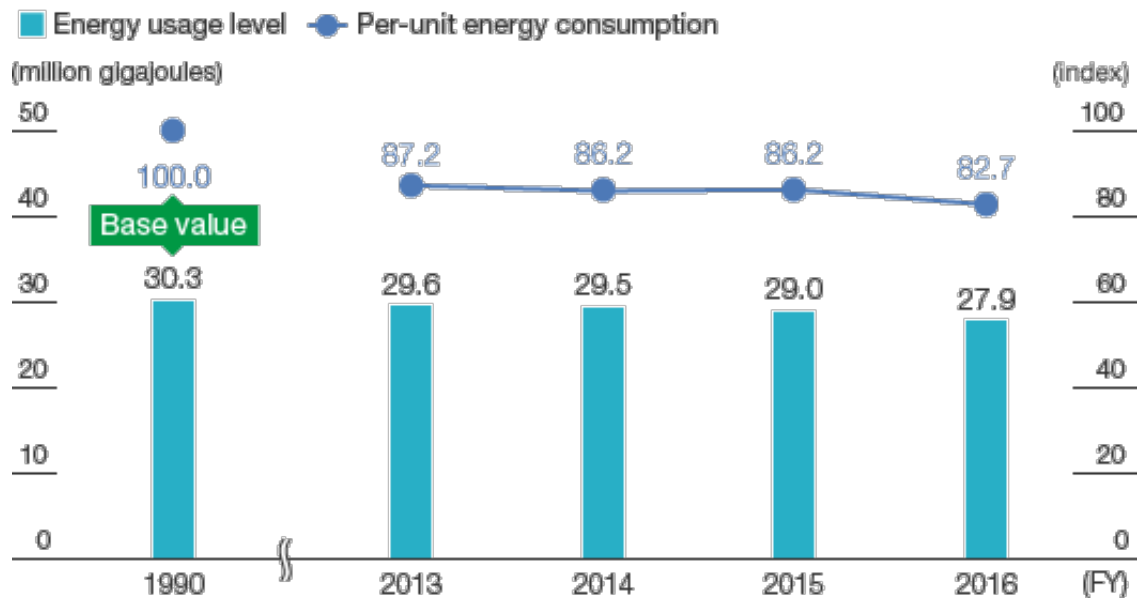
Addressing Global Warming

With a view to helping realize sustainable, low-carbon societies, the Toray Group is pursuing initiatives for reducing greenhouse gas emissions. Toward this end, the Group works to save energy by improving manufacturing processes and introducing cogeneration in accordance with its Fifth Medium-Term Environmental Plan, which was launched in fiscal 2016.

Toray Energy Conservation Activities

Toray has set a goal of reducing its per-unit energy consumption by 2% annually. In fiscal 2016, Toray reduced energy consumption by 3.9% year-on-year and improved its per-unit energy consumption by 4.1% year-on-year, bringing it down now to 17.3% below the base year of fiscal 1990. The reduction was achieved due to productivity improvements combined with steady implementation of energy conservation initiatives at plants, as well as energy conservation diagnostics performed by the Company's own energy efficiency specialists.

Energy Consumption and Per-unit Energy Consumption Index (Toray)



Promoting Energy Conservation Diagnostics

The Toray Group organizes energy conservation teams to help carry out annual energy conservation diagnostics at plants in Toray and its group companies around the world. In fiscal 2016, these activities were conducted at five of Toray's plants, along with six group company plants at in Japan and one outside Japan. Thanks to these energy-saving initiatives, the Group reduced greenhouse gas emissions by about 18,000 tons-CO₂ equivalent.

Toray's Efforts to Fight Global Warming

Reduction of greenhouse gas emissions (%) (Toray)

Reporting scope: Toray

Fiscal 2016 target:

15%
reduction
compared
to fiscal
1990 level



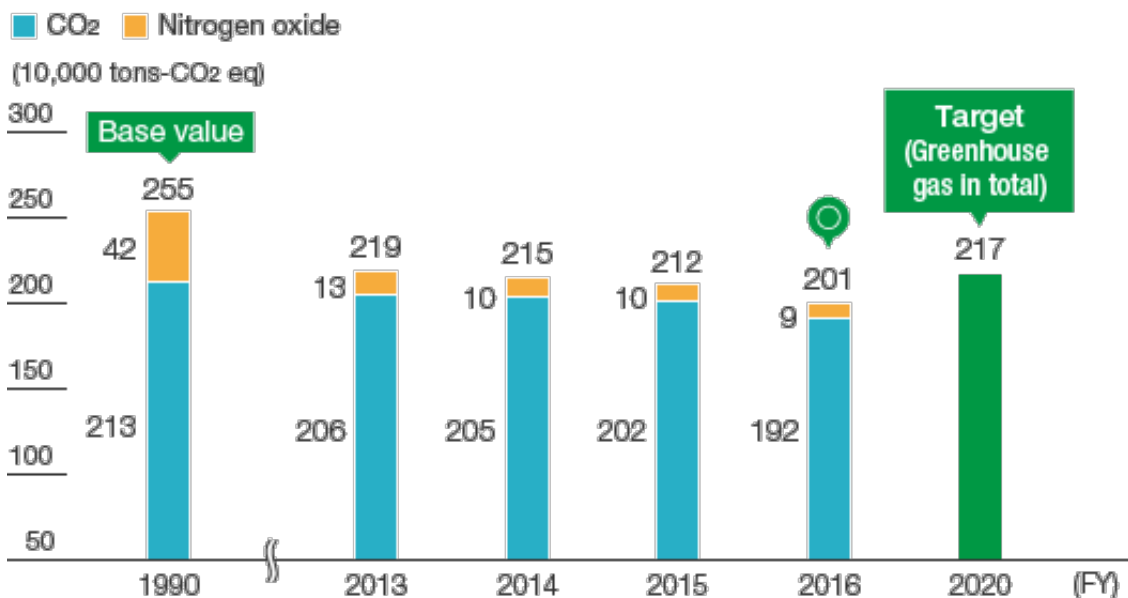
Result:

21%
reduction

Toray systematically works to reduce greenhouse gas emissions, with the goal of maintaining greenhouse gas emissions at least 15% below the 1990 level by 2020. In fiscal 2016, Toray reduced its CO₂ emissions by 103,000 tons year-on-year. Greenhouse gas emissions were down 5.2% year-on-year at 2.01million tons, which was 21% below the 1990 level, continuing to meet the reduction target.

Moving forward, Toray will endeavor to meet its reduction targets despite the higher production volumes projected due to business growth.

Greenhouse Gas Emissions (Toray)



Note: Toray greenhouse gas emissions in fiscal 2016 have obtained a third-party guarantee from Lloyd's Register Quality Assurance Limited (LRQA).

Gas Cogeneration and Hydroelectric Power

The Toray Group is systematically switching to natural gas and installing cogeneration systems to conserve energy. In fiscal 2015, Toray's Mishima Plant began operation of a cogeneration system.

Additionally, in fiscal 2016, as an initiative for effective use of renewable energy, Toray's Nagoya Plant installed and started to operate a small hydroelectric system that generates power using the incoming industrial water pressure.



Gas cogeneration system at Toray's Mishima Plant



Small hydroelectric power generator at Toray's Nagoya Plant

Solar and Hydroelectric Power Generation

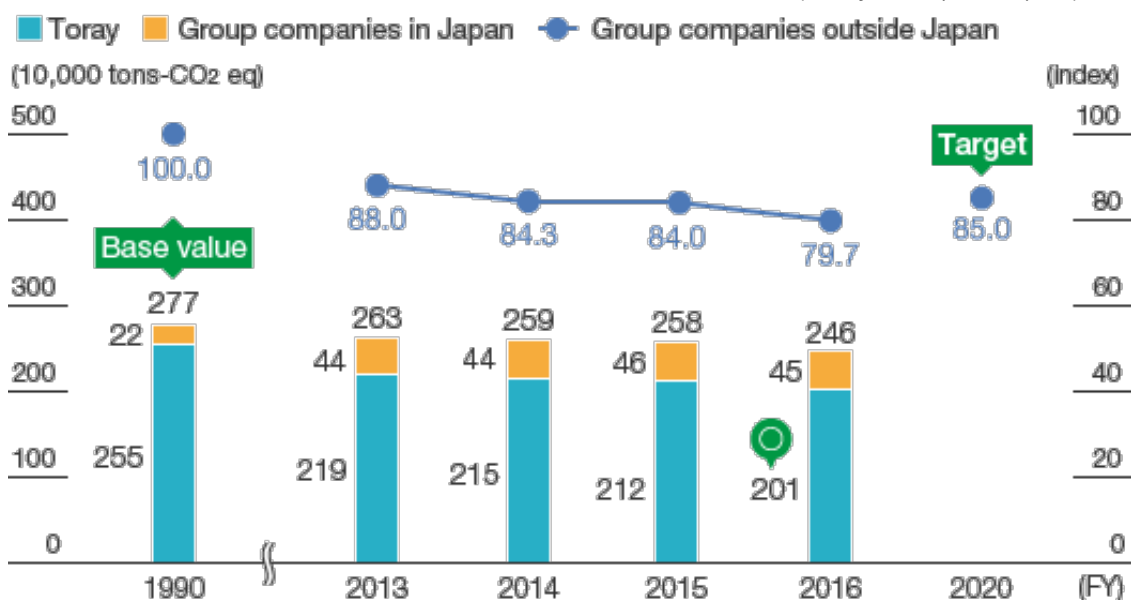
Toray sets up power generation systems that utilize renewable energy on idle land in its plant grounds and rooftops. In fiscal 2016, Toray deployed a small hydroelectric power generator at the Nagoya Plant, and in fiscal 2017, it will install a solar power generation system on idle land in the Seta Plant site.

Greenhouse Gas Emissions (Toray Group in Japan)

Toray and its group companies in Japan work to curb global warming with the goal of reducing emissions by 15% on a per-unit-of-sales basis by fiscal 2020 compared to the fiscal 1990 level.

Greenhouse gas emissions were down 4.7% in fiscal 2016 compared to the previous fiscal year. Greenhouse gas emissions per unit of sales improved by 4.3 points compared to the previous fiscal year and were 20.3% below the base year.

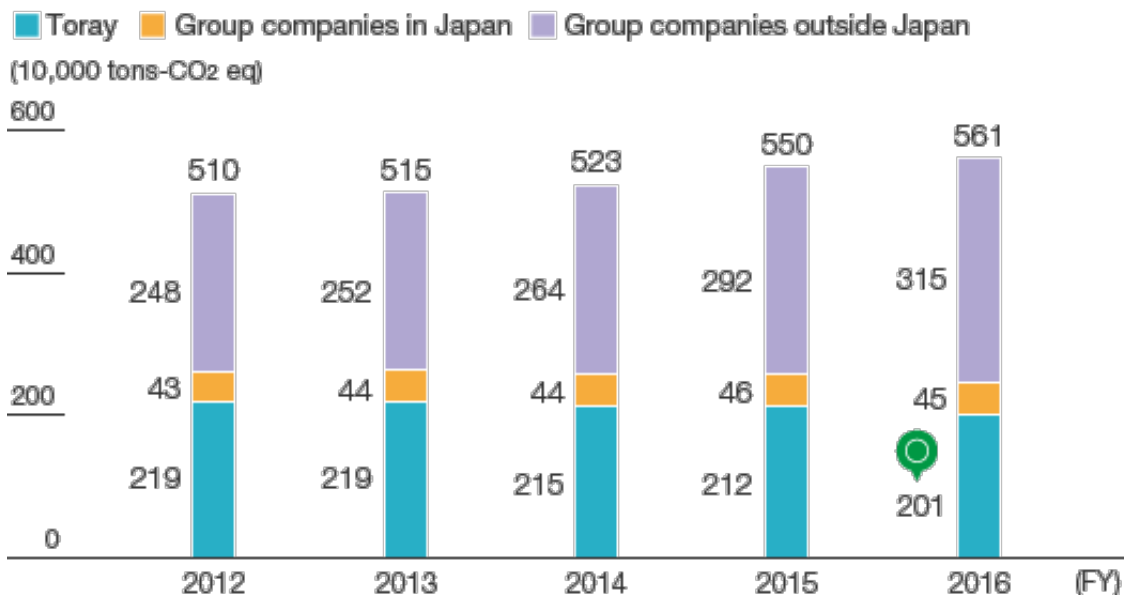
Greenhouse Gas Emissions and Greenhouse Gas Emissions Per Unit of Sales (Toray Group in Japan)



Greenhouse Gas Emissions (Toray Group)

Fiscal 2016 greenhouse gas emissions for the Toray Group worldwide were 5.61 million tons-CO₂ equivalent, an increase of 2.0% 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.

Greenhouse Gas Emissions (Toray Group)



Related Information

> [CO₂ Emissions Resulting from Toray's Distribution Activities](#)

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 will finish upgrading refrigeration equipment that uses CFCs by fiscal 2019.



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Voluntary Initiatives to Reduce Atmospheric Emissions of Chemical Substances

> Materiality Focus

As a corporate group that does business in the chemicals sector, the Toray Group places the highest priority on reducing emissions of chemicals into the atmosphere in order to reduce its environmental impact.

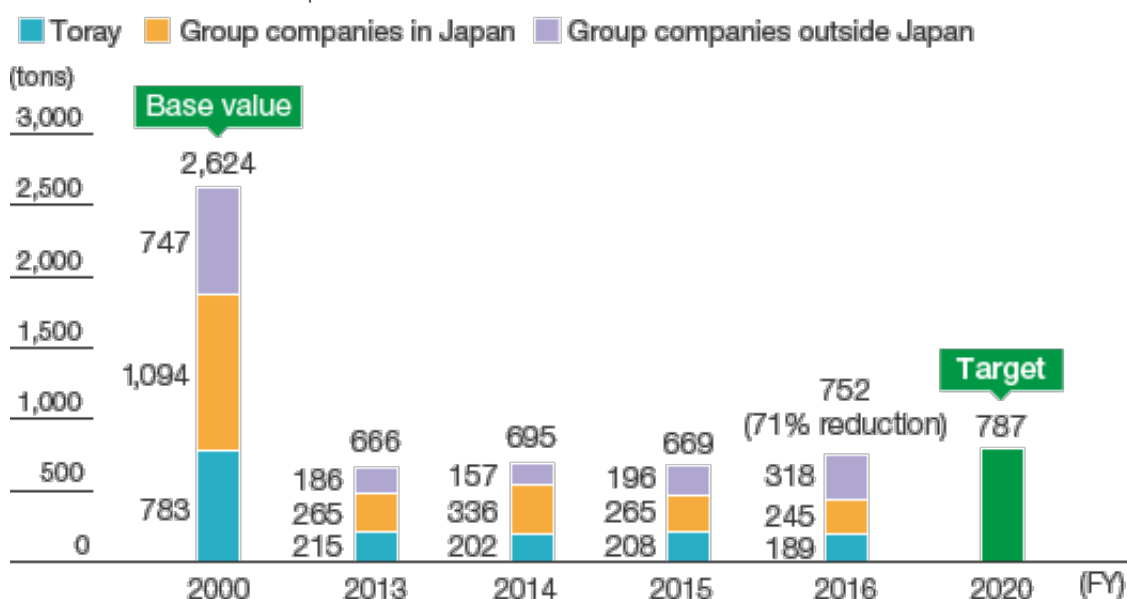
Under the Fifth Medium-Term Environmental Plan, which covered fiscal 2016–2020, the Group works to achieve its targets for reducing atmospheric emissions of volatile organic compounds (VOCs) and substances specified under Japan's Pollutant Release and Transfer Register Law (PRTR Law).

Reducing Atmospheric Emissions of PRTR Law-Specified Substances

In fiscal 2016, the Toray Group's atmospheric emissions of PRTR Law-specified substances were 752 tons, which represented a 71% reduction compared to the base year of fiscal 2000. The Group achieved the target of a 70% reduction compared with the base year under the Fifth Medium-Term Environmental Plan.

The main improvement in fiscal 2016 was achieving proper adsorption and recovery of waste gases at Toray's Chiba Plant, which reduced nine tons of atmospheric emissions of PRTR substances. Additionally, the former Toray Battery Separator Film Co., Ltd. reduced 33 tons of atmospheric emissions in fiscal 2016 by strengthening activated carbon adsorption recovery.

Atmospheric Emissions of PRTR Law-Specified Substances



Note: The fiscal 2020 target for the absolute volume of emissions was revised using a new base value. This base value is based on emissions from the 2000 base year, to which Group company emissions in fiscal 2016 (353 tons) were added, which the Group began tracking in fiscal 2016.

Reducing Atmospheric Emissions of VOCs

Reduction of atmospheric VOC emissions (%)

Reporting scope: Toray Group

Fiscal 2016 target:

70%
decrease
compared
to fiscal
2000

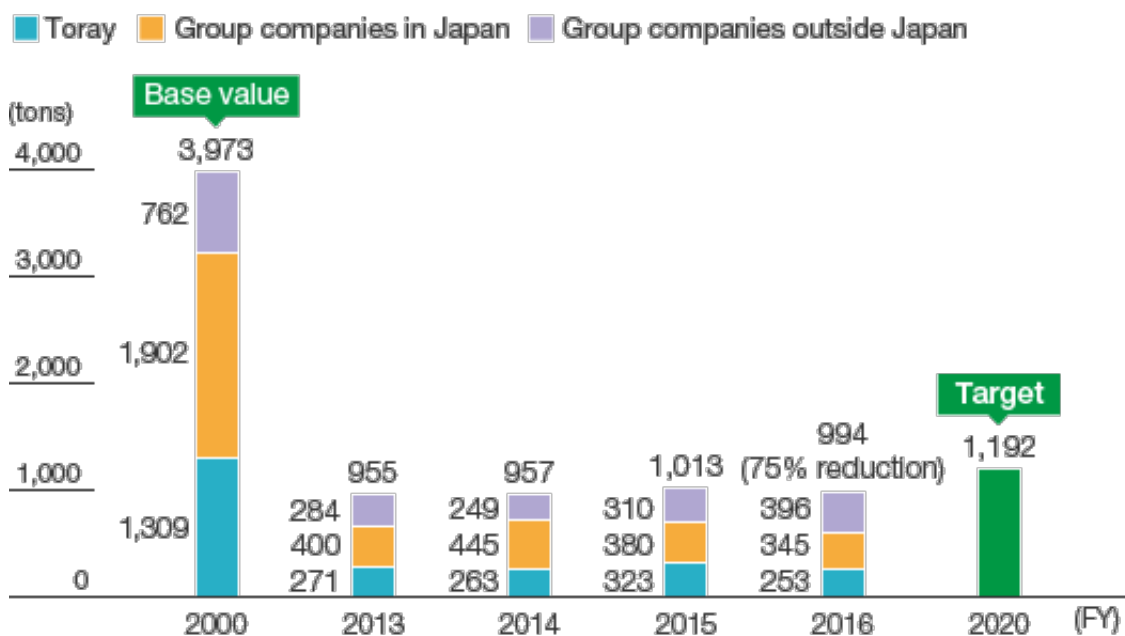


Result:

75%

In fiscal 2016, the Toray Group's atmospheric emissions of VOCs were 994 tons, down 2% (19 tons) compared to the previous fiscal year. The emissions were 75% below the base year of fiscal 2000, achieving the fiscal 2020 target of a 70% reduction compared to the base year.

VOC Atmospheric Emissions



Note: The fiscal 2020 target for the absolute volume of emissions was revised using a new base value. This base value is based on emissions from the 2000 base year, to which Group company emissions in fiscal 2016 (353 tons) were added, which the Group began tracking in fiscal 2016.



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Initiatives to Prevent Air and Water Pollution

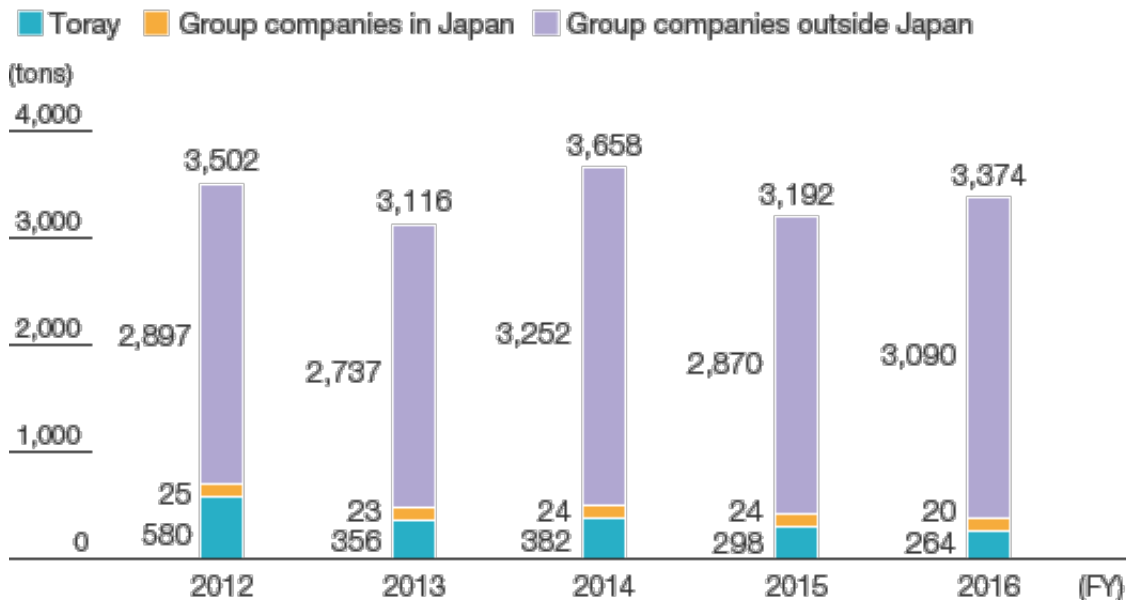
> Materiality Focus

The Toray Group implements ongoing initiatives at production sites to reduce sulfur oxide (SOx) emissions by installing desulfurization equipment and switching to cleaner fuels, and reduce chemical oxygen demand (COD) by expanding wastewater treatment facilities.

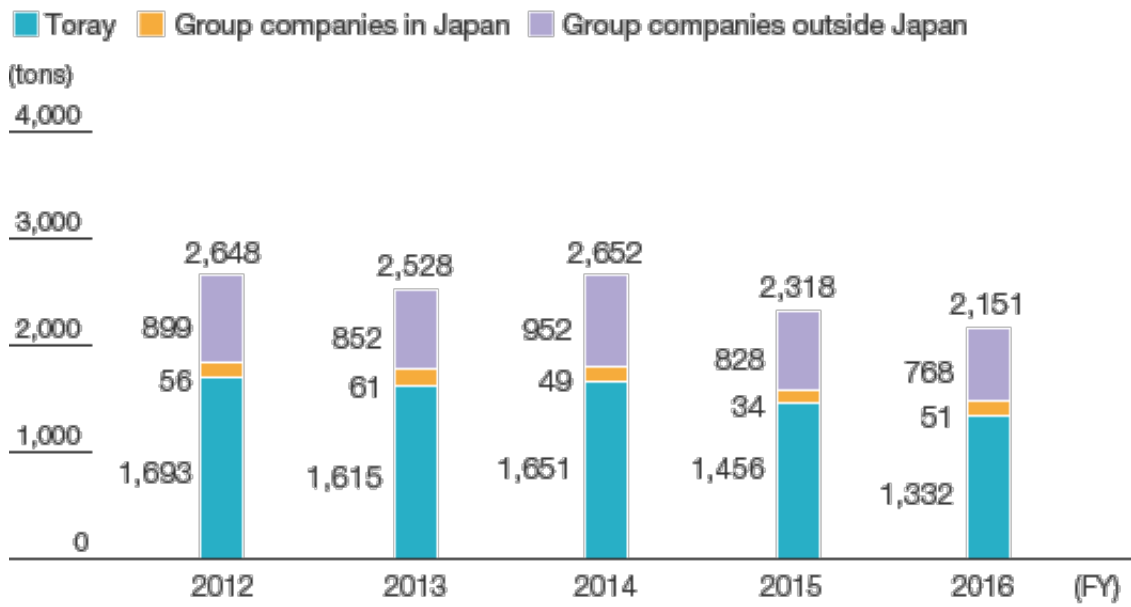
Air Quality Management

In fiscal 2016, the Toray Group recorded 3,374 tons of SOx emissions (up 6% year-on-year), 2,151 tons of NOx emissions (down 7% year-on-year), and 343 tons of dust emissions (up 4% year-on-year). SOx and dust emissions increased due to higher consumption of heavy oil for power generation at group companies outside Japan, despite the reduced emissions from decommissioning power generation equipment and using more low-sulfur coal. The decrease in NOx emissions (down 7% year-on-year) was due to the deployment of gas cogeneration facilities at Toray's Mishima Plant.

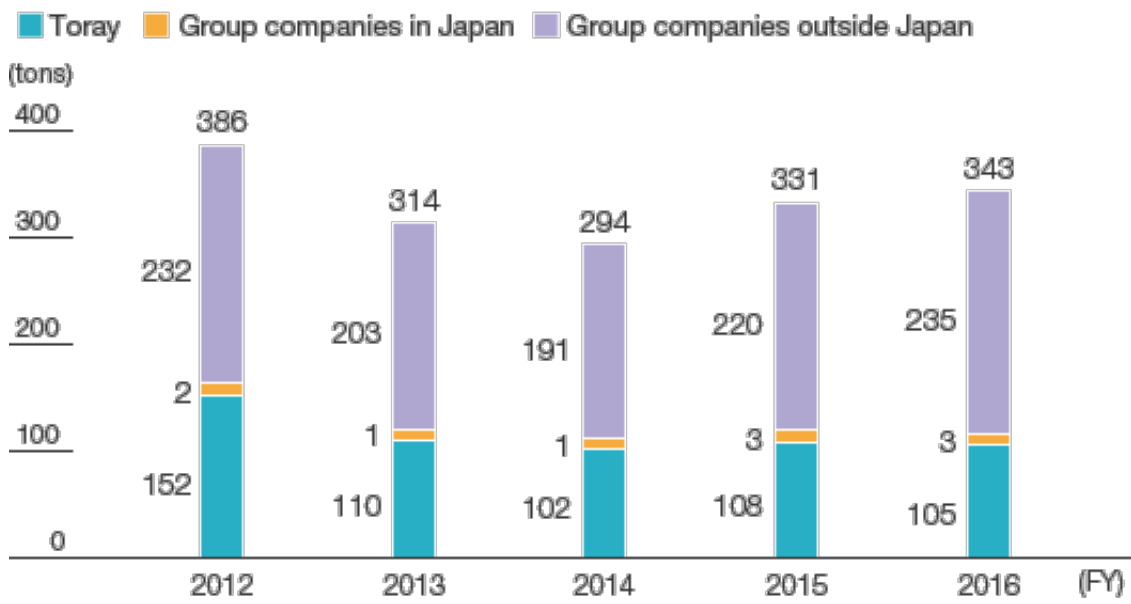
Atmospheric Emissions (SOx)



Atmospheric Emissions (NOx)



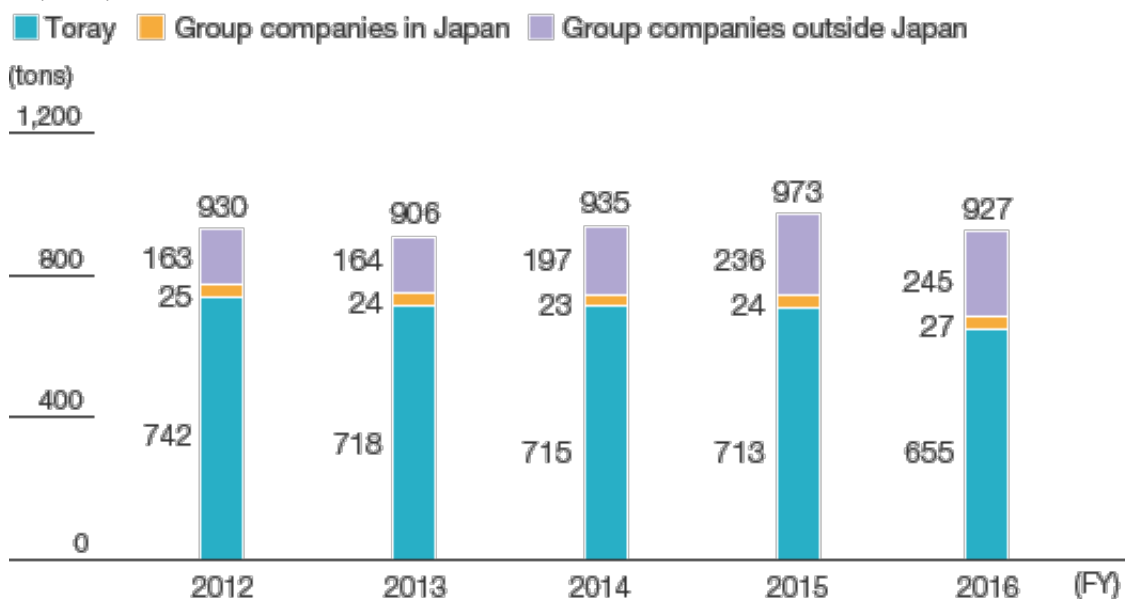
Atmospheric Emissions (Dust)



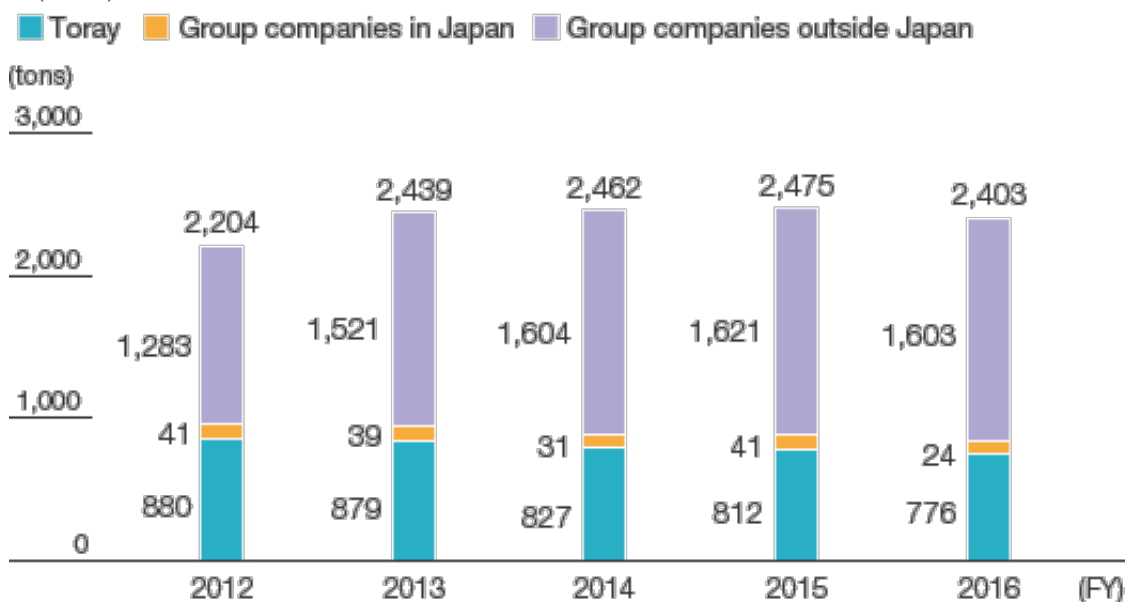
Water Quality Management

In fiscal 2016, the Toray Group recorded 927 tons of BOD emissions (down 5% year-on-year) and 2,317 tons of COD emissions (down 3% year-on-year). BOD and COD emissions were down due to enhanced wastewater treatment at Toray's Tokai Plant.

Water Emissions (BOD)



Water Emissions (COD)



In fiscal 2016, the Group expanded its wastewater treatment facilities at the Ehime Plant of Toray and the Fukui Plant of Dow Corning Toray Co., Ltd. These upgrades further stabilized wastewater treatment to realize benefits.

The Group brings together wastewater managers every year to share and discuss strategies for enhancing wastewater management at production sites. The fiscal 2016 meeting was attended by 22 persons from nine Toray plants and eight persons from six group companies in Japan.

Initiatives for Managing Water Resources

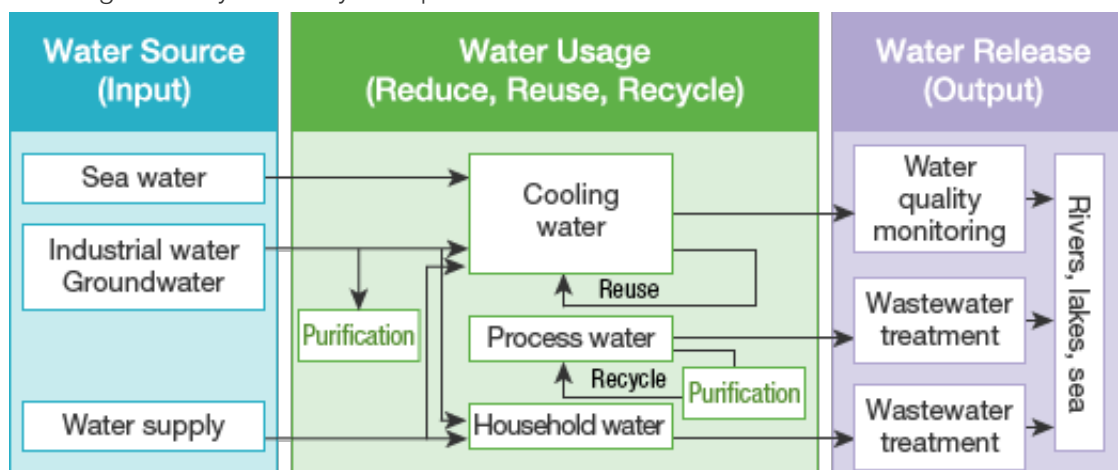
> Materiality Focus

The Toray Group is working to provide solutions to water resources problems around the world, based on the following policies. In its own operations, the Group effectively uses and recycles water and properly manages water resources.

1. The 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. The Toray Group is committed to helping to solve global water resources problems through its products, technologies and services.
3. The 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.

The Toray Group practices the 3Rs (reduce, reuse, recycle) in consuming water resources, and monitors the quality of water that is released into public bodies of water.

Water Resource Management by the Toray Group



Water Usage

The Toray Group used 226 million tons of water in fiscal 2016, an increase of 2% over the previous fiscal year. Compared to the amount used per unit of sales in fiscal 2001, set to an index value of 100, usage in fiscal 2016 stood at 59.5 points, up 3.3 points from the previous fiscal year. The increase was due to higher water usage at group companies outside Japan.

Related Information

> [Environmental Data](#)

Comparative Water Usage Per Unit of Sales (Toray)

(FY)	2001	2012	2013	2014	2015	2016
Comparative water usage per unit of sales	100	75.6	66.7	59.7	56.2	59.5

VOICE

Message from a Wastewater Treatment Professional

Aiming to Eliminate Emissions of Substances with Negative Environmental Impact

The Chinese government is introducing tougher wastewater standards in an effort to improve water resource management. The emission standard for chemical oxygen demand (COD) is particularly strict, at no more than 200 mg per one liter of wastewater. Our company complies with these standards.

Wastewater generated from the cleaning process in dyeing is high in polymer starch and COD concentration, and it is also highly alkaline, hot water, so that it is barely treatable by biological treatment. We collaborated with Toray Group companies in Japan to invest several million renminbi for the development of a proprietary wastewater treatment system. The system can treat up to 500 tons of water per day, first separating and concentrating the highly concentrated wastewater generated from the cleaning process, then separating the paste liquid and alkaline substance, which is reused in the cleaning process.

In addition, our manufacturing process generates high temperature smoke containing oils and other substances that affect the atmosphere. We remove more than 90% of the oil from the smoke, and then feed the smoke to a heat exchanger and reuse it to generate energy. This enables us to effectively reduce oil smoke emissions, conserve energy, and reduce CO₂ emissions. We will continue to actively adopt environmental technologies, with the aim of eliminating emissions of substances with a negative impact.



Sun Xiaobo
General Manager, Water Treatment Division, Toray Sakai Weaving & Dyeing (Nantong) Co., Ltd.

Initiatives to Reduce Waste

> Materiality Focus

Waste recycling rate

Reporting scope: Toray Group

Fiscal 2016 target:
**86% or
more**



Result:
84%

The Toray Group is carrying out zero emission initiatives as it works toward the realization of a sustainable, recycling-based world. Under the Fourth Medium-Term Environmental Plan, the Group worked to achieve its fiscal 2015 targets for rates of simply disposed waste,¹ landfill waste² and recycled waste,³ which have been set as indicators for measuring progress toward attaining zero emissions.

1 Simply disposed waste rate = (incineration + landfill) / total waste

2 Landfill waste rate = landfill waste / total waste

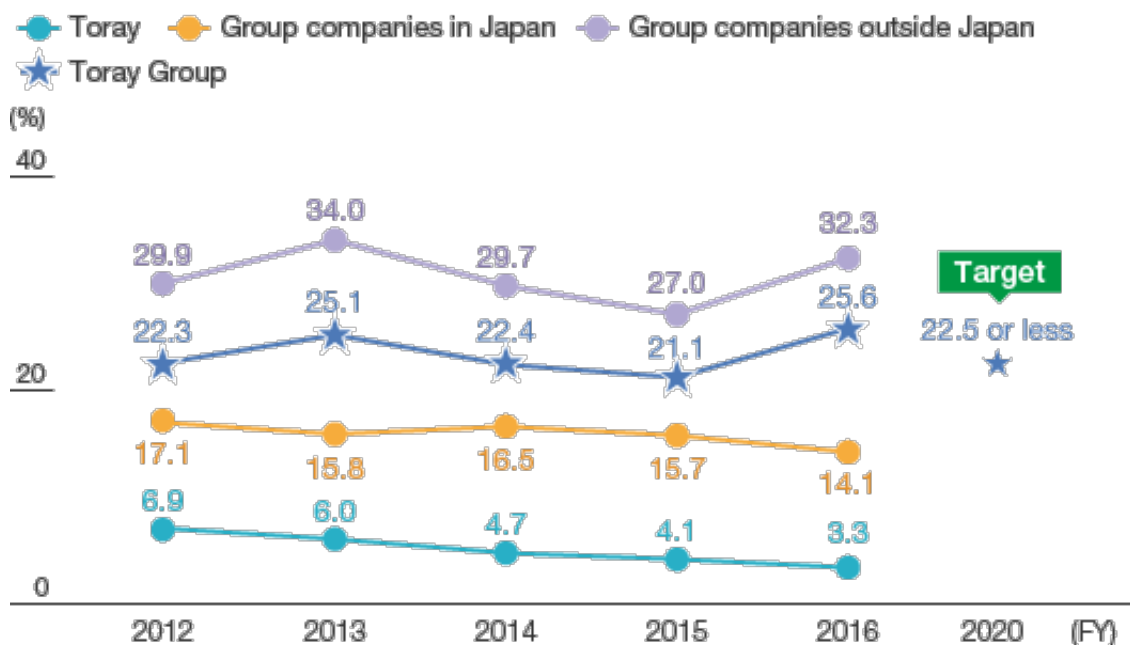
3 Recycling rate = (recycled resources + resources with monetary worth) / (total waste + resources with monetary worth)

Results in Fiscal 2016

Simply Disposed Waste Rate

The simply disposed waste rate was 25.6%, up 4.5 percentage points year-on-year. The increase was due to higher volumes of simply disposed waste at group companies outside Japan from changing production processes, despite lower volumes generated by group companies in Japan.

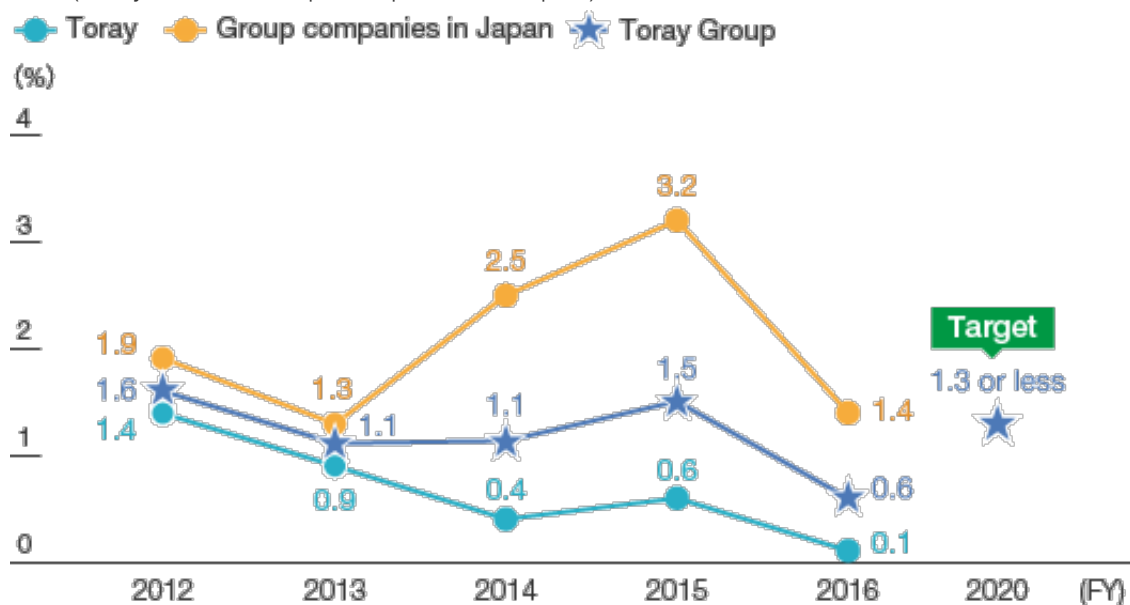
Simply Disposed Waste Rate (Toray Group)



Landfill Waste Rate

In fiscal 2016, the rate of landfill waste for the Toray Group was 0.6%, down 0.9 percentage points. The decrease was due to the absence of disposed inventory that was damaged from a one-time accident in fiscal 2015, and reduction of sludge at Toray.

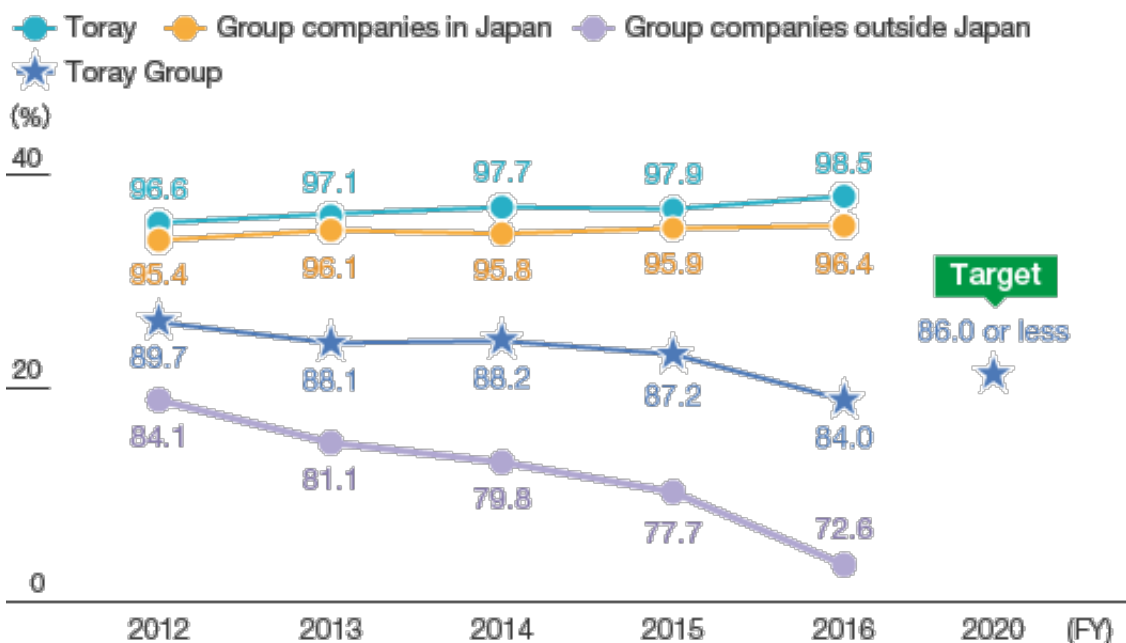
Landfill Waste Rate (Toray and Its Group Companies in Japan)



Recycling Rate

In fiscal 2016, the recycling rate for the Toray Group decreased by 3.2 percentage point to 84.0%. The recycling of valuables increased slightly at group companies in Japan, but the additional simply disposed wastes were generated at group companies outside Japan.

Recycling Rate (Toray Group)



Zero Emissions Initiatives at Companies and Plants

The Toray Group considers a plant to have achieved zero emissions when the amount of simply disposed waste accounts for 1% or less of the total waste it generates. The Group works on its fiscal 2020 target of achieving zero emissions at 45 or more plants. In fiscal 2016, six plants newly achieved zero emissions, but four plants that achieved it the previous year did not, bringing the total to 42 plants at 23 companies.

Companies and Plants with Zero Emissions Status in Fiscal 2016

Toray	Shiga Plant, Seta Plant, Ehime Plant, Tokai Plant , Aichi Plant, Okazaki Plant, Mishima Plant, Chiba Plant, Tsuchiura Plant, Gifu Plant, Ishikawa Plant
Group companies in Japan	Ogaki Fuso Spinning Co., Ltd. [Fuso], Toray Coatex Co., Ltd., Maruichi Fiber Co., Ltd., Toray Monofilament Co., Ltd., Toray Hybrid Cord, Inc., Toray Engineering Co., Ltd. [Shiga, Seta], Toray Precision Co., Ltd., Dow Corning Toray Co., Ltd. [Chiba, Fukui], Soda Aromatic Co., Ltd. [Koriyama], Toray Opelontex Co., Ltd., Du Pont-Toray Co., Ltd. , Toyo Plastic Seiko Co., Ltd. [Okazaki], Toray PEF Products Inc., Toray Advanced Film Co., Ltd. [Nakatsugawa, Mishima, Takatsuki, Fukushima], Toray Fine Chemicals Co., Ltd. [Moriyama, Tokai , Matsuyama], Toray Battery Separator Film Co., Ltd. , Toray Medical Co., Ltd.
Group companies outside Japan	Toray Plastics (America), Inc. [Virginia, Rhode Island], Penfibre Sdn. Berhad, Toray Jifa (Qingdao) Textile Co., Ltd., Toray Plastics (Shenzhen) Ltd., Toray Chemical Korea Inc. [Anseong, Yugu]

Notes

- Names in bold indicate companies and plants that achieved zero emissions in fiscal 2016 for the first time.
- Information in brackets refers to the names of the plants.

Environmental Risk Management

> Materiality Focus

Number of environmental accidents

Reporting scope: Toray Group

Fiscal 2016 target:

0
accidents



Result:

2 accidents

Incidents Involving Environmental Disasters, Legal Compliance, and Fires

In fiscal 2016, two environmental accidents and one fire occurred within the Toray Group. The first environmental accident involved a leak of heavy oil into public waters at a group company outside of Japan. The leak was caused by leaving a valve open during the tearing down of equipment. To prevent recurrence of a similar accident, employees were asked to reconfirm the rules for ensuring proper checks during facilities work, and double-checked that their operations were in compliance with the rules.

The second environmental accident involved a failure to consult with government authorities before constructing environmental facilities at Toray. Advance consulting was a procedure defined in an environmental protection agreement made between Toray and the relevant organizations. To ensure against future compliance violations, Toray circulated a reminder of the need to confirm the content of environmental protection agreements and established acknowledgement rules for use when concluding agreements.

The third accident involved a fire at a group company outside of Japan. Some facility damage was caused by the fire, an investigation was conducted to identify the cause, and appropriate preventative measures were put in place.

The Group received six complaints and requests from residents near its facilities concerning noise and odor, which were seriously examined and addressed by implementing improvements.

Environmental Incidents in Fiscal 2016 (Toray Group)

Administrative disposition due to violations of laws or ordinances ¹	0
Accidents (fires, explosions, environmental accidents, etc.)	3
Slight but temporary exceeding of standard values ²	0
Complaints/requests (noise, odor, etc.)	6

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.

Preventing Soil and Groundwater Pollution

The Toray Group constructs protective embankments around its facilities and storage tanks for 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 2016, remediation using wells to clean up groundwater pollution continued at Toray Monofilament Co., Ltd., and remediation to address soil pollution continued at Toray's Nagoya Plant.

In addition to these ongoing remediation efforts, the Toray Group voluntarily implements regular surveys to monitor soil and groundwater pollution. Should any pollution be identified through these surveys, rules are in place to ensure that immediate action is taken to remediate the pollution.



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Environmental Accounting

Fiscal 2016 Environmental Accounting Report (Toray)

Toray has been practicing environmental accounting since 1999, to track investments and gauge their cost effectiveness.

In fiscal 2016, Toray's environment-related investment amounted to 2.68 billion yen, down 0.01 billion yen compared to the previous year. Cost totaled 6.71 billion yen, up 0.12 billion yen compared to the previous year.

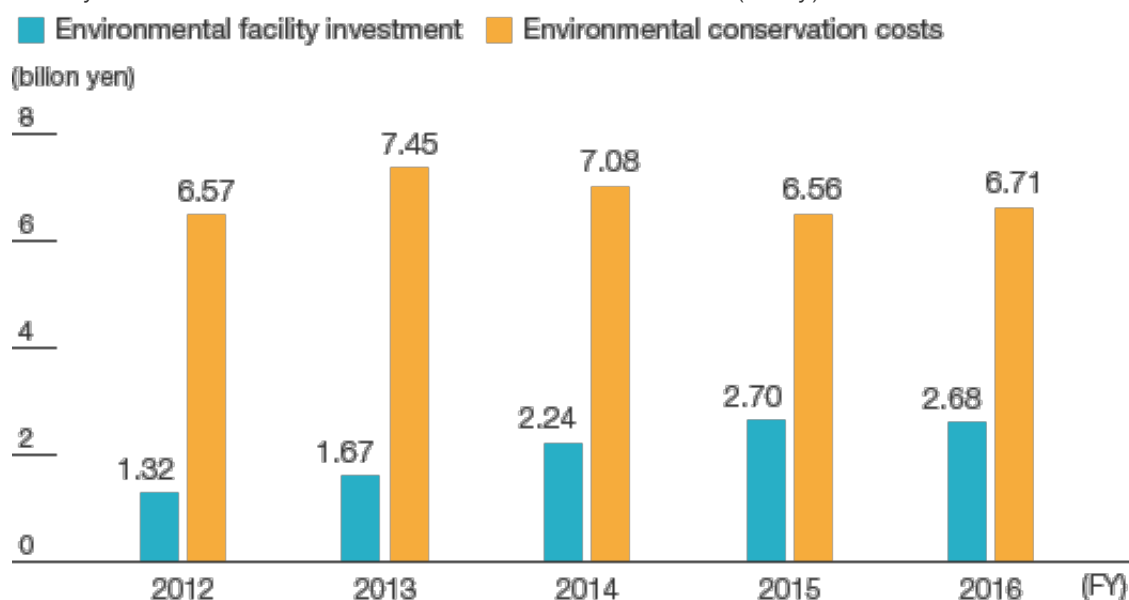
Fiscal 2016 Environmental Accounting Report (Toray)

Expenses				
Item		Subcategory and description	Investment (million yen)	Cost (million yen)
Business area costs	Pollution prevention costs	Air (including CFC countermeasures)	275	2,040
		Water quality	1,877	2,111
		Noise and vibration	9	9
		Greening	8	288
		Odors and other	81	251
	Global environment conservation costs	Energy conservation and combating global warming	424	-
	Resource recycling costs	Industrial waste reduction, recycling, disposal, and PCB waste disposal services	6	1,300
Upstream and downstream costs		Product recycling	0	2
		Container and package recycling	0	1
Management activity costs		Indirect labor costs, ISO certification and maintenance, environmental communications, and education	0	426
Social initiative costs		Regional initiatives, support for organizations, etc.	0	85

Environmental remediation costs	SOx fines, soil purification, etc.	0	194
Total		2,680	6,707

Effectiveness		
Item		Amount (million yen)
Financial effects	Reduction in energy costs	634
	Reduction in industrial waste disposal costs	46
	Sale of valuable recycled resources with monetary value	525
Quantitative environmental effects	Reduction of greenhouse gas emissions	884,000 tons-CO ₂ eq

Environmental Facility Investment and Environmental Conservation Costs (Toray)

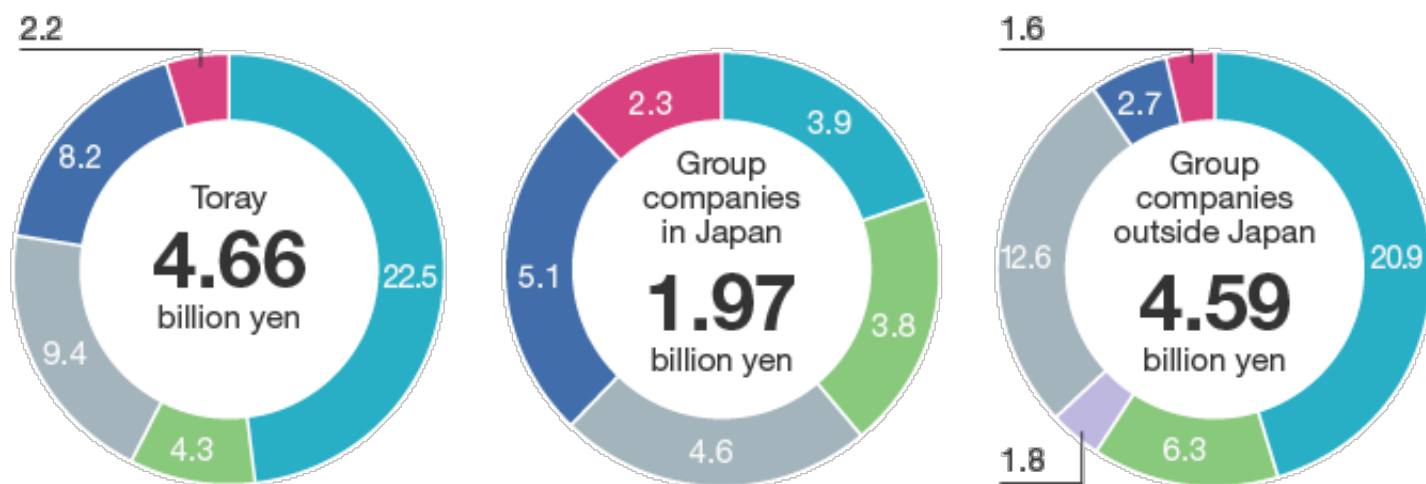


Facility Investment in Safety, Health, Accident Prevention, and Environmental Preservation Projects (Toray Group)

The Toray Group reports on its investments relating to safety, accident prevention, and health. In the area of safety, Toray continued to make investments including equipment security upgrades and disaster prevention projects such as upgrading fire protection and fire extinguishing equipment. Environmental investments included the installation of emergency pits to prevent an accidental outflow of irregular wastewater.

Fiscal 2016 Facility Investment in Safety, Health, Accident Prevention, and Environmental Preservation Projects (Toray Group)

■ Environmental conservation
 ■ Energy conservation
 ■ Waste treatment and reduction
■ Safety
 ■ Accident prevention
 ■ Health



Toray Environmental Accounting Standards

- Some categories were changed based on the Ministry of the Environment's Guidelines for FY2005.
- Only economic effects that can be determined with a high degree of certainty are included in the calculation. Presumed effects are not included.
- Capital investment also includes facility investments for which environmental preservation is not the main objective. Capital investment resulting from leases is also included. Expenses include labor costs and depreciation. However, internal labor costs related to local volunteer activities are not included.
- Energy cost reduction figures show the amount of reduction for the 12 months after the completion of an energy conservation facility. Expenses are not recorded as they are deducted when the effect is calculated.
- Waste disposal cost reduction figures show the amount of reduction achieved through waste reduction efforts and resource recycling for 12 months after the measures are undertaken.
- Effects of reducing greenhouse gas emissions are measured over a 12-month period following the completion of measures or facilities to conserve energy.



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Biodiversity Initiatives

> Materiality Focus

The Toray Group views conservation of biodiversity as a critical global environmental issue that is of equal importance to reducing greenhouse gas emissions. The Group analyzes the impact of its business activities on biodiversity and strives to help build a more sustainable world.

Working Group Considers Initiatives for Biodiversity

The Toray Group pursues biodiversity initiatives under a three-year action road map and sets its priorities under the Toray Group Biodiversity Basic Policy. In fiscal 2016, the Group started implementing initiatives under the third road map, which runs from fiscal 2016 to fiscal 2018. These initiatives build on and refine the initiatives implemented under the second road map.

Biodiversity Initiatives Adopted December 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.

Procuring Raw Materials

The Toray Group conducted a survey of all products to determine the usage of bio-based raw materials in product manufacturing. The Group developed rules for checking the biodiversity impacts of products in fiscal 2015, and began applying the rules to all products in fiscal 2016.

Social Initiatives

The Toray Group also endeavors to conserve biodiversity with its social initiatives. In fiscal 2016, employees and families of Toray Group companies in the Tokyo area took part in the Fourth Arakawa Clean Aid events. The participants listened to speakers from the non-profit Arakawa Clean Aid Forum about trash and its impact on the global environment and ecosystems, and then collected trash while recording the type and quantity. The participants also got a close-up look at the biodiversity of the Arakawa River including crabs, gobies, and invasive plants, learning about the importance of biodiversity conservation.



Employees and families of Toray Group companies in the Tokyo area participated in the Fourth Arakawa Clean Aid event



Experiencing the biodiversity in the Arakawa River

Increasing Green Areas

Develop greenery policy and plan, as part of biodiversity conservation initiatives (number of group companies and plants)

Reporting scope: Toray Group

Fiscal 2016 target:

35



Result:

46

Plants at Toray and its group companies in Japan operate greenery policies and plans through 2020, guided by the Toray Group Basic Policy for Increasing Green Areas.¹ The plans encompass initiatives to conserve green areas, including natural forests² that have been protected since the plants began operating. Sustainable greenery conservation initiatives also help to conserve the environment for communities.

1 Toray Group Basic Policy on Increasing Green Areas was established in 2012, evolving out of greenery policies that were first established in 1973.

2 Natural groves or forestation by species based on potential native vegetation



Forested area on the premises of Okayama Chemical Industry & Co., Ltd.

Toray Group's Basic Policy for Increasing Green Areas Established 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.

VOICE

Message from an Employee

Conserving Nature in Our Communities

In April 2011, the Ishikawa Plant obtained ISO certification for Ishikawa Prefecture's system for conserving *satoyama* woodlands and *satoumi* coastal areas. *Satoyama* refers to landscapes that include human production activities and natural habitats. These landscapes serve as valuable biotopes for many living things, when properly maintained by people. Increasingly, insufficient *satoyama* maintenance is threatening biodiversity.

Since 1992, employees of the Ishikawa Plant have devoted the first Saturday in October to maintaining and collecting trash in and around Nanatsudaki Falls, a local sightseeing spot. Every year, some 150 employees and family members give their time to maintain the area, enjoying the time well spent.

Additionally, in 2016, Ikoi-no-Mori forest park was completed in Midorigaoka of Nomi City. Midorigaoka is an area where company housing is located. General Affairs Department personnel were involved in the establishment of the park, helping as



Toshikatsu Minami
General Affairs Department,
Ishikawa Plant, Toray
Industries, Inc.

members of the secretariat. At the park, new employees hired in fiscal 2017 helped with raking and removing leaves, as a part of the maintenance activities.

The employees of the Ishikawa Plant will continue to take pride in giving back to the community and growing in concert with the community.



Nanatsudaki Falls cleanup day



Path maintenance



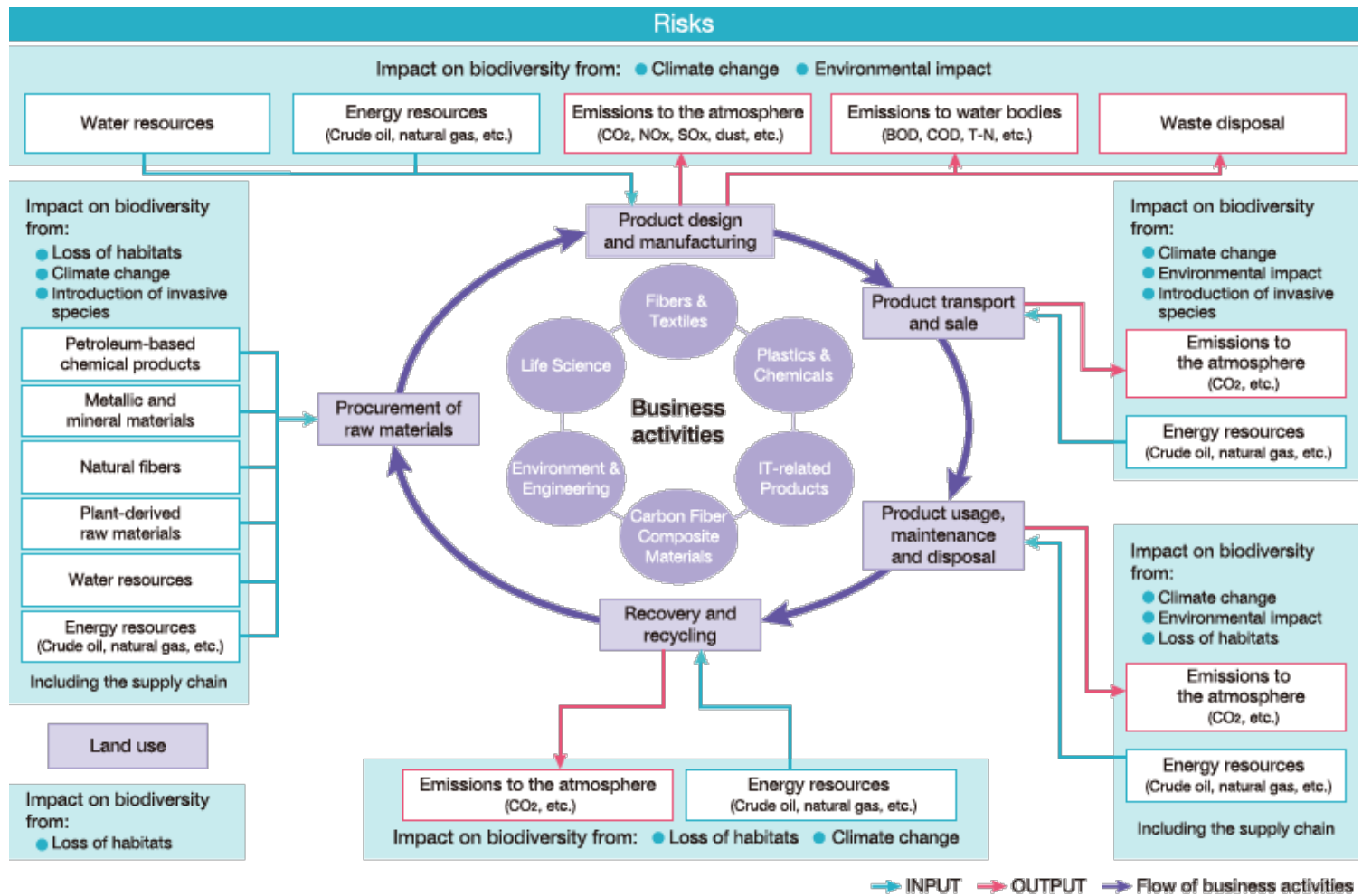
Path to Nanatsudaki Falls



Raking and removing leaves in the
Ikoi-no-Mori forest park

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

Starting from the procurement of raw materials, the entire lifecycle of the 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.



Note: These diagrams were produced based on the Map of Corporate Activities and Biodiversity © published by the Japan Business Initiative for Biodiversity.

Opportunities

Contribute to biodiversity by:

- Protecting habitats
- Curbing global warming
- Reducing environmental impact

Environmentally friendly design

Reduction of CO2 emissions

Appropriate usage of water resources

Zero emissions

Contribute to biodiversity by:

- Curbing global warming
- Reducing environmental impact

Reduction of CO2 emissions

Reduction of energy resources consumption (Crude oil, natural gas, etc.)

Contribute to biodiversity by:

- Protecting habitats
- Curbing global warming
- Reducing environmental impact

Green purchasing and procurement

Utilization of renewable energies

Appropriate usage of water resources

Including the supply chain

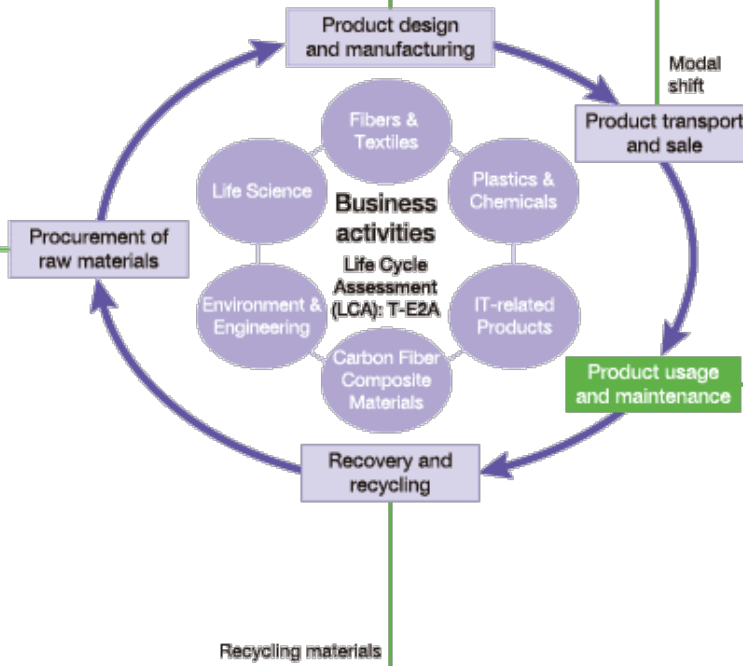
Social contribution activities

Contribute to biodiversity

Increasing green areas

Contribute to biodiversity by:

- Helping preserve regional biodiversity
- Protecting habitats
- Curbing global warming



Contribute to biodiversity by:

- Curbing global warming
- Reducing environmental impact
- Protecting habitats

Reduction of CO2 emissions

Energy resources (Crude oil, natural gas, etc.)

Examples of key products that contribute to the protection of biodiversity

Lightening material weight to reduce CO2 emissions during usage, thereby helping curb global warming



CFRP for aircraft structure



CFRP for automotive materials

Utilizing renewable energies to reduce environmental impact



PET film for solar panel backsheets



CFRP for wind power generation Blacks

Increasing green areas to protect habitats



Encouraging plant growth on mine tailings (biodegradable products)



Water treatment membranes for seawater desalination plants

Contribute to biodiversity by:

- Curbing global warming
- Protecting habitats

Reduction of CO2 emissions

Energy resources (Crude oil, natural gas, etc.)



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Environmental Impact Overview

Environmental Impact Overview (PDF:38KB) [PDF](#)

Environmental Impact Overview Fiscal 2016

	Toray			Group companies in Japan			Group companies outside Japan		
	FY2015	FY2016	Compared to previous year (%)	FY2015	FY2016	Compared to previous year (%)	FY2015	FY2016	Compared to previous year (%)
INPUT									
Energy (1,000,000 gigajoules)	29	27.9	-3.8	7.2	7.2	0.0	46.8	52	11.1
Water (1,000,000 tons)	171	168	-1.8	12	13	8.3	38	44	15.8
OUTPUT									
GHG (10,000 tons CO₂eq)									
6 gases including CO ₂	212 ¹	201 ¹	-5.2	46	45	-2.2	292	315	7.9
PRTR Law-specified substances (tons)									
Atmospheric emissions	210	189	-10.0	265	245	-7.5	197	318	61.4
Water emissions	30	31	3.3	0	0	0.0	0	0	0
Waste transfers	939 ²	866	-7.8	1,340	1,246	-7.0	1,270	9,960	684.3
Air pollutants (tons)									
SOx	298	264	-11.4	24	20	-16.7	2,870	3,090	7.7
NOx	1,456	1,332	-8.5	43	51	18.6	828	768	-7.2
Dust	108	105	-2.8	3	3	0.0	220	235	6.8
Industrial wastewater (1,000,000 tons)									
	167	159	-4.8	10	10	0.0	24	25	4.2
Water pollutants (tons)									
BOD	713	655	-8.1	25	27	8.0	236	245	3.8
COD	812	776	-4.4	42	24	-42.9	1,621	1,603	-1.1

Nitrogen	437	406	-7.2	18	14	-22.2	-	-	-
Phosphorus	28	27	-3.9	1	1	0.0	-	-	-
Waste (1,000 tons)									
Recycled	30.5	29	-4.9	14.2	14.5	2.1	79	89.0	12.7
Incinerated and other	1.1	0.9	-18.2	2.1	2.1	0.0	9.7	16.6	71.1
Direct landfill disposal	0.2	0.0	-100.0	0.5	0.2	-60.0	19.5	21.9	12.3
Coal ash (1,000 tons)									
Recycled	63.9	62.4	0.0	-	-	-	26.7	17.2	-35.6
Direct landfill disposal	2.3	2.0	0.0	-	-	-	0.7	0.4	-42.9

1 Toray greenhouse gas emissions have obtained a third-party guarantee from Lloyd's Register Quality Assurance Limited (LRQA).

2 Corrected a data tabulation error in the 2015 CSR Report.

Index of Environmental Impact Per Unit of Sales

	Toray and its group companies in Japan			Group companies outside Japan			Total		
	FY2015	FY2016	Year-on-year comparison(points)	FY2015	FY2016	Year-on-year comparison(points)	FY2015	FY2016	Year-on-year comparison(points)
GHG emissions	67.9	64.8	-3.1	63.2	74.2	11.0	72.3	76.4	4.1
PRTR atmospheric emissions	31	28.2	-2.8	15.5	27.4	11.9	24.4	28.3	3.9
SOx emissions	5.2	5.2	0.0	15.4	16.8	1.4	17.4	18.0	0.6
Water usage volume	71.5	70.9	-0.6	42.6	53.7	11.1	56.2	59.5	3.3
BOD emissions	44.3	40.9	-3.4	19.8	22.4	2.6	33.8	33.3	-0.5
Landfilled waste volume	13.6	5.3	-8.3	43.1	52.9	9.8	64.3	73.1	8.8

Note: The amounts per unit of sales shown in the table are referenced to an index value of 100 set for the base year of fiscal 2001.

Aggregate Environmental Impact Data by Company Type and Location

	Toray	Group companies in Japan	Group companies outside Japan
GHG	All 12 plants and 1 research laboratory	51 plants at 26 companies	70 plants at 52 companies
PRTR Law-specified substances	All 12 plants and 1 research laboratory	50 plants at 26 companies	70 plants at 52 companies
SOx, NOx, dust	All 12 plants and 1 research laboratory	39 plants at 22 companies	70 plants at 52 companies

BOD	All 12 plants and 1 research laboratory	39 plants at 22 companies	27 plants at 20 companies
COD ³	10 plants and 1 research laboratory (including 6 plants subject to Total Water Pollutant Load Control)	39 plants at 22 companies (including 7 plants at 7 companies subject to Total Water Pollutant Load Control)	27 plants at 20 companies
Nitrogen and phosphorus	All 12 plants and 1 research laboratory	39 plants at 22 companies	-
Waste	All 12 plants and 1 research laboratory	50 plants at 26 companies	70 plants at 52 companies

³ COD figures for Toray, group companies in Japan and Korea are given in COD_{mn} (using the potassium permanganate method).

Other group companies outside Japan are given in COD_{Cr} (using the potassium dichromate method).



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Chemical Substance Emissions and Transfer Data

Chemical Substance Emissions and Transfer Data (PDF:51KB) [PDF](#)

PRTR Law-Specified Substance¹ Emissions and Transfer Data for Fiscal 2016

Toray	Tons (dioxins: mg-TEQ)			
	Atmospheric emissions	Water emissions	Soil emissions/company landfill	Waste transfers
Methyl acrylate	0.3	0.3	0.0	0.0
Acrylonitrile	22.5	3.1	0.0	336.4
Acetaldehyde	2.9	0.0	0.0	0.0
Antimony and antimony compounds	0.0	0.0	0.0	0.4
Asbestos	0.0	0.0	0.0	2.4
Ethylbenzene	6.1	0.0	0.0	0.0
ε-Caprolactam	0.0	12.9	0.0	0.3
Xylene	8.2	0.0	0.0	0.0
Chlorobenzene	1.5	0.0	0.0	28.7
Chloroform	3.2	0.0	0.0	16.2
Cobalt and cobalt compounds	0.0	0.0	0.0	14.4
4,4'-diaminodiphenyl ether	0.0	0.0	0.0	0.2
Inorganic cyanide	45.4	0.0	0.0	0.0
1,4-Dioxane	0.1	6.8	0.0	0.0
2,4-Dichlorotoluene	0.6	0.0	0.0	0.0

Diuron	0.0	0.0	0.0	0.3
P-Dichlorobenzene	5.2	0.0	0.0	1.4
Dichloromethane	2.1	0.0	0.0	4.7
N, N-dimethylacetamide	1.7	0.0	0.0	2.2
N, N-dimethylformamide	11.7	0.7	0.0	247.8
Styrene	9.8	0.0	0.0	1.2
Terephthalic acid	0.0	0.0	0.0	37.0
Dimethyl terephthalate	0.0	0.0	0.0	2.4
Trichloroethylene	0.4	0.2	0.0	0.6
Toluene	9.8	0.0	0.0	45.3
Nitrobenzene	0.0	0.0	0.0	29.2
Hydrazine	0.0	0.1	0.0	0.0
Pyridine	0.0	0.0	0.0	1.5
O-, m- and p-Phenylenediamine	0.0	2.3	0.0	0.0
Phenol	0.0	3.1	0.0	0.0
Bromomethane	49.2	0.0	0.0	0.0
Hexamethylene diamine	0.0	0.0	0.0	1.8
n-hexane	0.0	0.0	0.0	17.1
Benzene	1.2	0.8	0.0	0.0
Poly (oxyethylene) alkyl ether	0.2	0.0	0.0	14.6
Formaldehyde	0.1	0.0	0.0	0.0
Manganese and manganese compounds	0.0	0.3	0.0	1.5
Methacrylic acid 2,3-Epoxypropyl	0.0	0.0	0.0	2.8
Methyl methacrylate	6.8	0.0	0.0	10.0

Methylenebis (4,1-phenylene) diisocyanate	0.0	0.0	0.0	36.3
Lead and lead compounds	0.0	0.0	0.0	1.0
Nickel and nickel compounds	0.0	0.0	0.0	8.3
Dioxins	1.4	14.8	0.0	30.5
Total	188.9	30.7	0.0	866.0

1 Chemical substances were designated as type 1 according to the PRTR Law revision in April 2010.

Note: The list shows emissions and transfers of 42 substances (out of Toray's 64 PRTR Law-specified substances) exceeding 50 kg and dioxins.

Group companies in Japan	Tons (dioxins: mg-TEQ)			
	Atmospheric emissions	Water emissions	Soil emissions/company landfill	Waste transfers
n-butyl acrylate	0.0	0.0	0.0	0.2
Acetonitrile	0.0	0.0	0.0	3.0
1-Allyloxy-2,3-epoxy propane	5.1	0.0	0.0	0.3
Ethylbenzene	14.7	0.0	0.0	34.2
Ethylene oxide	1.7	0.0	0.0	0.0
Ethylene glycol monoethyl ether	0.4	0.0	0.0	0.5
Epichlorohydrin	0.0	0.0	0.0	4.5
Xylene	11.4	0.0	0.0	24.3
1-chloro-2,4-dinitrobenzene	0.0	0.0	0.0	1.1
Ethylene glycol monoethyl ether acetate	0.0	0.0	0.0	0.2
Dichloromethane	137.6	0.0	0.0	22.2
N, N-dimethylacetamide	19.2	0.0	0.0	281.8
N, N-dimethylformamide	12.8	0.0	0.0	103.8

Styrene	0.0	0.0	0.0	0.4
Decabromodiphenyl ether	0.0	0.0	0.0	0.1
Triethylamine	0.1	0.0	0.0	0.0
Toluene	39.0	0.0	0.0	587.2
Carbon disulfide	0.3	0.0	0.0	0.0
1-nonanol	0.0	0.0	0.0	1.7
Hydroquinone	0.0	0.0	0.0	0.8
Bis (2-ethylhexyl) phthalate	0.0	0.0	0.0	28.6
n-hexane	1.4	0.0	0.0	51.1
Poly (oxyethylene) alkyl ether	0.0	0.0	0.0	45.9
Formaldehyde	0.2	0.0	0.0	0.1
Maleic anhydride	0.0	0.0	0.0	1.8
Methacrylate acid	0.0	0.0	0.0	8.1
Methyl methacrylate	0.2	0.0	0.0	6.0
Methylpyridine	0.7	0.0	0.0	36.9
Molybdenum and molybdenum compounds	0.0	0.0	0.0	0.5
Dioxins	1.0	0.1	0.0	4.8
Total	244.8	0.0	0.0	1,245.3

Note: The list shows emissions and transfers of 29 substances (out of the 62 PRTR Law-specified substances for group companies in Japan) exceeding 50 kg and dioxins.



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Sites with ISO 14001 Certification

Sites with ISO 14001 Certification (as of March 2017)

Toray: All 12 plants

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

Group companies in Japan: 36 plants at 22 companies¹

Du Pont-Toray Co., Ltd. [Tokai], Toray Opelontex Co., Ltd., Toray Textiles, Inc. [Tokai], Toray Coatex Co., Ltd. [Kyoto, Chemical Products], Toray Hybrid Cord, Inc., 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 Battery Separator Film Co., Ltd., Suido Kiko Kaisha, Ltd., Toray Medical Co., Ltd., Ichimura Sangyo Co., Ltd., Toray International, Inc., Ltd., Chori Co., Ltd., Toray Carbon Magic Co., Ltd.

¹ In addition, 12 companies received certification as affiliated companies on Toray sites.

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

Companies or plants that had acquired ISO14001 certification before joining Toray Group are listed as ISO14001-certified organizations, not as organizations which newly acquired ISO14001 certification in fiscal 2016.

Group companies outside Japan: 56 plants at 42 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., Toray Membrane USA, Inc.

UK

Toray Textiles Europe Ltd.

France

Toray Films Europe S.A.S., Toray Carbon Fibers Europe S.A.

Germany

Euro Advanced Carbon Fiber Composites GmbH, Greenerity GmbH

Italy

Alcantara S.p.A.

Czech Republic

Toray Textiles Central Europe s.r.o.

Hungary

Zoltek Companies, Inc. (Hungary)²

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, P.T. Toray Polytech Jakarta

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, Penfabric Sdn. Berhad [Mill 1, Mill 2, Mill 3, Mill 4], Toray Plastics (Malaysia) Sdn. Berhad

China

Toray Fibers (Nantong) Co., Ltd., Toray Sakai Weaving & Dyeing (Nantong) Co., Ltd., Toray Plastics (Shenzhen) Ltd., Toray Film Products (Zhongshan) Ltd., Toray Plastics Precision (Zhongshan) Ltd., Toray Jifa (Qingdao) Textile Co.,Ltd., Toray Plastics (Suzhou) Co., Ltd., Toray Fibers & Textiles Research Laboratories (China) Co., Ltd., Toray Advanced Materials Research Laboratories (China) Co., Ltd., Toray Polytech (Nantong) Co., Ltd., Toray BlueStar Membrane Co.,Ltd., Toray Plastics (Chengdu) Co., Ltd.

Republic of Korea

Toray Advanced Materials Korea Inc. [Mill 1, Mill 2, Mill 3], STEMCO, Ltd., Toray Chemical Korea Inc. [Mill 1, Mill 2, Mill 3, Mill 4], Toray Battery Separator Film Korea Limited

Taiwan

Toray Advanced Film Kaohsiung Co., Ltd.²

² 2 Companies and plants that newly acquired ISO14001 certification in fiscal 2016.



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Environmental Data for Toray and Principal Group Companies

Environmental Data for Toray and Principal Group Companies (PDF:72KB) [PDF](#)

Environmental Data for 12 Toray Plants and Principal Group Companies

	Emission volume														Principal manufactured products
	GHG emissions	PRTR				Gas emissions			Water emissions			Waste			
		Emissions			Waste transfers	SOx	NOx	Dust	BOD	COD	Water	Recycled	Simple incineration	Landfill disposal	
		Air	Water	Soil & landfill											
10,000 tons CO ₂ /year	tons/year	tons/year	tons/year	tons/year	tons/year	tons/year	tons/year	tons/year	tons/year	million m ³ /year	tons/year	tons/year	tons/year		
Shiga Plant	9.7	4	0	0	48	0	38	5	37	58	19.8	3,595	16	0	<ul style="list-style-type: none"> • Base material of ECSAINE™ man-made suede • LUMIR-ROR™ polyester film • TOPTICAL™ color filter • TORAY-VINO™ home water purifier
Seta Plant	0.2	0	0	0	0	0	0	0	0	0	0.1	50	0	0	<ul style="list-style-type: none"> • TORAY-LON™ acrylic fiber • Medical devices (Inoue Balloon catheters, ANTHRON™ P-U catheters)
Ehime Plant	70	72	12	0	571	253	706	90	143	147	29.9	7,364	25	0	<ul style="list-style-type: none"> • TORAY TETORON™ polyester staple fiber • TORAYCA™ carbon fiber • ROME-MBRA™ reverse osmosis membrane module • TORAY-

															CON TM PBT resin
Nagoya Plant	9.3	19	0	0	38	0	55	2	92	113	30.1	2,963	828	14	<ul style="list-style-type: none"> • AMILANTM nylon resin • TORAY-CONTM PBT resin • Various fine chemicals
Tokai Plant	66.3	55	18	0	50	8	359	3	340	359	19	6,507	50	0	<ul style="list-style-type: none"> • Caprolactam • Terephthalic acid • TORAY TETORONTM polyester chips • TORELINATM PPS resin
Aichi Plant	2.4	0	0	0	8	0	1	0	3	-	1.8	169	1	0	<ul style="list-style-type: none"> • Nylon filament yarn • RAYTELATM plastic optical fiber
Okazaki Plant	8.6	8	0	0	86	0	44	3	7	15	3.5	2,210	0	5	<ul style="list-style-type: none"> • Nylon filament yarn • TORAY WATERLESS PLATETM printing plate • FiltryzerTM hemodialyzers • TORAYVINOTM home water purifier
Mishima Plant	14.4	2	0	0	20	2	77	0	17	23	36.2	787	1	1	<ul style="list-style-type: none"> • LUMIRORTM polyester film • TORAY TETORONTM polyester filament yarn • DORNERTM oral administration prostacyclin PGI₂ derivative • FERONTM natural interferon-β preparation
Chiba Plant	1.7	24	0	0	1	0	10	0	4	47	3.9	2,346	10	11	<ul style="list-style-type: none"> • TOYOLACTM ABS resin

Tsuchiura Plant	2	0	0	0	0	0	5	0	1	-	0.3	370	0	0	<ul style="list-style-type: none"> • TORAY-FAN™ BO polypropylene film
Gifu Plant	7.8	1	0	0	42	0	23	0	10	10	9.9	752	0	1	<ul style="list-style-type: none"> • ECSAINE™ man-made suede • LUMI-RROR™ polyester film • TORELINA™ PPS film
Ishikawa Plant	7.2	4	0	0	2	1	12	0	0	3	4.8	1,792	3	3	<ul style="list-style-type: none"> • TORAY TETORON™ polyester filament yarn • Nylon filament yarn • TORAY-CA™ prepreg
Toray Hybrid Cord, Inc.	1.7	2	0	0	1	1	6	0	2	3	0.9	245	0	0	<ul style="list-style-type: none"> • Tire cord • Carpet pile fiber
Toray Advanced Film Co., Ltd. [Mishima]	0.9	1	0	0	25	0	1	0	0	0	0.4	473	1	1	<ul style="list-style-type: none"> • CER-APEEL™ Release film • LUMI-SOLAR™ PV-back sheet
Malaysia Penfibre Sdn. Berhad [Fibers & Textiles]	8.3	0	0	0	0	2	2	30	1	9	0.2	151	45	43	<ul style="list-style-type: none"> • TORAY TETORON™ polyester staple fiber
France Toray Films Europe S.A.S.	3.2	0	0	0	0	0	22	0	1	10	1.3	3,484	1,787	294	<ul style="list-style-type: none"> • LUMI-RROR™ polyester film



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Third-Party Assurance



**Assurance Statement
related to for Toray Industries, Inc.'s GHG Emissions
for the fiscal year 2016**

Terms of Engagement

This assurance statement has been prepared for Toray Industries, Inc..

Lloyd's Register Quality Assurance Ltd. (LRQA) was commissioned by for Toray Industries, Inc. (hereafter called as the Organisation) to assure its greenhouse gas (GHG) emissions data for the fiscal year 2016, that is, 1 April 2016 to 31 March 2017, (hereafter referred to as "the Report"). The Report relates to the direct GHG emissions and energy indirect GHG emissions from the activities of the Organisation and its consolidated subsidiaries in Japan and overseas.

Management Responsibility

The Organization's management was responsible for preparing the Report and for maintaining effective internal controls over the data and information disclosed. LRQA's responsibility was to carry out an assurance engagement on the Report in accordance with our contract with the Organisation.

Ultimately, the Report has been approved by, and remains the responsibility of the Organisation.

LRQA's Approach

Our verification has been conducted in accordance with ISO 14064-3:2006 Specification with guidance for validation and verification of greenhouse gas assertions to provide limited assurance that GHG emissions data as presented in the Report have been prepared in conformance with the Organisation's in-house reporting procedures taking into consideration the requirements of Japan's Act on Promotion of Global Warming Countermeasures (Act No. 117).

To form our conclusions the assurance engagement was undertaken as a sampling exercise and covered the following activities:

- reviewed processes related to the control of GHG emissions data and records;
- interviewed relevant staff of the organization responsible for managing GHG emissions data and records;
- visiting Ishikawa Plant to establish whether the in-house procedures have been effectively implemented; and
- verified historical GHG emissions data and records at an aggregated level for the fiscal year 2016.

Level of Assurance & Materiality

The opinion expressed in this Assurance Statement has been formed on the basis of a limited level of assurance and at a materiality of the professional judgment of the verifier.

LRQA's Opinion

Based on LRQA's approach nothing has come to our attention that would cause us to believe that the total GHG emissions disclosed in the Report and as summarized in Table 1 below are not materially correct or the Report has not been prepared in conformance with the Organisation's in-house reporting procedures and taking into consideration the requirements of the Japan's Act on Promotion of Global Warming Countermeasures (Act No.117).

LRQA's Recommendations
 The Organisation should continue Improving the quality assurance and control systems with Internal self-verification particularly across its group companies in Japan and overseas.

Signed

Dated: 12 June 2017



Takahiro Ito
 LRQA Lead Verifier
 On behalf of Lloyd's Register Quality Assurance Limited
 Japan Business Centre, Queen's Tower A, 10th Floor
 2-3-1 Minatomirai, Nishi-ku, Yokohama 220-6010, Japan

LRQA reference: YKA4005148

Table 1. Summary of Toray's GHG inventory for the fiscal year 2016

Scope of GHG Emissions	KTonnes CO ₂ e
Direct GHG Emissions (Scope 1)	1,894
Energy Indirect GHG Emissions (Scope 2, Market-based) ¹	370
Energy Indirect GHG Emissions (Scope 2, Location-based) ¹	413
GHG emissions (Market-based) taken into consideration Japan's Act on Promotion of Global Warming Countermeasures (Act No. 117).	2,008

Note 1: Scope 2, Location-based and Scope 2, Market-based are as defined in the GHG Protocol Scope 2 Guidance, 2015.

This Assurance Statement is subject to the provisions of this legal section:

This Assurance Statement is only valid when published with the Report to which it refers. It may only be reproduced in its entirety.

Lloyd's Register Group Limited, its affiliates and subsidiaries, including Lloyd's Register Quality Assurance Ltd. (LRQA), and their respective officers, employees or agents are, individually and collectively, referred to in this Legal Section as "Lloyd's Register". Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.

Due to inherent limitations in any internal control, it is possible that fraud, error, or non-compliance with laws and regulations may occur and not be detected. Further, the verification was not designed to detect all weaknesses or errors in internal controls so far as they relate to the requirements set out above as the verification has not been performed continuously throughout the period and the verification carried out on the relevant internal controls were on a test basis. Any projection of the evaluation of control to future periods is subject to the risk that the processes may become inadequate because of changes in conditions, or that the degree of compliance with them may deteriorate.

The English version of this Assurance Statement is the only valid version. Lloyd's Register assumes no responsibility for versions translated into other languages.

In the case of any conflict between the English and Japanese versions of this legal section, the English version shall prevail.

Guideline Comparative Tables

This report is prepared in accordance with the "core" option of the G4 Global Reporting Initiative (GRI) Guidelines for sustainability reporting.

This report is prepared in accordance with the Responsible Care Code published by the Responsible Care Council of the Japan Chemical Industry Association.

In addition, the following guidelines were used as references in preparing this report:

- Environmental Accounting Guidelines 2005 issued by the Japanese Ministry of the Environment
- ISO 26000: 2010 (Guidance on social responsibility)



Comparative Table with GRI Guidelines (G4)

GENERAL STANDARD DISCLOSURES (in accordance with CORE application level)

Strategy and Analysis		References
G4-1	a. Provide a statement from the most senior decision-maker of the organization (such as CEO, chair, or equivalent senior position) about the relevance of sustainability to the organization and the organization's strategy for addressing sustainability.	> Message from the President
Organizational Profile		
G4-3	a. Report the name of the organization.	> Corporate Outline
G4-4	a. Report the primary brands, products, and services	
G4-5	a. Report the location of the organization's headquarters.	> Head Office/Branches
G4-6	a. Report the number of countries where the organization operates, and names of countries where either the organization has significant operations or that are specifically relevant to the sustainability topics covered in the report.	> Editorial Policy > About Toray
G4-7	a. Report the nature of ownership and legal form.	> About Toray
G4-8	a. Report the markets served (including geographic breakdown, sectors served, and types of customers and beneficiaries).	
G4-9	a. Report the scale of the organization, including: <ul style="list-style-type: none"> · Total number of employees · Total number of operations · Net sales (for private sector organizations) or net revenues (for public sector organizations) · Total capitalization broken down in terms of debt and equity (for private sector organizations) · Quantity of products or services provided 	
G4-10	a. Report the total number of employees by employment contract and gender. b. Report the total number of permanent employees by employment type and gender. c. Report the total workforce by employees and supervised workers and by gender. d. Report the total workforce by region and gender. e. Report whether a substantial portion of the organization's work is performed by workers who are legally recognized as self-employed, or by individuals other than employees or supervised workers, including employees and supervised employees of contractors.	

	f. Report any significant variations in employment numbers (such as seasonal variations in employment in the tourism or agricultural industries).	
G4-11	a. Report the percentage of total employees covered by collective bargaining agreements.	> Corporate Governance and Management Transparency (Dialogue with Labor Unions)
G4-12	a. Describe the organization's supply chain.	> Facilitating CSR Initiatives Throughout the Supply Chain
G4-13	a. Report any significant changes during the reporting period regarding the organization's size, structure, ownership, or its supply chain, including: <ul style="list-style-type: none"> · Changes in the location of, or changes in, operations, including facility openings, closings, and expansions · Changes in the share capital structure and other capital formation, maintenance, and alteration operations (for private sector organizations) · Changes in the location of suppliers, the structure of the supply chain, or in relationships with suppliers, including selection and termination 	N/A
G4-14	a. Report whether and how the precautionary approach or principle is addressed by the organization	> Risk Management
G4-15	a. List externally developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes or which it endorses.	> Guideline Comparative Tables
G4-16	a. List memberships of associations (such as industry associations) and national or international advocacy organizations in which the organization: <ul style="list-style-type: none"> · Holds a position on the governance body · Participates in projects or committees · Provides substantive funding beyond routine membership dues · Views membership as strategic 	> Guideline Comparative Tables > Toray Group's Socially Responsible Procurement, Purchasing and Distribution(International Cooperation in the Textiles and Apparel Industry)
Identified Material Aspects and Boundaries		
G4-17	a. List all entities included in the organization's consolidated financial statements or equivalent documents. b. Report whether any entity included in the organization's consolidated financial statements or equivalent documents is not covered by the report.	> Editorial Policy > About Toray
G4-18	a. Explain the process for defining the report content and the Aspect Boundaries. b. Explain how the organization has implemented the Reporting Principles for Defining Report Content.	> Toray Group's Corporate Social Responsibility > Materiality > CSR Road Map and Progress on Key Performance Indicators in Fiscal 2016
G4-19	a. List all the material Aspects identified in the process for defining report content.	> Materiality
G4-20	a. For each material Aspect, report the Aspect Boundary within the organization, as follows: <ul style="list-style-type: none"> · Report whether the Aspect is material within the organization · If the Aspect is not material for all entities within the organization (as 	> CSR Road Map and Progress on Key Performance Indicators in Fiscal 2016

	<p>described in G4-17), select one of the following two approaches and report either:</p> <ul style="list-style-type: none"> – The list of entities or groups of entities included in G4-17 for which the Aspect is not material or – The list of entities or groups of entities included in G4-17 for which the Aspects is material <ul style="list-style-type: none"> · Report any specific limitation regarding the Aspect Boundary within the organization 	
G4-21	<p>a. For each material Aspect, report the Aspect Boundary outside the organization, as follows:</p> <ul style="list-style-type: none"> · Report whether the Aspect is material outside of the organization · If the Aspect is material outside of the organization, identify the entities, groups of entities or elements for which the Aspect is material. In addition, describe the geographical location where the Aspect is material for the entities identified · Report any specific limitation regarding the Aspect Boundary outside the organization 	<p>> Facilitating CSR Initiatives Throughout the Supply Chain</p>
G4-22	<p>a. Report the effect of any restatements of information provided in previous reports, and the reasons for such restatements.</p>	N/A
G4-23	<p>a. Report significant changes from previous reporting periods in the Scope and Aspect Boundaries</p>	<p>> Editorial Policy</p>
Stakeholder Engagement		
G4-24	<p>a. Provide a list of stakeholder groups engaged by the organization.</p>	<p>> Communication</p>
G4-25	<p>a. Report the basis for identification and selection of stakeholders with whom to engage.</p>	
G4-26	<p>a. Report the organization's approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group, and an indication of whether any of the engagement was undertaken specifically as part of the report preparation process.</p>	<p>> Corporate Governance Report</p>
G4-27	<p>a. Report key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns, including through its reporting. Report the stakeholder groups that raised each of the key topics and concerns.</p>	<p>> Communication</p>
Report Profile		
G4-28	<p>a. Reporting period (such as fiscal or calendar year) for information provided</p>	<p>> Editorial Policy</p> <p>> Guideline Comparative Tables</p> <p>> Contact Us</p>
G4-29	<p>a. Date of most recent previous report (if any).</p>	
G4-30	<p>a. Reporting cycle (such as annual, biennial).</p>	
G4-31	<p>a. Provide the contact point for questions regarding the report or its contents.</p>	
G4-32	<p>a. Report the 'in accordance' option the organization has chosen. b. Report the GRI Content Index for the chosen option (see tables</p>	

	below). c. Report the reference to the External Assurance Report, if the report has been externally assured. GRI recommends the use of external assurance but it is not a requirement to be 'in accordance' with the Guidelines.	
G4-33	a. Report the organization's policy and current practice with regard to seeking external assurance for the report. b. If not included in the assurance report accompanying the sustainability report, report the scope and basis of any external assurance provided. c. Report the relationship between the organization and the assurance providers. d. Report whether the highest governance body or senior executives are involved in seeking assurance for the organization's sustainability report.	> Third-Party Assurance
Governance		
G4-34	a. Report the governance structure of the organization, including committees of the highest governance body. Identify any committees responsible for decision-making on economic, environmental and social impacts.	> Corporate Governance and Management Transparency
Ethics and Integrity		
G4-56	a. Describe the organization's values, principles, standards and norms of behavior such as codes of conduct and codes of ethics.	> Management Philosophy and CSR

SPECIFIC STANDARD DISCLOSURES

Generic Disclosures On Management Approach		
G4-DMA	a. Report why the Aspect is material. Report the impacts that make this Aspect material. b. Report how the organization manages the material Aspect or its impacts. c. Report the evaluation of the management approach, including: · The mechanisms for evaluating the effectiveness of the management approach · The results of the evaluation of the management approach · Any related adjustments to the management approach	> Toray Group's Corporate Social Responsibility > Materiality
ECONOMIC		
Economic Performance		
G4-EC1	Direct economic value generated and distributed	> About Toray > Investor Relations
G4-EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change	> Leveraging the Power of Materials for a Sustainable World > Green Innovation Business Expansion Project

G4-EC3	Coverage of the organization's defined benefit plan obligations	
G4-EC4	Financial assistance received from government	
Market Presence		
G4-EC5	Ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation	
G4-EC6	Proportion of senior management hired from the local community at significant locations of operation	
Indirect Economic Impacts		
G4-EC7	Development and impact of infrastructure investments and services supported	
G4-EC8	Significant indirect economic impacts, including the extent of impacts	
Procurement Practices		
G4-EC9	Proportion of spending on local suppliers at significant locations of operation	
ENVIRONMENTAL		
Materials		
G4-EN1	Materials used by weight or volume	Amount of major raw materials used (Toray Industries, Inc.)758,000 tons
G4-EN2	Percentage of materials used that are recycled input materials	
Energy		
G4-EN3	Energy consumption within the organization	> Conserving Energy and Curbing Global Warming > Environmental Impact Overview
G4-EN4	Energy consumption outside of the organization	
G4-EN5	Energy intensity	> Conserving Energy and Curbing Global Warming > Environmental Impact Overview
G4-EN6	Reduction of energy consumption	
G4-EN7	Reductions in energy requirements of products and services	
Water		
G4-EN8	Total water withdrawal by source	> Environmental Impact Overview
G4-EN9	Water sources significantly affected by withdrawal of water	N/A
G4-EN10	Percentage and total volume of water recycled and reused	

Biodiversity		
G4-EN11	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	> Biodiversity Initiatives
G4-EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas	
G4-EN13	Habitats protected or restored	> Biodiversity Initiatives
G4-EN14	Total number of IUCN red list species and national conservation list species with habitats in areas affected by operations, by level of extinction risk	
Emissions		
G4-EN15	Direct greenhouse gas (GHG) emissions (Scope 1)	> Conserving Energy and Curbing Global Warming
G4-EN16	Energy indirect greenhouse gas (GHG) emissions (Scope 2)	> Environmental Impact Overview
G4-EN17	Other indirect greenhouse gas (GHG) emissions (Scope 3)	
G4-EN18	Greenhouse gas (GHG) emissions intensity	> Conserving Energy and Curbing Global Warming
G4-EN19	Reduction of greenhouse gas (GHG) emissions	> Environmental Impact Overview
G4-EN20	Emissions of ozone-depleting substances (ODS)	> Conserving Energy and Curbing Global Warming(Initiatives to Protect the Ozone Layer)
G4-EN21	NOx, SOx, and other significant air emissions	> Initiatives to Prevent Air and Water Pollution(Air Quality Management) > Environmental Impact Overview
Effluents and Waste		
G4-EN22	Total water discharge by quality and destination	> Initiatives to Prevent Air and Water Pollution(Water Quality Management) > Environmental Impact Overview
G4-EN23	Total weight of waste by type and disposal method	> Initiatives to Reduce Waste > Environmental Impact Overview
G4-EN24	Total number and volume of significant spills	> Environmental Risk Management
G4-EN25	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention 2 Annex I, II, III, and VIII, and percentage of transported waste shipped internationally	
G4-EN26	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the organization's discharges of water and runoff	N/A

Products and Services		
G4-EN27	Extent of impact mitigation of environmental impacts of products and services	<ul style="list-style-type: none"> > Leveraging the Power of Materials for a Sustainable World > Approach to Green Innovation Products > Promoting Recycling Initiatives
G4-EN28	Percentage of products sold and their packaging materials that are reclaimed by category	
Compliance		
G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	> Environmental Risk Management
Transport		
G4-EN30	Significant environmental impacts of transporting products and other goods and materials for the organization's operations, and transporting members of the workforce	> Toray Group Distribution Initiatives
Overall		
G4-EN31	Total environmental protection expenditures and investments by type	> Environmental Accounting
Supplier Environmental Assessment		
G4-EN32	Percentage of new suppliers that were screened using environmental criteria	
G4-EN33	Significant actual and potential negative environmental impacts in the supply chain and actions taken	> Facilitating CSR Initiatives Throughout the Supply Chain
Environmental Grievance Mechanisms		
G4-EN34	Number of grievances about environmental impacts filed, addressed, and resolved through formal grievance mechanisms	
SOCIAL		
LABOR PRACTICES AND DECENT WORK		
Employment		
G4-LA1	Total number and rates of new employee hires and employee turnover by age group, gender and region	Number of newly hired employees (regular employees, Toray Industries, Inc.) Men: 270 Women: 44 Average time on the job (regular employees, Toray Industries, Inc.) Men: 14.2 years Women: 16.1 years
G4-LA2	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation	

G4-LA3	Return to work and retention rates after parental leave, by gender	> Creating a Positive Workplace for Employees
Labor/Management Relations		
G4-LA4	Minimum notice periods regarding operational changes, including whether these are specified in collective agreements	
Occupational Health and Safety		
G4-LA5	Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs	
G4-LA6	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender	> Occupational Safety and Accident Prevention Activities(Toray Group Safety Record)
G4-LA7	Workers with high incidence or high risk of diseases related to their occupation	
G4-LA8	Health and safety topics covered in formal agreements with trade unions	> Safety, Accident Prevention, and Environmental Preservation (Action Policy and Main Activities)
Training and Education		
G4-LA9	Average hours of training per year per employee by gender, and by employee category	
G4-LA10	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	> Promoting Diversity(Re-employment System)
G4-LA11	Percentage of employees receiving regular performance and career development reviews, by gender and by employee category	> Securing and Developing Human Resources to Create New Value
Diversity and Equal Opportunity		
G4-LA12	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity	> About Toray > Promoting Diversity
Equal Remuneration for Women and Men		
G4-LA13	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation	
Supplier Assessment for Labor Practices		
G4-LA14	Percentage of new suppliers that were screened using labor practices criteria	
G4-LA15	Significant actual and potential negative impacts for labor practices in	> Facilitating CSR Initiatives Throughout the

	the supply chain and actions taken	Supply Chain
Labor Practices Grievance Mechanisms		
G4-LA16	Number of grievances about labor practices filed, addressed, and resolved through formal grievance mechanisms	
HUMAN RIGHTS		
Investment		
G4-HR1	Total number and percentage of significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	
G4-HR2	Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained	> Committed to Human Rights
Non-discrimination		
G4-HR3	Total number of incidents of discrimination and corrective actions taken	N/A
Freedom of Association and Collective Bargaining		
G4-HR4	Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights	
Child Labor		
G4-HR5	Operations and suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor	> Toray Group's Socially Responsible Procurement, Purchasing and Distribution
Forced or Compulsory Labor		
G4-HR6	Operations and suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor	> Toray Group's Socially Responsible Procurement, Purchasing and Distribution
Security Practices		
G4-HR7	Percentage of security personnel trained in the organization's human rights policies or procedures that are relevant to operations	
Indigenous Rights		
G4-HR8	Total number of incidents of violations involving rights of indigenous peoples and actions taken	
G4-HR9	Total number and percentage of operations that have been subject to human rights reviews or impact assessments	

Supplier Human Rights Assessment		
G4-HR10	Percentage of new suppliers that were screened using human rights criteria	
G4-HR11	Significant actual and potential negative human rights impacts in the supply chain and actions taken	> Facilitating CSR Initiatives Throughout the Supply Chain
Human Rights Grievance Mechanisms		
G4-HR12	Number of grievances about human rights impacts filed, addressed, and resolved through formal grievance mechanisms	
SOCIETY		
Local Communities		
G4-SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs	
G4-SO2	Operations with significant actual and potential negative impacts on local communities	N/A
Anti-corruption		
G4-SO3	Total number and percentage of operations assessed for risks related to corruption and the significant risks identified	
G4-SO4	Communication and training on anti-corruption policies and procedures	> Compliance with Antitrust Laws and Global Anti-Bribery Regulations
G4-SO5	Confirmed incidents of corruption and actions taken	N/A
Public Policy		
G4-SO6	Total value of political contributions by country and recipient/beneficiary	
Anti-competitive Behavior		
G4-SO7	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes	N/A
Compliance		
G4-SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	> Violations Reported in Fiscal 2016
Supplier Assessment for Impacts on Society		
G4-SO9	Percentage of new suppliers that were screened using criteria for impacts on society	
G4-SO10	Significant actual and potential negative impacts on society in the supply chain and actions taken	> Facilitating CSR Initiatives Throughout the Supply Chain

Grievance Mechanisms for Impacts on Society		
G4-SO11	Number of grievances about impacts on society filed, addressed, and resolved through formal grievance mechanisms	
PRODUCT RESPONSIBILITY		
Customer Health and Safety		
G4-PR1	Percentage of significant product and service categories for which health and safety impacts are assessed for improvement	> Initiatives for Product Safety and Quality Assurance
G4-PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes	N/A
Product and Service Labeling		
G4-PR3	Type of product and service information required by the organization's procedures for product and service information and labeling, and percentage of significant product and service categories subject to such information requirements	
G4-PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes	
G4-PR5	Results of surveys measuring customer satisfaction	> Initiatives for Product Safety and Quality Assurance(Perfecting Systems in Support of Quality Assurance Activities) > Communication with Customers
Marketing Communications		
G4-PR6	Sale of banned or disputed products	N/A
G4-PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship, by type of outcomes	
Customer Privacy		
G4-PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data	
Compliance		
G4-PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	N/A

Comparative Table with ISO 26000 Subjects

Core subjects

- ▼ Organizational governance
- ▼ Human rights
- ▼ Labor practices
- ▼ The environment
- ▼ Fair operating practices
- ▼ Consumer issues
- ▼ Community involvement and development

Organizational governance

Issues	Toray's initiatives
1. Organizational governance	Management Philosophy and CSR
	Message from the President
	Management Strategies and CSR
	Toray Group's Corporate Social Responsibility
	Materiality
	CSR Road Map and Progress on Key Performance Indicators in Fiscal 2016
	Corporate Governance and Management Transparency
	Implementing CSR Activities and Improving CSR Education
	Corporate Ethics and Legal Compliance
	Promoting Diversity
	Communication

Human rights

Issues	Toray's initiatives
1. Due diligence	
2. Human rights risk situations	Committed to Human Rights
	Toray Group's Socially Responsible Procurement, Purchasing and Distribution
3. Avoidance of complicity	Committed to Human Rights
	Toray Group's Socially Responsible Procurement, Purchasing and Distribution
4. Resolving grievances	Establishing a Corporate Culture of Total Respect for Corporate Ethics and Legal Compliance
5. Discrimination and vulnerable groups	Committed to Human Rights
	Promoting Diversity
6. Civil and political rights	Corporate Ethics and Legal Compliance
7. Economic, social and cultural rights	Committed to Human Rights
	Social Contribution Activities
8. Fundamental principles and rights at work	Committed to Human Rights

Labor practices

Issues	Toray's initiatives
1. Employment and employment relationship	Committed to Human Rights
	Securing and 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	Corporate Governance and Management Transparency

	Communication with Employees
4. Health and safety at work	Occupational Safety and Accident Prevention Activities
5. Human development and training in the workplace	Securing and Developing Human Resources to Create New Value

The environment

Issues	Toray's initiatives
1. Prevention of pollution	Safety, Accident Prevention and Environmental Preservation (Safety, Health, Accident Prevention and Environmental Preservation Management)
	Voluntary Initiatives to Reduce Atmospheric Emissions of Chemical Substances
	Initiatives to Prevent Air and Water Pollution
	Initiatives to Reduce Waste
	Environmental Risk Management
	Environmental Impact Overview
2. Sustainable resource use	Approach to Green Innovation Products
	Promoting Recycling Initiatives
	Toray Group Distribution Initiatives
	Conserving Energy and Curbing Global Warming
	Initiatives for Managing Water Resources
	Initiatives to Reduce Waste
	Environmental Impact Overview
3. Climate change mitigation and adaptation	Leveraging the Power of Materials for a Sustainable World
	Green Innovation Business Expansion Project

	Toray Group Distribution Initiatives
	Conserving Energy and Curbing Global Warming
	Environmental Impact Overview
4. Protection of the environment, biodiversity and restoration of natural habitats	Biodiversity Initiatives
	Environmental Risk Management

Fair operating practices

Issues	Toray's initiatives
1. Anti-corruption	Corporate Ethics and Legal Compliance
	Violations Reported in Fiscal 2016
	Establishing a Corporate Culture of Total Respect for Corporate Ethics and Legal Compliance
	Compliance with Antitrust Laws and Global Anti-Bribery Regulations
2. Responsible political involvement	Establishing a Corporate Culture of Total Respect for Corporate Ethics and Legal Compliance
3. Fair competition	Establishing a Corporate Culture of Total Respect for Corporate Ethics and Legal Compliance
	Compliance with Antitrust Laws and Global Anti-Bribery Regulations
4. Promoting social responsibility in the value chain	Toray Group's Socially Responsible Procurement, Purchasing and Distribution
	Toray Group Distribution Initiatives
	Occupational Safety and Accident Prevention Activities
	Communication with Stockholders and Investors
5. Respect for property rights	Communication with Stockholders and Investors

Consumer issues

Issues	Toray's initiatives
1. Fair marketing, factual and unbiased information and fair contractual practices	Communication with Customers
	Communication with the Media
2. Protecting consumers' health and safety	Initiatives for Product Safety and Quality Assurance
3. Sustainable consumption	Leveraging the Power of Materials for a Sustainable World
	Green Innovation Business Expansion Project
	Promoting Life Cycle Management
	Approach to Green Innovation Products
	Promoting Recycling Initiatives
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	Business Continuity Plan Initiatives
7. Education and awareness	Initiatives for Product Safety and Quality Assurance

Community involvement and development

Issues	Toray's initiatives
1. Community involvement	Communication with Local Communities
	Social Contribution Activities
2. Education and culture	Social Contribution Activities (Science and Technology Promotion)
	Social Contribution Activities (Environment and Communities)
3. Employment creation and skills development	Social Contribution Activities (Environment and

	Communities)
4. Technology development and access	Social Contribution Activities (Science and Technology Promotion)
5. Wealth and income creation	
6. Health	Social Contribution Activities (Health and Welfare)
7. Social investment	Social Contribution Activities (Fiscal 2016 Results)



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Editorial Policy

The Toray Group publishes an annual corporate social responsibility (CSR) report in order to communicate its CSR initiatives to stakeholders.

The special features explore how the Group is leveraging the power of materials for a sustainable world, how Toray employees worldwide are helping to build a better world, and how the Group is listening to its employees in order to leverage their individual talents.

Additionally, the report describes the dialogue with stakeholders that helped shape the Sixth CSR Road Map, which is being implemented from fiscal 2017–2019.

Period Covered by this Report

This report covers fiscal 2016 from April 1, 2016 to March 31, 2017. Some content may be current up to July 2017.

Report Boundary

Environmental Data

Covers Toray Industries, Inc. and the following 78 manufacturing subsidiaries (79 companies in all). Occupational safety data also encompasses non-manufacturing companies and covers Toray and 53 group companies in Japan, together with 74 group companies outside of Japan (127 companies in all).

Notes:

1. Environmental data used in this report concerning greenhouse gas emissions by Toray Industries, Inc. has been verified by a third party, Lloyds Register Quality Assurance Limited. Verified data is indicated with a • mark.
2. For group companies and plants newly covered under the scope of environmental data, results are compiled and published using performance data for the fiscal year in which data was first collected as part of the Toray Group. Under Toray's Fifth Medium-Term Environmental Plan, if a target is managed based on an absolute value (such as air emissions of a chemical substance), the target is managed by adding to a baseline value the performance data for the fiscal year in which data was first collected.

Group companies in Japan: 26

Toray Opelontex Co., Ltd., Ogaki Fuso Spinning Co., Ltd., Toray Textiles, Inc., Toray Coatex Co., Ltd., Toray Amtecs Inc., Toray Monofilament Co., Ltd., Toray Hybrid Cord, Inc., Maruichi Fiber Co., Ltd., So-Wa Textile Co., Ltd., Du Pont-Toray Co., Ltd., Toyo Plastic Seiko Co., Ltd., Toray PEF Products Inc., Toray Advanced Film Co., Ltd., Toray KP Films Inc., Toray Battery Separator Film Co., Ltd., Dow Corning Toray Co., Ltd., Toray Fine Chemicals Co., Ltd., Soda Aromatic Co., Ltd., Toray ACE Co., Ltd., Toray Engineering Co., Ltd., Toray Precision Co., Ltd., Suido Kiko Kaisha, Ltd., Toray Medical Co., Ltd., Toray Research Center, Inc., Toyo Jitsugyo Co., Ltd., Toray Carbon Magic Co., Ltd.

Group companies outside Japan: 52

North America

Toray Fluorofibers (America), Inc., Toray Plastics (America), Inc., Toray Resin Co., Toray Membrane USA, Inc., Toray Carbon Fibers America, Inc., Toray Composites (America), Inc., Zoltek Companies, inc., Zoltek de Mexico, S.A. de C.V., Toray Resin Mexico, S.A. de C.V.

Europe

Toray Textiles Europe Ltd., Euro Advanced Carbon Fiber Composites GmbH, Toray Films Europe S.A.S., Toray Carbon Fibers Europe S.A., Alcantara S.p.A., Toray Textiles Central Europe s.r.o, Zoltek Zrt, Greenerity GmbH

Asia

P.T. Acryl Textile Mills, P.T. Century Textile Industry Tbk, P.T. Easterntex, P.T. Indonesia Synthetic Textile Mills, P.T. Indonesia Toray Synthetics, P.T. Toray Polytech Jakarta, Luckytex (Thailand) Public Company Limited, Thai Toray Textile Mills Public Company Limited, Thai Toray Synthetics Co., Ltd., Penfabric Sdn. Berhad, Penfibre Sdn. Berhad, Toray Plastics (Malaysia) Sdn. Berhad, Toray BASF PBT Resin Sdn. Berhad, Toray Fibers (Nantong) Co., Ltd., Toray Polytech (Nantong) Co., Ltd., Toray Sakai Weaving & Dyeing (Nantong) Co., Ltd., Toray Jifa (Qingdao) Textile Co., Ltd., Toray Plastics (Suzhou) Co., Ltd., Toray BlueStar Membrane Co., Ltd., Toray Fibers & Textiles Research Laboratories (China) Co., Ltd., Toray Advanced Materials Research Laboratories (China) Co., Ltd., Toray Plastics (Shenzhen) Ltd., Toray Plastics Precision (Zhongshan) Ltd., Toray Film Products (Zhongshan) Ltd., Toray Medical (Qingdao) Co., Ltd., Toray Advanced Film Kaohsiung Co., Ltd., Toray Plastics (Chengdu) Co., Ltd., Toray Advanced Materials Korea Inc., Toray Chemical Korea Inc., STEMCO, Ltd., Toray WBD Membrane Technology (JS) Co., Ltd., Cangzhou Toray Fine Chemicals Co., Ltd., Toray Kusumgar Advanced Textile Private Limited, Toray Membrane Middle East LLC, Toray Battery Separator Film Korea Limited

Social Data

Covers Toray Industries, Inc. and its consolidated subsidiaries (60 companies in Japan, 98 companies outside of Japan), but scope of reporting may differ for some items.

Economic Data

Covers Toray Industries, Inc. and its 254 consolidated companies (255 companies in all).

Disclaimer:

This report contains forward-looking statements in addition to historical and current facts. These forward-looking statements are assertions or assumptions that were prepared on the basis of available information at the time of publication. Actual future social conditions and results of business activities may differ from any forecasts contained in this report, as a result of changing circumstances.



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External Evaluation

Evaluations from the Perspective of Socially Responsible Investment

Toray was included in the following SRI indices as of March 31, 2017.

Dow Jones Sustainability Index Asia Pacific

Toray is included in the Asia Pacific Index of the Dow Jones Sustainability Indices (DJSI), an SRI index administered by U.S.-based Dow Jones and Switzerland-based RobecoSAM.



MSCI ESG Indexes

Toray is included in the MSCI ESG Indexes. MSCI provides institutional investors (from pension funds to hedge funds) across the globe with various tools to support investment decisions.



Note: The inclusion of Toray in any MSCI Index, and the use of MSCI logos, trademarks, service marks or index names on this page is not an indication that MSCI or its affiliates endorse, warrant or promote Toray. MSCI, MSCI Index names, and logos are trademarks or service marks and are the exclusive property of MSCI or its affiliates.

Ethibel Pioneer & Excellence Registers

Toray is included in the Ethibel Pioneer and Ethibel Excellence investment registers of Forum Ethibel, a Belgian non-profit organization that promotes socially responsible investment.



Morningstar Socially Responsible Investment Index (MS-SRI)

Toray is included in the Morningstar Socially Responsible Investment (MS-SRI) Index. Morningstar Japan K.K. selects 150 listed companies in Japan that have been assessed for outstanding social responsibility, indexing the prices of their shares. MS-SRI is the first SRI index in Japan.



Sompo Japan Nipponkoa Asset Management (SNAM) Sustainability Index

Toray is included in the SNAM Sustainability Index managed by Sompo Japan Nipponkoa Asset Management (SNAM). The SNAM Sustainability Index is an SRI index fund for pension funds and institutional investors that broadly invest in corporations that rate highly for environmental, social and governance (ESG).



Prize of Excellence from the Environmental Communication Awards

The Toray Group CSR Report 2016 was awarded a Prize of Excellence in the category of environmental reporting at the 20th Environmental Communication Awards organized by the Ministry of the Environment, Japan and Global Environmental Forum.

The Environmental Communication Awards recognize excellence in environmental reporting, with the aim of encouraging environmental management and environmental communication by companies and improving the quality of environmental disclosure.



Euronext Vigeo World 120 Index

Toray is included in the Euronext Vigeo World 120 Index. Euronext Vigeo World 120 Index is a trademark of NYSE Euronext, which operates multiple securities exchanges in the U.S. and Europe, and Vigeo Eiris, which provides ESG research.

External Evaluation of Information Disclosure to Investors

In the "Investor Relations" section of its corporate website, Toray provides 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 2016, Toray's publications were evaluated externally by a number of organizations, as shown below.

Organization details	Evaluations
Daiwa Investor Relations Co., Ltd.	Awards for outstanding websites in 2016
Nikko Investor Relations Co., Ltd.	Most outstanding site in overall completeness, in a ranking of listed company websites in 2016
MerComm, Inc. (US)	2016/2017 Mercury Excellence Award in Annual Reports—Overall Presentation (Bronze in the field of chemicals)
League of American Communications Professionals (LACP)	Silver Award in the digital-based reports category, 2016 Vision Awards Annual Report Competition



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