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TORAY
Innovation by Chemistry

TORAY GROUP
CSR REPORT 2019





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Message from the President

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

President, Toray Industries, Inc.



To ensure the sustainability of human life on Earth, solutions to a multitude of challenges are urgently needed—from climate change, to food and water shortages driven by population increases, to resource depletion and energy sustainability, to safety and health concerns. Companies today are expected to help solve these social challenges. Japanese companies have traditionally shown a commitment to public interest capitalism and contributing broadly to society. There has never been a better time to deliver on that commitment.

Since our founding in 1926, we have remained true to our fundamental corporate principle of contributing to society by engaging in business management designed to benefit all stakeholders, including employees, customers, business partners, local communities, and stockholders.

We see Toray Group as a public institution, so it naturally follows that we are doing everything we can to help solve the global issues addressed by the Paris Agreement on climate change and the Sustainable Development Goals (SDGs) adopted at the United Nations.

Our corporate philosophy makes our commitment explicit: “Contributing to society through the creation of new value with innovative ideas, technologies and products.” At Toray Group, we are living up to this mission by delivering innovative technologies and advanced materials that provide truly effective solutions to the challenges the world faces when it comes to balancing development and sustainability. In July 2018, we established the Toray Group Sustainability Vision. In the vision, we introduce the business concepts and mid- to long-term initiatives we have advanced to date and describe the world as envisioned by Toray Group in 2050, identifying challenges and setting specific targets for ourselves to help create that world.

Our current management strategy is guided by our long-term corporate vision, AP-Growth TORAY 2020, which we have had in place since 2011. Under this growth vision, Toray Group is striving to continually expand revenues and profits. Since fiscal 2017, we have been working toward the vision under a three-year medium-term management program, Project AP-G 2019.

One of the key strategies of this program is to expand businesses in growth fields. Toray Group is focusing on Green Innovation businesses, which contribute solutions for environmental, resource, and energy issues, and Life Innovation businesses, which enhance the quality of medical care and contribute to health maintenance and longevity, as group-wide projects.

At Toray Group, social responsibility is fully integrated into our management strategy as a top priority. Our Sixth CSR Road Map is paired with Project AP-G 2019 and has the same target year, fiscal 2019. The key areas we are addressing under the CSR Road Map are corporate ethics and legal compliance, human rights promotion and human resources development, and safety, accident prevention, and environmental preservation. We are making steady progress on our targets in these areas.

This report systematically presents Toray Group's social responsibility initiatives and results for fiscal 2018 and is designed for all of our stakeholders. I invite you to get better acquainted with Toray Group by spending some time with this report.

September 2019

Toray Group Corporate Social Responsibility

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 CSR Officer

Making an All-Out Effort on CSR Initiatives to Position Toray Group as an Enterprise of High Value to All Stakeholders

Hideki Hirabayashi

Vice President, Chief CSR Officer, Toray Industries, Inc.



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 its management philosophy. The Group has set targets based on its CSR Guidelines in its CSR Road Map designed to systematically drive group-wide initiatives in the areas of corporate ethics, legal compliance, environmental preservation, human rights, human resource development, and social contribution. Social issues have been diversifying in recent years. In response, Toray Group aims to play an important role in securing sustainable growth and solving global challenges through its businesses, and it is fully committed to being an enterprise of high value to all stakeholders.

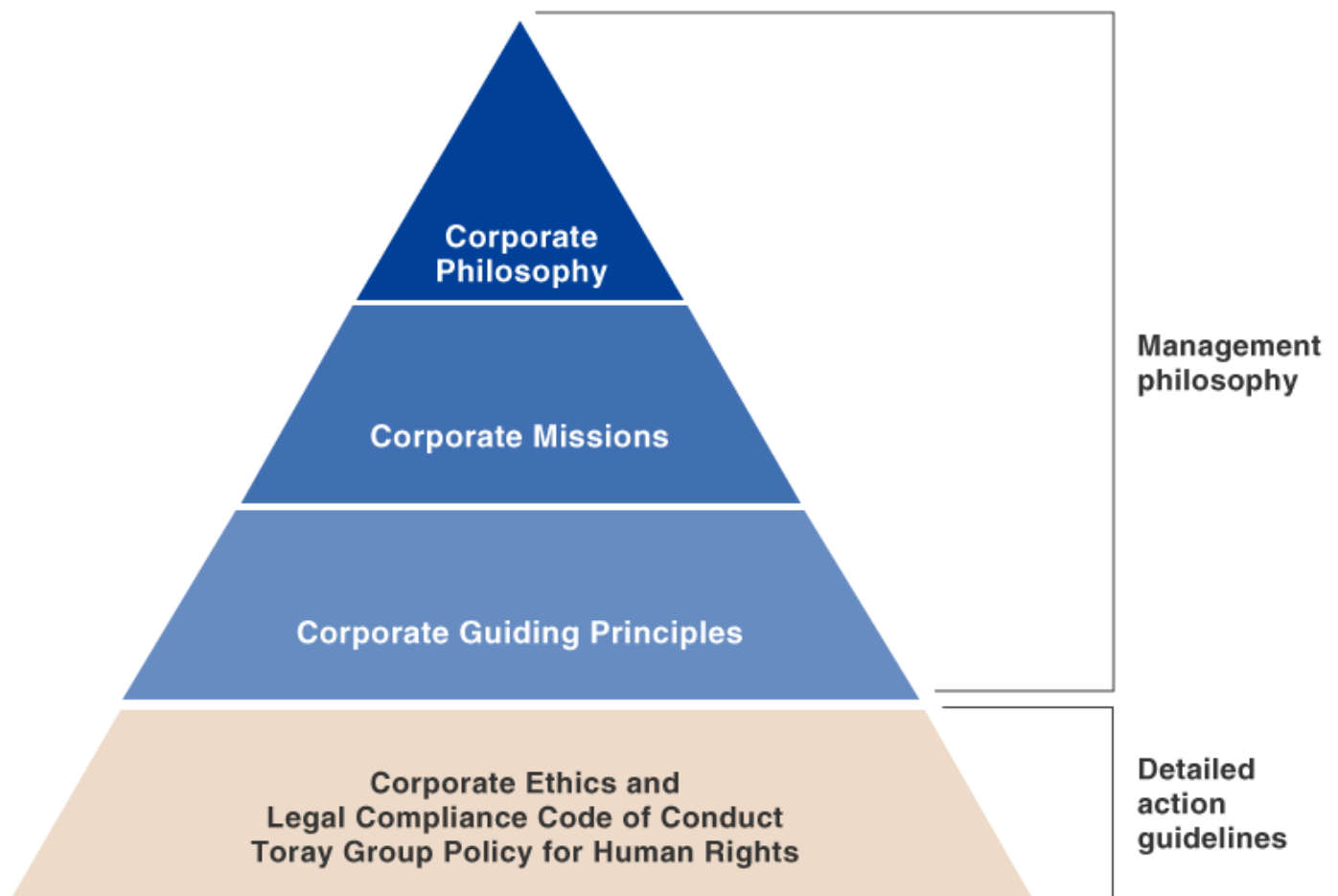
In July 2018, the Group announced the Toray Group Sustainability Vision, declaring its long-term determination to provide innovative technologies and advanced materials that help address global issues. The target year of the Vision is 2050, and Toray Group will do its utmost to help build the better world it envisions.

Toray Group Corporate Social Responsibility

Management Philosophy and CSR

Under a corporate philosophy of "contributing to society through the creation of new value with innovative ideas, technologies and products," 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.

Toray Group Policy for Human Rights (Adopted December 2017)

We at Toray Group believe that respect for human rights is a mandatory principle for corporate management. Therefore, we respect international standards such as the United Nations Universal Declaration of Human Rights and the International Labor Organization's standards in compliance with the laws and regulations of countries and regions where we operate, and will endeavor to fulfill our duty of respect for human rights as a good corporate citizen.

1. We will respect human rights, character and individuality of employees and eliminate harassment and discrimination in workplaces. Furthermore, we will prohibit child labor, forced labor and unfair low-wage labor.

2. We will strive to promote respect for human rights throughout the entire supply chain related to our business activities. In addition, we will not be complicit in infringing on the human rights.
3. We will endeavor to understand adverse human rights impacts associated with our business activities and to avoid or reduce such influences.
4. If it becomes evident that we have caused or contributed to adverse human rights impacts, we will promptly take appropriate actions.
5. We will promote educational activities about issues of human rights for every employee and foster a proper understanding of issues among them.

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.

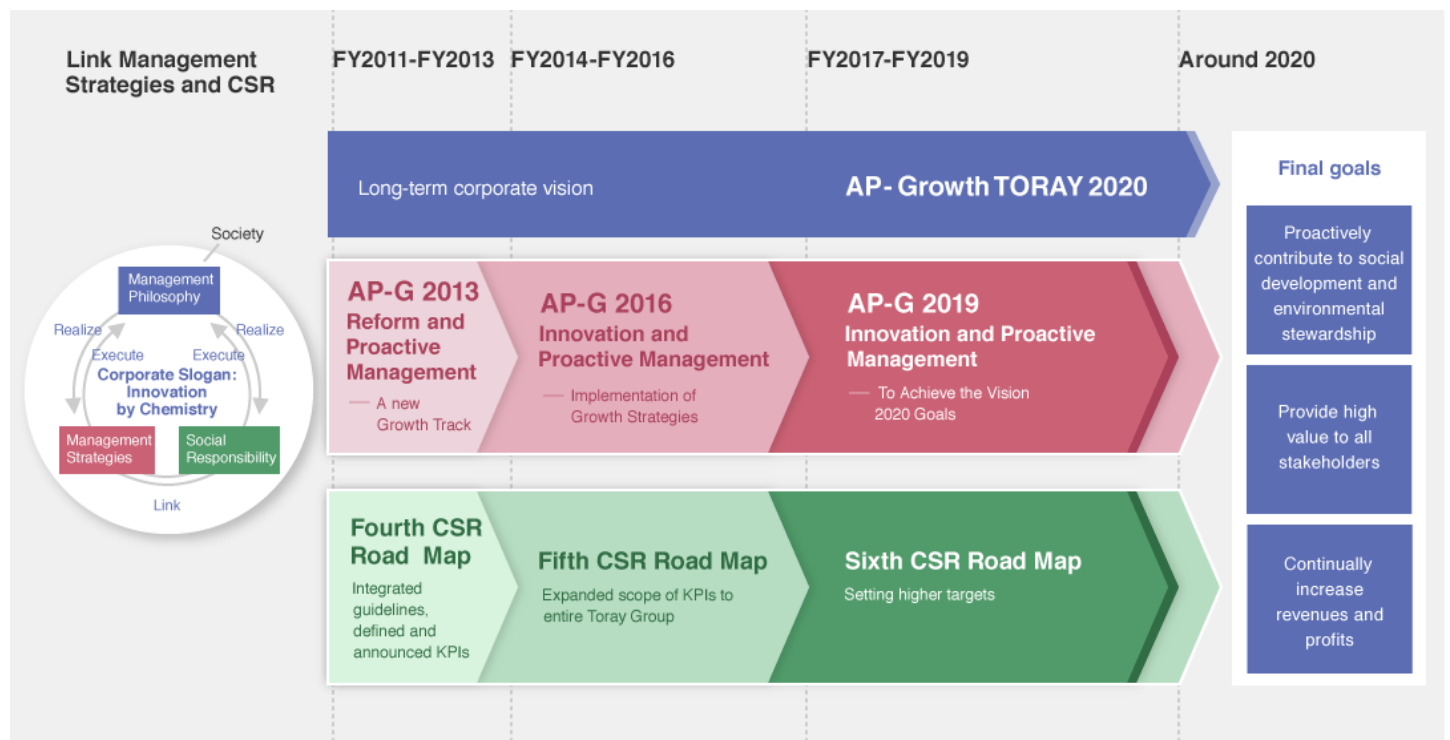
10. Share environmental information with society

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.

Toray Group Corporate Social Responsibility 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, Toray Group implements its management strategies hand-in-hand with its efforts to fulfill social responsibilities.



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 sets the three basic strategies along with five key initiatives to expand businesses, while stressing the importance of practicing social responsibility with 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, based on its corporate philosophy to expand its efforts to realize value creation and ensure more robust environmental, social and governance (ESG) performance.

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 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 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](#)

Toray Group Corporate Social Responsibility

Organizational Structure for Social Responsibility

Working Comprehensively on Social Responsibility, Management Philosophy and Management Strategy

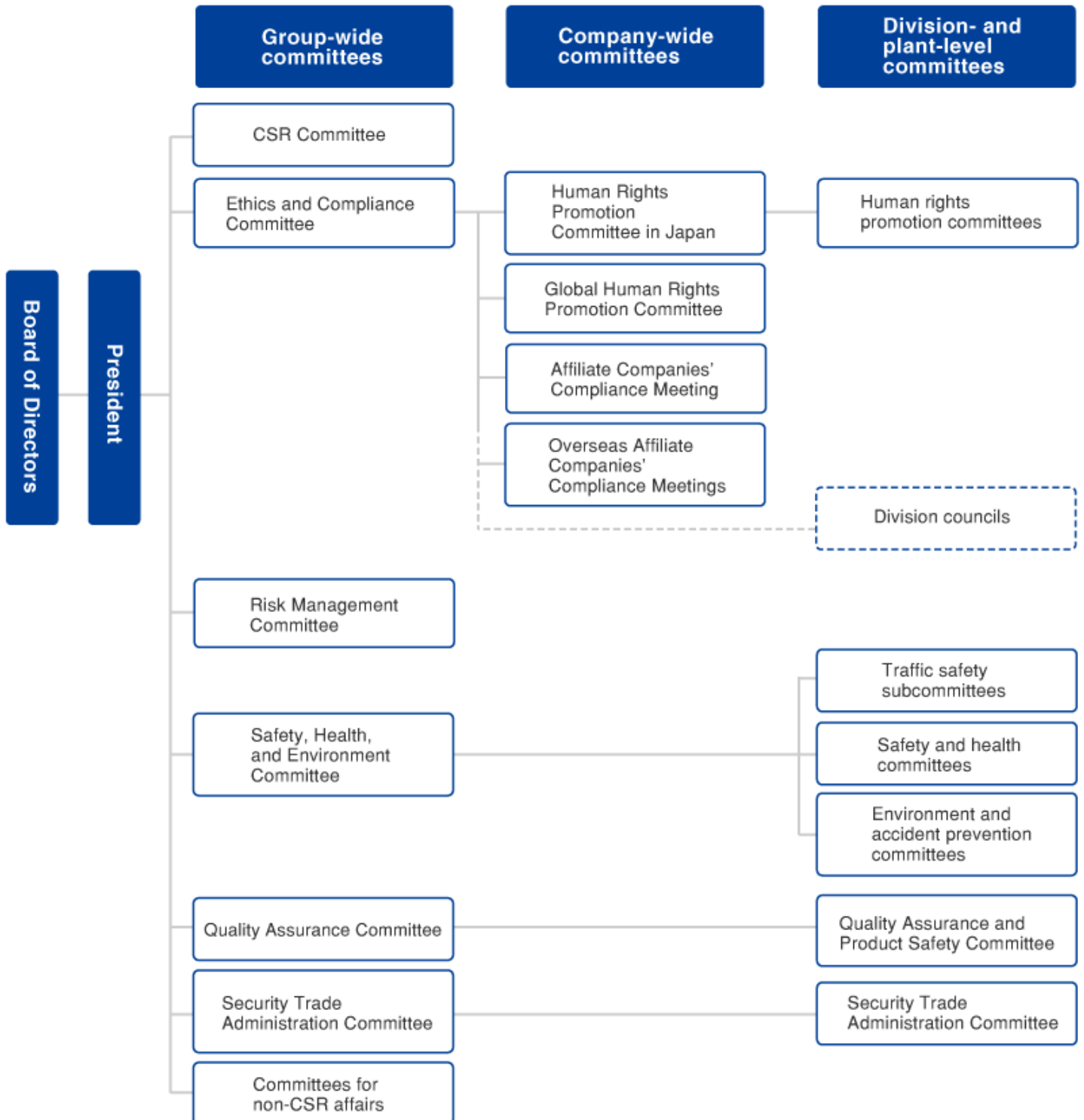
Toray Group takes a comprehensive approach to practicing social responsibility and pursuing its management philosophy and management strategies, recognizing that fulfilling social responsibilities is integral to business growth.



Organizational Structure for Social Responsibility

Toray Group's CSR Committee serves as a group-wide deliberative organization for important issues concerning social responsibility. The committee is aligned with five other group-wide committees and works to accomplish tasks based on the themes in the CSR Guidelines. The issues discussed by the CSR Committee are reported to the Board of Directors.

Committee and Implementation Organization (As of August 1, 2019)



CSR Guidelines & Activity Reports

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

Leverage innovation to address global-scale environmental issues such as climate change and provide solutions for various social issues such as the need to improve the quality of medical care, the need to reduce the burden on medical staff, and health maintenance and longevity, thereby helping to build a more sustainable world.

Governance



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.

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.

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.

Social Initiatives



Human Rights Promotion and Human Resources Development

Respect human rights, provide safe and healthy workplaces for employees, secure and train personnel, and diversify while striving to protect employment.

Product Safety and Quality

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

Facilitating CSR Initiatives Throughout the Supply Chain

Promote CSR initiatives in areas including environmental preservation and human rights throughout the entire supply chain by working closely with suppliers, processing vendors, customers and distribution companies.

Communication

Disclose corporate information in an active, fair and straightforward manner, and 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.

Social Contribution Activities

Proactively participate in local communities and the larger society in order to contribute to development in a way befitting a good corporate citizen.

Environment

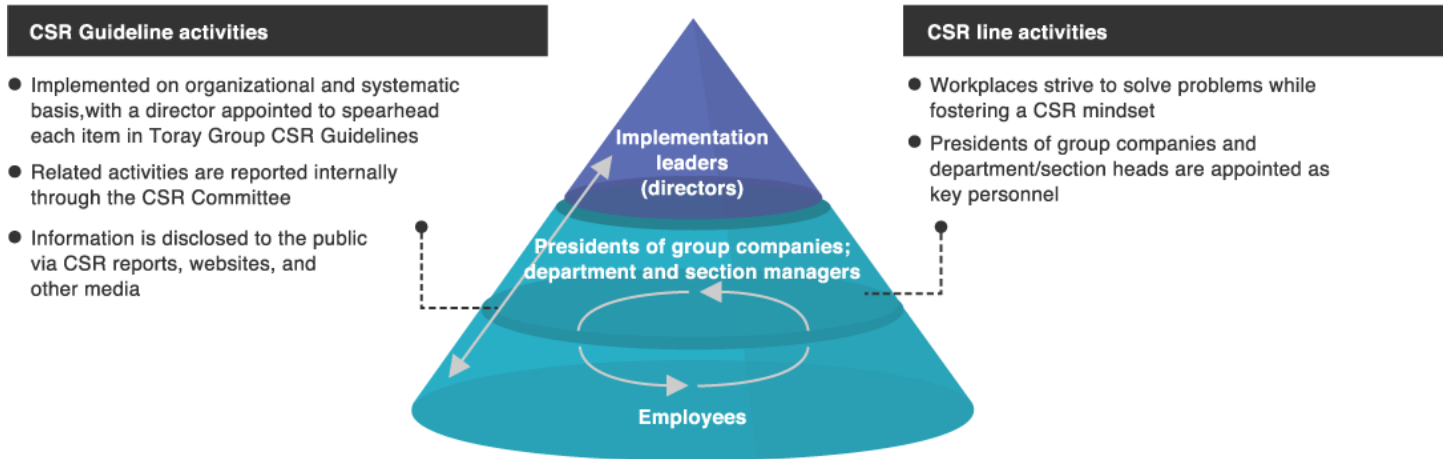


Safety, Accident Prevention, and Environmental Preservation

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

"CSR Guideline Activities" and "CSR Line Activities"

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.

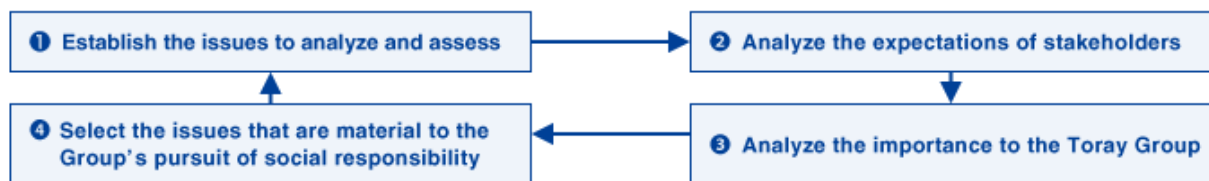


Toray Group Corporate Social Responsibility Materiality

In fiscal 2015, 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

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

Note: The title is the one at that time.

Outside of Japan, the consideration of environmental, social and governance (ESG) factors by investors is gaining more and more mainstream traction. 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 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



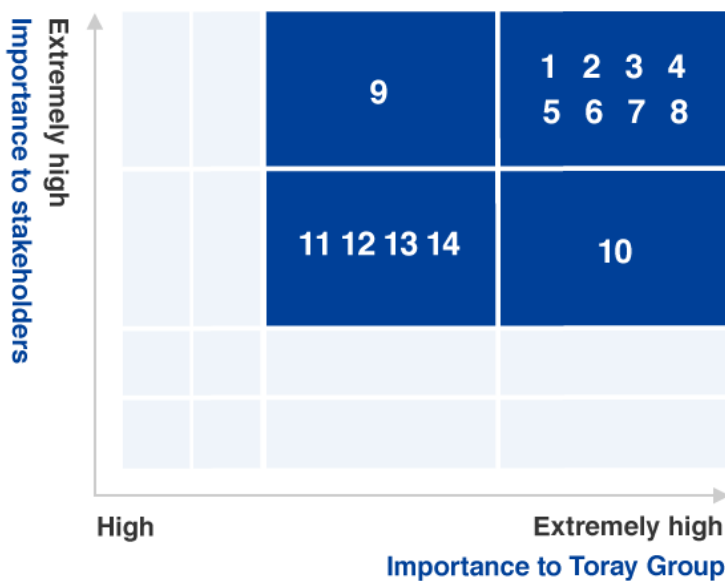
Kaori Kuroda
Executive Director,
CSO Network Japan

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

CSR Road Map and Progress on Key Performance Indicators in Fiscal 2018

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.

Sixth CSR Road Map

The 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.

Sixth CSR Road Map (Fiscal 2017–2019)

The image shows a detailed table titled 'Sixth CSR Road Map' with columns for 'Category', 'CSR Initiative', 'Implementation Status', 'KPI', and 'Fiscal Year' (2017, 2018, 2019). The table is organized into several sections, likely corresponding to different CSR pillars such as Environment, Social, and Governance. Each row represents a specific initiative with its corresponding KPI values and implementation progress for each year.

(PDF:508KB) [PDF](#)

	CSR Guidelines	CSR Road Map goals	Key performance indicators
Value Creation	<p>7 Contributing Solutions to Social Issues through Business Activities</p> <p>Leverage innovation to address global-scale environmental issues such as climate change and provide solutions for various social issues such as the need to improve the quality of medical care, the need to reduce the burden on medical staff, and health maintenance and longevity, thereby helping to build a more sustainable world.</p>	<p>1 Help address social issues by developing innovative materials and new technologies, focusing on the fields of Green Innovation and Life Innovation</p> <p>[Related material issues for CSR]</p> <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 	<p>1 Sales of Green Innovation products (billion yen)</p> <p>2 Sales of Life Innovation products (billion yen)</p> <p>3 Contribution of Toray water treatment products (converted to treated water amount) (tons/day)</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>1 Enhance management transparency, continually reflect stakeholder feedback in management, and fulfill responsibilities to explain corporate activities</p>	<p>1 Number of dialogue meetings with stakeholders</p>
		<p>2 Perform monitoring based on the Basic Policy for Internal Control Systems, in accordance with Japan's Companies Act</p>	<p>2 Board of Directors' positive assessment of the implementation of the Basic Policy for Internal Control Systems (%)</p>
		<p>3 Expand CSR education throughout the Toray Group to facilitate CSR activities</p>	<p>3 Group companies implementing CSR education (%)</p>
Governance	<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>1 No major cases throughout the Toray Group of non-compliance with or violation of bribery regulations, antitrust laws, etc.</p> <p>[Related material issue for CSR]</p> <ul style="list-style-type: none"> Corporate ethics and legal compliance 	<p>1 Number of major violations of laws or ordinances</p>
		<p>2 Promote compliance activities in accordance with the conditions of each country or region</p>	<p>2 Implementing internal legal audits of group companies, group companies improving problems found in internal legal audits in the previous year (%)</p>
		<p>3 Enhance awareness-raising and educational activities relating to corporate ethics and legal compliance</p>	<p>3 Group companies providing information and implementing education on major laws and regulations (%)</p>
Governance	<p>5 Risk Management</p> <p>Under normal conditions, the Toray Group focuses on mitigating risk and preventing crises from occurring. In the event of a crisis, the Group strives to prevent damage from increasing, by bringing the situation quickly under control and normalizing conditions with a prompt and appropriate response.</p>	<p>1 Strengthen corporate risk management throughout the Toray Group and mitigate risks</p>	<p>1 Group companies implementing continuous review of risk management (%)</p>
		<p>2 Instill greater risk management among employees by rolling out risk management education throughout the Toray Group</p>	<p>2 Group companies implementing risk management education (%)</p>
Social Initiatives	<p>8 Human Rights Promotion and Human Resources Development</p> <p>Respect human rights, provide safe and healthy workplaces for employees, secure and train personnel, and diversify while striving to protect employment.</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>[Related material issue for CSR]</p> <ul style="list-style-type: none"> Respecting for human rights 	<p>1 Group companies in Japan implementing human rights education and training (%)</p> <p>2 Group companies that have achieved legally mandated employment rate of persons with disabilities (%)</p> <p>3 Women in management positions (%)</p>
		<p>2 Ensure work environments take into consideration employees' health and build a vibrant and rewarding workplace culture group-wide, working systematically to secure and train personnel</p> <p>[Related material issues for CSR]</p> <ul style="list-style-type: none"> Creating a positive workplace Securing and developing human resources 	<p>4 Group companies that have adopted a medium-term human resource plan (%)</p> <p>5 Number of core staff outside Japan who participate in training courses</p>
			<p>6 Training expenditures per employee (yen)</p>
			<p>7 Available annual paid leave used by employees (%)</p>

1 "Toray Group" refers to Toray Industries, Inc. and Toray Group companies in and outside Japan. "Toray Group (Japan)" refers to Toray Group companies in Japan. "Toray Group (Outside Japan)" refers to Toray Group companies outside Japan.

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.

Reporting scope ¹	Targets ²			Results		Implementation leader ⁴
	Fiscal 2017	Fiscal 2018	Fiscal 2019	Fiscal 2018	Degree of success ³	
1 Toray Group	1 900 billion yen (fiscal 2019 target)			1 786.9 billion yen	1 N.A.	Koichi Abe Executive Vice President, General Manager of Intellectual Property Division, Global Environment Business Strategic Planning Department, Life Innovation Business Strategic Planning Department, Technology Center, Toray Human Resources Development Center, Toray Industries, Inc.
2 Toray Group	2 270 billion yen (fiscal 2019 target)			2 223.0 billion yen	2 N.A.	
3 Toray Group	3 59 million tons/day (fiscal 2019 target)			3 46.80 million tons/day	3 N.A.	
1 Toray Group	1 8 times	1 8 times	1 8 times	1 8 times	1 ○	Yukichi Deguchi Executive Vice President, General Manager of Corporate Strategic Planning Division, Quality Assurance Division, Legal & Compliance Division (Security Trade Administration Department), HS Business Development Department, Toray Industries, Inc.
2 Toray Group	2 90%	2 90%	2 90%	2 94.5%	2 ○	
3 Toray Group	3 100%	3 100%	3 100%	3 100%	3 ○	
1 Toray Group	1 0	1 0	1 0	1 0	1 ○	Yoshio Yamamoto Director, General Manager of Legal & Compliance Division, Toray Industries, Inc.
2 Toray Group	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			2 100%	2 ○	
3 Toray Group	3 100%	3 100%	3 100%	3 100%	3 ○	
1 Toray Group	3 100%	3 100%	3 100%	3 100%	1 ○	Yukichi Deguchi Executive Vice President, General Manager of Corporate Strategic Planning Division, Quality Assurance Division, Legal & Compliance Division (Security Trade Administration Department), HS Business Development Department, Toray Industries, Inc.
2 Toray Group	2 60%	2 80%	3 100%	3 100%	2 ○	
1 Toray Group	1 100%	1 100%	1 100%	1 100%	1 ○	Shigeki Taniguchi Vice President, General Manager of Personnel & Industrial Relations Division, Toray Industries, Inc.
2 Toray Group (Japan)	2 100%	2 100%	2 100%	2 50%	2 △	
3 Toray	3 N.A.	3 N.A.	3 N.A.	3 4.9%	3 N.A.	
4 Toray Group	4 100%	4 100%	4 100%	4 100%	4 ○	
5 Toray Group (Outside Japan)	5 N.A.	5 N.A.	5 N.A.	5 320	5 N.A.	
6 Toray	6 N.A.	6 N.A.	6 N.A.	6 90,261 yen	6 N.A.	
7 Toray	7 N.A.	7 N.A.	7 N.A.	7 89.7%	7 N.A.	

³ 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.

⁴ Names and job titles of implementation leaders are current as of June 25 2019.

⁵ The impact on the environment was extremely minor. For more information, please refer to the "Environmental Risk Management" page in the "Safety, Accident Prevention, and Environmental Preservation" section.

	CSR Guidelines	CSR Road Map goals	Key performance indicators
Social Initiatives	4 Product Safety and Quality Provide safe, highly reliable products by striving to enhance management systems for product safety and quality assurance, and disclose appropriate information.	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 Promote CSR initiatives in areas including environmental preservation and human rights throughout the entire supply chain by working closely with suppliers, processing vendors, customers and distribution companies.	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 Disclose corporate information in an active, fair and straightforward manner, and 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.	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 (%)	
10 Social Contribution Activities Proactively participate in local communities and the larger society in order to contribute to development in a way befitting a good corporate citizen.	1 Pursue ongoing social initiatives throughout the Toray Group in the priority areas of “science and technology promotion,” “environment and communities,” and “health and welfare.”	3 Number of news releases	
		4 Number of responses to investor inquiries 5 Number of meetings with employees or labor unions	
Environment	3 Safety, Accident Prevention, and Environmental Preservation Ensure the safety and health of society and employees, and protect the environment in all business processes, from procuring raw materials and manufacturing to the supply and disposal of products	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
			4 Number of environmental accidents
		2 Reduce environmental impact by working to fulfill the Fifth Medium-Term Environmental Plan (achieve targets by fiscal 2020) [Related material issues for CSR] • Addressing substances with negative environmental impact • Addressing resource and energy issues • Reducing greenhouse gas emissions	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 issues 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

1 “Toray Group” refers to Toray Industries, Inc. and Toray Group companies in and outside Japan. “Toray Group (Japan)” refers to Toray Group companies in Japan. “Toray Group (Outside Japan)” refers to Toray Group companies outside Japan.

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.

Reporting scope ¹	Targets ²			Results		Implementation lead ⁴
	Fiscal 2017	Fiscal 2018	Fiscal 2019	Fiscal 2018	Degree of success ³	
① Toray Group	① 0	① 0	① 0	① 1	① ×	Yukichi Deguchi Executive Vice President, General Manager of Corporate Strategic Planning Division, Quality Assurance Division, Legal & Compliance Division (Security Trade Administration Department), HS Business Development Department, Toray Industries, Inc.
② Toray Group	② 100%	② 100%	② 100%	② 100%	② ○	
① Toray Group	① 40 or more (fiscal 2019 target)			① 150	① ○	Osamu Tsuneki General Manager, Purchasing & Logistics Division, Toray Industries, Inc.
② Toray Group	② N.A.	② N.A.	② N.A.	② 5,294	② N.A.	
③ Toray Group (Only specified consigners in Japan)	③ 1%	③ 1%	③ 1%	③ 1.5%	③ ○	
④ Toray	④ 40% (fiscal 2019 target)			④ 29%	④ △	
① Toray Group	① 1.5 million page views	① 1.5 million page views	① 1.5 million page views	① 1.56 million page views	① ○	Hideki Hirabayashi Vice President, Chief CSR Officer, Chief Legal & Compliance Officer, Director, General Administration & Communications Division; and General Manager, Tokyo Head Office, Toray Industries, Inc.
② Toray Group	② Japan: 70%, outside Japan: 100%	② Japan: 80%, outside Japan: 100%	② Japan: 90%, outside Japan: 100%	② Japan: 100%, outside Japan: 100%	② ○	
③ Toray Group	③ 200	③ 200	③ 200	③ 180	③ △	
④ Toray Group	④ N.A.	④ N.A.	④ N.A.	④ 560	④ N.A.	
⑤ Toray Group	⑤ N.A.	⑤ N.A.	⑤ N.A.	⑤ 14	⑤ N.A.	
① Toray Group	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	① 124%	① ○	Hideki Hirabayashi Vice President, Chief CSR Officer, Chief Legal & Compliance Officer, Director, General Administration & Communications Division; and General Manager, Tokyo Head Office, Toray Industries, Inc.
② Toray Group	② 15,000 or more	② 15,000 or more	② 15,000 or more	② 15,759	② ○	
① Toray Group	① 0	① 0	① 0	① 0	① ○	Kazuyuki Adachi Senior Vice President, General Manager of Manufacturing Division, Textile Technology & Production Division, Toray Industries, Inc.
② Toray Group	② No more than 0.05	② No more than 0.05	② No more than 0.05	② 0.28	② ×	
③ Toray Group	③ 0	③ 0	③ 0	③ 2	③ ×	
④ Toray Group	④ 0	④ 0	④ 0	④ 1 ⁵	④ ×	
⑤ Toray Group	⑤ At least 70% lower than fiscal 2000	⑤ At least 70% lower than fiscal 2000	⑤ At least 70% lower than fiscal 2000	⑤ 72%	⑤ ○	
⑥ Toray Group	⑥ At least 86%	⑥ At least 86%	⑥ At least 86%	⑥ 85.7%	⑥ △	
⑦ Toray Group (Japan)	⑦ At least 15% lower than fiscal 1990	⑦ At least 15% lower than fiscal 1990	⑦ At least 15% lower than fiscal 1990	⑦ 30%	⑦ ○	
⑧ Toray Group	⑧ No more than 61% of 2001 level	⑧ No more than 61% of 2001 level	⑧ No more than 61% of 2001 level	⑧ 51%	⑧ ○	
⑨ Toray Group	⑨ At least 45	⑨ At least 50	⑨ At least 55	⑨ 54	⑨ ○	

³ 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.

⁴ Names and job titles of implementation leaders are current as of June 25 2019.

⁵ The impact on the environment was extremely minor. For more information, please refer to the "Environmental Risk Management" page in the "Safety, Accident Prevention, and Environmental Preservation" section.

External Evaluation

Evaluations from the Perspective of Socially Responsible Investment

Dow Jones Sustainability Index Asia Pacific

Toray Industries 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.



FTSE4Good Index and FTSE Blossom Japan Index

Toray Industries is included in the “FTSE4Good Index Series” and the “FTSE Blossom Japan Index Series” developed by FTSE Russell, a wholly owned subsidiary of the London Stock Exchange Group.



MSCI ESG Indexes

Toray Industries 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 Industries 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 Industries. MSCI, MSCI Index names, and logos are trademarks or service marks and are the exclusive property of MSCI or its affiliates.



Ethibel Pioneer & Excellence

Toray Industries is included in the Ethibel Pioneer and Ethibel Excellence investment registers of Forum Ethibel, a Belgian non-profit organization that promotes socially responsible investment.



CDP Water Security A List Company

Toray Industries was recognized as a Water Security A List company, the highest rating, by CDP, a global non-profit organization. In addition, we received a rating A- in the area of Climate Change.



External Evaluation of Information Disclosure to Investors

In the "Investor Relations" section of its corporate website, Toray Industries provides information about its financial results and management policies and strategies for stockholders and investors. In an effort to disclose information fairly, the Company promptly posts financial data and presentation materials, including English translations, used in its briefings for institutional investors. In fiscal 2018, Toray's publications were evaluated externally by a number of organizations, as shown below.

Organization details	Evaluations
Daiwa Investor Relations Co., Ltd.	Award for outstanding website in 2018
Nikko Investor Relations Co., Ltd.	Most outstanding site in overall completeness (top in textile and apparel sector), in a ranking of listed company websites in 2018
GOMEZ	Silver Prize (top in textile sector) in IR Site Ranking 2018

Sustainability Vision

Providing Innovative Technologies and Advanced Materials to Help Address Global Issues

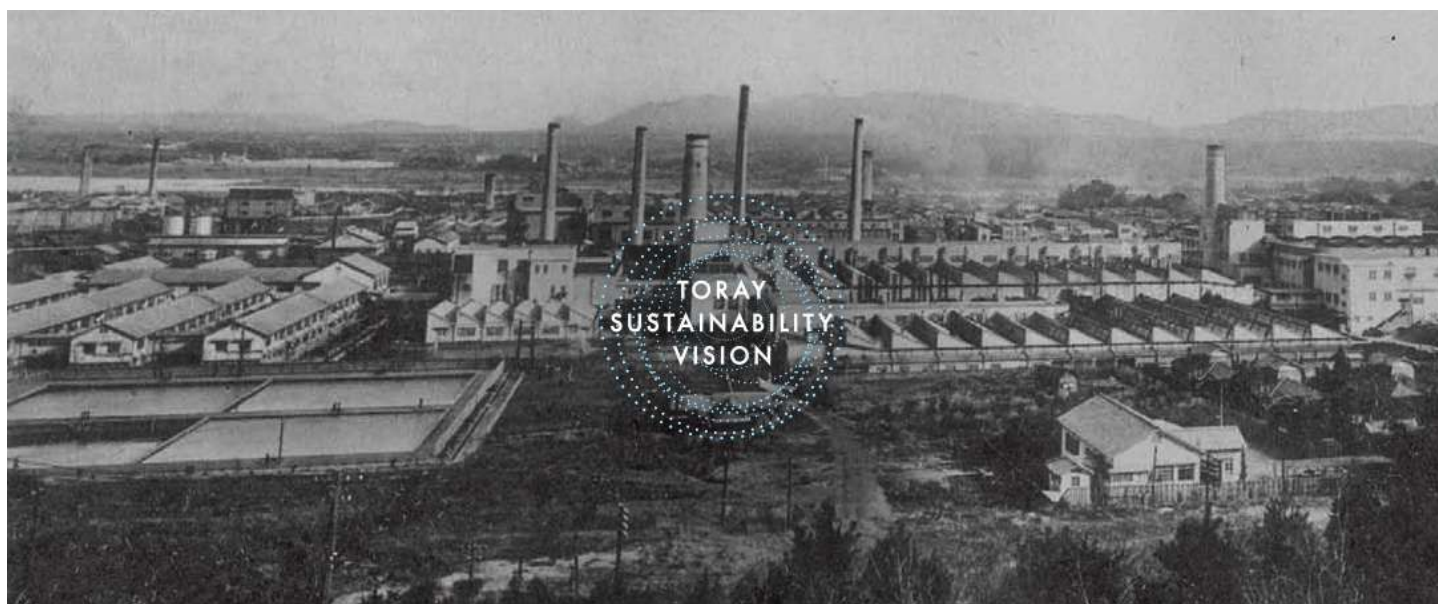
At the Toray Group, we consider sustainability to be the most important global issue of the 21st century.

Today, climate change, water scarcity, and resource depletion are just some of the mounting environmental challenges facing the planet. With the global population expected to increase to some ten billion people by 2050 and aging demographics on the increase worldwide, an interlinked web of global issues are posing ever-graver problems.

Since Toray's founding in 1926, we have always believed that materials can change lives, true to our fundamental corporate principle of contributing to society. At the Toray Group, we make it our mission to deliver innovative technologies and advanced materials that provide real solutions to the challenges the world faces with balancing development and sustainability.

We are convinced that Toray can continue to grow without negatively impacting global sustainability. By delivering on our corporate philosophy of "contributing to society through the creation of new value with innovative ideas, technologies and products," we will do our utmost to address global issues, including the goals of the Paris Agreement and the United Nations Sustainable Development Goals (SDGs), while working closely with our business partners worldwide.

Our Story



Companies are Public Institutions

Since our founding, we at Toray have assumed the role of a public institution and have executed our corporate activities with the foremost goal of contributing to society. Below, we introduce initiatives taken throughout Toray's history that anticipated the modern sustainability movement, while examining our insights and the historical context.

Our founder's slogan was "To generate major benefits for the nation and the economy."

Context

The time was between the First and Second World Wars.

Japan was in the process of transforming from an agricultural to an industrial nation but suffered from a lack of foreign exchange reserves and products for export. To complicate matters, on September 1, 1923, the Great Kanto Earthquake struck 1.9 million people in what is still the greatest natural disaster in Japanese history. This ushered in a period of extended stagnation for the Japanese economy.

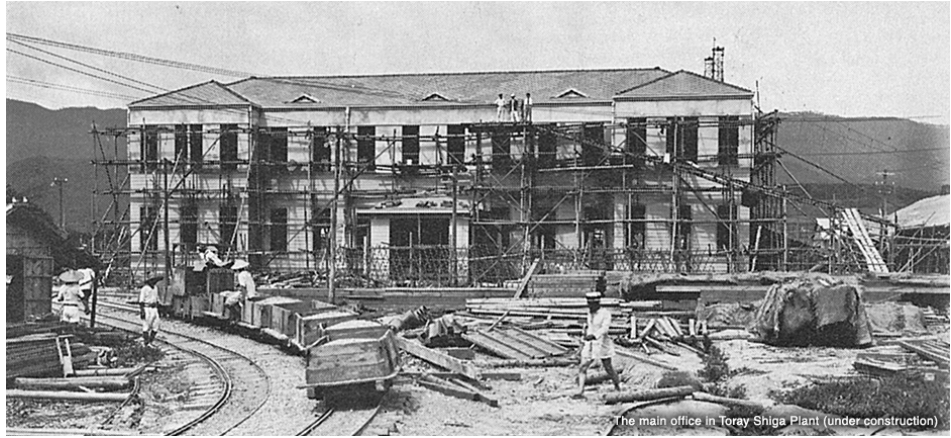
TORAY'S Episode

Toyo Rayon's founding objective was to spur major development of the nation and the economy.

At the time, Japan relied heavily on imports of wool and raw cotton for its clothing. Yunosuke Yasukawa, Toyo Rayon's first chairman and the managing director of what was then Mitsui & Co., believed that by achieving domestic production of rayon made from locally sourced pulp, Japan would be able to reduce its dependence on foreign imports, provide better clothing for the nation, and secure much-needed foreign currency. Following Toyo Rayon's founding in 1926, newly-hired technicians acquired technical knowledge and skills from foreign engineers, while the company dedicated itself to improving equipment and facilities, and to developing new products.

Toray Insights

1. **We will develop the rayon business to become a major contributor to the nation and the economy, both by achieving self-sufficiency in clothing production and in helping secure foreign currency.**
2. **Through young Japanese technicians' early adoption of technical knowledge from foreign engineers and the in-house development of products, facilities, and equipment, we will establish our own production technology and secure competitive strength internationally.**
3. **Based on the belief that "the plant should be a place for the cultivation of human character," our first Shiga Plant manager, Asahiko Karashima (later our second chairman) has focused on educating and nurturing the abilities of our employees while creating a model plant that possesses both the latest technology and high moral standards.**
4. **From establishing a company to scouting for locations, we understand the necessity of examining and paying sufficient attention to labor and waste issues surrounding the manufacturing and chemical industries.**



The main office in Toray Shiga Plant (under construction)

Context

After Japan's defeat in the Pacific War, the country set out to rebuild its economy.

Three years and eight months after the outbreak of the Pacific war in December 1941, the Second World War finally ended with Japan's defeat in August 1945. Following the war, the Supreme Commander of the Allied Powers (GHQ) led efforts to democratize Japan, and the Japanese economy, after suffering the devastating ravages of war, set out on the road to recovery.

TORAY'S Episode

Began a technology partnership with DuPont following the development of original nylon processing technology.

Toyo Rayon succeeded in the synthesis and melt spinning of nylon 6 fiber in 1941 but did not begin plans for its mass production until after the war. In 1951, Toyo Rayon concluded a patent licensing agreement with America's DuPont and began full-scale production of nylon fiber.

Toray Insights

1. **After getting started with nylon production, we can expand our portfolio to include polyester and other fibers.**
2. **We have entered into a technical partnership with DuPont, as we have both been independently developing Nylon 6, and will begin turning our attention to the export market thanks to the added value achieved through high-order processing.**
3. **We have realized the essential importance of collaborating with customers on each application of new materials in order to develop products, improve quality, and open new markets.**



Context

After making a miraculous recovery, the Japanese economy entered a period of rapid economic growth.

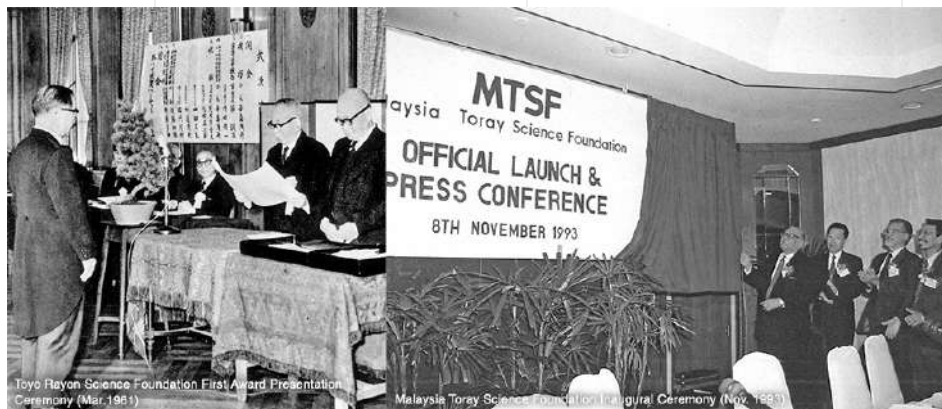
In 1954, the Japanese economy launched into a period of remarkable growth. At the time, people were hungry for prosperity, and economic development became the nation's top priority. Globally, this period saw the beginning of the Cold War, as capitalist and communist nations began their battle for global dominance.

TORAY'S Episode

In 1955, Toyo Rayon expressly laid out a company motto reflecting the management philosophy passed down since its founding. This was revisited in 1986, after which a new corporate motto of "Contributing to society through the creation of new value with innovative ideas, technologies and products." was established. In 1960, Toyo Rayon set up a foundation to promote and support basic science in Japan. In 1993 and 1994, it established independent science foundations in three Southeast Asian nations, where the company had expanded early on.

Toray Insights

1. From the start, Toyo Rayon's main business objective has been to improve people's quality of life by helping develop the nation and the economy; increasing profit has been the means to achieve this.
2. The dramatic expansion of Toray's achievements is due to the support it has received from communities in recognition of its efforts to implement its corporate principle of "contributing to society."
3. As a resource-poor nation, Japan will prosper only if its manufacturing industry is further developed and primary importance is placed on promoting and developing the country's science and technology.



Toyo Rayon Science Foundation First Award Presentation Ceremony (Mar. 1961)

Malaysia Toray Science Foundation Inaugural Ceremony (Nov. 1993)

Context

With the rise of mass consumerism, Japan emerged as a dominant economic power.

Companies from developed nations laid the technical foundation of the manufacturing industries that supported Japan's postwar recovery. Furthermore, the manufacturing industry was able to build its export competitiveness under a fixed exchange rate of 360 yen to the dollar. By 1986 Japan had grown to just below the US as the world's second largest economy by nominal GDP.

TORAY'S Episode

A robust R&D infrastructure for developing new products through original technology

Toray's management understood the essential nature of producing new products and technologies based on the results of its own research and technical developments. To achieve this, the company made sure not to rely on technologies borrowed from the West or other companies and circumvented competition from domestic and international firms by differentiating its products and services.

In 1956, Toray established the Central Research Laboratory in Otsu (Shiga Prefecture) and, in 1962, its Basic Research Laboratory in Kamakura (Kanagawa Prefecture). From here, it devoted itself to developing new products. At the Basic Research Laboratory, Toray anticipated strong results from the creative research and technical developments it achieved based on fundamentals in independent research.

Toray Insights

1. **We have realized the importance of creating new growth businesses through independent basic research in order for Toray to continue to grow.**
2. **As a manufacturing company, strengthening core technologies and basic research is a pivotal and ongoing management issue. Japan's national prosperity also depends on its ability to produce industrial products, making R&D vitally important to the country as a whole.**
3. **We recognize the importance of undertaking ambitious research not only for improving the products in front of us today but also for providing solutions to future challenges 5, 10, and 20 years down the line.**



Central Research Laboratories



Basic Research Laboratories

Context

Dramatic economic growth for both the Japanese and global economies.

The global economy during the 1960's experienced a period of remarkable growth that lasted until the Nixon and Oil shocks of 1971 and 1973, respectively. In Japan, household appliances, automobiles and other consumer durables became widespread in society giving birth to an era of mass consumption. Following the Tokyo Olympics in 1964, the Japanese economy temporarily stagnated after a round of investments in infrastructure but rebounded shortly thereafter, leading to a wave of economic prosperity lasting until 1970.

TORAY'S Episode

Toray's plastics business blossoms into the company's 2nd operational pillar.

Along with Toray's original development of nylon and acrylic fibers, the company licensed polyester technology from the U.K. firm ICI in 1957. With this agreement, Toray became one of the world's leading manufacturers of all three major types of synthetic fiber in the 1960's.

This period saw a rapid growth in plastics with the expansion of the household appliance and automotive industries. Against this backdrop, Toray found success with a business model of guaranteed quality backed by constant exploration of new materials and applications.

Toray Insights

- 1. We recognize that "materials, which form the base of all products, have the power to intrinsically change society."**
- 2. As a materials manufacturer, Toray pioneers new markets and applications alongside its clients, while offering new and innovative materials with a mission to meet the demands of both its customers and society.**



Establishing an overseas manufacturing subsidiary through technology transfers

Context

Countries around the world pursued economic growth through the development of their textile industries.

In the 1960's, America pressured the Japanese textile industry - heavily dependent on US exports - to restrict its international output. Conversely, developing nations hoping to achieve economic independence pursued economic growth through the development of their manufacturing industries. Many countries began implementing industrialization policies. Some looked to Japan, hoping to transfer its fiber and textile technologies given the rapid growth the country had displayed over the past several decades.

TORAY'S Episode

Toray's first joint venture in Thailand in 1963 and the transfer of its technology.

Toray established its first joint venture in Thailand with a business that provided integrated spinning, weaving and dyeing of polyester-rayon fabric. Toray's original objective in setting up this venture was to secure a place to export its staple polyester fiber but began overseas production of yarn and raw fiber at about the same time.

Toray Insights

- 1. While considered a sunset industry by some, we believe that globally the fibers and textiles trade is growing and intend to further expand our business.**
- 2. We will continue to create advanced materials through innovative, cutting-edge research and technical developments, while building a business centered on high value-added products. We will also achieve dramatic reductions in costs by developing transformative operational processes.**
- 3. To best address matters such as demand and competitive pricing, we will carry out production at the most suitable overseas locations and develop product applications according to local needs. Profit received through our global operations will be reinvested in the research and development of new innovative processes and the next generation of advanced materials, creating an on-going cycle of development and growth.**
- 4. Concerning its overseas expansion of operations, Toray will focus on contributing to the long-term growth of local communities in all its business activities.**



Context

Japan and the world find the limits of economic growth.

Within an ongoing climate of rapid economic growth, Japan faced a financial recession in 1964 and 1965. Among companies in the fibers and textiles industry this was known as the "Nylon shock." In the 1970's the global economy suffered two additional shocks with the Nixon and oil crises that occurred in 1971 and 1973.

TORAY'S Episode

A two-pronged strategy of internationalization and diversification

After surviving the Nylon shock, Toray foresaw the eventual maturation of the domestic textile market and began taking measures to expand and develop its overseas operations. The company further sought to diversify into new businesses. To mark this occasion, Toray rebranded with a new name, Toray Industries, Inc., and accelerated the internationalization of its fibers and textiles operations, while diversifying into plastics and other new ventures.

Toray Insights

1. We are beginning plans to expand our plastics business in addition to our core synthetic fiber business.
2. Toray is gaining wide recognition with its Toray Nylon and Toray Tetoron product lines.
3. As part of our corporate redesign, Toray is launching an internal organization for developing new businesses, while simultaneously accelerating the expansion of our overseas fibers and textiles business.



Expansion of Toray's carbon fiber business for the next generation of aircraft structures.

Context

Fluctuation in exchange rates due to Japan-US trade frictions and international compromise.

In 1980, Japan sunk into its longest recession since World War Two, which lasted for three years. It began with the second oil shock brought on by the Iranian revolution. Domestic demand stagnated, but with a booming American economy, Japan expanded its US-bound exports, helping to rekindle the economy. At the same time, this sparked trade tensions between the US and Japan. At the 1985 G7 summit, the Plaza Accord was signed, further exacerbating the yen's appreciation.

TORAY'S Episode

Developing strong and heat-resistant high-performance carbon fibers.

After successfully developing polyacrylonitrile-based carbon fiber, Toray initiated its test production in quantities of a few hundred grams per month in 1970. Thanks to a boost from the "black shaft" revolution, Toray's production saw stable growth early on that translated into the fiber's adoption as a primary structural material in aircraft in the 1980's. Today, the Toray Group manufactures its carbon fiber around the globe in Japan, France, America, and Korea, earning it the number 1 spot globally in terms of both quality and quantity.

Toray Insights

1. Cultivating and expanding a new core business on top of our plastics, fibers, and textiles operations is essential to Toray's long-term ongoing growth.
2. Toray's polyacrylonitrile-based carbon fiber is increasingly being used as a light-weight material with the potential to reduce the environmental burden of textiles.
3. Given the strong, lightweight, and rust-proof qualities of carbon fiber composite materials, we recognize the potential they offer in constructing aircraft and are accelerating our R&D efforts accordingly.



Increased orders for reverse osmosis (RO) membranes used at water treatment facilities

Context

Many regions still lack access to clean water in the 21st century.

Research and development of membranes for reverse osmosis began in the 1960's, with many envisioning their application in seawater desalination. In recent years, membrane treatment methods have proven to offer much lower treatment costs than conventional evaporation methods, leading to large plants placing constant orders for these transformative membranes. In combination with other functional membranes, reverse osmosis membranes are also helping solve the challenge of wastewater reclamation.

TORAY'S Episode

Toray's functional membranes give around 400 million people access to clean water.

Toray began its research on reverse osmosis membranes in the 1960's and started developing its water treatment membrane business in the 1980's. Today, as part of its integrated system proposals, Toray has developed a lineup of membranes with functions covering reverse osmosis, ultrafiltration, microfiltration, and more. Toray currently supplies membranes to 70 countries worldwide, which collectively are capable of processing 60 million tons of water a day. This is equivalent to the amount of water used by around 400 million people.

Toray Insights

- 1. The dramatic increase in global population has created the threat of water shortages around the world. Recognizing that access to clean water is a pressing issue humanity must address, we have initiated early measures to tackle this challenge.**
- 2. From the start, we have advanced R&D that aims to make seawater desalination a reality and have led comprehensive efforts to improve Toray's manufacturing efficiency. With current bases positioned in Japan, America, Europe, China, Korea, and the Middle East, our seawater desalination plants will begin taking orders on a global scale.**
- 3. Toray will provide pivotal support in national projects to develop large-scale, high-efficiency desalination plants.**



Reverse-osmosis Membrane Elements ROMEMBRA™



Photo provided by Sembcorp Industries Seawater Desalination Plant

Context

With a long-term plan in place, Toray continues pursuing future challenges.

The 20th century was defined by war. Even today, regional conflicts continue to unfold, trade wars escalate between superpowers, and even talk of conflict in space begins. Against this backdrop, the United Nations has taken the lead in efforts to address global challenges through international collaboration in order to ensure the continued well-being of humanity and the environment. For its part, Toray has established a long-term plan in continuing to pursue new challenges moving forward.

TORAY'S Episode

Believing perseverance is power, Toray maintains a steady management philosophy.

Toray has focused special attention on basic research to create innovative products. While some products take as much as fifty or sixty years to find market success, Toray's tenacious investments in R&D have borne fruit in a rich and broad portfolio. With a management philosophy that perseverance is power, Toray has continued to honor its dividend policy towards its shareholders, while providing consistent support to sports and culture through long-term sponsorships of worldwide women's tennis tournaments, the Shanghai International Marathon, and more.

Toray Insights

- 1. Toray will engage in research activities inspired by the twin slogans of "long-term continuity" and "the deeper, the newer." Centered on its core technologies, Toray will pursue research and technical developments with long-term objectives firmly in mind.**
- 2. We intend to contribute to society directly through our business activities and will work to solve social and environmental issues concerning the planet and the health and longevity of human society through the power of materials.**



The Future



Goals : A Better World in 2050



A net zero emissions world, where greenhouse gas emissions are completely offset by absorption

A world where resources are sustainably managed

A world with a restored natural environment, with clean water and air for everyone

A world where everyone enjoys good health and hygiene



Accelerating measures to counter climate change

Realizing sustainable, recycling-based use of resources and production

Providing clean water and air

Contributing to better medical care and hygiene for people worldwide

5 Commitments for 2030

Supplying Green Innovation Products



4fold

Supply four times more Green Innovation products (products that help to solve issues related to the global environment, resources, and energy). This will avoid eight times more CO₂ emissions in the value chain. ※1

Supplying Life Innovation Products



6fold

Supply six times more Life Innovation products (products that enhance public health, improve the quality of medical care, and contribute to health maintenance and longevity).

Annual Water Filtration Throughput



3fold

Triple the total annual volume of water treated using Toray's water treatment membranes. ※2

Reducing GHG Emissions



30% Reduction

Reduce greenhouse gas emissions in production activities by 30% per unit of sales across the entire Toray Group by introducing renewable energy or taking other initiatives. ※3

Reducing Water Consumption per Unit of Sales



30% Reduction

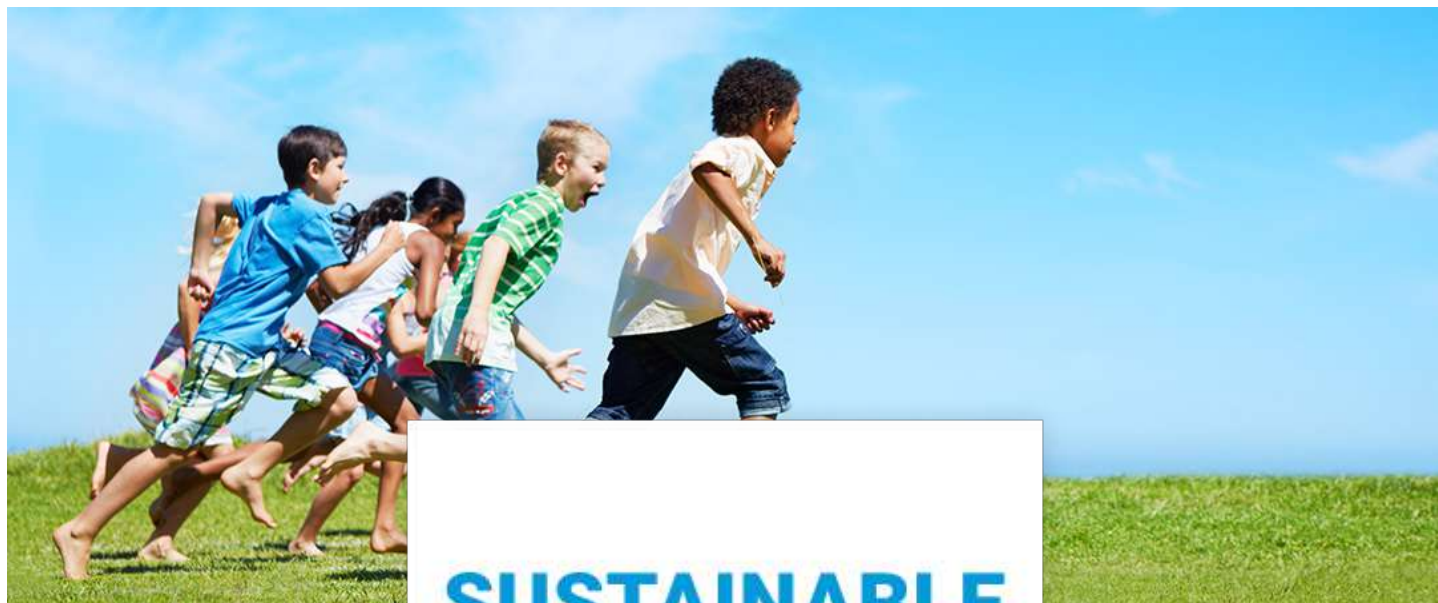
Reduce water usage in production activities by 30% per unit of sales across the entire Toray Group.

The baseline year for quantitative targets is fiscal 2013.

- ※1 For CO₂ emissions avoided in the value chain, Toray calculates the CO₂ emissions reduced throughout the value chain of products in accordance with the chemical sector guidelines of the Japan Chemical Industry Association, the International Council of Chemical Associations (ICCA), and the World Business Council For Sustainable Development (WBCSD).
- ※2 Toray calculates water treated with Toray's water treatment membranes by multiplying the amount of fresh water that its ultrafiltration water treatment membranes can produce per day, including reverse osmosis (RO), ultrafiltration (UF) and membrane separation bioreactors (MBR), by the number of membrane elements sold.

※3 In Japan, Toray works to surpass the reduction target set for the industrial sector by the Japanese government (absolute emissions reduced by 7%), which is based on the Paris Agreement. With the use of renewable energies and other zero emission power sources rising worldwide, the Toray Group aims to employ zero-emission power sources at a rate equivalent to or better than the targets in each country by 2030.

SDGs in Action



**SUSTAINABLE
DEVELOPMENT
GOALS**

Sustainable Development Goals for Humanity

The SDGs are the successor to the Millennium Development Goals from 2000, a global effort to eliminate extreme poverty and promote human dignity. They are a powerful commitment to tackle 17 of the most urgent issues facing the world today. The goals are also inextricably interlinked, in that achieving one of them helps ensure the success of the others. For example, our efforts toward Climate Action impact our Responsible Production and Consumption goal. Gender Equality and Good Health and Well-Being help further the goal of No Poverty and promote Peaceful and Inclusive Societies, as reduced inequality and illness encourage economic prosperity.

Now is the time for action; a unique opportunity to greatly impact future society. In this respect the SDGs are without parallel, as they target issues of a sufficiently broad scope that affect all humanity. They are about striving for the creation of a more peaceful and inclusive society and making sure no-one gets left behind. They are about making the world safer and more sustainable, while at the same time promoting economic development and increased prosperity. To realize such challenging yet vital goals, we are all asked to devote our efforts to contributing toward achieving the SDGs.

17 GOALS TO TRANSFORM OUR WORLD



Toray's SDG Initiatives: Realizing our Sustainability Vision



AFFORDABLE AND CLEAN ENERGY



CLIMATE ACTION

- Accelerating measures to counter climate change -



Curbing CO₂ emissions throughout the life cycle of products

Toray provides lightweight and strong carbon fiber that can reduce the weight of aircraft and automobiles, to improve fuel economy and reduce CO₂ emissions.



Building a renewable energy economy

Toray supplies materials for use in renewable energy technologies including wind and solar energy, and in hydrogen conversion, storage, and fuel cells.



Reducing CO₂ emissions in manufacturing

Toray actively strives to reduce CO₂ emissions in manufacturing, through process improvements that conserve energy, use renewable energy and reduce the use of coal.



RESPONSIBLE CONSUMPTION AND PRODUCTION

- Realizing sustainable, recycling-based use of resources and production -



Using non-fossil resources (bioresources)

Toray works to reduce the world's dependency on fossil fuel resources by manufacturing non-edible plant-based fibers and developing materials and fuels using biotechnologies and membrane separation technology.



Promoting product recycling

Toray facilitates recycling of its diverse products including fibers, resins, films, and carbon fiber.



Reducing waste at production sites

Toray implements measures to use resources more effectively, practices recycling, and works to reduce waste.



CLEAN WATER AND SANITATION



LIFE BELOW WATER



LIFE ON LAND

- Providing clean water and air -



Providing safe water using membrane technologies

Toray supplies water treatment technologies for the desalination, purification, and reuse of water to address water scarcity and reduce environmental impacts.



Managing water usage at plants and preventing air and water pollution

Toray pursues greater reuse of water, purification of exhaust ventilation and wastewater, and appropriate management of chemical substances at its plants. In areas where water resources are particularly scarce, Toray takes additional steps to curb water intake.



Providing ultrafine filter fibers for cleaner air

Toray supplies proprietary ultrafine fiber non-woven fabrics that remove particulates from the air, delivering cleaner air around the world.



Inspiring interest in the environment

Toray supports education to raise awareness of environmental issues such as water scarcity.



GOOD HEALTH AND WELL-BEING

- Contributing to better medical care and hygiene for people worldwide -



Contributing to better public health by preventing infection, and more

Toray supplies advanced material products such as protective clothing to help secure human health.



Improving the quality of medical care with innovative technologies and advanced materials

Toray supplies DNA microarrays for early diagnosis of diseases and innovative drugs that support people's health.



Contributing to longevity

Toray manufactures advanced clothing that can monitor biological information and aging assistive products that support longevity and enhance the quality of life.

Comments from Thought Leaders

Comments are made on the basis of information publicly available as of September 2019.



Kaori Kuroda

Executive Director, CSO Network Japan (served until September 30, 2019)

In July 2018, Toray publicly announced its vision for the future, “The World as Envisioned by the Toray Group in 2050,” seeking to address the shared global challenges set out in the Sustainable Development Goals (SDGs) and the Paris Agreement. Characteristically, Toray is using this vision as the starting point for backcasting as it pursues four initiatives to make a contribution with its innovative technologies and advanced materials.

Also in the Toray Group Sustainability Vision, Toray set out various quantitative targets that are to be attained by fiscal 2030. This vision is being promoted and linked with the medium-term management program, Project AP-G 2019, and also the Sixth CSR Road Map, which was formulated in line with CSR Guidelines, both of which were launched in 2017.

As last year, this year’s report gives a status report on the CSR Road Map, based on the ten items of the CSR Guidelines. I would like to focus my comments on the two following points in particular.

Contributing Solutions to Social Issues through Business Activities

The Green Innovation Business Expansion Project and the Life Innovation Business Expansion Project are both key growth areas identified under Project AP-G 2019, and both of these have been showing robust performance. In terms of Green Innovation, there has also been a definite increase in CO₂ emissions avoided by using Toray Group products. Furthermore, in terms of greenhouse gas emissions as part of measures to mitigate climate change, Toray has consistently achieved its target of maintaining greenhouse gas emissions at least 15% lower than the 1990 level through 2020. Since the adoption of the Paris Agreement, which calls for greenhouse gas emissions to be reduced to zero by the middle of this century, various measures to fight global warming have been accelerated. I expect the Toray Group to make further efforts in this field.

Supply Chain

It is increasingly important to ensure the promotion of CSR throughout the supply chain, including respect for human rights. The cumulative number of business partners that Toray Group companies have requested to practice CSR rose from 3,170 in fiscal 2017 to 5,294 in fiscal 2018. In addition, the number of group companies that have requested their suppliers to practice CSR has reached 150, in line with targets. For business partners that require further investigation concerning actual business practices, improvements are being made with the implementation of on-site surveys, including visits and interviews. Going forward, I hope that, with the cooperation of stakeholders, further efforts will be made to conduct impact assessments and engage in continuous monitoring.

Kaori Kuroda

Profile (as of September 30, 2019)

Executive Director, CSO Network Japan.

Following a career in the private sector, Kaori Kuroda worked for the Center on Japanese Economy and Business at the Columbia University School of Business and The Asia Foundation Japan Office, before joining CSO Network Japan in 2004. From 2007 to 2011 Kuroda was involved in developing the ISO 26000 guidance on social responsibility, representing the views of Japanese NGOs. She is also a member of the Sustainable Development Goals (SDGs) Promotion Roundtable Meeting, a former President of Japan Civil Society Network on SDGs (serving as Advisor since July 2019), and a Board member of the Japan Society for International Development (JASID). She has a master's degree from Harvard University Graduate School of Education.



Takeshi Shimotaya

Executive Director

The Global Alliance for Sustainable Supply Chain (ASSC)

The Toray Group Policy for Human Rights was adopted in December 2017, following the principles set out in the United Nations Guiding Principles on Business and Human Rights. It is critical that all employees maintain respect for human rights with a solid understanding of the concepts of human rights that are shared around the world, including the Universal Declaration of Human Rights, which states that all human beings are born free and equal and upholds the right to pursue happiness. It is similarly important for human rights to be practiced in corporate activities, and necessary to provide education to raise awareness across the Group about policies on human rights. The Sixth CSR Road Map includes key performance

indicators (KPIs) on implementing human rights education and training, however this applies only to Toray Group companies in Japan. As a next step, it will therefore be necessary to follow-up with KPIs that includes the implementation of education and training that will result in Toray's approach to human rights being shared with group companies outside Japan, as well. Internationally, it is the case that governments and companies are advancing human rights initiatives based predominantly on the United Nations Guiding Principles. Many countries in Europe have issued their own action plans on human rights and companies are expected to implement human rights due diligence to prevent or mitigate actual or potential risks of human rights infringements in their business activities. Various laws that oblige companies to report on such processes are also being formulated by individual countries, such as the UK Modern Slavery Act, and the implementation of such laws and processes cannot be delayed any further. In Japan, the foreign technical intern training program for workers from other countries has been criticized overseas as a form of modern slavery, and confirmation of the actual status is required, including in the supply chain. In addition, the Guiding Principles call for the establishment of an effective grievance mechanism, including for those people who may be directly and indirectly affected by corporate activities, whether it be in relation to stakeholders or in the supply chain.

Although Toray Group has developed structures to promote human rights in Japan and overseas, and can respond via its helpline and other means to any internal reports of human rights violations, the next step for the Group should be to respond to these international developments and move to engage in human rights due diligence and construct a grievance mechanism based on the Guiding Principles.

Takeshi Shimotaya

Profile

Takeshi Shimotaya held responsibilities in various areas with a heavy industries enterprise, including HR, general affairs, and health and safety. As the key person in charge of occupational health and safety, he compiled health and safety management principles and designed and implemented an occupational health and safety internal audit system. He was then involved in the launch of a new company engaged in an environment-related business, before moving to the United Kingdom in July 2007. In the UK, he received an MSc from the University of East Anglia in environmental studies, and an MBA from the University of Lancaster. He has been participating in the UN Forum on Business and Human Rights since 2013. He is dedicated to promoting corporate efforts to raise awareness of the UK Modern Slavery Act and resolve supply chain-related issues.



Takeshi Mizuguchi

Professor, Faculty of Economics
Takasaki City University of Economics

Expectations for True Solutions

I would like to express my respect for Toray Group's efforts over the course of many years to pioneer new business fields using its own unique technologies. The Group's conviction that materials can change lives is introduced in the Toray Group Sustainability Vision, and the phrase "power of materials" is used to describe this in the Japanese version. This phrase resonates very strongly with me. The world needs the power of materials more than ever today, given the grave, unprecedented challenges that humanity faces.

Without materials, any products—clothing, homes or transportation equipment—cannot be produced, and of course, the production of materials takes energy. At the same time, however, according to the Special Report on Global Warming of 1.5 °C of the Intergovernmental Panel on Climate Change (IPCC) issued in 2018, average global temperatures have already increased by 1 °C. It seems that torrential rains, floods and other climate disasters now occur almost every year. If an increase of a 1 °C affects our lives this harshly, it is absolutely imperative that we keep the increase under 1.5 °C. That is why by around 2050 the world must effectively reduce greenhouse gas emissions to zero. The question is: what kind of materials can meet this global imperative?

Meanwhile, marine plastics are also posing a challenge to ecosystems. Although bioplastics and biodegradable plastics could be the answer, if production using plant-based materials results in the destruction of forests this would further aggravate global warming. Moreover, the impact of climate change is causing the water cycle to change on a global scale, bringing with it the possibility that water shortages could affect agricultural production. We need a solution for this incredibly complex simultaneous equation with many factors—from materials production, to energy, plant-based materials, forest conservation, and the water cycle—and it could well be found in the power of materials.

On this point, Toray Group has identified "Value Creation" among the themes of its CSR Guidelines and has set the quantitative target of achieving sales of 900 billion yen in Green Innovation businesses. Given that total consolidated sales in fiscal 2018 amounted to 2,380 billion yen, this is an extremely ambitious target. Toray has already achieved many results. It is my hope and expectation that these results will be developed into true solutions for social systems that will be capable of comprehensively resolving the complex challenges I have just described.

Takeshi Mizuguchi

Profile

Graduated from Tsukuba University in 1984 and earned a doctorate in economics from Meiji University. After working at a trading company and at an auditing firm, in 1997 he became a lecturer at the Faculty of Economics of Takasaki City University of Economics, and was appointed professor in 2008. His primary fields of research include responsible investment and the disclosure of non-financial information. He has served as the chair of the Green Bond Review Committee, and as a member of the High Level Meeting on ESG Finance, both of which are bodies under the auspices of the Ministry of the Environment of Japan. His major publications include *ESG Investment: A new form of capitalism* (Nikkei Publishing Inc.), *Responsible Investment: Changing the future with capital flows* (Iwanami Shoten, Publishers), and *The Era of Sustainable Finance: ESG/SDGs and the bond markets* (author and editor, Kinzai).

CSR Guidelines & Activity Reports

Contributing Solutions to Social Issues through Business Activities

Value Creation

Leverage innovation to address global-scale environmental issues such as climate change and provide solutions for various social issues such as the need to improve the quality of medical care, the need to reduce the burden on medical staff, and health maintenance and longevity, thereby helping to build a more sustainable world.



Basic Approach

Global environmental issues continue to escalate, marked by climate change, rising CO₂ concentrations, and population growth-induced water shortages and resource depletion. More than seven billion people live on Earth, a number that is expected to surpass 10 billion by 2050. Meanwhile, developed countries as well as many emerging countries are expected to face rapid population aging, as average lifespans increase and birthrates decline. In the world of the 21st century, the most critical shared challenges are to resolve global-scale environmental issues and to provide healthcare that helps people lead healthy, independent lives, which involves delivering high-quality medical care that reduces the burden on both patients and medical staff.

Under the medium-term management program, Project AP-G 2016, Toray Group implemented the Green Innovation Business Expansion Project (Green Innovation Project) and the Life Innovation Business Expansion Project (Life Innovation Project) to expand business in growth sectors. The Group established the Global Environment Business Strategic Planning Department and the Life Innovation Business Strategic Planning Department to oversee the Green Innovation Project and Life Innovation Project, respectively, with the meetings that board members attend and by other bodies following up on the progress made. The Group is continuing to implement these group-wide projects, which are overseen directly by the president, under the new medium-term management program, Project AP-G 2019, which was launched in fiscal 2017.

In the Green Innovation Project, Toray Group aims to facilitate the transition to a sustainable and recycling-oriented society, based on its stated commitment to management that prioritizes responsibility for the global environment. The Group is endeavoring to help address resource, energy, and global environmental issues with its Green Innovation approach. For example, the Group is leveraging innovative weight-reducing materials and energy-efficient processes to help reduce greenhouse gas emissions, and utilizing technology integration to further advance R&D for non-fossil materials.

To address social issues in the medical and healthcare field, Toray Group has established its Life Innovation business, which focuses on helping to improve the quality of medical care and reduce the burden on medical staff, as well as to contribute to health maintenance and longevity. Under the Life Innovation Project, the Group has identified the products and services that are important in expanding the business group-wide.

Structure

For more information on the structure for implementing the Green Innovation and Life Innovation projects, please visit the links for the related topics in the Activity Reports below.

CSR Road Map Targets and Results

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]

- Contributing to the solution of environmental issues through business activities
- Contributing to health maintenance and longevity through business activities
- Initiatives for managing water resources

01

■KPI

Sales of Green Innovation products

■Reporting scope

Toray Group

■Fiscal 2019 Target

900.0 billion yen

Fiscal 2018 Result

786.9 billion yen

02

■KPI

Sales of Life Innovation products

■Reporting scope

Toray Group

■Fiscal 2019 Target

270.0 billion yen

Fiscal 2018 Result

223.0 billion yen

03

■KPI

Contribution of Toray water treatment products (converted to treated water amount) (tons/day)

■Reporting scope

Toray Group

■Fiscal 2019 Target

59.0 million tons/day

Fiscal 2018 Result

46.8 million tons/day

Looking to the Future

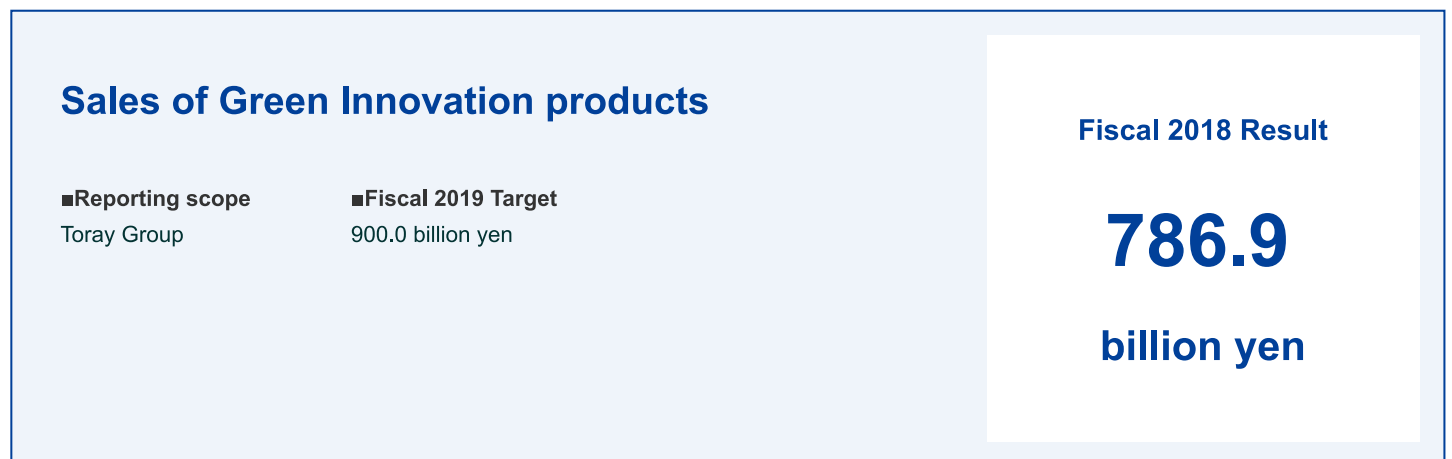
In fiscal 2018, the Green Innovation Project generated consolidated net sales of 786.9 billion yen. The CO₂ emissions avoided by using Toray Group products increased due to business growth. The Group will continue to help address resource, energy, and global environmental issues through Green Innovation businesses.

In fiscal 2018, the Life Innovation Project generated consolidated net sales of 223.0 billion yen. Moving forward, Toray Group will continue to leverage its strengths in advanced materials in Life Innovation fields. In the Pharmaceuticals & Medical Products Business, the Group will accelerate its entry into new fields such as diagnostic medicines.

Green Innovation Business Expansion Project

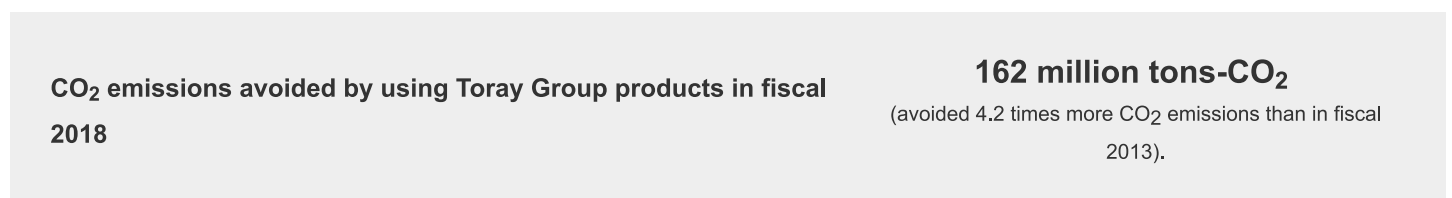
 Materiality Focus

Value Creation



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.

Sales in Green Innovation businesses have steadily increased since the start in 2011, reaching consolidated net sales of 786.9 billion yen in fiscal 2018. In the medium-term management program, Project AP-G 2019, which started in fiscal 2017, Toray Group set a challenging target of 900 billion yen in net sales from Green Innovation businesses on a consolidated basis and aims to expand its environment-related businesses. CO₂ emissions avoided by using Toray Group products have been steadily increasing with the expansion of the business, reaching 162 million tons-CO₂ in fiscal 2018¹ (avoided 4.2 times more CO₂ emissions than in fiscal 2013).

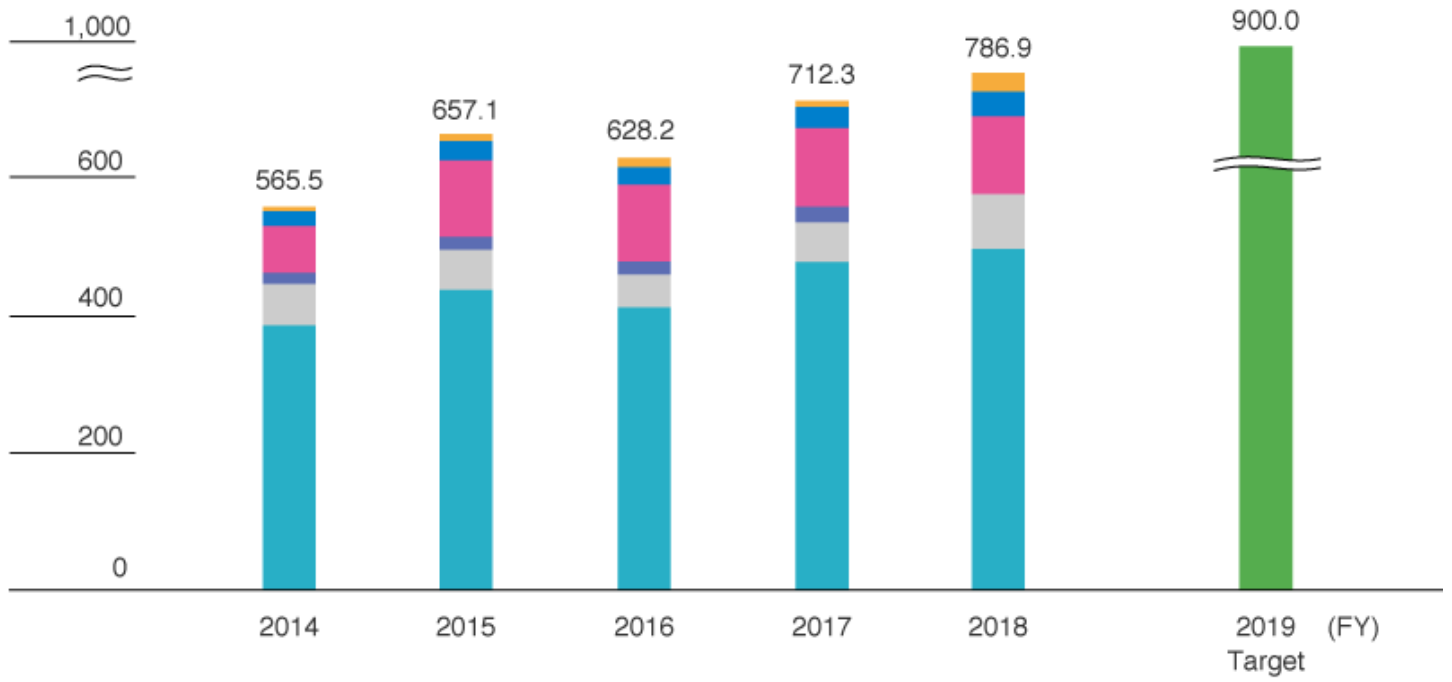


¹ For CO₂ emissions avoided in the supply chain, Toray Industries, Inc. calculates the CO₂ emissions reduced throughout the value chain of products in accordance with the chemical sector guidelines of the Japan Chemical Industry Association, the International Council of Chemical Associations (ICCA), and the World Business Council For Sustainable Development (WBCSD).

Sales of Green Innovation Businesses (Toray Group)



(billion yen)



Related Information

[> Toray's Green Innovation](#)

Promoting Life Cycle Management

Materiality Focus

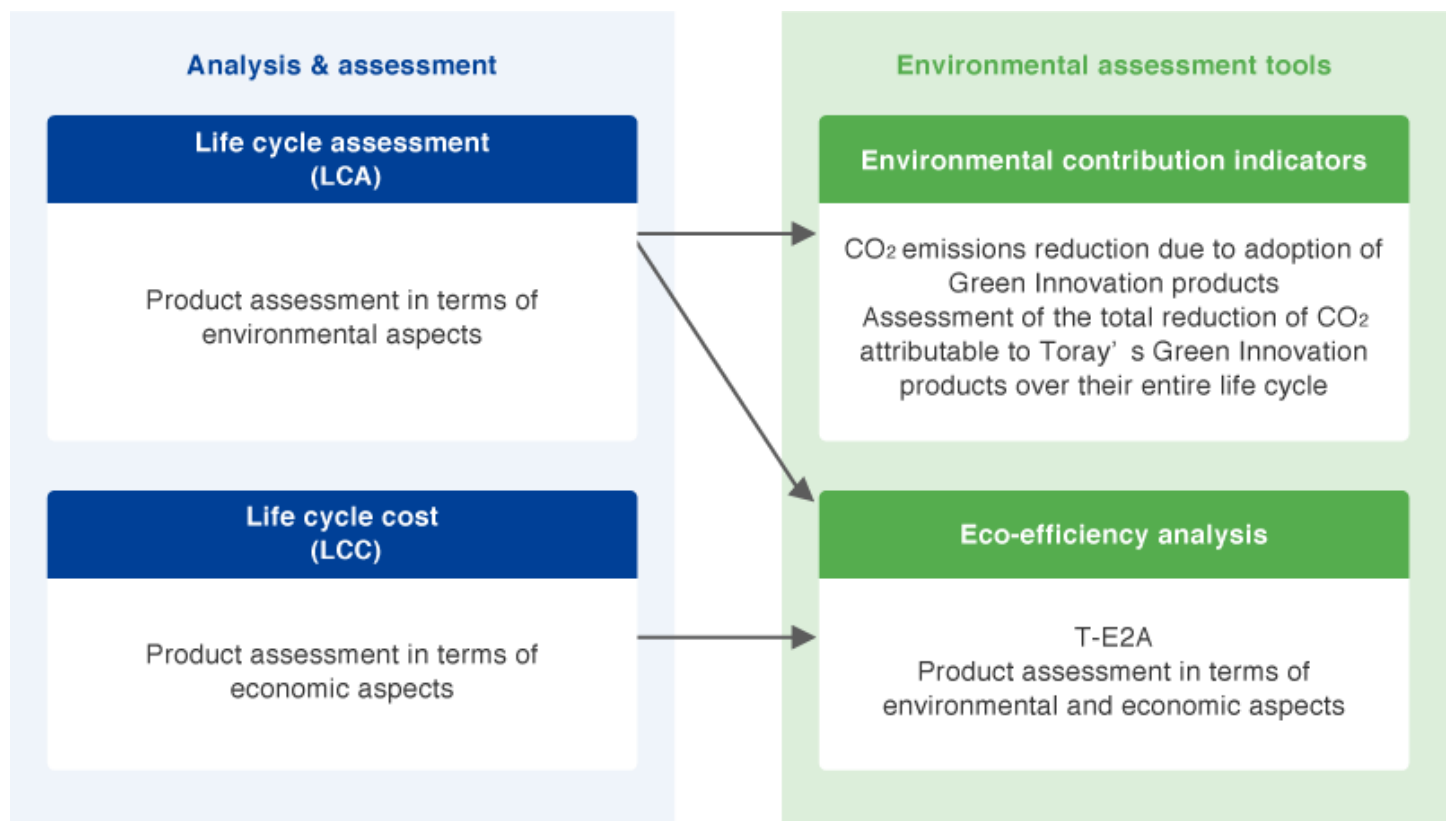
Value Creation

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. In this respect, Toray Group practices life cycle management. Life cycle management is the basis for 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 will have on the environment and ecosystems over its life cycle.

² T-E2A is an environmental analysis tool developed by Toray Industries, Inc. 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 Industries' Life Cycle Management Approach

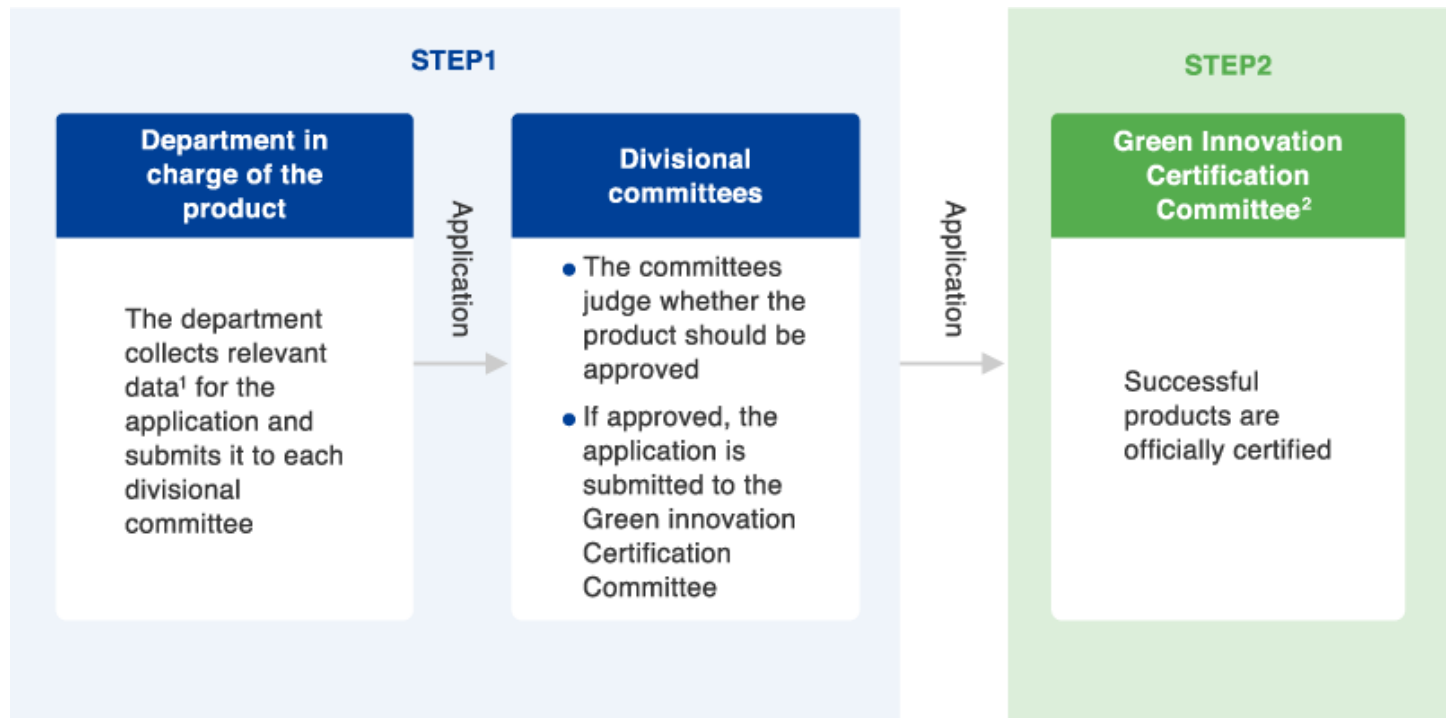


Approach to Green Innovation Products

Value Creation

The following diagram outlines 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 and by the group-wide Green Innovation Certification Committee. Those able to demonstrate objective evidence of providing an effective solution for global environmental issues are certified as Green Innovation products.

Green Innovation Product Certification Process



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

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

Green Innovation Products Released in Fiscal 2018

Development of Reverse Osmosis Membrane Element Optimized for Sewage and Wastewater Treatment, Turns Wastewater into a Viable Resource

In April 2018, Toray Industries launched ROMEMBRA™ TLF Series reverse osmosis (RO) membranes, which offer excellent removal of impurities and permeability with better resistance against membrane fouling.

Compared with conventional RO membranes for wastewater treatment, ROMEMBRA™ TLF Series membranes deliver 30% better permeability, which will help to reduce operating costs. In addition, the Company developed new membrane surface coating technology to maintain enhanced durability against membrane cleaning chemicals, resulting in a longer membrane replacement cycle. This comes amid recent serious water shortages in the United States, China and emerging countries, and worsening water quality due to rapid industrial development, which have become global issues. With the introduction of the ROMEMBRA™ TLF Series, Toray Group aims to meet rapidly growing demand for sewage and wastewater treatment, while also seeking to expand applications for other industrial water treatment such as ultrapure water purification and boiler feedwater treatment.

Introduction of ultrasuede™ BX Non-Woven Material with Suede Texture, Featuring World's Highest Level of Plant-Based Raw Material Content

In January 2019, Toray Industries launched sales of ultrasuede™ BX, a non-woven material with a suede texture that realizes the highest proportion at about 30% of plant-based raw material content—in this case polyester and polyurethane—in the world.

ultrasuede™ BX uses polyester polymerized with ethylene glycol made from the waste molasses of sugarcane, and polyurethane composed of polyol made of castor oil from inedible castor oil plant, which gives the suede texture material the world's highest content of plant-based raw materials. ultrasuede™ BX is the world's first non-woven material with a suede texture made using plant-based polyurethane.

Until now, polyurethane made of plant-based raw materials faced issues with its technical properties resulting in low durability and unsatisfactory texture, and so could not be used for a non-woven suede-like material. To solve these issues, the Company employed original design technologies — from polymer and material structure design to polyurethane coagulation technology — to develop ultrasuede™ BX, which delivers superior texture and functionality with its high durability, air permeability, and easy maintenance.

Toray Industries anticipates that ultrasuede™ BX — as an eco-friendly material that offers both superior feeling and functionality — will be widely adopted for a broad range of applications, including automotive interiors, furniture, and fashion.



ultrasuede™ BX non-woven material with a suede texture

CSR Guidelines & Activity Reports - Contributing Solutions to Social Issues through Business Activities

Promoting Recycling Initiatives

Value Creation

As a manufacturer of a wide range of materials, Toray Group is promoting various recycling initiatives that ensure that the earth's resources are efficiently utilized. The Group will further expand its supply of recycled products and adopt more recycling technologies to help reduce plastic waste and promote a sound cycle of resource usage.

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.

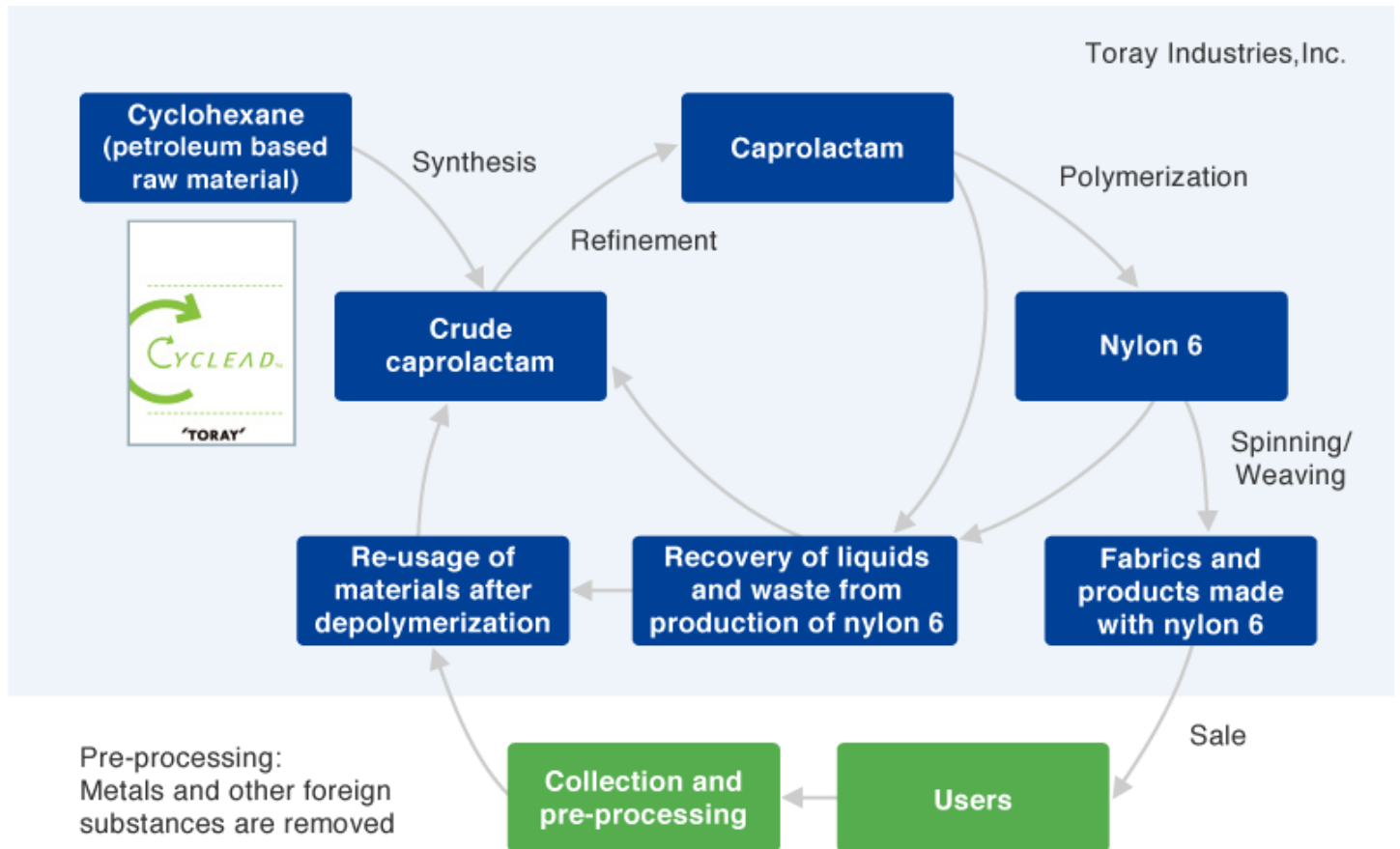
Fiber and Textile Recycling

Toray Industries, Inc. has two brands in the fiber and textile recycling field. CYCLEAD™ is a system for collection and circulation type recycling which is used for recycling nylon 6 fibers, etc. Ecouse™¹ is a regeneration type recycled polyester fabric made from recycled PET bottles, etc.

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

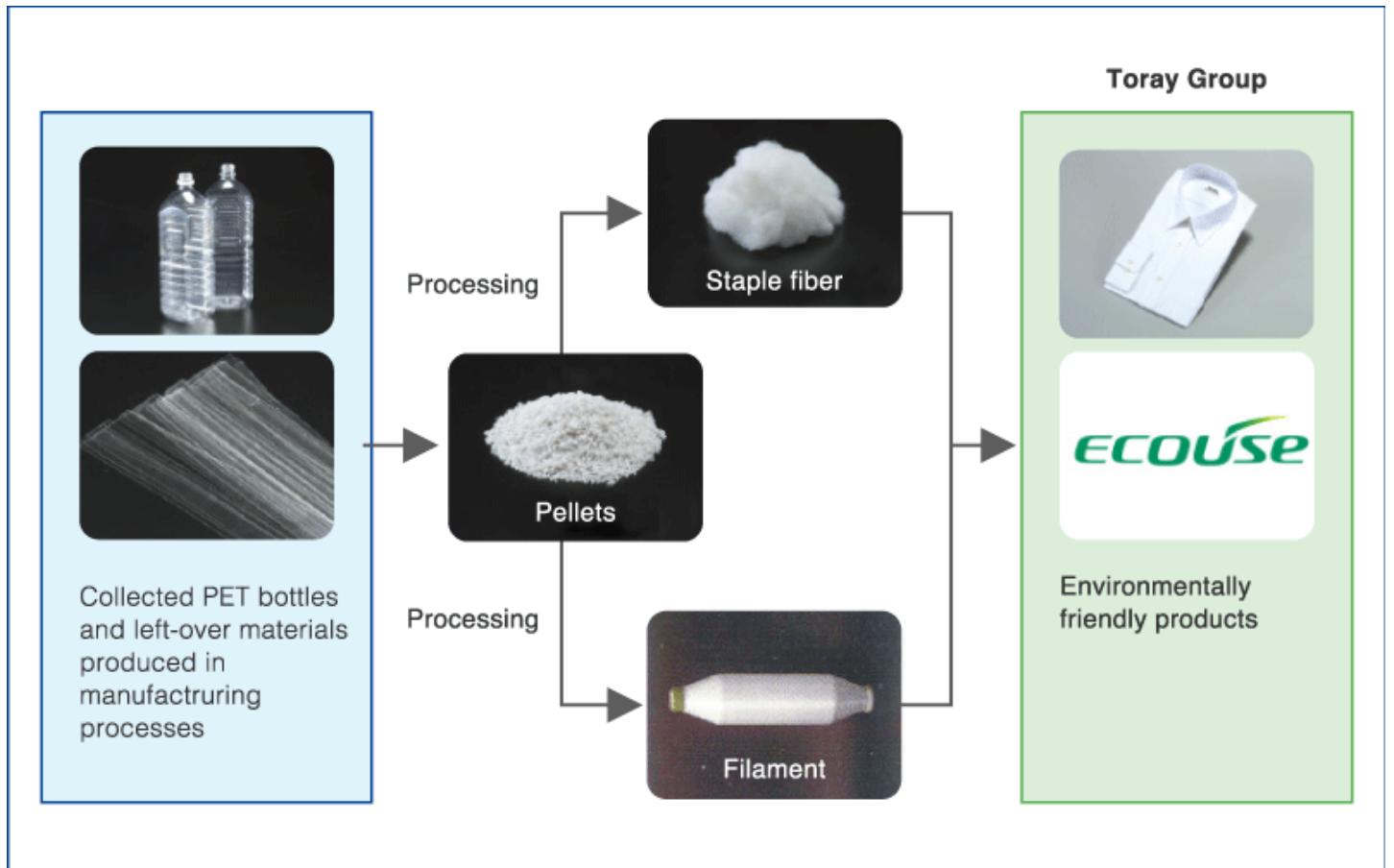
Collection and Circulation Type Recycling with CYCLEAD™

Fabric made from recycled fibers recovered from disposed nylon and other products



Regeneration Type Recycling with Ecouse™

Fabric made from recycled PET bottles for uniforms and functional sportswear

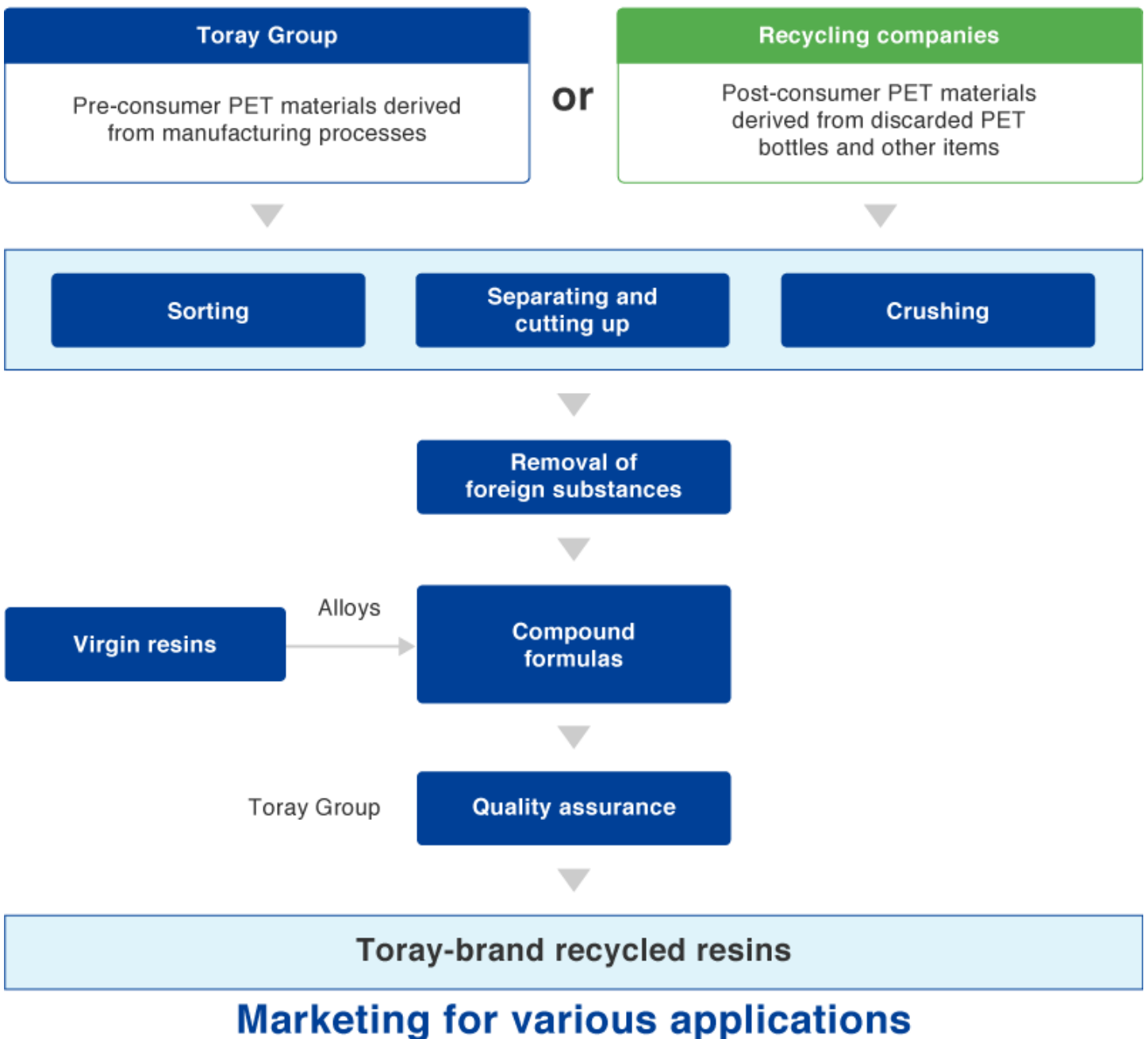


Resin Recycling

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, Toray Group is also diversifying its procurement sources for fans to address growing market needs.

In addition, 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 in order to comply with green procurement regulations in and outside Japan.

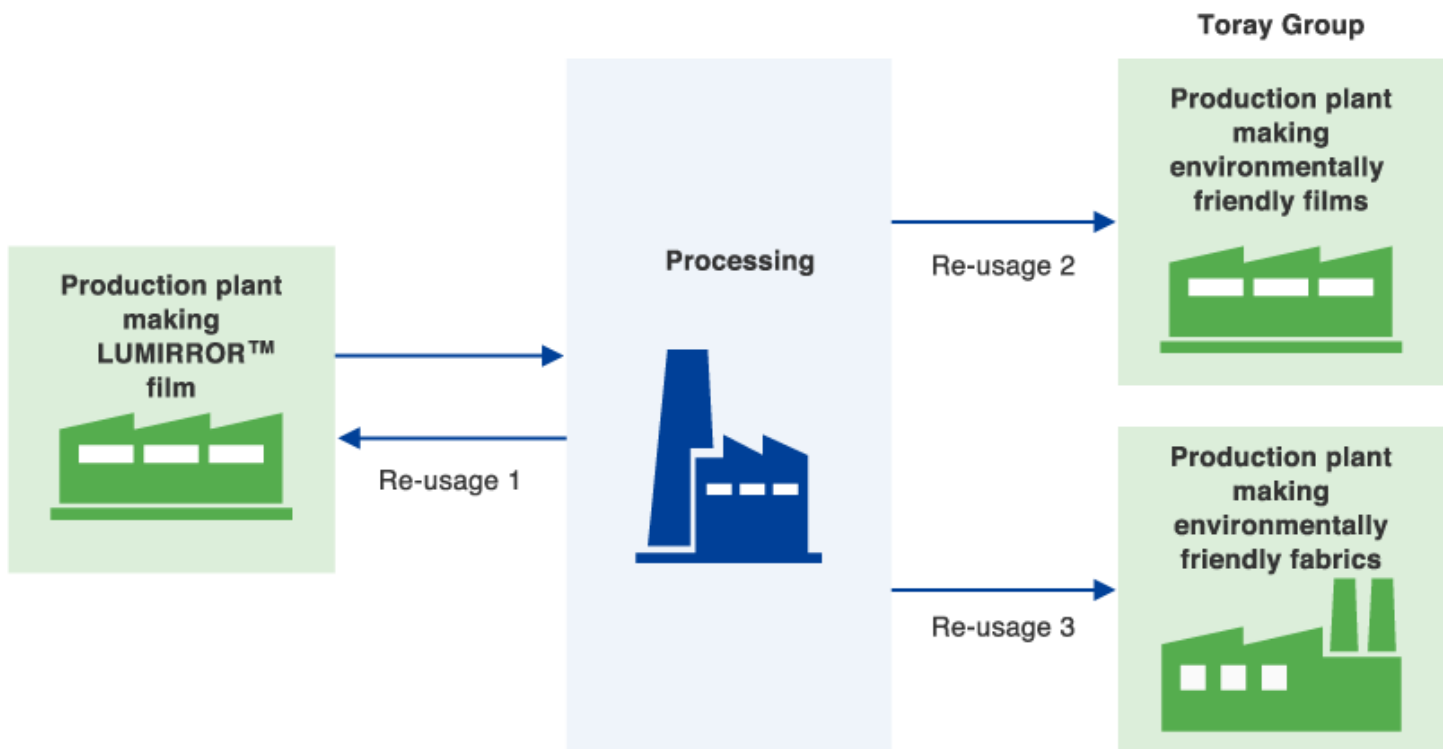
Pre-consumer/Post-consumer Recycling



Film Recycling

Toray Industries 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 Industries 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.

As part of this effort Toray Industries collaborates with Toyota Tsusho Corporation in a program of the New Energy and Industrial Technology Development Organization (NEDO) for the development of a highly efficient recycled carbon fiber manufacturing technology that uses an innovative and energy-efficient thermal decomposition method.² 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 have significantly reduced the amount of energy consumed in the recycling process.

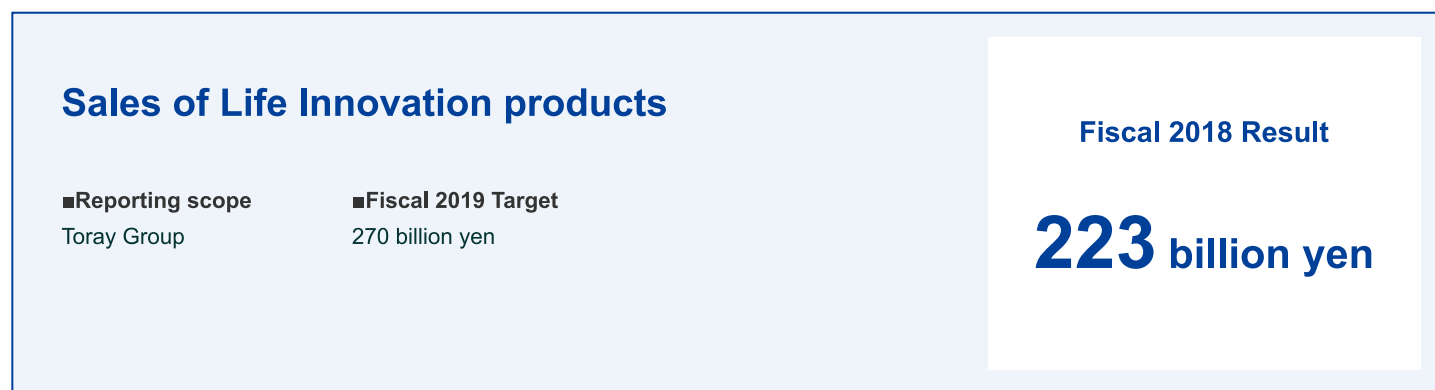
With an eye towards future commercialization, Toray Industries had constructed a pilot plant to test energy-efficient recycled carbon fiber manufacturing technologies, and began to operate it in July 2017. In addition, Toray Group will promote the development of new applications for recycled carbon fiber.

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

Value Creation



Globally, social environments are being transformed by rapidly declining birth rates, aging populations, rising healthcare costs in developed countries, and the increasing prominence of emerging countries. At the same time, a steady stream of innovative products and technologies have emerged, such as DNA analysis, mobile healthcare, and advanced medical devices.

In 2014, the national medical care expenditure in Japan exceeded 40 trillion yen. Japan has a pressing need to optimize medical services, find solutions for remote and in-home medical care, and employ more women and older workers—all of which are major social issues in Japan.

Toray Group launched the Life Innovation Business Expansion Project in fiscal 2014, coinciding with the launch of the medium-term management program, Project AP-G 2016. The Life Innovation Project places a renewed focus on businesses that improve the quality of medical care, reduce the burden on medical staff, and contribute to health and longevity. This group-wide project seeks to leverage Toray Group's advanced materials, fundamental technologies, and business platforms to supply society with something of universal value — people's health.

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

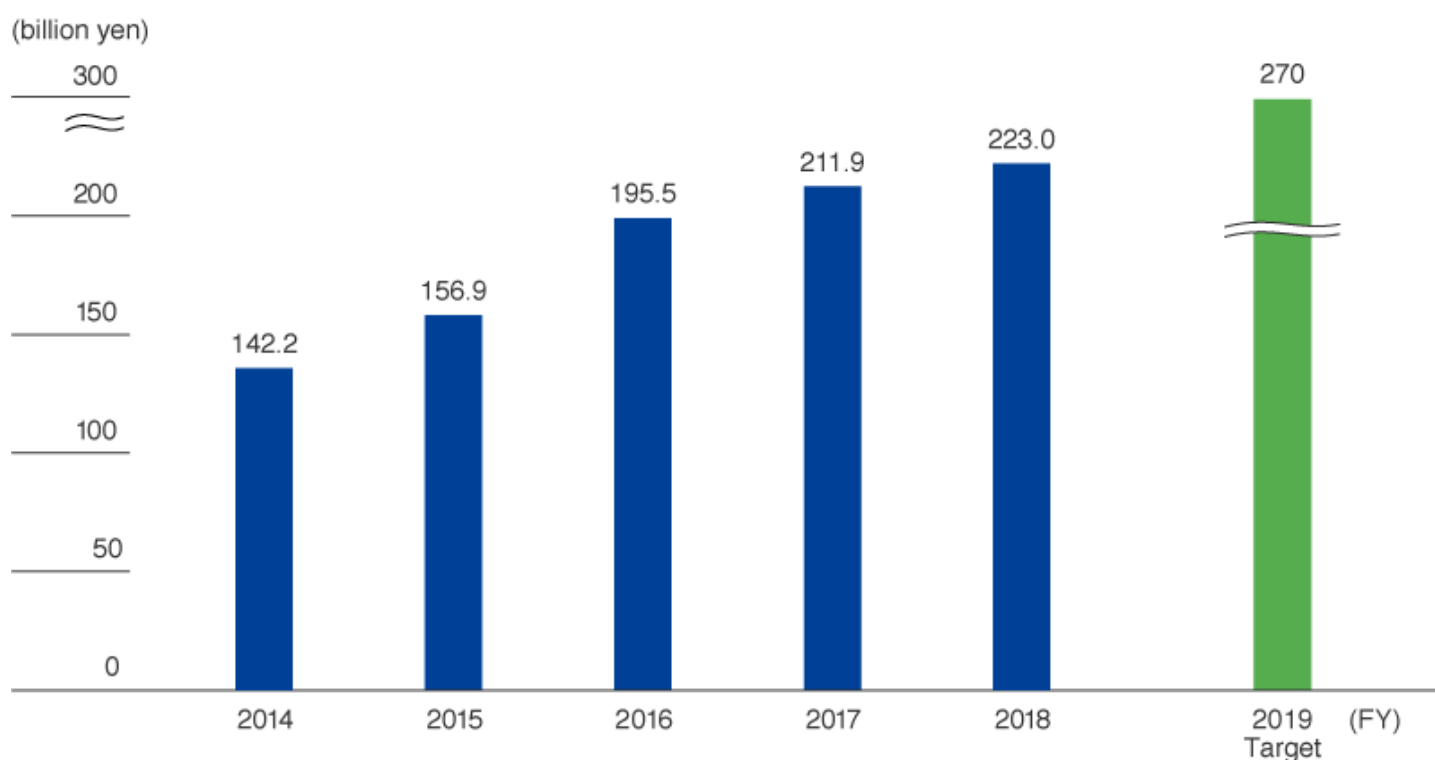
- Products that improve quality of life for the elderly, persons with disabilities, and patients
- Products that prevent diseases and disorders
- Nursing care products

Extreme weather and heat wave solutions

Note: Includes materials and components used in the above products

In fiscal 2018, net sales from Life Innovation businesses were 223.0 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)



Life Innovation Products Released in Fiscal 2018

Release of hitoe™ Wearable Electrocardiography System for Medical Applications

Toray Industries, Inc. developed the hitoe™ wearable electrocardiography (ECG) measurement system for medical applications, which can deliver ECG measurements for extended periods. The system is an extension of the Toray Industries' hitoe™ biosensing wearable fabric and was made available through Toray Medical Co., Ltd. in September 2018. Recent research has shown that the longer that ECG measurements are taken, the better the detection rate of atrial fibrillation. This system contributes to the early detection of atrial fibrillation by enabling ECG measurements over an extended period using a comfortable, wearable monitor.



Dedicated wearable vest and compact ECG monitor

Development of LIVMOA™ CL Sterilized Clothing for Use in Cleanrooms

In March 2019, Toray Industries announced the development of LIVMOA™ CL sterilized clothing for use in cleanrooms, the latest iteration of the LIVMOA™ series of disposable protective wear, which combines fiber and film technologies to enhance wearer comfort while maintaining a strong barrier. Sales of LIVMOA™ CL sterilized clothing commenced in August 2019, offering enhanced comfort for workers in industries that require working in cleanrooms, such as in the fields of regenerative medicine and pharmaceutical manufacturing, both of which show high growth potential.

Release of New Addition to INOUE-BALLOON™ Balloon Mitral Valvuloplasty Catheter for Aortic Valvuloplasty

Toray Industries expanded its line of INOUE-BALLOON™ balloon mitral valvuloplasty catheters for patients with cardiac aortic stenosis. The latest type reduces the catheter diameter to facilitate treatment via the artery (retrograde approach), offering a new option for treatment that will benefit patients.

Partnership with U.S. Venture Firm to Develop TRK-880, a Novel Small Molecular Anti-Cancer Drug

Toray Industries has been accelerating its efforts to create novel cancer treatments, including TRK-950 (a Toray Industries development code), which is a solid tumor treatment. The Phase I clinical trial for TRK-950, which began in March 2017, is moving forward steadily. The Company also signed a licensing agreement to acquire the worldwide rights for TRK-880, a novel small molecular drug from U.S. venture firm Systems Oncology, LLC. Following in the footsteps of TRK-950, Toray Industries will develop the novel anti-cancer drug with the aim of gaining rapid approval, seeking to expand its product pipeline in the field of cancer treatment drugs.

CSR Guidelines & Activity Reports

Corporate Governance and Management Transparency

Governance

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.



Basic Approach

From the outset, one of 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 establishing its corporate governance structure, the Group seeks to fulfill these philosophies as its basic policy.

Related Policies

▶ [Basic Policy on Corporate Governance](#)

Related Information

▶ [Corporate Governance](#)

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

Structure

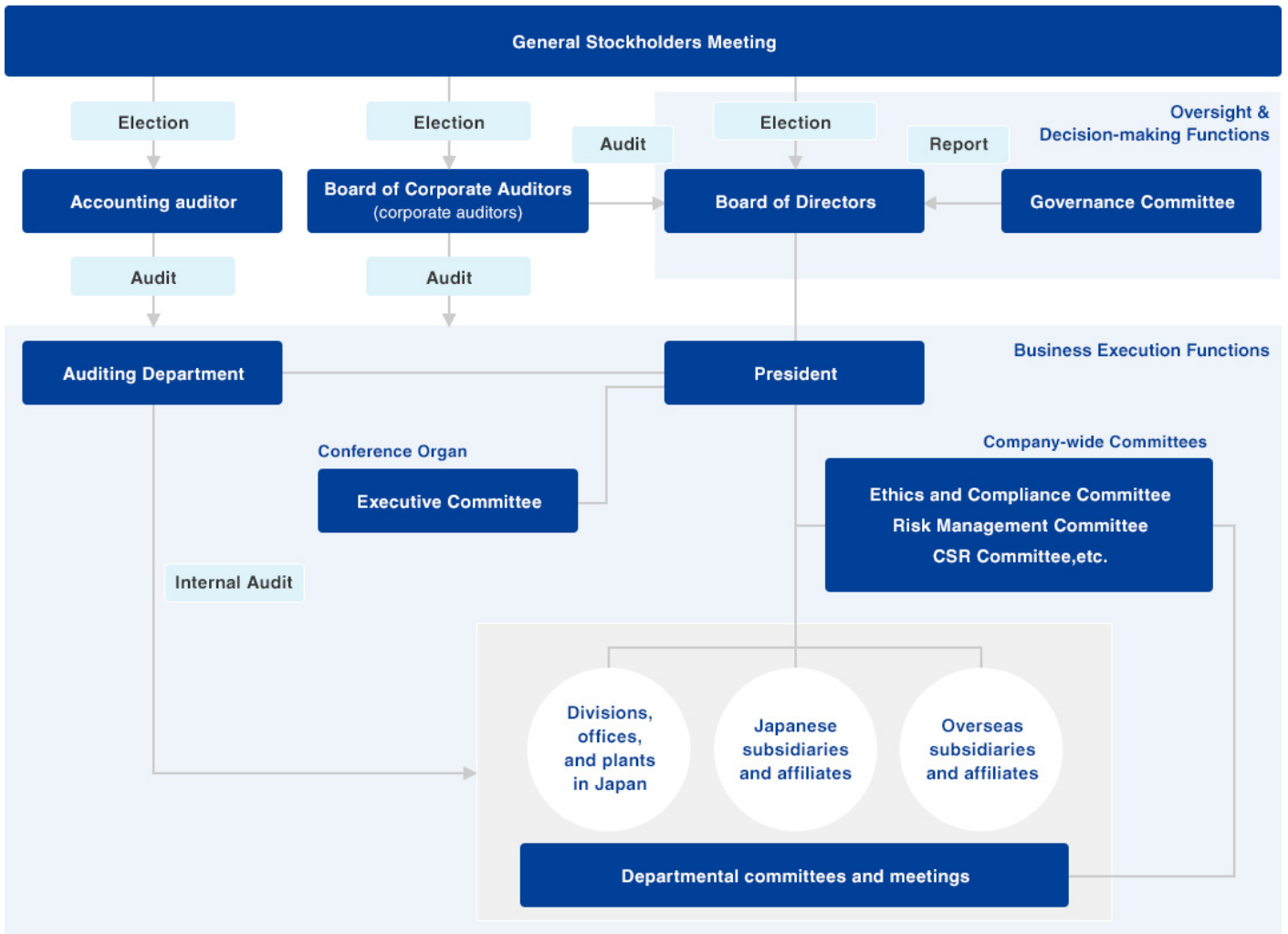
Toray Industries, Inc. operates as a company with a Board of Corporate Auditors and Board of Directors. The Board of Directors, which includes outside directors, decides on the business execution and supervises the execution of duties by the directors. The Board of Corporate Auditors includes outside auditors and independently audits the execution of duties by the directors, separately from the Board of Directors and the executing organization. This framework is designed to secure the transparency and fairness of decisions made by the Board of Directors. In addition, there is a Governance Committee, which serves as a voluntary advisory body to the Board of Directors. The Governance Committee deliberates on all matters relating to corporate governance, enhancing the effectiveness of governance by the Board of Directors.

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 the Group's 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. Meanwhile, outside directors are elected to the Board to ensure transparency and fairness, to ensure oversight from an even broader perspective, and to obtain appropriate managerial advice from a medium- to long-term perspective.

The Board of 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.

Governance Committee consists of the chairman of the Board, president, and all of the outside directors; and an outside director serves as chairperson.

Toray Group's Corporate Governance System



CSR Road Map Targets and Results

01

Enhance management transparency, continually reflect stakeholder feedback in management, and fulfil responsibilities to explain corporate activities

■KPI

Number of dialogue meetings with stakeholders

■Reporting scope

Toray Group

■Target in fiscal 2018

Eight times

Result in fiscal 2018

8 times

02

Perform monitoring based on the Basic Policy for Internal Control Systems, in accordance with Japan's Companies Act

■KPI

Board of Directors' positive assessment of the implementation of the Basic Policy for Internal Control Systems

■Reporting scope

Toray Group

■Target in fiscal 2018

90%

Result in fiscal 2018

94.5%

03

Expand CSR education throughout the Toray Group to facilitate CSR activities

■KPI

Group companies implementing CSR education

■Reporting scope

Toray Group

■Target in fiscal 2018

100%

Result in fiscal 2018

100%

Looking to the Future

An analysis and assessment of the effectiveness of the Board of Directors in fiscal 2018 concluded that the Board had generally fulfilled its roles and responsibilities, but also called for more active discussion by the Board. In response, concrete measures were implemented for fiscal 2019 and beyond to further enhance the Board's effectiveness. The assessment of the Board also gathered feedback from directors and auditors, which is being discussed by the Governance Committee and will be used to further enhance the Board's effectiveness.

CSR Guidelines & Activity Reports - Corporate Governance and Management Transparency

Ensuring Proper Business Conduct and Transparency

Governance

Board of Directors' positive assessment of the implementation of the Basic Policy for Internal Control Systems¹

■Reporting scope	■Target in fiscal 2018
Toray Group	90%

Result in fiscal 2018

94.5%

¹ The effectiveness of the implementation of the nine items in the Basic Policy on Internal Control System set in accordance with the provisions of the Companies Act of Japan is evaluated by all the directors and statutory auditors and monitored as a KPI of the internal control system to share with stakeholders.

Toray Industries 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.

Toray Group will continue to make every effort to ensure compliance with laws and regulations, efficient execution of duties, preservation and management of information, and control over risks of loss.

Toray Industries has set a KPI for "Board of Directors' positive assessment of the implementation of the Basic Policy for Internal Control Systems." The result for fiscal 2018 was 94.5%, surpassing the target of 90%.

Related Information

➤ [Basic Policy on Corporate Governance](#)

Corporate Governance Report [PDF](#)

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

➤ [Information Disclosure Principles](#)

Dialogue with Labor Unions

Toray Industries 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 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 2019, Toray Workers' Union membership stood at 8,584 workers.

CSR Guidelines & Activity Reports - Corporate Governance and Management Transparency

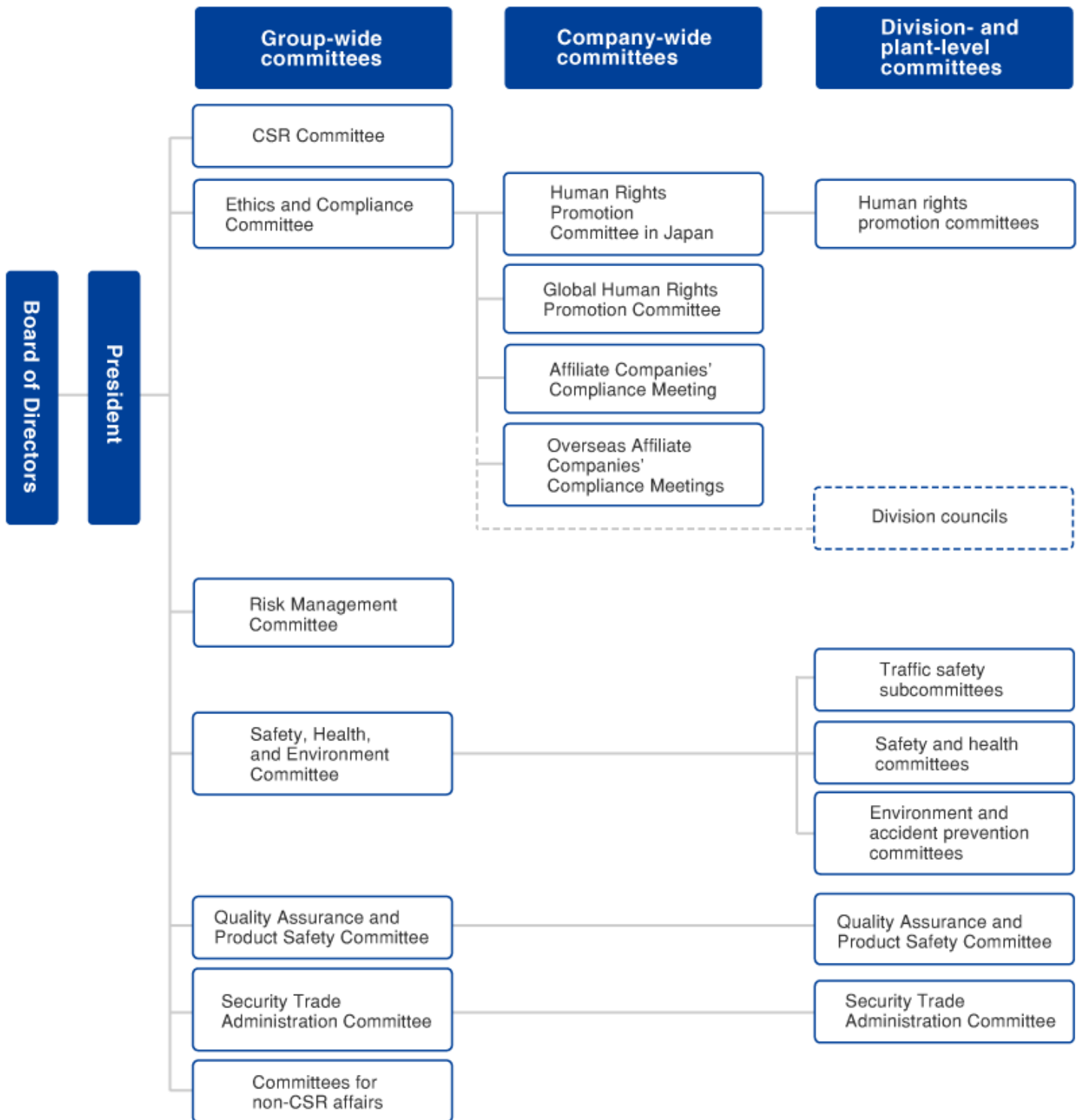
Implementing CSR Activities and Improving CSR Education

Governance

Organizational Structure for Social Responsibility

The CSR Committee is headed by the chief social responsibility officer and coordinates five other group-wide committees, assigning tasks under each of the themes of the CSR Guidelines to them, in order to ensure Toray Group comprehensively implements CSR initiatives. Furthermore, committees and meetings on CSR have been established at each group company 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. Each workplace implements activities suited to its own circumstances, such as holding discussions on CSR issues.

Group companies also implement various other initiatives.

Du Pont-Toray Co., Ltd. was awarded an EcoVadis Gold Medal for Corporate Social Responsibility, placing it in the top 5% of companies that were objectively evaluated for CSR by EcoVadis.¹ Du Pont-Toray is addressing the areas for improvement that were identified in the evaluation in order to further enhance its CSR. The company also issued internal guidelines for securing compliance with Japan's Act against Delay in Payment of Subcontract Proceeds, Etc. to Subcontractors. The guidelines address questions about the regulations, offer precautions, and provide clarifications to ensure that employees fully understand the regulations and secure compliance in the company's transactions.

Toray International, Inc. issued an internal CSR handbook and launched a regular CSR news bulletin to encourage workplace discussion.

¹ EcoVadis provides comprehensive CSR ratings services for companies all over the world. More than 45,000 companies including Toray Industries have been assessed by EcoVadis to date.

In-House Training on CSR-Related Issues

Group companies implementing CSR education

■Reporting scope

Toray Group

■Target in fiscal 2018

100%

Result in fiscal 2018

100%

Toray Group strives to ensure that social responsibility is firmly rooted in its culture by providing various training opportunities. In fiscal 2018, 100% of Group companies implemented CSR education, achieving the target.

In fiscal 2018, Toray Industries, Inc. and its group companies in Japan implemented CSR education for their employees. Head office staff visited group companies in Japan and confirmed progress on CSR initiatives and gave seminars in order to increase awareness of CSR.



CSR seminar at Kansai TEK Co., Ltd.

Dialogue with Stakeholders

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 2018, Toray Industries conducted regular dialogue with shareholders and employees, taking advantage of opportunities such as the general meeting of stockholders and labor and management meetings.

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 dialogue meetings with stakeholders

- Reporting scope
Toray Group
- Fiscal 2018 target
Eight times



CSR Guidelines & Activity Reports

Corporate Ethics and Legal Compliance

Governance

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.



Basic Approach

Toray Group's corporate philosophy is "Contributing to society through the creation of new value with innovative ideas, technologies and products."

To deliver on this commitment, Toray Group is contributing to society by leveraging innovative technologies and advanced materials to tackle important global issues. This efforts requires that the Group earn and maintain the trust of diverse stakeholders by ensuring that its business activities comply with the laws and regulations of the countries where it does business, and by always acting with integrity.

Top management is taking the initiative by giving the highest priority to securing compliance, and by requiring that the Group and its suppliers act ethically and in accordance with the law.

Related Policies

Internal Rules for Ethics and Compliance

Toray Industries, Inc. has established a set of internal rules for ethics and 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.

Structure

Toray Industries has established an Ethics and Compliance Committee chaired by the president. At this committee, management and workers come together to consider and discuss policies related to corporate ethics.

In fiscal 2018, the Ethics and Compliance Committee convened twice to review the Group's ethics and compliance framework. The committee also deliberated on and discussed the results of fiscal 2017 initiatives, action plans for fiscal 2018, and the progress of implementation thus far.

In each workplace, the general manager of the division or department serves as a leader, facilitating initiatives in a top-down manner.

In initiatives for group companies around the world, Toray Group has established the Affiliate Companies' Compliance Meeting and the Overseas Affiliate Companies' Compliance Meetings under the Ethics and Compliance Committee. Through these committees, Toray Group is promoting compliance activities in each company, country and region.

CSR Road Map Targets and Results

01

No major cases throughout the Toray Group of non-compliance with or violation of bribery regulations, antitrust laws, etc.

[Related material issue for CSR]

- Corporate ethics and legal compliance

■KPI

Number of major violations of laws or ordinances

■Reporting scope

Toray Group

■Target in fiscal 2018

0

Result in fiscal 2018

0

02

Promote compliance activities in accordance with the conditions of each country or region

■KPI

Implementing internal legal and compliance audits of group companies, group companies improving problems found in internal legal and compliance audits in the previous year (%)

■Reporting scope

Toray Group

■Target

Audits: In fiscal 2018 at Toray Industries, Inc. 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

Result in fiscal 2018

100%

03

Enhance awareness-raising and educational activities relating to corporate ethics and legal compliance

■KPI

Group companies providing information and implementing education on major laws and regulations

■Reporting scope

Toray Group

■Target in fiscal 2018

100%

Result in fiscal 2018

100%

Looking to the Future

In fiscal 2018, Toray Group launched a new initiative with the slogan “Have the Integrity to Do the Right Thing in the Right Way.” The initiative includes the following four principles for taking more effective action to ensure compliance.

Compliance Action Principles

- **B** : Be fair, be honest and have integrity
- **E** : Encourage respect and communication
- **A** : Adopt a *genba*¹ approach – Look to the facts!
- **R** : Responsibility as a member of our excellent company



¹ *Genba* is the Japanese word for “actual worksite.”

Under the name “Mission B.E.A.R.,” taking its acronym from the first word of each principle, Toray Group companies complete questionnaire surveys and are asked to identify compliance risks. The companies are expected to establish action plans and execute initiatives, all under Plan-Do-Check-Act (PDCA) cycles, to ensure that they follow through.

Toray Industries’ divisions as well as in-scope group companies in and outside Japan prepare B.E.A.R. declarations based on the compliance action principles, sharing them with employees to foster their understanding. At workplaces, opportunities are provided for employees to examine and discuss the behavior that is expected from them as members of Toray Group.

In fiscal 2019, Toray Industries will continue to assist and monitor compliance initiatives at group companies. This will strengthen the Group’s overall risk response by emphasizing factors unique to each region and type of business while reinforcing Toray Group’s integrity-driven corporate culture.

CSR Guidelines & Activity Reports - Corporate Ethics and Legal Compliance

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

Governance

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 Industries, Inc. 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 Group'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.



Distribution rate of the Corporate Ethics and Legal Compliance Handbook

100%
Toray Group

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 Group 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)
- Avoiding conflicts of interest and disclosing them when they arise
- 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 Industries

Related Information

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

Tax Compliance

Toray Group is committed to meeting its tax responsibilities in accordance with local and national tax laws and related rules, as well as to meeting international standards such as OECD guidelines. With the growth of international transactions, transfer pricing is increasing in importance. The Group endeavors to suitably allocate its income by calculating transfer pricing based on the arm's length principle.

The Group refrains from arbitrary tax avoidance methods that make use of tax planning and tax havens to create artificially high tax savings.

Corporate Ethics and Legal Compliance Education

Group companies providing information and implementing education on major laws and regulations

■Reporting scope
Toray Group

■Target in fiscal 2018
100%

Result in fiscal 2018

100%

Toray Industries posts information on CSR and legal compliance on its corporate intranet. Toray Group circulates important information about legal and compliance matters that are highly relevant to its business in Japan and other countries. Group companies implement workshops to examine these matters and study cases of corporate misconduct in an effort to foster discussion in the workplace.

Since fiscal 2012, Toray Industries has provided online training courses on corporate ethics and legal compliance for all executives and employees, including contracted, part-time and dispatched workers. In fiscal 2018, the Company worked to raise awareness of human rights issues using case studies based on actual reports and consultations within Toray Group, reminding all participants that issues can occur in any department. Group companies in Japan are using these materials to implement their own training.

Expanding the Whistle-Blowing System

Toray Industries 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, the Company 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, the Company ensures that employees have access to alternative means of reporting and consulting such as via contact points at its offices, plants and labor unions or directly to the secretariat of the Ethics and Compliance Committee via phone or email.

In addition, each Toray Group company in Japan has established a Helpline contact point. Moreover, Toray Industries 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.

Each group company outside Japan has also established a Helpline contact point (internal, outside, or regional contact points). These Helpline contact points have been in operation at all companies since fiscal 2017. There were reports in several countries/regions, and Toray Group is working to resolve the issues, while carefully confirming circumstances in interviews and investigations.

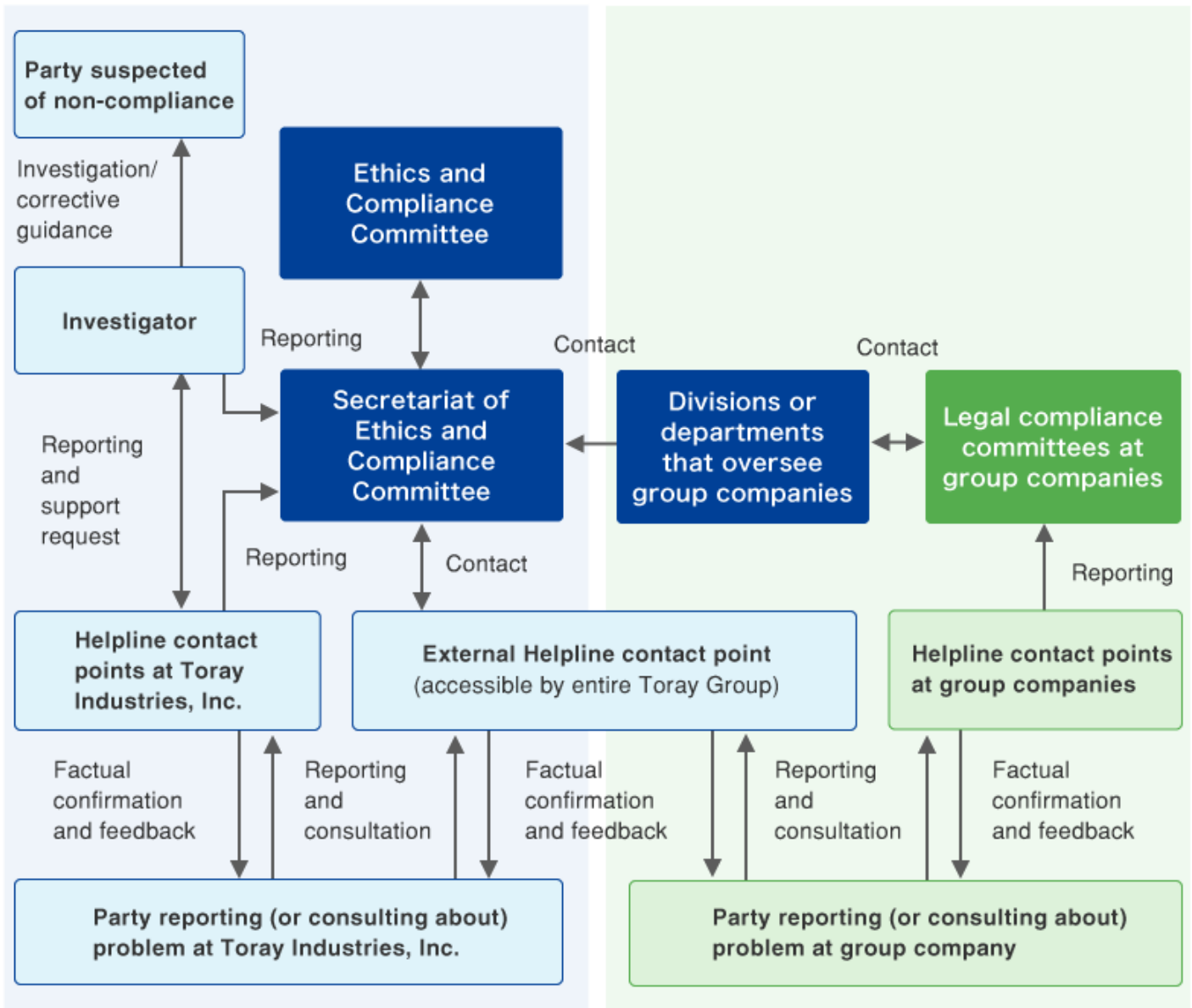
Since fiscal 2016, Toray Industries has also maintained a an additional whistle-blowing system for group companies to directly report serious misconduct such as violations of antitrust laws and bribery, and it is working to inform all Toray Group

companies about the system.

The number of inquiries (consultations) received through the hotline and the details of the cases are reported to directors by the Ethics and Compliance Committee, which convenes twice a year.

Group companies in and outside Japan that have established a whistle-blowing system	100%
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Corporate Ethics and Legal Compliance Helpline System (Toray Industries, Inc. and its Group Companies in Japan)¹



¹ In addition to the above avenues, Toray Industries, Inc. receives reports on and addresses serious misconduct at all group companies in and outside Japan.

Implementing Internal Legal Audits

Implementing internal legal and compliance audits of group companies, group companies improving problems found in internal legal and compliance audits in the previous year (%)

■Reporting scope	■Target in fiscal 2018
Toray Group	100%

Results in fiscal 2018

100%

(including companies under improvement)

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

In fiscal 2017, Toray Industries undertook an internal legal and compliance audit of the designated group companies outside Japan. In fiscal 2018, the Company confirmed the improvement status of problems found in the audit, verifying that 100% of the companies had made improvements (including companies under improvement). Internal legal and compliance audits were also implemented for the designated divisions of Toray Industries and its group companies in Japan within the fiscal year.

CSR Guidelines & Activity Reports - Corporate Ethics and Legal Compliance

Improving Security Trade Controls

Governance

Watching the Latest Trends and Management Strategies for Security Trade Controls

Concerns about the spread of conventional mass weapons of destruction and changes in the international security balance necessitate risk management addressing security trade controls.

Toray Industries, Inc. convenes a Security Trade Administration Committee comprising officers of divisions that are involved in exports and technology transfer. In fiscal 2018, the committee decided on measures to implement for the fiscal year after considering pressing risks based on recent international circumstances and regulatory trends. The committee members also convene a Divisional Security Trade Administration Committee that communicates corporate measures and implements supplementary programs, such as precautions to be taken by departments and group companies under its supervision.

Practically Addressing Risks

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 within Toray Industries' divisions and group companies

Toray Industries provided e-learning courses for inexperienced employees to learn about the basics of security trade controls. A total of 3,582 employees participated in the two courses. The Company also conducted a series of advanced courses for employees with specialized expertise. These hands-on courses were designed to better equip them with the skills necessary to conduct classifications, export transactions and technology transfers. A total of 901 employees participated in 14 courses. In addition, the Company systematically encourages employees to take the exam authorized by the Center for Information on Security Trade Controls in Japan. A total of 336 Toray Group employees passed the exam in fiscal 2018, bringing the cumulative number of Toray Group employees who have passed the exam to 3,771 persons.

Cumulative number of Toray Group employees who have passed the exam authorized by the Center for Information on Security Trade Controls in Japan:	3,771 persons
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(2) Conducted regular audits

Toray Industries 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 Industries 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 Industries prepared the basic functions for an upgraded security trade control system and started the process of linking it to the sales backbone system, following operability testing in each division. This system infrastructure is designed to prevent mistaken shipments due to human error.

CSR Guidelines & Activity Reports - Corporate Ethics and Legal Compliance

Compliance with Antitrust Laws and Global Anti-Bribery Regulations

Governance

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, Toray Group introduced voluntary anti-bribery standards at group companies in Japan and at high-risk group companies outside Japan.

In fiscal 2018, internal audits of these matters were implemented under the group-wide system for self-inspections and mutual internal control audits that was put in place the previous fiscal year.

CSR Guidelines & Activity Reports - Corporate Ethics and Legal Compliance

Protection of Personal Information

Governance

In order to comply with Japan's Act on the Protection of Personal Information, Toray Industries, Inc. has established Regulations for the Management of Personal Information, together with a management framework and practices to ensure each department manages personal information appropriately. Audits are regularly conducted into the management conditions in each department.

In fiscal 2018, the Company received no complaints concerning personal information and there were no data breaches. Major Toray Group companies in and outside Japan completed self-inspections, verifying that they had internal rules in place and were suitably managing personal information on a day-to-day basis. Improvements indicated by the self-inspections are being implemented.

CSR Guidelines & Activity Reports - Corporate Ethics and Legal Compliance

Disclosure of Information Regarding the Ethical Treatment of Laboratory Animals

Governance

Toray Industries, Inc. aims to contribute to the human development and health enhancement through the creation of pharmaceuticals and medical devices.

We believe that animal testing is necessary and required for safety and efficacy verification in the development of new pharmaceuticals and medical devices. This testing must be carried out with respect for animal life, considering the 3R principles for animal experiments; Refinement (minimization of pain), Reduction (reducing the number of animals used), and Replacement (pursuit of alternatives to animals).

In order to ensure that animal testing is conducted ethically, we have established in-house rules in accordance with the Act Concerning Humane Treatment and Management of Animals, the Standard for Care and Management of Laboratory Animals and Alleviation of Pain, the Guidelines for Proper Implementation of Animal Experiments, and other relevant guidelines.

We have also set up the Animal Care and Use Committee, which carries out ethical and scientific review of all animal testing conducted at the company. All of our staff involved in animal testing receive training in standards of care and ethics on the use of animals in research to ensure appropriate conduct of animal testing based on the 3R principles.

We carry out self-monitoring and evaluation of animal tests to verify that each test is conducted appropriately.

We have received certification from the Health Science Center for Accreditation of Laboratory Animal Care and Use of the Japan Health Sciences Foundation.

CSR Guidelines & Activity Reports

Risk Management

Governance

Under normal conditions, Toray Group focuses on mitigating risk and preventing crises from occurring. In the event of a crisis, the Group strives to prevent damage from increasing, by bringing the situation quickly under control and normalizing conditions with a prompt and appropriate response.



Basic Approach

Toray Group regularly identifies potential management risks affecting The Group's management activities in order to mitigate risks and seeks to prevent a crisis. In addition, the Group strives to prevent damage from spreading and to promptly control and normalize the situation by ensuring quick and appropriate responses using the emergency quick response system it has established.

Structure

The risks affecting Toray Group are constantly changing, and the Group gives critical importance to reinforcing its system for responding to risks that materialize suddenly due to changes in the surrounding environment and for responding promptly when crises do occur. To this end, in April 2018, Toray Industries, Inc. established a dedicated team to communicate closely with the Board of Directors and top management and to pursue risk management as an integral part of management strategy. This team manages overall risk under normal conditions and ensures a quick response when crises do occur.

Establishment of Risk Management Committee

In May 2018, Toray Industries established the Risk Management Committee, which is chaired by the general manager of the Corporate Planning Division (an executive vice president), tasking it with reviewing, discussing and promoting shared awareness of risk management across the entire Toray Group. This committee primarily carries out priority risk mitigation activities as part of regular risk management. In addition, the Overseas Crisis Management Committee and local crisis management committees, which manage employees' overseas travel under normal conditions and compile information on overseas risks, have also been made subordinate to the Risk Management Committee.

Risk Management Committee System (As of June 2019)

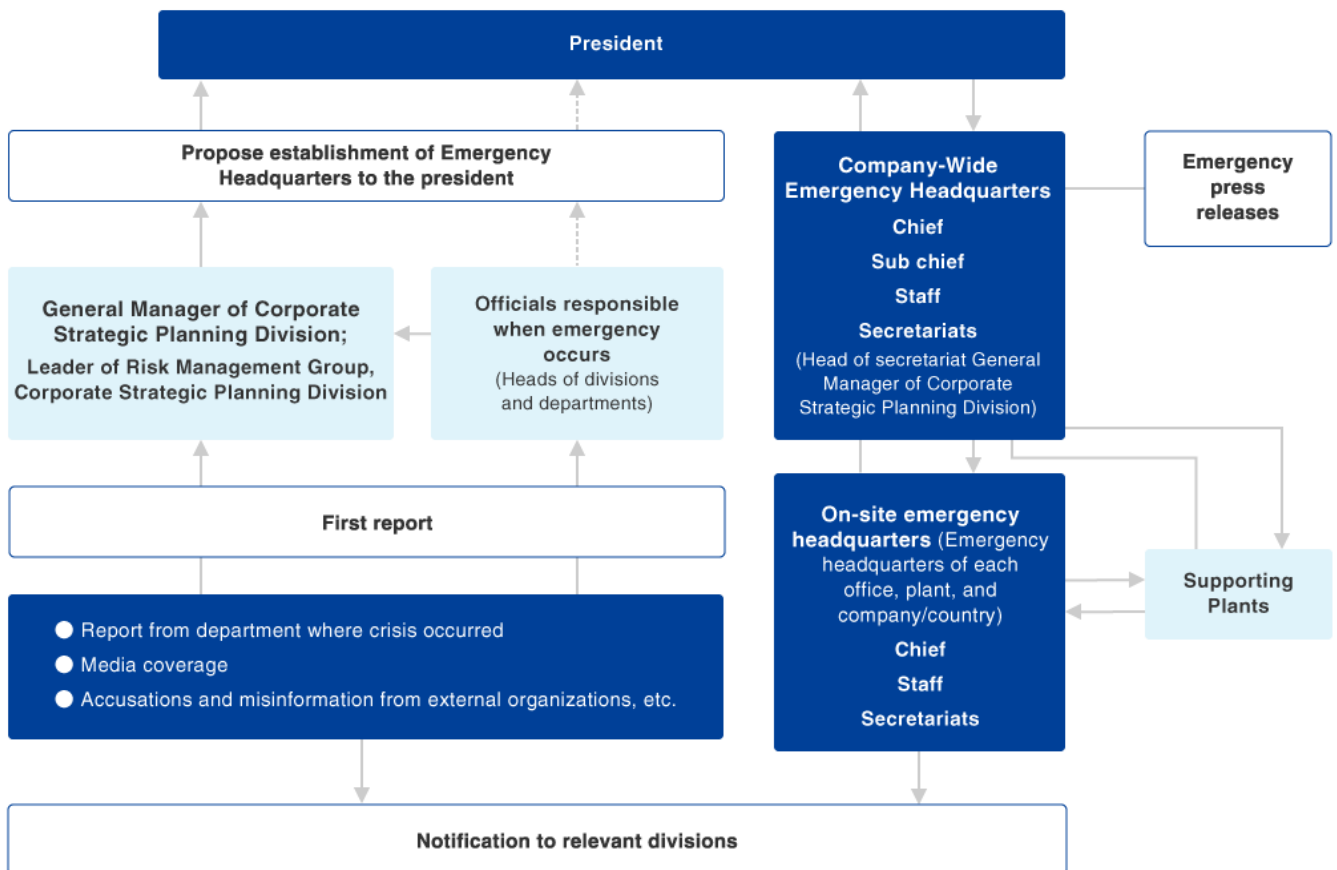


Strengthening the Emergency Quick Response System

Toray Group has established Risk Management Regulations, a set of clear fundamental principles that form the basis of a company-wide response in the event of a major crisis. The 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 order to ensure quick management decisions especially in the event of a crisis, Toray Group has clarified the reporting channel from a department where a crisis has occurred, covering group companies in and outside of Japan.

Emergency Quick Response System (fiscal 2018)



CSR Road Map Targets and Results

01

Strengthen corporate risk management throughout the Toray Group and mitigate risks

■KPI

Group companies implementing continuous review of risk management (%)

■Reporting scope

Toray Group

■Target in fiscal 2018

100%

Result in fiscal 2018

100%

02

Instill greater risk management among employees by rolling out risk management education throughout the Toray Group

■KPI

Group companies implementing risk management education (%)

■Reporting scope

Toray Group

■Target in fiscal 2018

80%

Result in fiscal 2018

100%

Looking to the Future

The road map goals are: (1) strengthening corporate risk management throughout Toray Group and mitigating risks; and (2) instilling greater risk management awareness among employees. To achieve these goals, the Group will periodically and routinely identify latent risks in management activities, prevent and mitigate risks, and prevent crises from ever occurring.

CSR Guidelines & Activity Reports - Risk Management

Risk Management Initiatives

Governance

Basic System for Group-Wide Risk Management

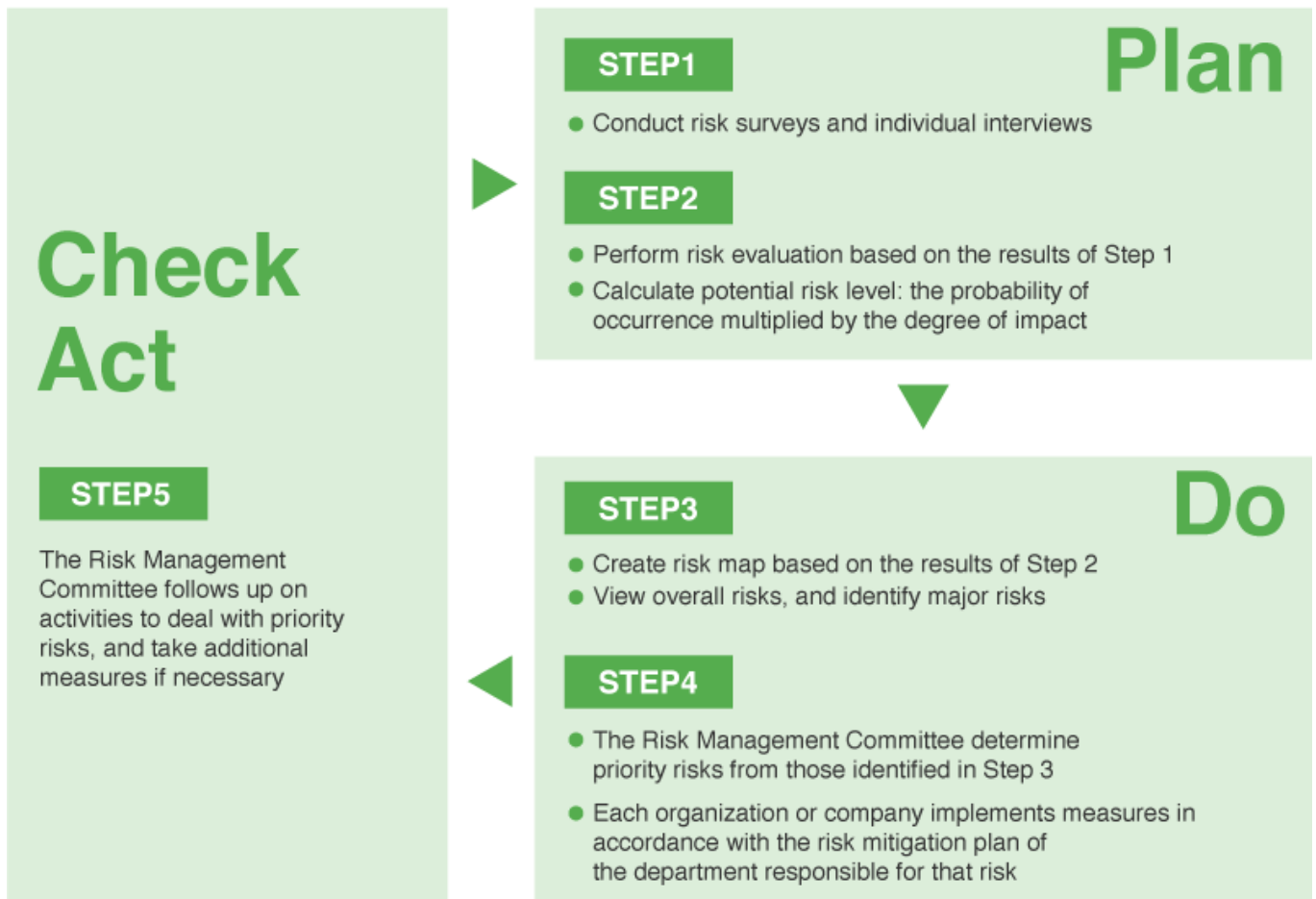
- ▼ (1) Periodic risk management (priority risk mitigation activities)
- ▼ (2) Routine risk management (monitoring trends in and outside Japan, identifying, assessing and monitoring risks)
- ▼ (3) Response in the event of a crisis

Description of Activities

(1) Periodic risk management (priority risk mitigation activities)

- A. Toray Industries, Inc. exhaustively identifies group-wide risks (climate change, natural disasters, legal violations, scandals, etc.) and identifies important risks after carrying out an assessment to determine the relative importance of each risk. Ultimately, priority risks are determined after consulting with the Risk Management Committee, which is chaired by the general manager of the Corporate Strategic Planning Division (an executive vice president).
- B. Priority risks are addressed with risk mitigation activities following the PDCA cycle over a three-year period.

PDCA Cycle for Group-Wide Risk Management



C. In the priority risk mitigation activities for the fourth cycle (fiscal 2018-2020), Toray Industries set quality management, earthquake response, information management and socially responsible procurement,¹ among others, as its priority risks. These efforts extend to the Group overall, including group companies in and outside Japan.

D. Toray Industries assigns a department responsible for each priority risk and integrates group-wide activities using a three-year road map for risk mitigation activities as well as an annual activity plan.

E. In addition, the results of the annual activities for Toray Group overall are reported to the Risk Management Committee every year, and the status of progress status is monitored. Toray Industries discusses and establishes an annual activity plan for the next fiscal year that addresses the monitoring results and any new risks that have materialized due to changes in the environment.

¹ For more information, please refer to “Facilitating CSR Initiatives Throughout the Supply Chain”

Group companies implementing continuous review of risk management (%)

■ Reporting scope
Toray Group

■ Target in fiscal 2018
100%

Result in fiscal 2018

100%

(2) Routine risk management (monitoring trends in and outside Japan, identifying, assessing and monitoring risks)

Toray Industries routinely monitors domestic and overseas trends and identifies risks that could have a major impact on Toray Group's management. When such risks are identified, the Company promptly develops a company-wide system to address them and takes the necessary group-wide countermeasures.

(3) Response in the event of a crisis

Based on the Risk Management Regulations, a company-wide quick response system (Company-Wide Emergency Headquarters) is formed to respond to the crisis that has occurred.

Business and Other Risks

Toray Group has identified the following business and other risks, as noted in its annual securities reports.

- (1) Trends in domestic and overseas demand and product market conditions, etc.
- (2) Increases in fuel prices
- (3) Capital investment, merged businesses, affiliations, acquisitions, etc.
- (4) Fluctuations in currency markets, fluctuations in interest rates, fluctuations in the value of marketable securities and others
- (5) Retirement benefit liabilities and deferred tax assets following fluctuations in conditions on which future projections are premised
- (6) Overseas business activities
- (7) Manufacturing responsibility
- (8) Court cases
- (9) Laws and regulations, taxation, competition policies, internal controls
- (10) Natural disasters, accidents
- (11) Information security

Risk Management Education for Employees

In order to foster employee awareness of risk management, Toray Group has set a KPI in its Sixth CSR Roadmap of the number of Group companies implementing risk management education. In fiscal 2018, group education on risk management was provided to Toray Group's newly appointed managers and group companies in and outside Japan.

Group companies implementing risk management education

■Reporting scope
Toray Group

■Target in fiscal 2018
80%

Result in fiscal 2018

100%

CSR Guidelines & Activity Reports - Risk Management

Business Continuity Plan Initiatives

Governance

Ensuring Preparedness for Major Earthquakes

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

Toray Group's basic policy when ensuring business continuity in the event of a major earthquake is to meet its social responsibility to continue supplying products. The top priority of the plan is to confirm employees' safety and prevent any impact on the local community. In addition to striving to prevent the damage from expanding and to prevent any secondary damage, the Group works to continue the supply of key products and to restore business quickly. In line with this, the Group consistently carries out evacuation drills based on a scenario involving an earthquake, systematically renovates plant buildings for better seismic resistance, and devises business continuity plans.

In fiscal 2018, Toray Industries, Inc. created and began administering BCPs for key products selected from each business in accordance with the procedures for developing BCPs for designated key products in an earthquake. In addition, group companies in Japan identified key products and began establishing BCPs, just as Toray Industries does.

In addition, Toray Group has continued to conduct company-wide drills on setting up an emergency response headquarters since fiscal 2012.

During the earthquake that occurred in northern Osaka in June 2018, the Group succeeded in promptly setting up an emergency response headquarters and confirming the safety of employees, thanks to preparations made during normal conditions. In addition, Toray Group used a damage mapping system able to rapidly and accurately map any damage to business partners and group companies using location data in an emergency, which it introduced following the Great East Japan Earthquake, to quickly confirm the situation across the supply chain.

Toray Group will continue to strengthen its capacity to respond to earthquakes with training and other measures.

CSR Guidelines & Activity Reports

Human Rights Promotion and Human Resources Development

Social Initiatives

Respect human rights, provide safe and healthy workplaces for employees, secure and train personnel, and diversify while striving to protect employment.



Basic Approach

Committed to Human Rights

At 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. Toray 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 Human Rights Promotion Section of the Industrial Relations Department of Toray Industries, Inc.

The Group also addresses global human rights issues in accordance with the Toray Group Policy for Human Rights, considering the diverse cultures, customs and social norms of the countries and regions where it operates.

Related Policies

Policies on Human Rights

Toray Group specifies its respect for human rights in its [Corporate Ethics and Legal Compliance Code of Conduct](#) and strives to prevent any human rights violations through education and awareness activities within the Group.

In addition, as a global enterprise, the Group respects international norms such as the Universal Declaration of Human Rights, the International Labor Organization's conventions, and the UN Guiding Principles on Business and Human Rights. The Group has also established the Toray Group Policy for Human Rights, which lays out the Group's commitment to ensuring that it is not complicit in any human rights violations in the overall supply chain and to promptly and appropriately addressing issues if and when they arise.

Toray Group Policy for Human Rights (Adopted December 2017)

We at Toray Group believe that respect for human rights is a mandatory principle for corporate management. Therefore, we respect international standards such as the United Nations Universal Declaration of Human Rights and the International Labor Organization's standards in compliance with the laws and regulations of countries and regions where we operate, and will endeavor to fulfill our duty of respect for human rights as a good corporate citizen.

1. We will respect human rights, character and individuality of employees and eliminate harassment and discrimination in workplaces. Furthermore, we will prohibit child labor, forced labor and unfair low-wage labor.
2. We will strive to promote respect for human rights throughout the entire supply chain related to our business activities. In addition, we will not be complicit in infringing on the human rights.
3. We will endeavor to understand adverse human rights impacts associated with our business activities and to avoid or reduce such influences.
4. If it becomes evident that we have caused or contributed to adverse human rights impacts, we will promptly take appropriate actions.
5. We will promote educational activities about issues of human rights for every employee and foster a proper understanding of issues among them.

Securing and Developing Human Resources

The success or failure of a company is decided by its people—employees shape its destiny. Guided by this concept, 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, 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

Related Policies

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

Toray Group established its Global HR Management ("G-HRM") Fundamental Policy in November 2011, with the goal of managing human resources from a common perspective shared by the entire Group, thereby surmounting differences between countries, regions, cultures, customs, and individual companies.

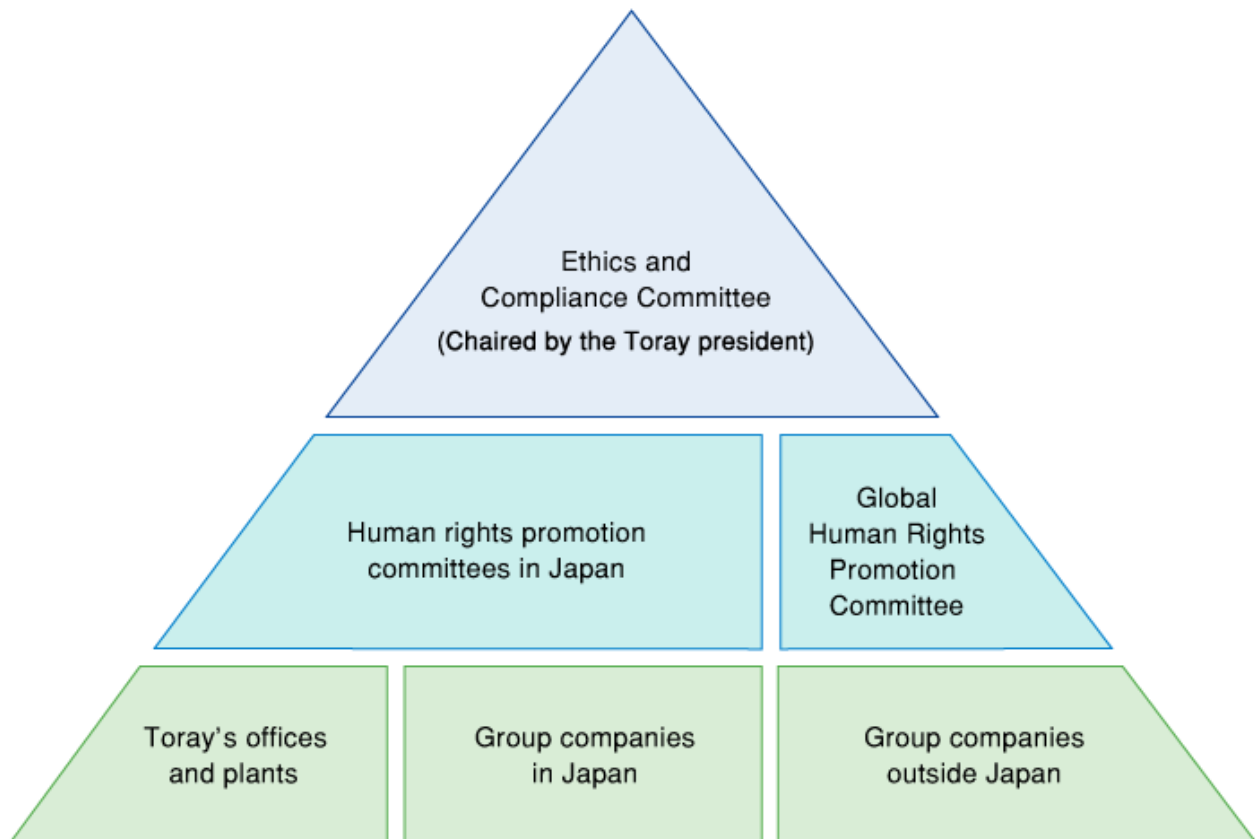
Under the policy, Toray Group practices a united approach to human resources management of each group company.

Structure

Human Rights Promotion System at Toray Group

Under the Ethics and Compliance Committee chaired by the president of Toray Industries, Toray Group operates the Human Rights Promotion Committee in Japan and the 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.

Toray Group's Human Rights Promotion System



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

Identifying, Assessing and Mitigating Human Rights Risks

Toray Group carries out an annual survey of all of Toray Industries' offices and plants as well as its main group companies in and outside Japan, asking about their human rights promotion activities, including awareness and education efforts. The results are confirmed at the Human Rights Promotion Committee in Japan and the Global Human Rights Promotion Committee. Using this process, any issues, problems and concerns related to human rights are identified and initiatives are considered and implemented in line via the human rights promotion system.

Toray Group has set up a system that enables group employees to report and consult on human rights issues. In Japan, [the Corporate Ethics and Legal Compliance Helpline](#) has been set up, and each group company outside Japan also has established a Helpline contact point. Toray Group strives to mitigate human rights risks and to respond promptly and appropriately if and when any issues arise.

Securing and Developing Human Resources

Toray Group employs talented human resources who can play an active role in global business, inclusive of gender and whether employees were hired out of university or mid-career. The Group's approach to human resources development uses well-designed, systematic training programs.

CSR Road Map Targets and Results

Respect for human rights and fair promotion based on ability throughout Toray Group by eliminating discrimination based on race, gender, education, nationality, religion, and physical attributes

[Related material issue for CSR]

- Respecting for human rights

01

■KPI

Group companies implementing human rights education and training (%)

■Reporting scope

Toray Group

■Target in fiscal 2018

100%

Result in fiscal 2018

100%

02

■KPI

Group companies that have achieved legally mandated employment rate of persons with disabilities (%)

■Reporting scope

Toray Group (Japan)

■Target in fiscal 2018

100%

Result in fiscal 2018

50%

03

■KPI

Women in management positions (%)

■Reporting scope

Toray Industries, Inc.

Result in fiscal 2018

4.9%

Ensure work environments take into consideration employees' health and build a vibrant and rewarding workplace culture group-wide, working systematically to secure and train personnel

[Related material issues for CSR]

- Creating a positive workplace
- Securing and developing human resources

04

■KPI

Group companies that have adopted a medium-term human resource plan (%)

■Reporting scope

Toray Group

■Target in fiscal 2018

100%

Result in fiscal
2018

100%

05

■KPI

Number of core staff outside Japan who participate in training courses

■Reporting scope

Toray Group (Outside Japan)

Result in fiscal
2018

320persons

06

■KPI

Training expenditures per employee (yen)

■Reporting scope

Toray Industries, Inc.

Result in fiscal
2018

90,261yen

07

■KPI

Available annual paid leave used by employees (%)

■Reporting scope

Toray Industries, Inc.

Result in fiscal
2018

89.7%

Looking to the Future

Committed to Human Rights

In addition to identifying human rights issues within Toray Group and responding promptly and appropriately, the Group will augment its internal education at Toray Industries, Inc. and its group companies and strive to improve human rights awareness among all employees in fiscal 2019.

Securing and Developing Human Resources

Toray Group pursues a range of initiatives to build workplace environments that are considerate of employee health and a workplace culture characterized by pride and motivation. To secure the future management talent needed to lead the Group in coming years, Toray Group hires systematically, continually improves its grade-specific management training to strengthen frontline capacity, and regularly upgrades its selective training to foster managerial candidates.

Human Rights Activity Report

Social Initiatives

Human Rights Training



Toray Industries, Inc. holds human rights promotion campaigns annually to help increase awareness and understanding of human rights issues. In fiscal 2018, the campaign focused on united efforts to enhance the awareness of the human rights of every person and on building positive, caring workplaces. Educational pamphlets were handed out to all employees. 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, The Company communicated the increasing global emphasis that was being placed on human rights from a social responsibility perspective.

Training sessions were held for operational and administrative supervisors at Toray Industries' offices and plants. Workshops were also conducted in conjunction with workplace study groups. As in the previous year, in fiscal 2018 the manager of the Human Rights Promotion Section visited the Company' offices and plants as part of the campaign, and held workshops for human rights advocates. Human rights training seminars were conducted. In March 2019, the Company held an e-learning program on corporate ethics and legal compliance for human rights targeting all employees (97.6% of employees completed the program).

For group companies in Japan, the manager of Toray Industries' Human Rights Promotion Section held training sessions on human rights for labor managers and supervisors (57 group companies participated). In addition, the Company provided teaching materials, educational pamphlets and e-learning materials, the same ones used in the Company's human rights promotion activities. In this way, Toray Industries supported efforts by group companies to promote human rights.

For group companies outside Japan, Toray Industries provided educational materials reflecting international codes such as the Universal Declaration of Human Rights and the UN Guiding Principles on Business and Human Rights as well as Toray Group's human rights promotion system, including the Toray Group Policy for Human Rights. Toray Group pursued education and awareness-building activities with consideration for the diverse cultures, customs and social norms of the countries and regions where it operates.



Human rights training seminar at Toray Industries' Nasu Plant



Human rights seminar at initial training for newly hired employees of Toray Group companies

Fiscal 2018 Human Rights Training and Seminar

Type of training		Number of sessions	Number of participants
Toray Industries, Inc.	Training at head office	35	2,150
	Training at offices and plants	1,046	14,760
	Training at outside company	45	92
Group companies in Japan	Training at companies	167	11,337
	Training at outside company	226	324

Total amount of time dedicated to training

2,838.4 hours

Response to Reports and Consultations on Human Rights

The department (person) in charge of the investigation, relevant department (person) involved in the incident, and the internal consultation offices set up at each company of Toray Group worked together to promptly and appropriately respond to the reports and consultations on human rights received by the Corporate Ethics and Legal Compliance Helpline.

The number of reports and consultations received in Japan, an overview, and the results of the response to them were reported to the Ethics and Compliance Committee and the Human Rights Promotion Committee in Japan. Examples of issues reported are introduced in Toray Group's human rights education in Japan in a way that makes it impossible to identify the workplace or individuals, in an effort to promote understanding of human rights issues and raise attention to these issues.

Securing and Developing Human Resources to Create New Value

Materiality Focus

Social Initiatives

Training expenditures per employee

■Reporting scope
Toray Industries, Inc.

Result in fiscal 2018

90,261 yen

Employing a Diverse Workforce

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 Industries, Inc. 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.

Number of Employees Hired in Fiscal 2016 - 2018 (Toray Industries, Inc.)

		2016	2017	2018
New graduates	Men	177	184	225
	Women	36	32	41
	Total	213	216	266
Mid-career	Men	93	97	55
	Women	8	22	17
	Total	101	119	72

Systematic and Effective Training

Toray Industries 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 Industries 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. The Company also implements the Global Diversity Seminar for non-Japanese employees working at Toray Industries. In fiscal 2018, training expenditures per employee at Toray Industries stood at 90,261 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 2018 Training Program at Toray Industries

	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 Management Training for New Managers	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
Non-Managerial Senior Level	Management Training for Supervisors	Training to Become Leaders in Technology Development Mid-Level Engineer Strategy Training	Marketing and Merchandising Strategy Training	Toray Management and Technology Training	
Non-Managerial Junior Level	Toray School of Technology and Business Administration	Second Technical Training First Technical Training	Second Sales/Marketing Training First Sales/Marketing Training	Toray Global English School Global Diversity Seminar	
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 "national staff" of group companies outside Japan, held in Japan

Company-Wide Training Course Enrollment in Fiscal 2018 (Toray Industries, Inc.)

Training category	Persons enrolled			Time dedicated to training per employee (hour) ¹
	Men	Women	Total	
Management	706	97	803	44.6
Technical	597	61	658	26.5
Sales, marketing, and administration	292	59	351	24.9
Global	232	57	289	36.9
General	303	74	377	14.7
Total	2,130	348	2,478	33.5

¹ Time dedicated to group training at the Toray Human Resources Development Center. It does not include time for correspondence learning or study abroad, etc.

Personnel System (Toray Industries, Inc.)

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

² Applies to 100% of managers, occupational specialists, and employees pursuing G Course and S Course career paths.

Development of Future Management Candidates for Toray Group

Group companies that have adopted a medium-term human resource plan

■Reporting scope	■Target in fiscal 2018
Toray Group	100%

Result in fiscal 2018

100%

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.

Since fiscal 2014, Toray Group has been working on a succession plan and personnel development plan based on a medium- and long-term perspective and drawing up a medium-term human resources plan and practicing systematic personnel assignment to ensure that core staff can tackle important business issues. The Group implements human resources strategies designed to support business strategies by verifying the availability of successor candidates for core positions and developing individualized development plans for future management candidates, including for national staff at group companies outside Japan.

Strategies for Developing Future Management Candidates

Program	Participants	Purpose	Year started	Total participants through FY2018
Management Training for General Managers	Division and department managers of Toray Industries, Board members/officers of group companies in and outside Japan	Develop management leaders at Toray Industries and group companies	2013	147
Toray Management School	Section managers of Toray Industries	Develop future management candidates at Toray Industries and group companies	1991	540
Toray Group Management School	Department managers of group companies in Japan	Develop management candidates focusing on group companies in Japan	2006	263
Toray Group Executive Seminar	Board members/officers of group companies outside Japan	Develop core staff at group companies outside Japan	2004	98

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 core staff outside Japan who participate in training courses

■Reporting scope
Toray Group (Outside Japan)

Result in fiscal 2018

320persons

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 Industries' head office. In fiscal 2018, at Toray Industries, five core staff outside Japan help manage Toray Group, serving in senior director (*riji*) positions. Human resource development is systematically implemented using both on-the-job and off-the-job training. Off-the-job training consists of training implemented by each group company outside Japan. This is combined with grade-specific training programs held in Japan to ensure understanding of management principles and policies. These are linked with personalized long-term development plans. Toray Group, with direct involvement from the head office, is developing and regularly providing management training courses outside Japan specially designed for the particular circumstances and needs of group companies in each respective country. In addition, the Group is systematically fostering human resources by offering career development opportunities such as domestic and international job rotations.

Training Courses Held for Core Staff outside Japan in Fiscal 2018 (Toray Group)

Japan-based courses

Training program	Managerial category	Number of participants
Toray Group Executive Seminar	Corporate executives	15
Toray Group Senior Management Seminar	Department managers	11
Toray Trainee Program	Section managers	21
National Engineer Key Person Training	Section managers	3
Toray Management & Technical Training	Unit managers	6
Total number of employees receiving training		56

Courses held outside Japan

Training program	Managerial category	Number of participants
Toray Group U.S. Senior Management Seminar	Department managers	14
Toray Group U.S. Management Training	Section managers	22
Toray Group EU Senior Management Seminar	Department managers	13
Toray Group EU Management Seminar	Section managers	15
Toray Group Indonesia Management Seminar	Department managers / section managers	12
Toray Group Malaysia Management Seminar	Department managers/section managers	31
Toray Group Thailand Management Seminar	Section managers	62
Toray Group Korea Senior Management Seminar	Department managers	20
Toray Group China Senior Management Seminar	Department managers	24
Toray Group East and North China Management Seminar	Section managers	25
Toray Group South China Management Seminar	Department managers	26
Total number of employees receiving training		264



Toray Group Senior Management Seminar for core staff outside Japan



Toray Trainee Program for core staff outside Japan

Number of core staff members outside Japan who participated in management training courses held in their countries/regions in fiscal 2018 (cumulative total)

264

Promoting Diversity

Social Initiatives

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 Industries, Inc.

Result in fiscal 2018

4.9%

(As of April 2019)

Toray Industries, Inc. 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, the Company launched the Advancement of Women Project. As of April 2019, women held 9.3% of unit manager or higher positions and 4.9% of section manager or higher positions. In June 2015, the Company welcomed its first female director (*riji*), a position that is equivalent in scope and level of responsibility to senior management. In fiscal 2016, Toray Industries 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, the Company 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 Industries 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.

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

Promoting Communication Among Women in the Workplace

Toray Group supports the voluntary initiatives of women in the workplace to create venues for communication about ways to resolve the issues and difficulties that they may face when trying to balance work and family life.

The outcomes of these communication events give the Group a glimpse into the current conditions facing women at work and their own opinions. Toray Group believes that resolving these issues one at a time will foster greater participation by women at work, and will steadily continue its efforts.

Holding Career Advancement Seminars for Women Serving as Managers and Occupational Specialists, and Discussion Meetings

In fiscal 2014, women serving as general managers at Toray Group developed and initiated a career advancement seminar for women serving as managers and occupational specialists, and it has now been held four times as of fiscal 2018. These seminars were developed and launched with the hope that they would help women learn about diverse career paths and leadership and the importance of forming personal networks and learning from one another, particularly now. Participants in past seminars have been encouraged by this chance to hear about the wide range of conditions in which women in management and occupational specialties work and to interact with diverse role models.

In fiscal 2016, the second seminar was held in January, and subsequently the seminar participants organized discussion meetings for women at all of Toray Industries' offices and plants in Japan to more broadly ascertain the views of women in non-management positions and younger workers at all plants. (In 2017, an additional discussion meeting was also held at the newly established Nasu Plant.)

The meetings offer an opportunity for women in workplaces of various ages and at various stages of life to talk honestly about balancing work and home life, sharing and educating each other about the challenges and issues they face. Men are also included in the conversations at some of these discussion meetings.

In addition, in fiscal 2017, follow-up meetings were held in 16 locations (plants), and women employees held group discussions on several themes chosen in the discussion meetings for women. In session one (information sharing), 1,039 employees participated, including 426 men, and 439 women participated in session two (group discussion). At session two (group discussion), a theme that fit the situation at each plant was chosen for discussion from among the themes compiled at the discussion meetings. Talking about a theme of interest to the participants allowed the discussion to go deeper, and issues that should be addressed at plants were identified. There have been several cases in which, based on the views obtained in the follow-up meetings, these discussions have led to improvements in the workplace environment or to facilities that enhanced working conditions for both men and women. In some cases, the discussions sparked the start of regular lunch meetings. These discussion meetings, led by women, will continue to be held at all plants in fiscal 2019 and beyond.

Career Advancement Seminars for Women Serving as Managers and Occupational Specialists, and Discussion Meetings

Fiscal 2015

First career advancement seminar for women serving as managers and occupational specialists

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.

Second career advancement seminar for women serving as managers and occupational specialists

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.

Discussion meetings for women

Dates From August through December 2016¹

Purpose The meetings were held at plants; women shared their opinions on work situations and the issues they face, and these were summarized.

¹ With the Nasu Plant's incorporation, a discussion meeting was also held there in September 2017.

Fiscal 2016

Third career advancement seminar for women serving as managers and occupational specialists

Dates February 28 and March 1, 2017

Purpose Problems faced at work were analyzed and recommended solutions provided, based on opinions from the discussion meetings for women and the results of a questionnaire given to all women in the workforce at Toray Industries before the meetings. This series of initiatives is intended to reinforce the problem-solving skills required for managers and occupational specialists. Participants followed up on the progress on the statements of intent they each made at the second seminar.

Fiscal 2017

Follow-up discussion meetings

Dates From December through March 2017 (22 meetings at 16 sites)

Purpose Held as a follow-up to the discussion meetings for women. Of the themes discussed at these meetings, group discussions were held on: (1) the need for female advisors in balance work and personal life; (2) the need for seminars on systems for childrearing and caregiving; (3) the ease of use of the telecommuting program; and (4) the need for women's training for employees on the S course² track and for raising interest in participating. Measures to improve these issues were considered and proposed in line with conditions at each plant.

² 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.



Group discussion

Fiscal 2018

Fourth career advancement seminar for women serving as managers and occupational specialists

Dates July 13– 14, 2018

Purpose Before the meeting, men in management positions and male occupational specialists were interviewed about their thoughts on the issue of promoting career advancement for employees regardless of gender. Using results of the analysis, major issues facing the career advancement of diverse employees were identified, in order to enhance their ability to arrive at and implement solutions. Using assessment tools, employees learned about their own strengths and weaknesses and become more aware of their leadership styles.

(This seminar was held for women who had been promoted to managerial and occupational specialist positions after the third seminar, as well as women who were not able to participate in the past three seminars.)



Analysis and discussion of questionnaire results



Comments by the general manager of the Personnel & Industrial Relations Division



Comments by Harumi Horinouchi, director (*riji*)

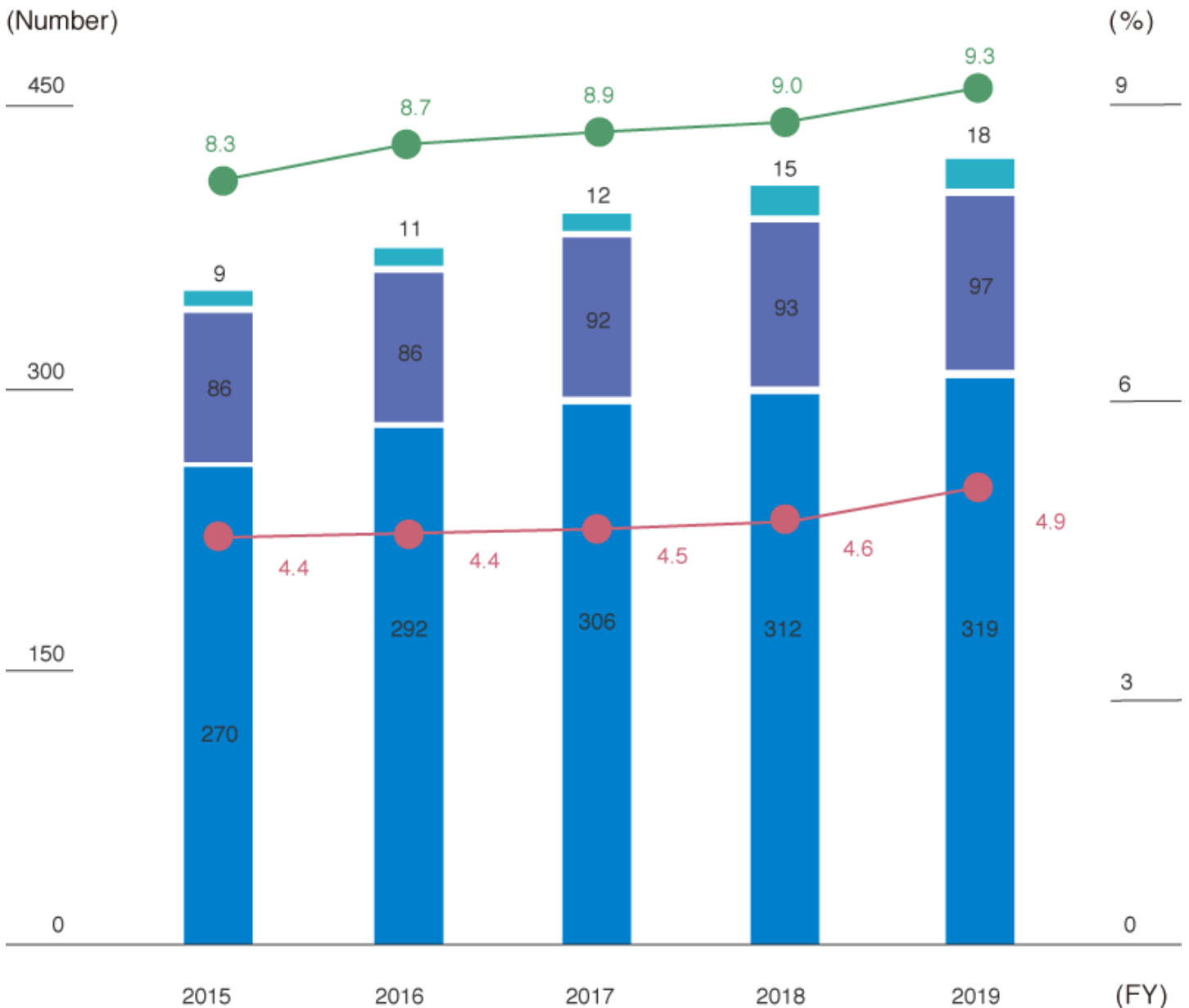
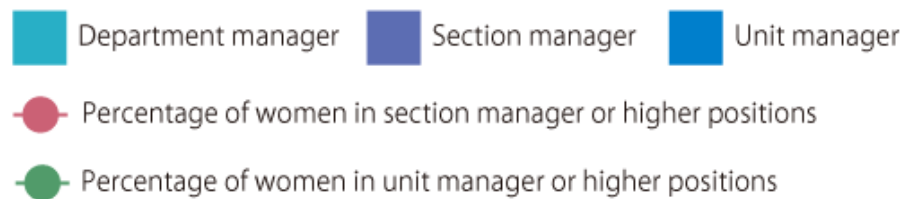
The Company set up a babysitting space in the training center during the career advancement seminars for women serving as managers and occupational specialists so that women who are also raising children could participate with peace of mind.

Sharing Stories via the Women's Empowerment Intranet

The Company provides specific examples on its corporate intranet of how employees who have given birth to and raised children did so while still working. This intranet site was set up in January 2016, and since March 2019 it has been accessible via smartphone or tablet.

By the end of fiscal 2018, the stories of 19 employees were posted on this website under the title of "Does This Help? My Story." These stories are intended to provide hints that help other employees achieve better work-life balance.

Number of Women in Management Positions and Women as a Percentage of Total Management (Toray Industries, Inc.)



Note: As of April each year

Employment of Persons with Disabilities

Group companies that have achieved legally mandated employment rate of persons with disabilities

Result in fiscal 2018

50.0%

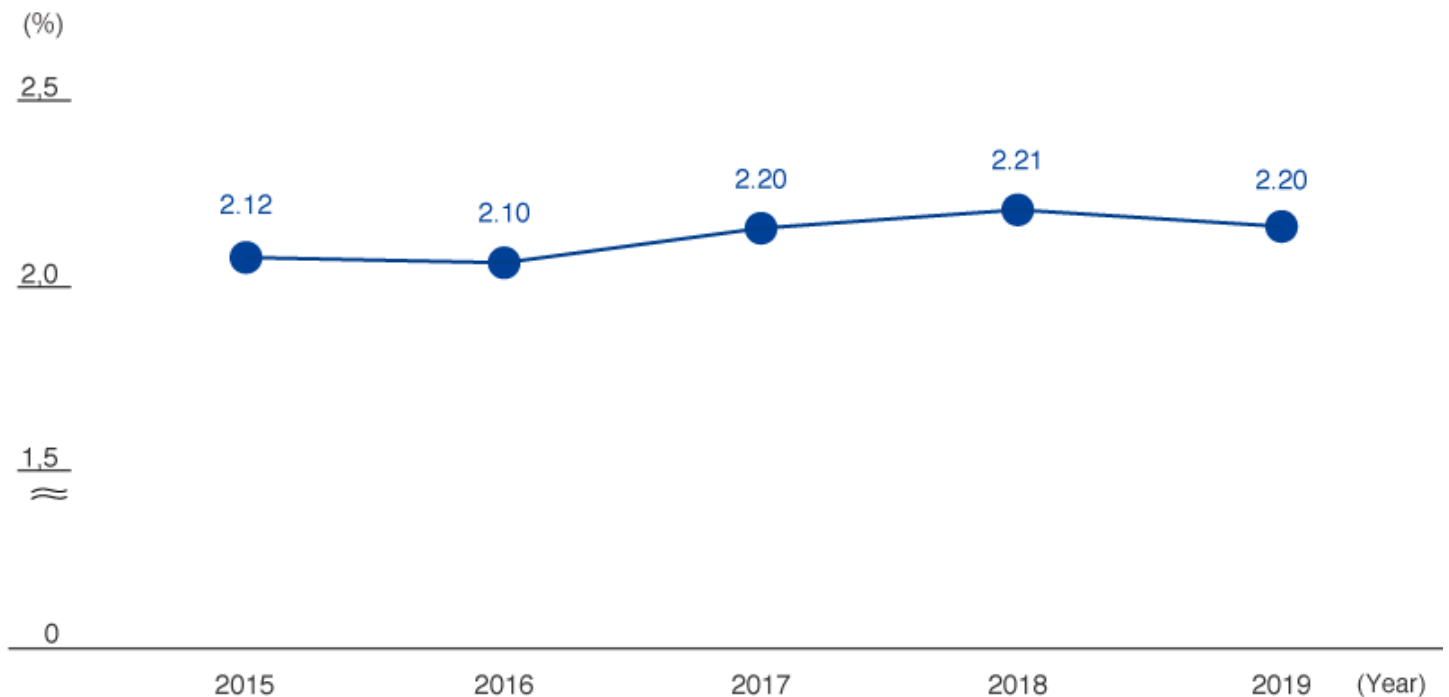
■Reporting scope
Toray Group (Japan)

■Target in fiscal 2018
100%

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 Industries meets Japan's legally mandated employment rate of persons with disabilities, as do 50.0% 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. Toray Group will continue to focus on this issue moving forward.

Employment Rate of Persons with Disabilities (Toray Industries, Inc.)



Note: As of June 1 each year

Re-employment System

As part of Toray Industries' initiatives to encourage full utilization of skilled individuals over 60 years of age, in fiscal 2001 the Company introduced a re-employment system open to all of its unionized employees who wish to continue working. In fiscal 2005, the scope of the re-employment system was expanded to include managers and occupational specialists who wish to continue working.

Creating a Positive Workplace for Employees

Social Initiatives

Available annual paid leave used by employees (%)

■Reporting scope
Toray Industries, Inc.

Result in fiscal 2018

89.7%

Toray Industries, Inc. 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, Labor and Welfare. In 2007, the Company 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 Industries 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,¹ a point-based system that lets employees choose from various programs that provide financial assistance for childcare and purchasing homes. The Company initiated a telecommuting program in April 2012, aimed at making it easier for employees to work while raising children or caring for family members.¹ Toray Industries also expanded the scope of its commuting allowance for taking the bullet train in October 2012. In April 2013, the Company 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 Industries 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. In July 2017, the Company started a flextime system without core-hour requirements for employees at the Tokyo and Osaka head offices.



¹ Available to regular employees.

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 up to the end of the month in which the child turns two years of age
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
Spouse's childbirth leave	<ul style="list-style-type: none"> • Available for three days in the event that an employee's spouse gives birth
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
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.

Category	Description
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 expenses out of pocket.

Utilization of Childcare and Family Care Leave Systems (Toray Industries, Inc.)

FY		2014	2015	2016	2017	2018
Employees taking childcare leave	Women	71	53	64	68	58
	Men	5	3	4	3	4
Employees taking family care leave	Women	2	1	2	0	5
	Men	1	4	1	1	1

Notes:

1. Figures show the number of employees taking leave in each year.
2. Rate of employees returning to work from leave since fiscal 2017-2018
 - (1) Employees taking childcare leave: Women 100%, Men 100%
 - (2) Employees taking family care leave: Women 100%, Men 100%

Employees taking leave for spouse's childbirth (Toray Industries, Inc.)

FY	2017 (program introduced in October 2017)	2018
Number of employees	157	234

As part of its commitment to workplace innovation, Toray Industries 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. The Company has been working on ongoing initiatives to reduce overtime hours and encourage employees to take annual paid leave. (Employees used 89.7% of available annual paid leave in fiscal 2018).

In fiscal 2010, Toray Industries set up a Work-Life Balance Committee and, in fiscal 2017, changed its name to the AP-G 2019 Labor-Management Committee. At the committee, representatives of labor and management review and discuss measures on a variety of themes with a view to supporting balance between work and family life, building workplace environments that facilitate diverse working styles, preventing overwork and reducing excessive working hours, and enhancing mental healthcare. The committee is working on further improvement and operation of the system by following-up on the total actual working hours of each employee.

Employee Health

Toray Industries sees employee health management as a management priority, and is taking strategic initiatives in this area. Working in collaboration with the employee health insurance association, the Company actively promotes employee health by sharing aggregate health information on the intranet at offices and plants and holding participatory events using health information sites.

Toray Industries is also addressing mental health, and since fiscal 2011 has been implementing employee stress check-ups through an external provider. This helps employees recognize their own stress levels and learn how to manage stress, which leads to an improved workplace environment. The stress check-ups are also carried out at group companies in Japan.

In recognition of these efforts, in February 2019, as in 2018, Toray Industries was listed as a White 500 Company in the Certified Health and Productivity Management Organization Recognition Program.

Dialogue with Labor Unions

Toray Industries holds meetings of the Central Labor and Management Council twice a year with the attendance of 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 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 2019, Toray Workers' Union membership stood at 8,584 workers.

CSR Guidelines & Activity Reports

Product Safety and Quality

Social Initiatives

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



Basic Approach

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

The medium-term management program, Project AP-G 2019, directs 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 2018.

Related Policies

Quality Policy Revised June 2007

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

1. We make our best efforts to meet our customers' expectations with products and services of high satisfaction.
2. We commit ourselves to abide by the "Quality First" principle, and to improve the quality and reliability of our products, in all our divisions, including sales, manufacturing and research and development.

3. We meet quality requirements at the stage of design and development, and ensure and enhance these in the manufacturing process.
4. We continuously strive to organize, maintain and improve our quality management system.

Product Safety Management Basic Policy Established January 1992

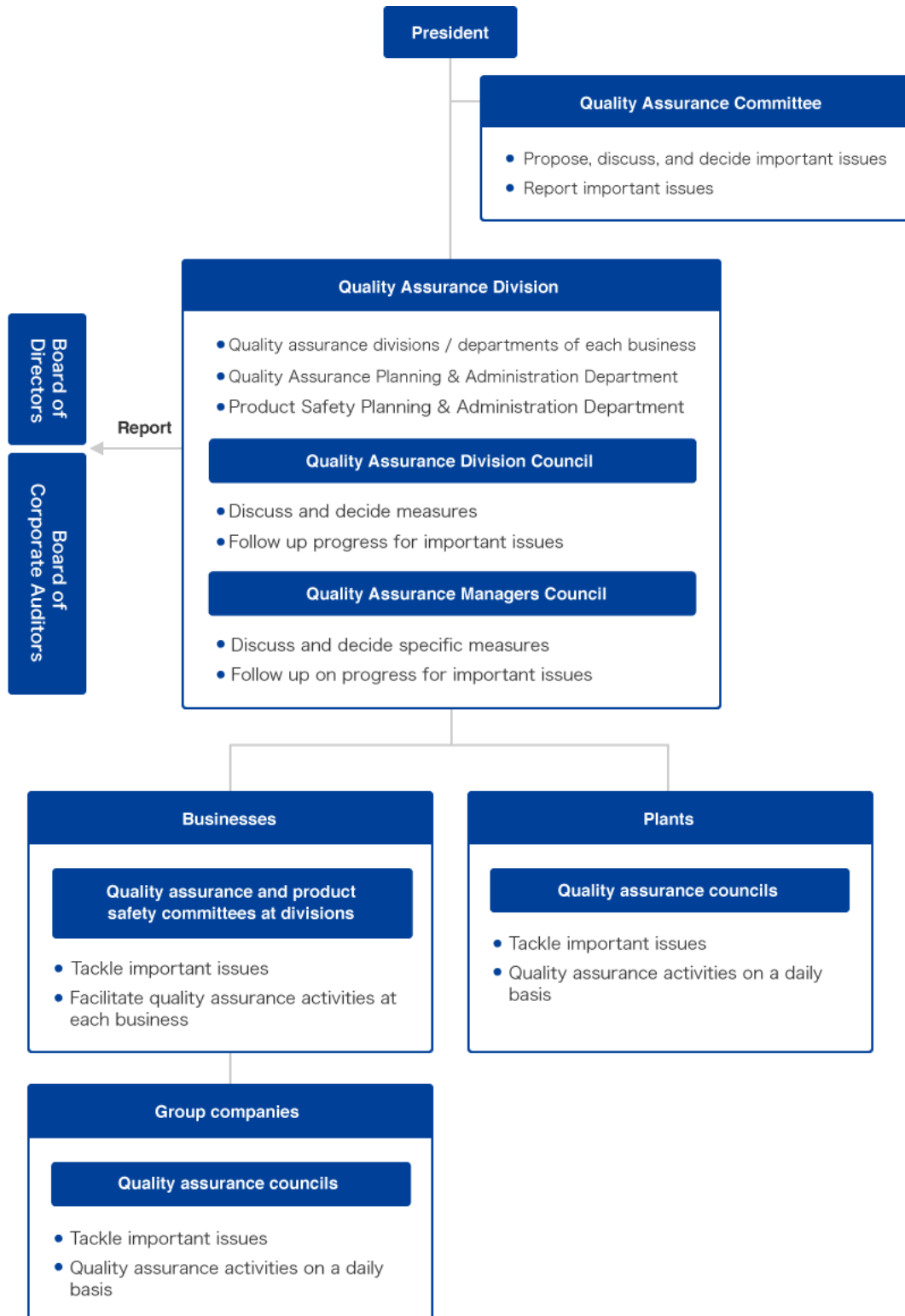
1. We shall place priority on the various measures required to ensure product safety.
2. We shall conduct adequate safety evaluations prior to marketing a new product.
3. For products already on the market, we shall take note of feedback from customers and the general public and always remain attentive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

Structure

Framework for Quality Assurance

The quality assurance framework of Toray Industries, Inc. is shown in the diagram below. The Quality Assurance Managers Council promotes and implements the annual group-wide quality assurance themes that are established by the Quality Assurance Committee. Quality assurance and product safety committees at divisions further examine the company-wide issues that have been identified by the Quality Assurance Managers Council, breaking them down into action items that are designated every year for implementation. Production, technology, and sales departments cooperate to tackle quality assurance issues and raise the level of activities.

Framework for Quality Assurance



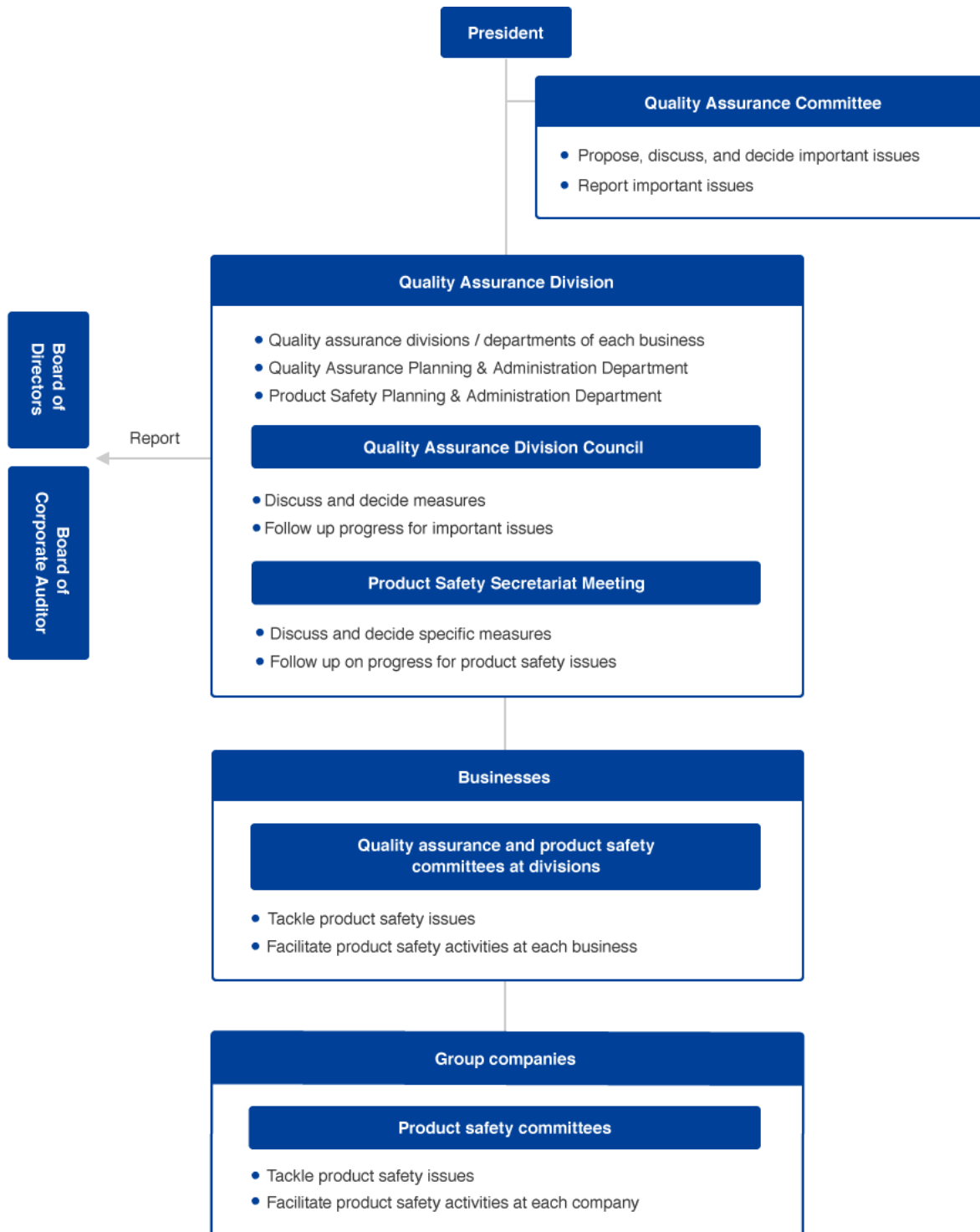
Framework for Product Safety

Toray Industries' product safety framework is shown in the diagram below. The Product Safety Secretariat Meeting promotes and implements the annual company-wide product safety themes that are established by the Quality Assurance Committee. Quality assurance and product safety committees at the divisions further examine the group-wide issues that have been identified by the Product Safety Secretariat Meeting, breaking them down into action items that are designated every year for implementation. The action items are executed in cooperation with quality assurance, production, technology, and sales organizations at the departmental and divisional levels, to ensure thorough management of product safety and continue raising

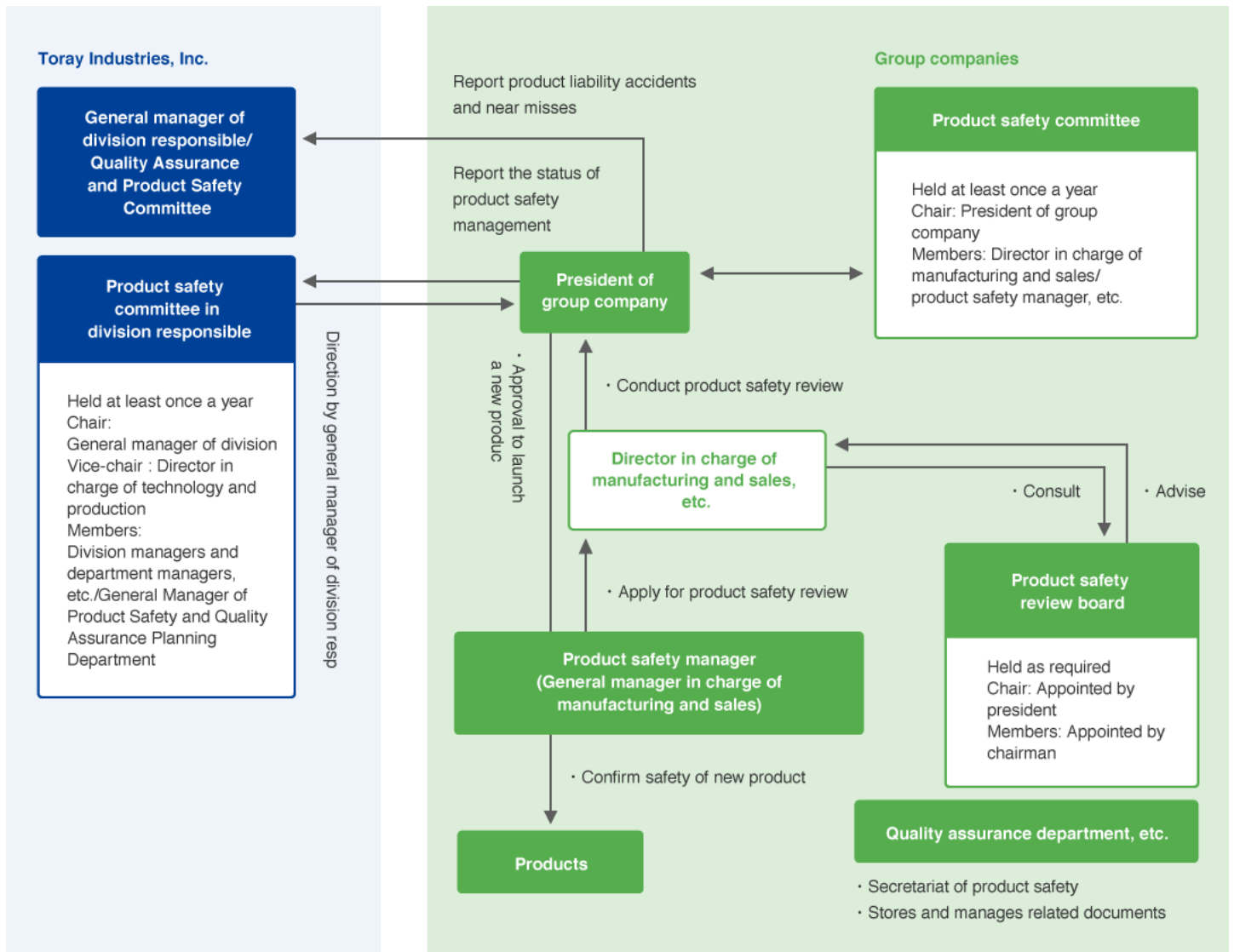
the level of management.

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

Framework for Product Safety



Framework for Product Safety at Group Companies



Self-Inspections to Ensure Quality Assurance and Product Safety

Since fiscal 2016, Toray Group companies have been implementing self-inspections for quality assurance and product safety using the C-MOS internal control monitoring online system. Any issues that are identified through the self-inspections are corrected to ensure that improvements are made. The self-inspections are conducted on a three-year cycle to ensure that the basic frameworks for quality assurance and product safety are in place: Toray was inspected in fiscal 2016, followed by group companies in Japan in fiscal 2017, and group companies outside Japan in fiscal 2018.

CSR Road Map Targets and Results

01

Achieve zero product accidents

[Related material issue for CSR]

- Ensuring product safety and quality

■KPI

Number of product accidents

■Reporting scope

Toray Group

■Target in fiscal 2018

0



02

Enhance the group-wide framework for product safety and quality assurance

■KPI

Group companies implementing product safety and quality assurance education (%)

■Reporting scope

Toray Group

■Target in fiscal 2018

100%



Looking to the Future

In fiscal 2019 and beyond, Toray Group will address individual issues related to improving quality assurance and product safety, while continuing to enhance its group-wide management systems for both product safety and quality assurance.

Initiatives for Product Safety and Quality Assurance

Social Initiatives

Reinforcing Compliance in Product Quality Assurance

Toray Group is pursuing five major tasks to reinforce quality assurance compliance throughout the Group.

1. Reinforcement of structures related to quality assurance systems of the entire Toray Group

The Group provides guidance to business divisions and group companies regarding their quality assurance frameworks, and audits the effectiveness of these frameworks and the work done under them. The organizations clarify their vision for quality assurance and design initiatives to close the gap between the vision and actual performance.

2. Development of human resources and creation of workplace culture not allowing any misconduct

The Group implements education on compliance as part of its quality assurance compliance. It has already been completed at Toray Industries, Inc., and it is underway at group companies in and outside Japan in fiscal 2019.

3. Understanding of actual state of agreements with customers and establishment of guidelines related to quality (assurance)

The Group is preparing guidelines for quality assurance agreements and will use them to assess agreements and review their provisions as necessary.

4. Appropriate maintenance or control and modernization or fulfillment of measuring devices

Toray Industries prepared risk assessment sheets for judging the necessity of upgrading or conducting maintenance on measuring devices, and used them to identify devices in need of an upgrade. In fiscal 2019, risk assessments will be implemented at group companies in and outside Japan.

5. Improvement of quality data management system to not allow any misconduct

The Group is developing data management systems that minimize human involvement, such as by automating measurement, transfer of measurement data, and issuance of inspection reports.

Education and Training for Product Safety and for Quality Assurance

Group companies implementing product safety and quality assurance education

■Reporting scope
Toray Group

■Target in fiscal 2018
100%

Result in fiscal 2018

100%

Toray Industries provides training every year for newly appointed department and section managers at the Company and its group companies in Japan. The training is designed to educate managers about quality assurance compliance and Toray Group's quality assurance and product safety initiatives. Since fiscal 2013, all group companies around the world have conducted original product safety and quality assurance training tailored to their operations.

Enhancing Product Safety Reviews

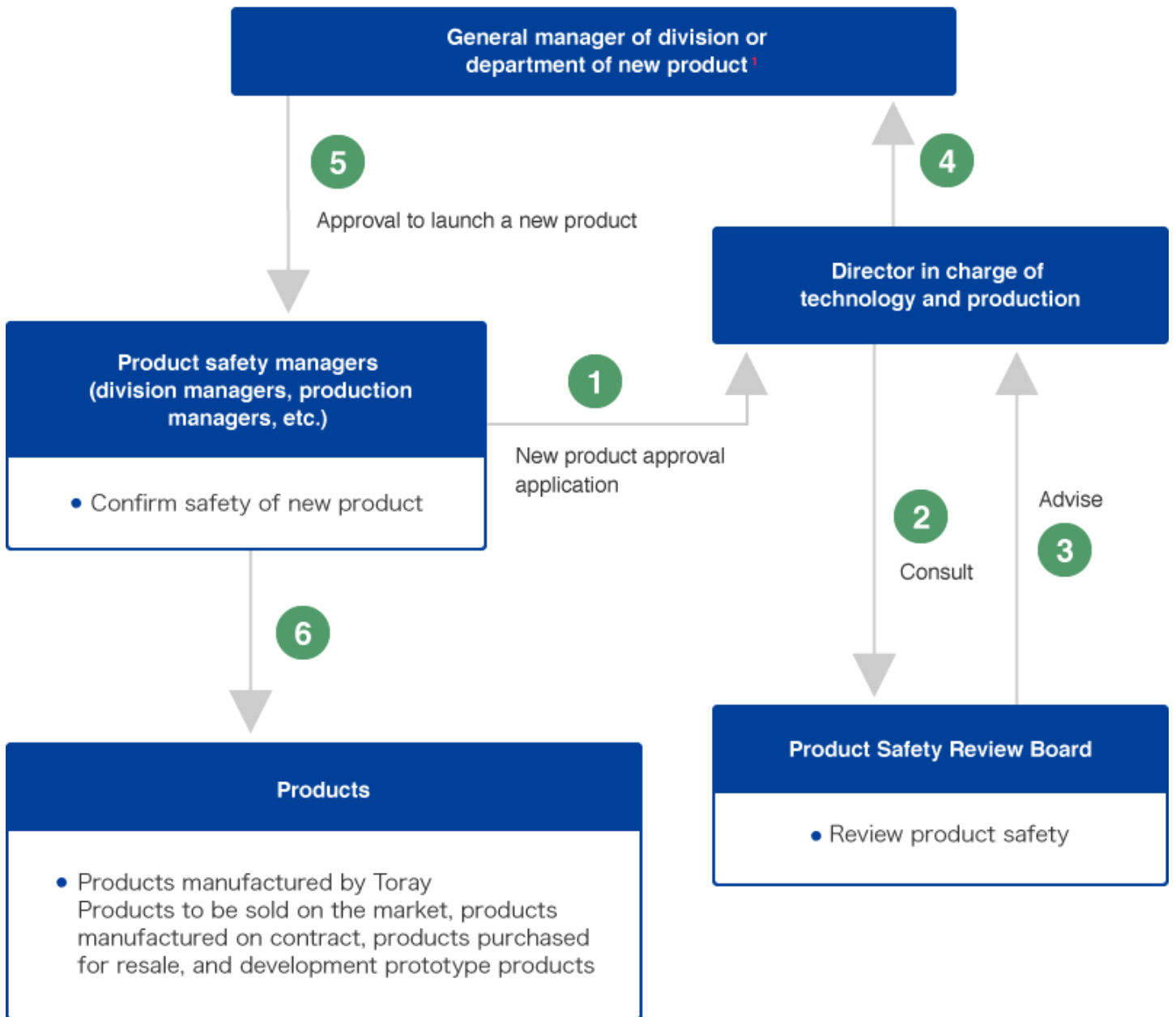
Toray Industries and its group companies implement product safety reviews for all products. In addition to addressing product safety, the reviews examine the adequacy of information provided to customers via, for instance, safety data sheets (SDS), labeling, and instructions. Products are also assessed for impact on the global environment.

Special precautions are taken for new products that are highly original, as well as for products for which the safety considerations have changed significantly from previous products. For these products, a Product Safety Review Board comprised of neutral assessors with specialized knowledge is assembled to review the safety of the product.

The Group also ensures that newly established group companies rapidly establish a framework for product safety and implement product safety reviews.

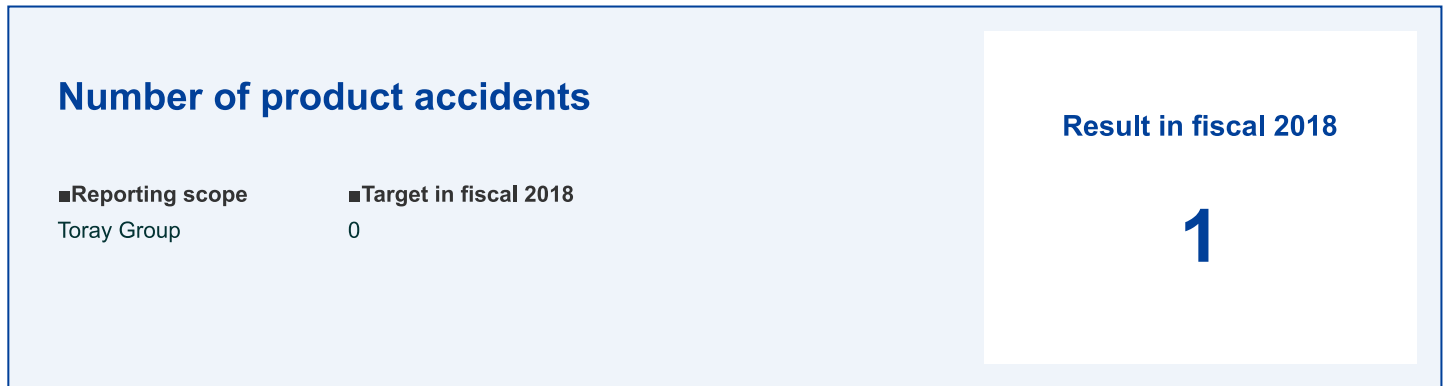
Implementing product safety reviews for all products

Product Safety Review Flow Chart (Toray Industries, Inc.)



¹ At group companies in and outside Japan, this position is held by the president or a director

Preventing Product Accidents



Golf shirts made from nylon spun knit fabric were found to bleed color onto pants and undergarments. However, there were no negative health impacts from the color bleeding.

Providing Product Safety Information

Toray Group provides customers with product safety information specifically tailored to the product or service.

1. Customer support lines

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

2. Safety data sheets (SDS)

Toray Group designates the duties, management framework, and procedures for SDS on products that are manufactured or sold by the Group, and provides customers with adequate information on the safe handling of Group products. SDS are disclosed online so that they are readily accessible to customers.

3. Product labeling and instructions

Toray Group creates labels and instruction manuals (including catalogs) and provides them to customers only after clarifying the duties and management framework for product labels and instruction manuals, the procedures from creation to distribution, and other key processes.

Respecting the Eight Basic Consumer Rights

In providing products and services, 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

CSR Guidelines & Activity Reports - Product Safety and Quality

Sites with ISO 9001 Certification

Social Initiatives

Sites with ISO 9001 Certification (as of June 2019)

Toray Industries, Inc.: All 13 plants

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

Group companies in Japan: 21 companies

So-Wa Textile Co., Ltd., Toray Construction Co., Ltd., Toray Amenity and Civil Engineering Co., Ltd., Toray Engineering Co., Ltd., Toray Precision Co., Ltd., Du Pont-Toray Co., Ltd., Toray Opelontex Co., Ltd., Dow Corning Toray Co., Ltd., Toray Textiles, Inc., Toray Coatex Co., Ltd., Toray Amtecs Inc., Toray Monofilament Co., Ltd., Toray Hybrid Cord, Inc., Toray Plastics Precision Co., Ltd., Toray PEF Products Inc., Toray Fine Chemicals Co., Ltd., Soda Aromatic Co., Ltd., Toray Advanced Film Co., Ltd., Toray KP Films Inc., Toray Carbon Magic Co., Ltd., Suido Kiko Kaisha, Ltd.

Group companies outside Japan: 36 companies

USA

Toray Plastics (America), Inc., Toray Fluorofibers (America), Inc., Toray Membrane USA, Inc., Zoltek Companies, Inc., TCAC

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., Composite Materials (Italy) s.r.l., Delta-Tech S.p.A / Delta-Preg S.p.A

Czech Republic

Toray Textiles Central Europe s.r.o.

Indonesia

P.T. Century Textile Industry Tbk, P.T. Easterntex, P.T. Indonesia Toray Synthetics, P.T. Acryl Textile Mills, P.T. Indonesia Synthetic Textile Mills, P.T. Toray Polytech Jakarta

Thailand

Thai Toray Synthetics Co., Ltd., Luckytex (Thailand) Public Company Limited

Malaysia

Penfibre Sdn. Berhad, Penfabric Sdn. Berhad, Toray Plastics (Malaysia) Sdn. Berhad

China

Toray Sakai Weaving & Dyeing (Nantong) Co., Ltd., Toray Fibers (Nantong) Co., Ltd., Toray Polytech (Nantong) Co., Ltd., Toray BlueStar Membrane Co., Ltd., Toray Plastics (Suzhou) Co.,Ltd., Toray Plastics (Chengdu) Co., Ltd., Toray Plastics Precision (Zhongshan) Ltd., Toray Film Products (Zhongshan) Ltd.

Republic of Korea

Toray Advanced Materials Korea Inc., STEMCO, Ltd., Toray Battery Separator Film Korea Limited

Taiwan

Toray Advanced Film Kaohsiung Co., Ltd.

CSR Guidelines & Activity Reports

Facilitating CSR Initiatives Throughout the Supply Chain

Social Initiatives

Promote CSR initiatives in areas including environmental preservation and human rights throughout the entire supply chain by working closely with suppliers, processing vendors, customers and distribution companies.



Basic Approach

Toray Group operates a wide range of businesses in countries and regions around the world. As a result, its procurement of raw materials and supplies and the locations and industries of its contractors and suppliers are diverse.

At the same time, CSR initiatives in today's global society are increasingly important. They have become more diverse and advanced in the effort to address climate change, environmental protection, respect for human rights and improvements to the labor environment. These initiatives can no longer focus solely on a single company, and are being extended to encompass its entire supply chain.

To address this issue and ensure stable and sustainable procurement, the CSR Procurement Guidelines specify the Group's commitment to building a supply chain that not only ensures quality and stable supply of products, but also incorporates ethical, social, environmental, and human rights considerations. The Group seeks the understanding of suppliers in this effort.

Related Policies

CSR Procurement Guidelines Revised 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

Policies on Purchasing and Distribution

As a manufacturer of advanced materials that supplies a wide range of materials and products, 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.

Related Policies

Basic Purchasing Policies Revised December 2004

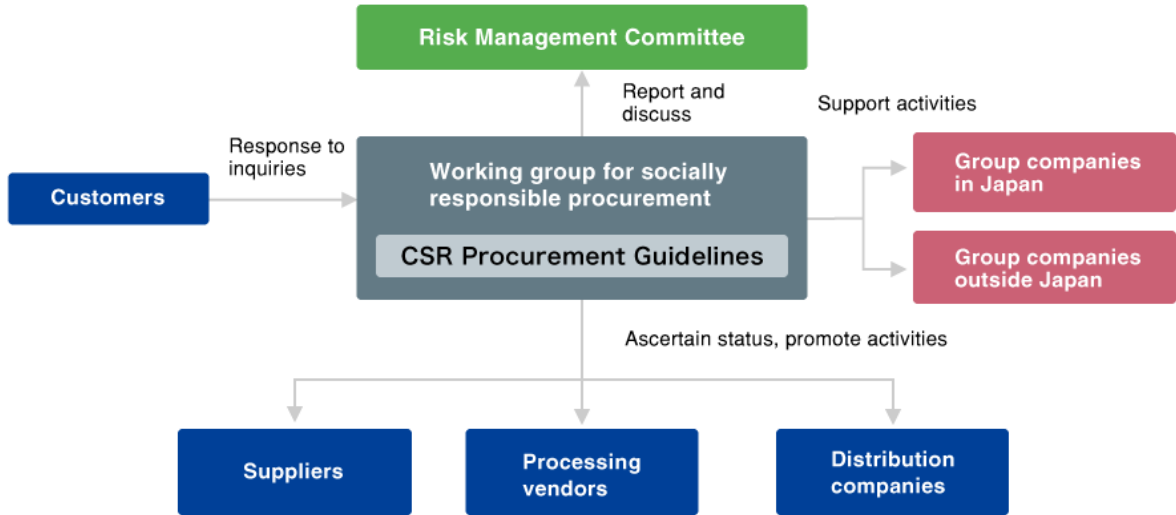
1. Toray does its utmost to select suppliers and determine actual purchases fairly and on the basis of economic rationality, with consideration for price, quality, capability to provide stable supplies, technological capabilities, reliability, and other factors.
2. In selecting suppliers, Toray opens 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 Revised 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.

Structure

To ensure socially responsible procurement across the Group and address today’s increasingly globalized procurement risks, Toray Industries, Inc. has established a working group to lead a group-wide risk management initiative. The working group strives to ascertain the status of CSR practices at suppliers, responds to customer inquiries about Toray Industries’ CSR practices, and supports group companies in this area. The working group also regularly reports on the progress of socially responsible procurement and related risk mitigation initiatives across the Group to the Risk Management Committee, which oversees overall risks. The issues reported are discussed by the committee members.



Suppliers’ status to be ascertained and items to be requested to supplier

Establishment of CSR promotion system	Corporate ethics and compliance	Safety, accident prevention, and environmental preservation
Business continuity plan and risk management	Interaction with stakeholders	Product safety and quality assurance
Human rights and labor environment	Information security and intellectual property management	Supplier’s CSR promotion in its own supply chain

CSR Road Map Targets and Results

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

01

■KPI

Number of group companies that have requested their suppliers to practice CSR

■Reporting scope

Toray Group

■Target in fiscal 2019

40 or more

Result through
end of fiscal
2018

150

02

■KPI

Number of business partners that Toray Group companies have requested to practice CSR (cumulative)

■Reporting scope

Toray Group

Result
(Cumulative
fiscal 2013-
2018)

5,294

03

■KPI

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

■Reporting scope

Toray Group (Only specified consigners in Japan)

■Target in fiscal 2018

1.0%

Result in fiscal
2018

1.5%

04

■KPI

Modal shift to sea or rail for transport across distances for 500 km or more (%)

■Reporting scope

Toray Industries, Inc.

■Target in fiscal 2019

40%

Result in fiscal
2018

29%

Looking to the Future

Toray Group believes that socially responsible procurement must be pursued together with suppliers. It will continue to identify and evaluate progress on CSR practices in all processes, including the procurement of raw materials and supplies across the entire Group worldwide, as well as production activities by contractors and processing vendors. Toray Group will promote greater awareness of human rights, social, environmental, and other CSR issues while mitigating risks across the supply chain.

Socially Responsible Procurement Initiatives at Toray Group

 Materiality Focus

Social Initiatives

Toray Group's Socially Responsible Procurement

Number of group companies that have requested their suppliers to practice CSR

■Reporting scope
Toray Group

■Target in fiscal 2019
40 or more

Result through end of
fiscal 2018

150

(Head Office:1, Japan:55, Outside Japan:94)
(Result in fiscal 2018: Japan: 17, Outside Japan: 6)

Number of business partners that Toray Group companies have requested to practice CSR (cumulative)

■Reporting scope
Toray Group

Result (Cumulative fiscal
2013-2018)

5,294

(Result in fiscal 2018: 2,124)

Toray Group is facilitating CSR initiatives across its supply chains, including at group companies around the world. These efforts include developing a socially responsible procurement system, responding to customers' requests for CSR practices, ascertaining the CSR practices of suppliers and educating them, and requesting that they take action on CSR.

In addition, Toray Industries, Inc. has built a plan-do-check-action (PDCA) cycle using its own survey system. By regularly monitoring the status of CSR compliance at suppliers, assessing the overall Group using consistent standards, giving

feedback on the results to suppliers, and following up on poor-performing suppliers, the Company endeavors to raise suppliers' awareness and efficiently and effectively lower CSR risks across the supply chain.

In fiscal 2018, Toray Industries carried out CSR surveys of suppliers at 475 major business partners. Also, given that risks related to socially responsible procurement have heightened outside Japan, as have human rights issues along the supply chain, the Company checked the status of social responsible procurement at group companies outside Japan. In this check, the Company confirmed 1,384 out of 2,569 suppliers from which group companies outside Japan procure and purchase products have been requested to practice CSR (via a survey on CSR, audit, signing of commitment, etc.) by Toray Group companies. The Company also checked this status at group companies in Japan for their 291 business partners.

PDCA Cycle for Supply Chain Management



Main Items of CSR Surveys of Suppliers

I. CSR promotion system

- Establishment of and familiarity with policies and guidelines
- Establishment of internal system and selection of responsible parties
- Establishment of goals and plans, review of activity results

II. Corporate ethics and compliance

- Prevention of bribery, corruption, etc.
- Prevention of misuse of advantageous position and bid-rigging
- Compliance with changes in laws and regulations and educating employees about changes
- Protection of confidential information and personal information
- Protection of and respect for intellectual property
- Avoidance of all involvement with organized criminal groups
- Prevention of use of technology barred under regulations and illegal exports
- Identification of use of conflict minerals and cobalt and country of origin

III. Occupational safety and health

- Safety measures in workplace and improvements to working environment
- Prevention of occupational accidents
- Prevention of accidents and health risks
- Adoption of management system related to occupational safety

IV. Disaster prevention and risk management

- Development of education, training and manuals for disasters
- Establishment of business continuity plan (BCP) for large-scale disasters
- Establishment of BCP for pandemic
- Defense against threats on computer network

V. Environmental conservation

- Obtaining and maintaining authorizations and registrations
- Prevention of pollutants and waste, promotion of resource use (3Rs: reduce, reuse, recycle)
- Appropriate management of chemical substances and pollutants in line with laws and regulations
- Reduction of the emission of greenhouse gases
- Green procurement, green purchasing, energy conservation activities
- Consideration for water resources and biodiversity and implementation of assessments
- Introduction of environmental conservation management system

VI. Interaction with stakeholders

- Disclosure of financial information and non-financial information
- Setting up hotlines for consultation and reporting, protection of whistleblowers
- Support for community activities and activities contributing to society, and encouragement of participation in such activities

VII. Product safety and quality assurance activities

- Assessment of product safety, management of substances contained in products
- Provision of information on specifications, quality and handling

VIII. Human rights and labor

- Ban on illegal and inhuman labor practices, such as forced labor and child labor
- Provision of appropriate information to foreign workers and employment
- Prevention of undue low wages and wage reductions, as well as labor that exceeds statutory limits
- Ban on harassment, physical punishment, abuse, etc.
- Protection for freedom of association and collective bargaining, etc.

IX. CSR initiatives in supplier's own supply chain

- Requests for promotion of CSR along supply chain

Socially Responsible Procurement Initiatives at Toray Industries

In principle, Toray Industries carries out a biannual CSR survey of major suppliers, business partners and distribution companies which together are responsible for 90% of the Company's total procurement value. In addition to questions based on Toray Group's CSR Procurement Guidelines, the surveys exhaustively confirm the extent to which suppliers are addressing CSR, including their actions on human rights and environmental conservation—areas that have received greater social attention in recent years.

In fiscal 2018, Toray Industries carried out CSR surveys of suppliers at 475 companies and received responses from 449. The results indicated that about 96% of companies surveyed were rated “excellent,” “very good” or “good” for CSR practices, thus meeting the Company's standards for business partners. Four percent of the companies surveyed rated only “fair” or “needs improvement,” requiring further investigation of their CSR practices. Compared to the previous survey year (fiscal 2016), the percentage of companies rated “excellent,” “very good” or “good” increased by two percentage points, demonstrating that suppliers are increasingly addressing CSR. The level of progress was high in the three items of “ethics and compliance,” “human rights,” and “quality,” which are currently risks that must be addressed in the supply chain. This indicated that risk has been mitigated overall. In addition, 79% of the suppliers that had received “fair” or “needs improvement” assessments in the previous survey and had been visited, interviewed and asked to make improvements were rated “good” or better this year, confirming that they are addressing problem areas.

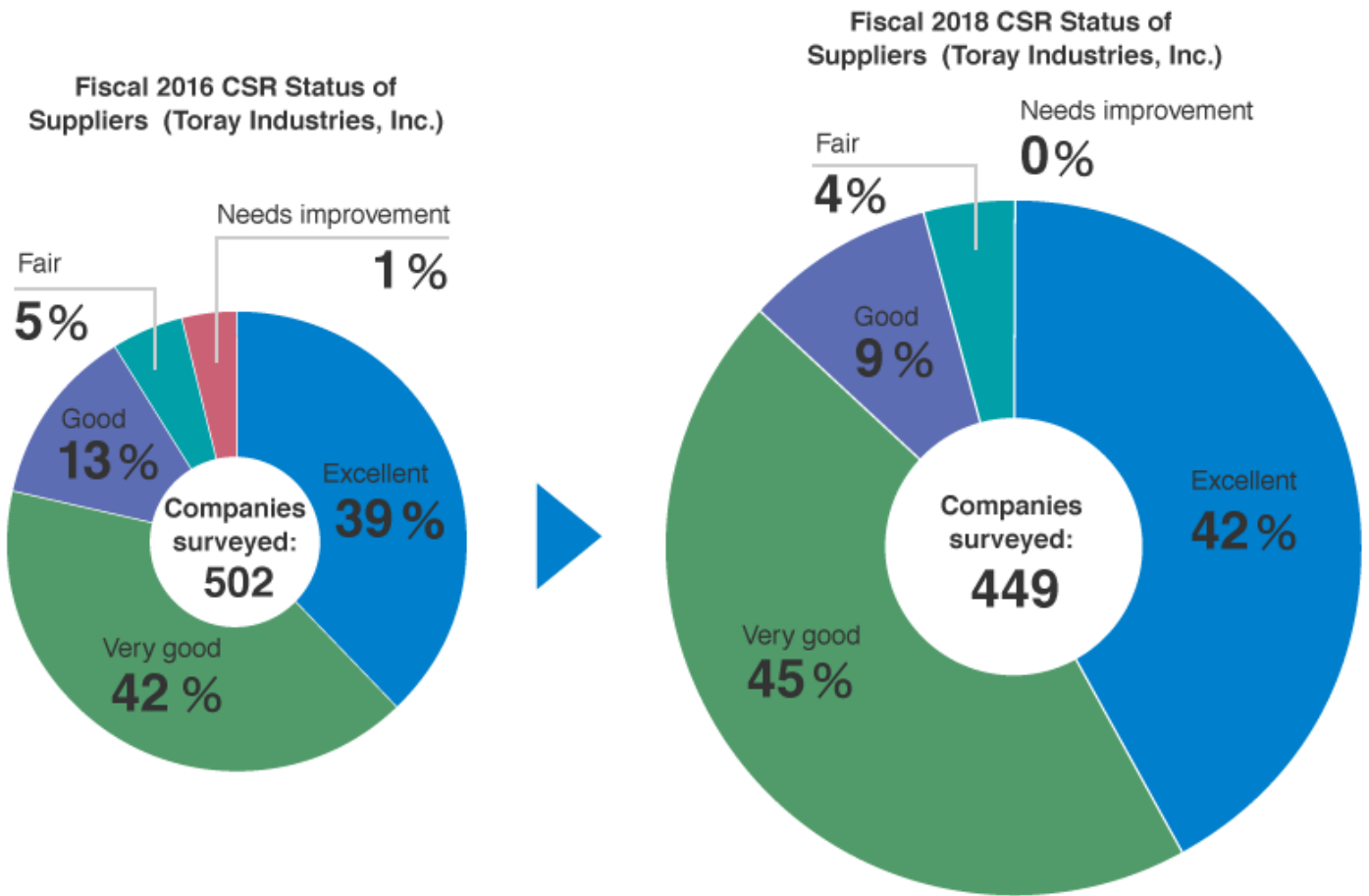
All companies were given feedback on these survey results, together with the analysis. In fiscal 2019, the Company will verify the conditions at suppliers who were rated “fair” or “needs improvement” in the fiscal 2018 survey and discuss the steps they need to take to improve. The Company will continue to facilitate awareness of CSR throughout the supply chain and to promote CSR activities.

In parallel with those efforts, Toray Industries has been adding a CSR clause into basic supplier agreements. The clause stipulates that both the Company and the supplier will pursue CSR initiatives in areas such as legal compliance, environmental conservation, respect for human rights and product safety. When a new contract is signed or when a contract is renewed, this clause is added to the new agreement. In addition, rules for responses to CSR surveys from customers are set and a system is in place to facilitate prompt and accurate responses.

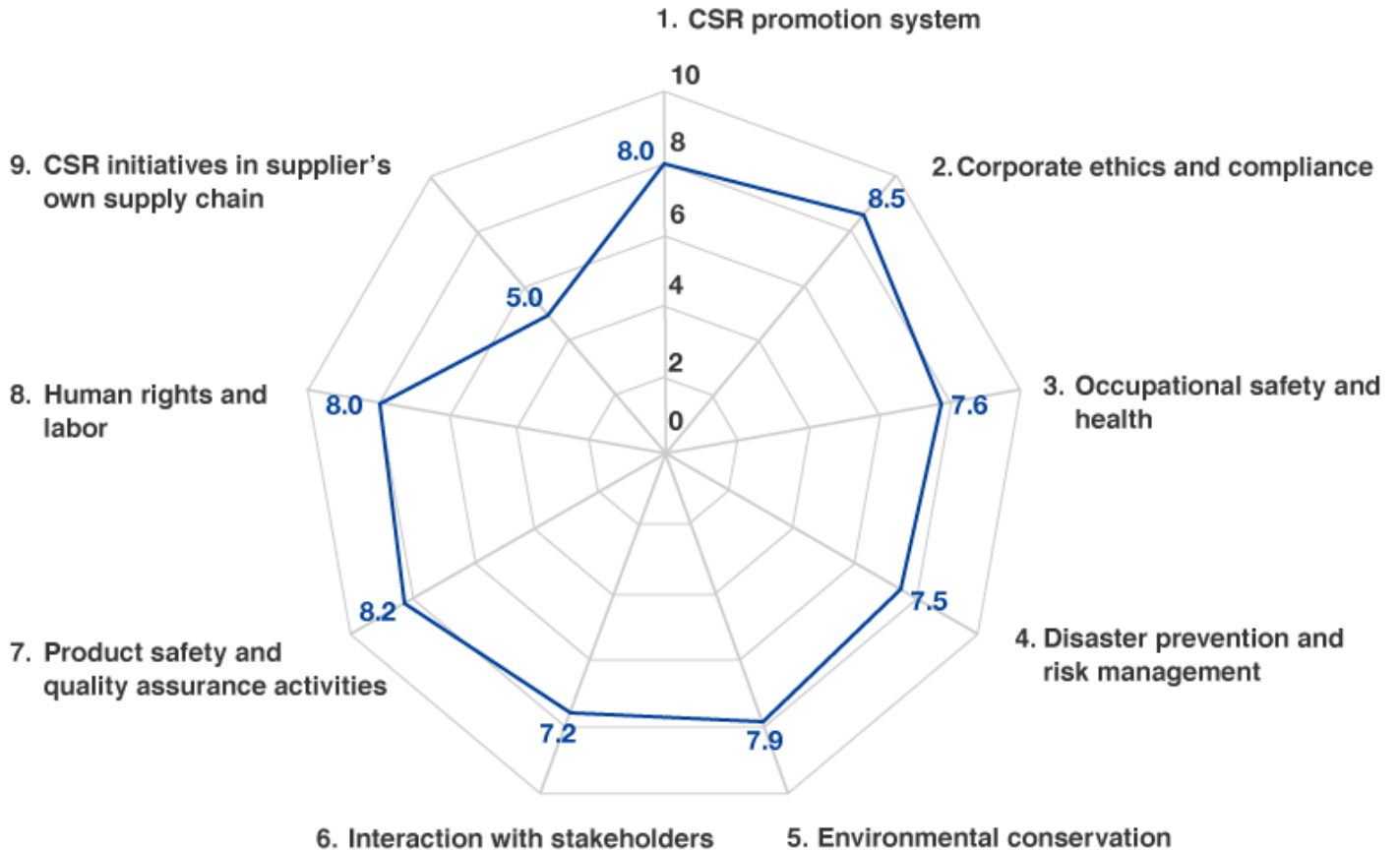
**Percentage of suppliers with the level of efforts required by the Company
(Rated as S, A or B)**

96%

Fiscal 2018 CSR Status of Suppliers (Toray Industries, Inc.)



Fiscal 2018 Analysis of CSR Survey of Suppliers (Toray Industries, Inc.)



Socially Responsible Procurement Initiatives at Toray Group Companies

Assessing socially responsible procurement conditions across Toray Group is a key issue for the Group as it builds a global supply chain. Determining the extent to which suppliers outside Japan are addressing CSR issues is a priority issue for the Group.

In fiscal 2017, Toray Group companies carried out surveys of 88 processing suppliers outside Japan that had not previously been requested to practice CSR. The survey questions are based on the Group's CSR Procurement Guidelines, thereby confirming the status of CSR practice. Suppliers who received ratings of "fair" or "needs improvement" were visited and interviewed to assess conditions and request improvements.

In fiscal 2018, Toray Group companies carried out a similar survey of suppliers other than the processing suppliers from which group companies outside Japan purchase and procure products. Prior to this, Toray Industries checked how many of those suppliers (accounting for 90% of the total procurement value of the 77 directly managed companies outside Japan and their subsidiaries) had been requested to practice CSR by Toray Group companies. The results showed that of the 2,569 major suppliers, 886 had not been yet requested to introduce CSR measures by Toray Group companies. Following this, the Group companies carried out a CSR survey of those 886 suppliers. Currently, responses from the suppliers are being collected and compiled. Once the results are in, Toray Industries and the Group companies will confirm and analyze the response of each supplier and provide feedback on the results. Suppliers who need an on-site assessment (suppliers who received ratings of "fair" or "needs improvement") will be visited and interviewed to assess conditions and request improvements.

To date, Toray Group companies in Japan have set up internal systems and rules and carried out CSR surveys on an ongoing basis, but to reduce risks for the Group overall, Toray Industries will now identify conditions at group companies and regularly monitor companies as well as provide feedback on ratings to suppliers in order to reduce CSR risk across the supply chain.

Human Rights in the Supply Chain

Toray Group believes that respect for human rights is a crucial element in ensuring that the supply chain is stable and sustainable. Toray Group's CSR Procurement Guidelines state that the Company is dedicated to respecting human rights, eliminating discrimination, and improving workplace environments, as well as prohibiting forced labor, slave labor, child labor, and unfair low-wage labor. The Group requests all suppliers to comply with these guidelines.

In the CSR survey of suppliers that Toray Industries carries out regularly, the Company identifies and assesses the extent to which suppliers are addressing issues related to human rights and labor practices.

The survey carried out in fiscal 2018 confirmed that the implementation rate was high for nine of the ten survey questions, other than the question asking whether the Company's suppliers request their suppliers to address human rights issues.

In addition to continuing to provide suppliers with feedback on results, the Company will encourage the promotion of respect for human rights and higher awareness across the supply chain by distributing guidebooks and visiting and interviewing companies that have not yet addressed human right issues.

Results of Fiscal 2018 CSR Survey of Suppliers

Survey Questions	Survey results (The results are ranked from 0 to 4.0 and 1 mean that the company has not addressed the issues.)	Implementation rate
1. Have policies and guidelines been set and employees educated about respect for human rights, eliminating discrimination and improving the work environment?		97.8%
2. Has an internal system been set up and people responsible for its promotion been designated in regards to respect for human rights, eliminating discrimination and improving the work environment?		98.1%
3. Have goals and plans been set, activity results reviewed and mechanisms for making improvements and corrections devised in regards to respect for human rights, eliminating discrimination and improving the work environment?		97.4%
4. Is forced labor, labor for debt repayment, slave labor, involuntary or exploitative labor, and/or child labor completely avoided?		99.3%
5. Are foreign workers given employment contracts and employment regulations in a language that they can understand? Are ID, passports, and work permits managed to ensure that there is no confiscation, concealment, destruction or misuse?		88.1%
6. Are conditions appropriately managed and operated in line with applicable laws, including welfare, to prevent wages that are below the minimum wage, inappropriate reductions and labor that exceeds the legal limit?		99.6%
7. Are conditions appropriately managed and operated to ensure that sexual harassment, power harassment, physical punishment, emotion or physical abuse, pressure and other inhuman treatment and actions do not occur?		99.6%
8. Are conditions appropriately managed and operated to ensure that the rights to freedom of association, assembly and collective bargaining are not illegally or inappropriately impeded or denied and that no retaliation is taken?		98.2%
9. Are conditions appropriately managed and operated to ensure that in recruiting, hiring and employing people, race, the color of one's skin, age, gender, sexual orientation, nationality, religion and other factors do not result in discriminatory action?		98.5%
10. Do you ask your suppliers to make improvements in regard to respect for human rights, the eradication of discrimination and improvement of the labor environment?		63.3%

Supplemental information:

- [4] Addressed well
- [3] Addressed
- [2] Addressed at minimum level
- [1] Will address in one year
- [0] Not addressed

For questions 4 to 9, a scale from [0] to [3] is used; no value has been set for [4]. In question 5, suppliers that do not employ foreign workers are included under [0].

Addressing Conflict Minerals

In recent years, the public has become more concerned about responsible procurement of minerals. In particular, the four minerals of gold, tin, tantalum and tungsten often mined in the Democratic Republic of Congo and surrounding countries have sometimes been a source of funding for armed groups. For this reason, under Section 1502 of the Dodd Frank Act in the United States, publicly traded companies have obligations for reporting and disclosing use of these minerals.

To comply with the rules, Toray Industries investigates whether conflict minerals are used in any of the raw materials and production equipment used for its products. If conflict minerals are used, the Company investigates the suppliers to determine the locations of smelters and mines.

Toray Industries has also set up an internal system for surveys and responses so that it can respond promptly and appropriately to requests from customers in regard to surveys on conflict minerals.

International Cooperation in the Textiles and Apparel Industry

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.

Participating in the Sustainable Apparel Coalition

CSR Guidelines & Activity Reports - Facilitating CSR Initiatives Throughout the Supply Chain

Toray Group Distribution Initiatives

Social Initiatives

Toray Industries, Inc. 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 2018, distribution managers from 54 distribution partner companies and 21 Toray Group companies in Japan participated in briefings to promote understanding of Toray Group's 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 Group (Only specified consigners in Japan)

■Target in fiscal 2018

1.0%

Result in fiscal 2018

1.5%

Toray Group is working hard to reduce CO₂ emissions in transport. These initiatives include reducing transport distances, shifting modes of transport to those which have less environmental impact such as sea and rail (modal shift), and raising transportation efficiency.

In fiscal 2018, at Toray Group (only specified consigners¹ in Japan), CO₂ emissions from distribution activities were 38,300 tons, down 1,500 tons (3.8%) year-on-year, due primarily to a decrease in transport volume. At the same time, the average energy consumption per unit of sales² decreased by 1.5 points from the previous fiscal year (using fiscal 2014 as the standard). This is equivalent to an approximately 3,000-ton reduction in CO₂ emissions.

In fiscal 2018, Toray Industries' CO₂ emissions from distribution activities totaled 28,900 tons, down 1,200 tons (4.1%) from the previous fiscal year. This decline from the previous year was primarily due to the implementation of modal shift, increased loading rates and reductions of inefficient transport, which resulted in a 326-ton reduction, and a decrease in the transport volume for film products. Energy consumption per unit of net sales² decreased by 8.7% year-on-year and an average of 3.0%

over the past five years, due to the abovementioned reasons and higher net sales. As a result, Toray Industries 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 Group will continue to seek CO₂ emissions reductions by pursuing environmentally responsible distribution.

¹ Toray Industries, Inc., Dow Corning Toray Co., Ltd., Toray Advanced Film Co., Ltd., and Toray Amenity and Civil Engineering Co., Ltd., which have annual cargo transport totaling 30 million ton-kilometers or more, are “specified consigners” under Japanese law.

² Energy consumption per unit of net sales refers to CO₂ emissions in transport divided by a transport-related index, as shown below:

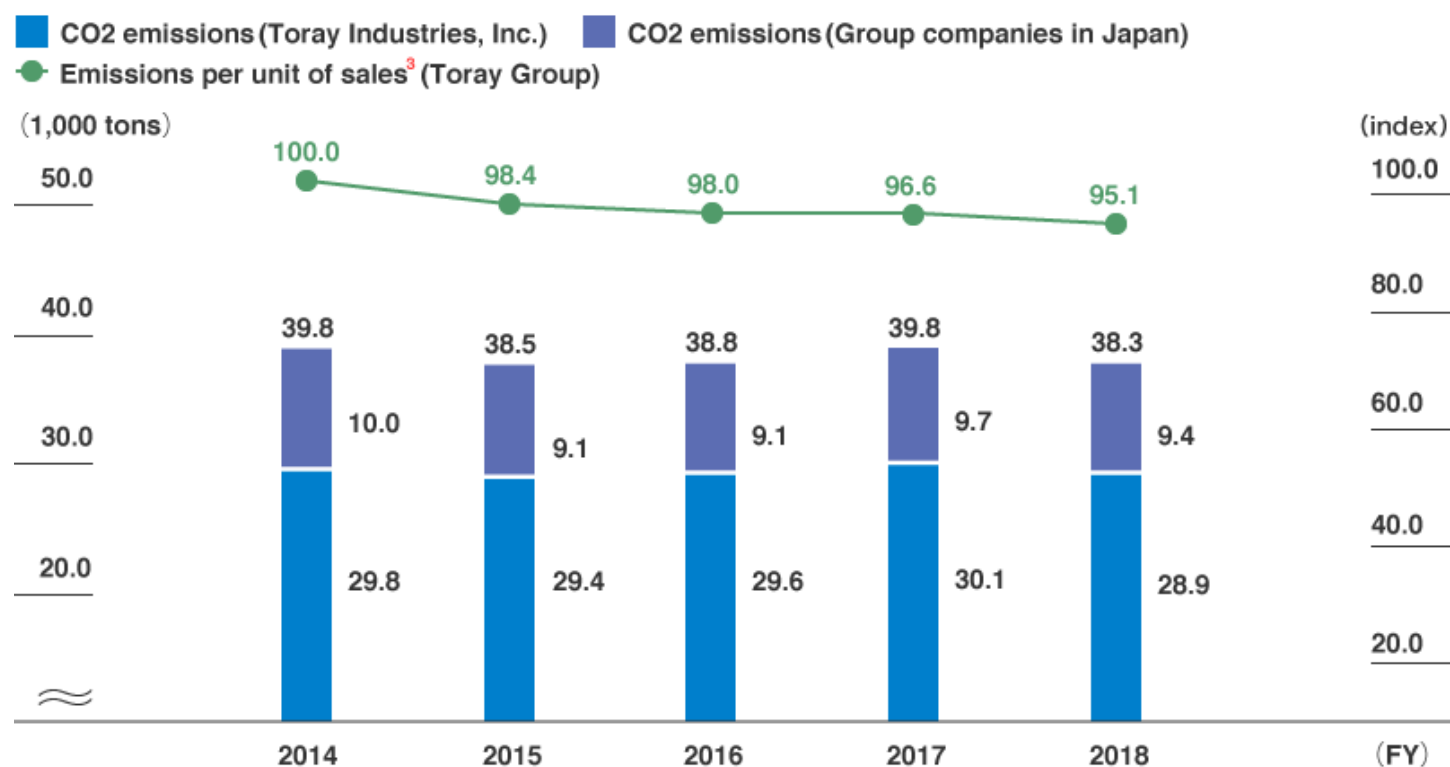
Toray Industries, Inc., Dow Corning Toray Co., Ltd. = Net sales

Toray Advanced Film Co., Ltd. = Shipping volume

Toray Amenity and Civil Engineering Co., Ltd. = Shipping volume x distance (per ton-kilometer)

Specified consigners are required to endeavor to meet the legal mandate to reduce energy consumption intensity by an average of at least 1% every year over the medium- and long-term.

CO₂ Emissions Resulting from Distribution Activities (Toray Group’s Specified Consigners in Japan)



³ CO₂ emissions at the transport stage divided by sales on per unit basis

CO₂ Emissions Reduction in Distribution Activities (Toray Industries, Inc.)

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	0.24
Modal shift	0.01
Full-load transport (strategic positioning of warehouses, etc.)	0.04
Shortened transport distances (loading at the nearest port, etc.)	0.04
Total	0.33

Shortening Transport Distances by Using Regional Ports

Toray Industries is proactively working to reduce transport distances by inventory sites and actively utilizing regional ports and to shift modes of transport to those which have less environmental impact.

Up until now, the imported TORAYCA carbon fiber used at Toray Industries' Ehime Plant and Toray Industries' Ishikawa Plant has been unloaded at the Matsuyama Port. This is the closest port to the Ehime Plant, where a large volume of this carbon fiber is used. For that reason, fiber used at the Ishikawa Plant was transported from Ehime by truck after unloading. However, Toray Industries has been able to significantly reduce the transport distance in Japan by confirming the types and volume of imported TORAYCA carbon fiber to be used at the Ishikawa Plant before import, and using the Kanazawa Port, which is closest to the Ishikawa Plant. As a result, CO₂ emissions were reduced by 36 tons annually.



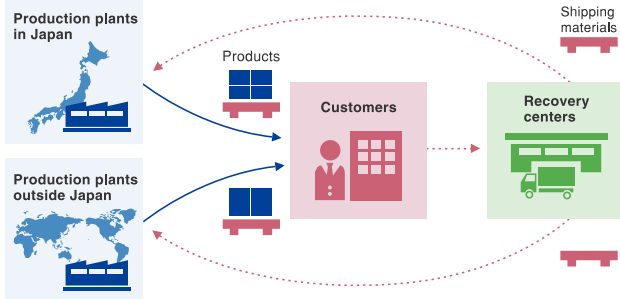
Before



After

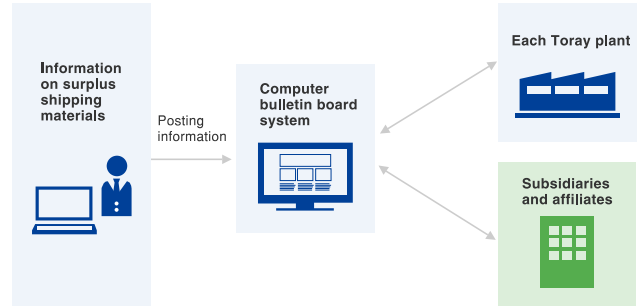
Expanding Collection and Reuse of Packaging Materials

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.



More packaging materials are reused, including at plants outside Japan

System for Reusing Shipping Materials (Toray Industries, Inc.)



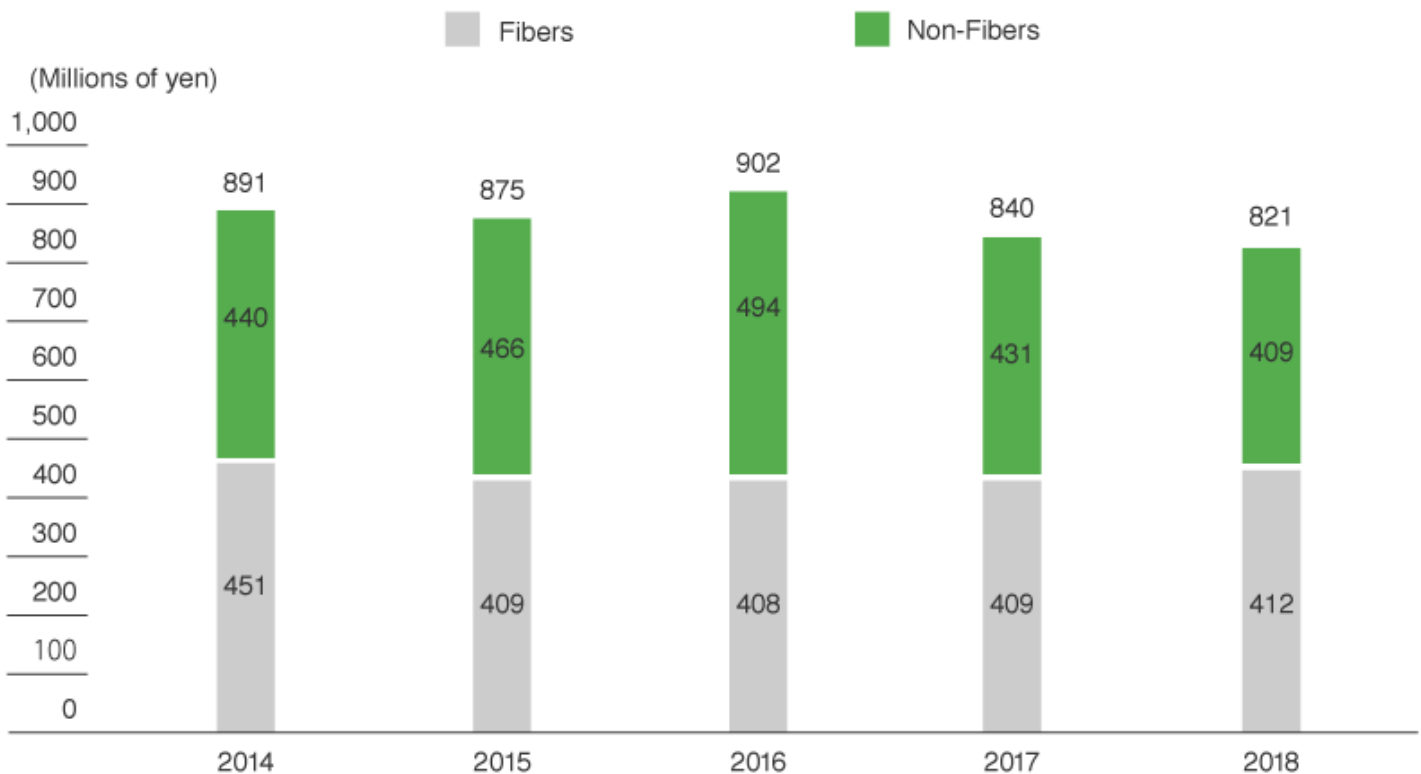
Sharing information on surplus shipping materials promotes reuse group-wide

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

Monetary Amounts Recovered for Packaging Materials (Toray Industries)

Toray Industries recovered 820 million yen for packaging materials in fiscal 2018, down 20 million yen (2.3%) from the previous fiscal year.

The company endeavored to improve the return rate and the reuse rate by prioritizing the recovery of its main packaging materials, but the monetary amount declined due to a drop in the recovery volume resulting from a decline in the shipment volume for fibers and film.



Promoting a Modal Shift

Modal shift to sea or rail for transport across distances for 500 km or more (%)

■ Reporting scope
 Toray Industries, Inc.

■ Target in fiscal 2019
 40%

Result in fiscal 2018

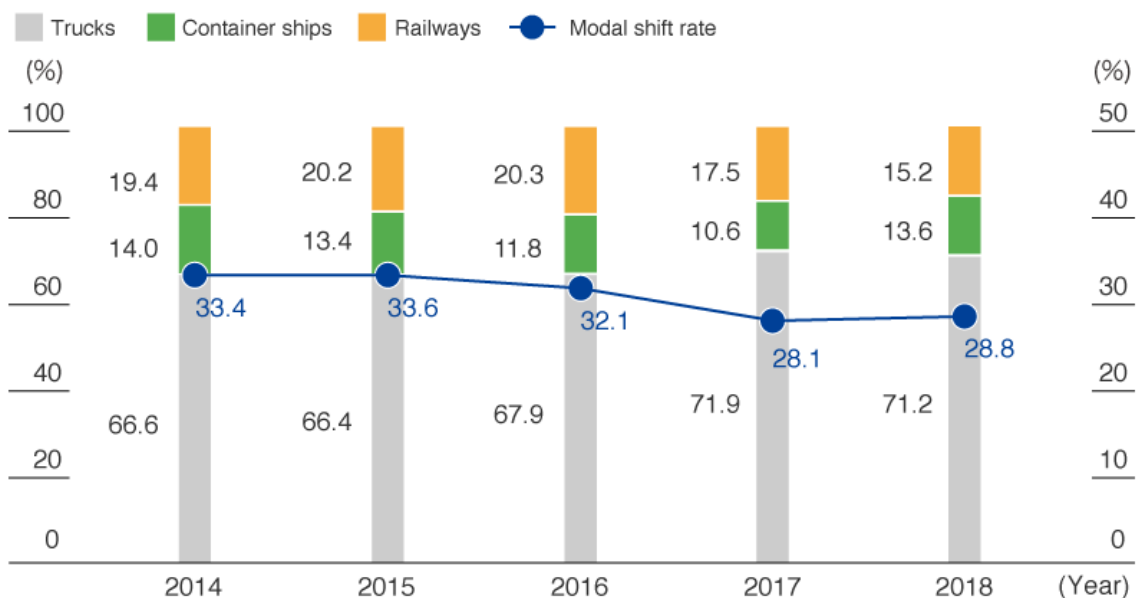
29%

Toray Industries laid out its commitment to environmentally friendly distribution in its Basic Distribution Policies (established in December 2004), in which it aimed to balance consideration for the environment in the distribution process with better competition achieved by cost-cutting. Toward this end, The Company has pursued modal shift. In addition, the Company augmented its initiatives to address the recent vulnerabilities in truck transport caused by a shortage of drivers, by using ships for products that cannot be easily transported by rail.

Toray Industries is striving to switch to rail and sea transport to achieve a modal shift target of 40% by fiscal 2019. The modal shift rate to sea or rail for transport in 2018 (January-December) was 28.8%, up 0.7 percentage points year-on-year because, despite a reduction in the transport volume by rail resulting from the prolonged suspension of rail operations due to water damage last summer, the transport of film products by ship increased and the overall transport volume decreased.

Toray Group will continue pursuing modal shift in diverse product and materials transport and will work more closely with distribution partners. Through these efforts, The Group 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 Industries, Inc.)



Acquisition of Eco Rail Mark and Eco Ship Mark

Toray Industries 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 certifications for its TORAY TETORON™ fiber and TORAYCON™ polybutylene terephthalate (PBT) resin. Moreover, in fiscal 2017 Toray Industries achieved the Eco Ship Mark certification related to its film products, which are difficult to ship by rail. This program recognizes companies that are switching to ship transport and use maritime transport, which has a low environmental impact, to a certain extent.



Eco Rail Mark

Toray Industries, Inc.
(certification for company)

Toray TETORON™ fiber
(certification for products)

TORAYCON™ resin
(certification for products)



Eco Ship Mark

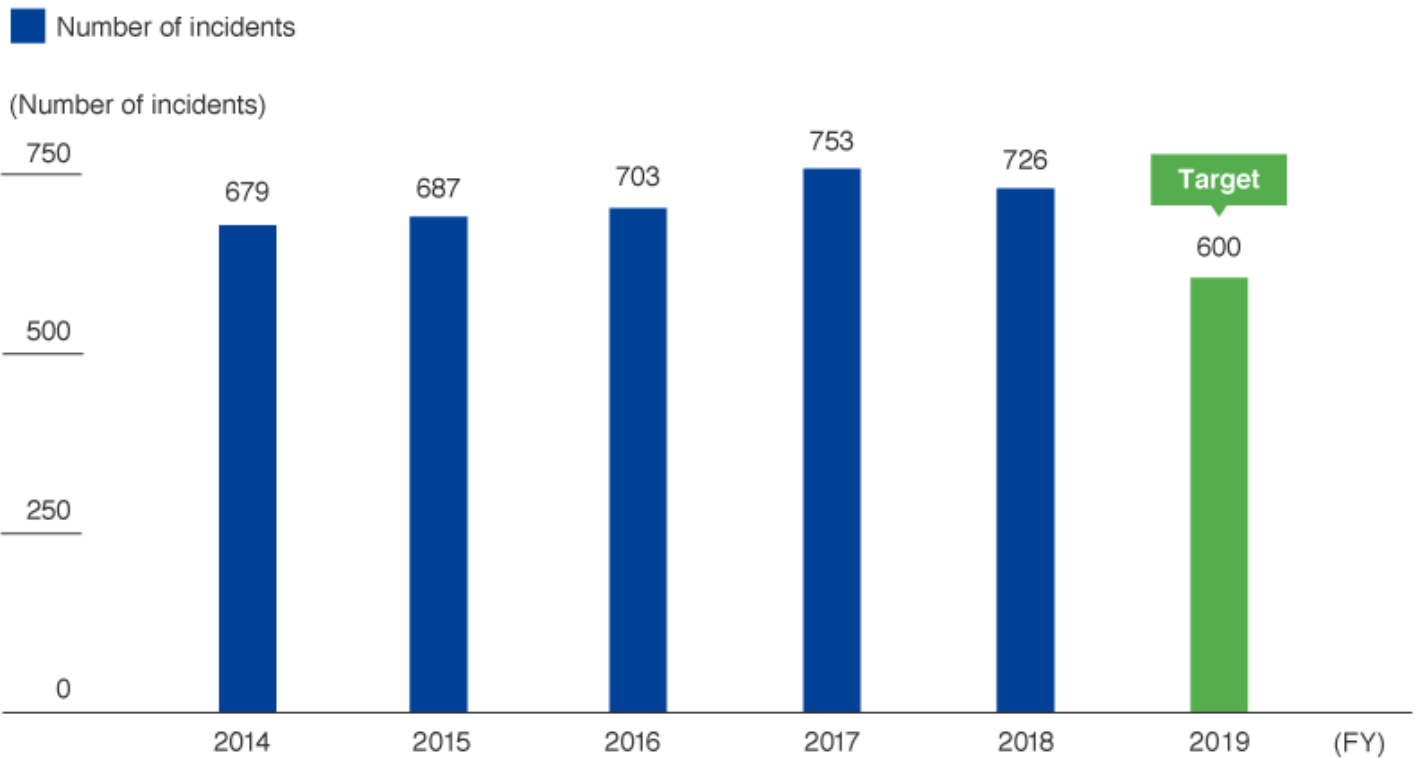
Toray Industries, Inc.
(certification for company)

Initiatives to Improve Safety and Quality in Distribution

Toray Industries is working on a project to improve transport quality. The project involves sharing accident analysis data, and distribution quality enhancement reports. Partners that make outstanding contributions to improving quality are recognized through annual awards⁴. 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 Industries 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.

⁴ Distribution-partner companies receiving awards in fiscal 2018 (alphabetical order): Daiichi Storehouse & Refrigeration Co., Ltd., Daisei Warehousing & Transportation Co., Ltd., Fuji Logitech Hamamatsu, Inc., Ichimiya Logistics Co., Ltd., Iyoshoun Co., Ltd., Masuda Transportation Co., Ltd., Meitetsu Transportation Co., Ltd., Shikoku Meitetsu Transportation Co., Ltd., Toyo Logistic Service Co., Ltd., Yamada Unso Co., Ltd.

Distribution Incidents



Toray Industries worked to reduce the number of incidents in fiscal 2018. Not only did the number of shipments decline; the Company also set incident reduction targets and reinforced on-site inspections, particularly at the distribution companies where incidents had been high in the previous fiscal year. As a result, incidents in route transport and area transportation, which account for about 90% of incidents, fell by 8%, and the overall number of incidents fell by 4% (27 incidents) from the previous year. Toray Group will continue working with partner companies to improve distribution quality.

Recommending that Distribution Partners Acquire Third Party Certification

Toray Industries recommends that its distribution partner acquire external certifications such as ISO 9001, ISO 14001, Green Management Certification⁵ and G Mark.⁶ These certifications require companies to achieve legal compliance, improve quality, and practice environmental conservation in distribution processes. Toray Industries also pursues CSR initiatives in collaboration with distribution partners.

⁵ 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).

⁶ 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 card⁷ detailing emergency measures to be taken to minimize damage in the event of an accident. Toray Industries has also established an emergency communication system and carries out emergency training. In the unlikely event of such an accident, the Company has procedures in place enabling the necessary staff to be dispatched as swiftly as possible to the accident site for assistance.

⁷ 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 Industries 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)⁸ 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 Group is also encouraging its worldwide distribution partners to obtain Authorized Economic Operator (AEO)⁹ status.

⁸ 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.

⁹ 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.

CSR Guidelines & Activity Reports

Communication

Social Initiatives

Disclose corporate information in an active, fair and straightforward manner, and encourage dialogue and cooperation with stakeholders including employees, stockholders, investors, business partners, consumers, local communities, non-profit organizations (NPOs), government and administrative agencies, media, and other parties.



Basic Approach

Toray Group communicates with diverse stakeholders throughout its business activities in accordance with its Basic Policies to Promote Dialogue with Stakeholders. The senior management team regularly receives reports on communication activities and provides advice. Looking to strengthen its efforts, in April 2018 Toray Industries, Inc. established an organization to oversee all communications and pursue integrated internal and external communications.

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.

Structure

The General Administration & Communications Division oversees all communications and works with divisions and departments of Toray Industries and Group companies in and outside Japan to devise the best methods for collecting and disseminating information.

Opinions obtained from stakeholder communication processes are used to provide feedback to the related divisions and departments. They are encouraged to act on the feedback received in order to maintain good relationships with stakeholders.

CSR Road Map Targets and Results

Promote dialogue and collaboration with stakeholders in accordance with the Basic Policies to Promote Dialogue with Stakeholders

Reflect results of dialogue and collaboration with each stakeholder group in management activities in a timely and appropriate manner

01

■KPI

Number of corporate website page views (per month)

■Reporting scope

Toray Group

■Target in fiscal 2018

1.5 million page views

Result in fiscal 2018

1.56
million page views

02

■KPI

Group companies that have their own websites (%)

■Reporting scope

Toray Group

■Target in fiscal 2018

Japan: 80%
Outside Japan: 100%

Result in fiscal 2018

Japan:
100%
Outside Japan:
100%

03

■KPI

Number of news releases

■Reporting scope

Toray Group

■Target in fiscal 2018

200

Result in fiscal 2018

180

04

■KPI

Number of responses to investor inquiries

■Reporting scope

Toray Group

Result in fiscal 2018

560

05

■KPI

Number of meetings with employees or labor unions

■Reporting scope

Toray Group

Result in fiscal 2018

14

Looking to the Future

With the diversification of social issues in recent years, careful dialogue with stakeholders has become increasingly important. Toray Group treats requests from stakeholders as opportunities for growth. By contributing to society through its businesses and other efforts, the Group will continue to promote social progress and help to resolve global issues, thereby serving as a corporate group of high value to all stakeholders.

Communication via Corporate Websites

Social Initiatives

Number of corporate website page views (per month)

■Reporting scope	■Target in fiscal 2018
Toray Group	1.5 million page views

Result in fiscal 2018

1.56
million page views

Group companies that have their own websites (%)

■Reporting scope	■Target in fiscal 2018
Toray Group	Japan: 80% Outside Japan: 100%

Result in fiscal 2018

Japan:
100%
Outside Japan:
100%

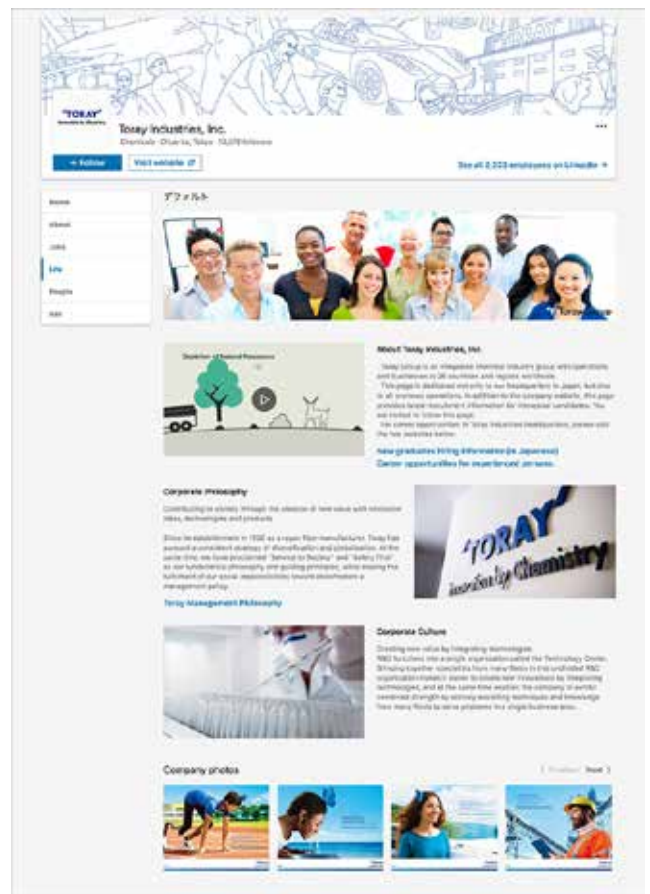
On Toray Group website, information is provided to a wide range of stakeholders to give them an accurate perspective on Toray, with information in menu categories such as “About Us,” “Our Businesses,” “Research and Development,” “Sustainability,” “Investor Relations” and “Career.”

In fiscal 2018, Toray posted new content about its Sustainability Vision on its website, introducing the Company’s fundamental corporate principle of contributing to society, sustained since its founding in 1926, describing the world as envisioned by Toray Group in 2050 and conveying quantitative targets for 2030.

In addition, in order to provide more stakeholders with information, Toray regularly provides information on its official social media site (on LinkedIn) and encourages users to visit from related sites.



Sustainability Vision



Toray's official social media site (on LinkedIn)

CSR Guidelines & Activity Reports - Communication

Communication with Customers

Social Initiatives

Customer Satisfaction Survey

True to its “customer first” commitments, Toray Group conducts customer satisfaction surveys every three years. The survey results are shared within the Company at the Board of Directors meeting and via the in-house newsletter to facilitate business improvement at worksites and motivate employees. From executives and managers to general staff, every employee works to achieve even higher quality customer service, by engaging in an iterative cycle of understanding and improving issues.

Showrooms

Toray has set up showrooms in its offices and plants as a space for communication with customers, including in Tokyo (at the head office), at the Shiga Plant, and at the Toray Human Resources Development Center in Mishima. These showrooms feature accessible displays of Toray’s business and product applications. The goal is to deepen understanding of Toray Group’s commitment to leverage its innovative technologies and advanced materials to help address a host of issues.

CSR Guidelines & Activity Reports - Communication

Communication with Stockholders and Investors

Social Initiatives

In accordance with its Information Disclosure Policy, Toray Industries, Inc. 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. The Company's Investor Relations Department was established to liaise with stockholders and investors, aiming to create as many communication opportunities as possible.

Number of responses to investor inquiries

■Reporting scope
Toray Group

Result in fiscal 2018

560

Holding Investor Relations Events to Meet Directly with Stockholders and Investors

Toray Industries 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 2018. Feedback received at investor briefing sessions and through communication with investors and stockholders is regularly reported to the Board of Directors, helping to guide management and business activities. The Company holds briefings on its business for stockholders and strives to deepen understanding of Toray Group.

Activities	Attendees from Toray Industries, Inc.	Number of events	Number of participants / frequency
Briefings on business results announcements	President, vice president responsible for investor relations, and vice president responsible for finance and accounting	4 times / year	515
Meetings and conference calls with investors and analysts	Vice president responsible for investor relations, General Manager of the Investor Relations Department	As required	560

External Evaluation of Information Disclosure to Investors

In the "Investor Relations" section of its corporate website, Toray Industries provides information about its financial results and management policies and strategies for stockholders and investors. In an effort to disclose information fairly, the Company promptly posts financial data and presentation materials, including English translations, used in its briefings for institutional investors. In fiscal 2018, the Company's publications were evaluated externally by a number of organizations, as shown below.

Organization details	Evaluations
Daiwa Investor Relations Co., Ltd.	Award for outstanding website in 2018
Nikko Investor Relations Co., Ltd.	Most outstanding site in overall completeness (top in textile and apparel sector), in a ranking of listed company websites in 2018
GOMEZ	Silver Prize (top in textile sector) in IR Site Ranking 2018

Evaluations from the Perspective of Socially Responsible Investment

Toray Industries was included in the following SRI indices as of August 31, 2019.

- DJSI Asia Pacific
- FTSE 4Good Index/FTSE Blossom Japan Index
- MSCI ESG Indexes
- Ethibel Pioneer & Excellence Registers

Convenient General Stockholders Meetings

For the convenience of its stockholders, Toray Industries avoids holding its general meeting of stockholders on a date when many other companies in Japan hold their meetings. The Company's annual general meeting of stockholders on June 26, 2018 was attended by 441 stockholders. Toray Industries sends out notices of its general meetings of stockholders as early as possible to give sufficient time for stockholders to review the agenda. In addition, the Company translates the notices of its general meetings of stockholders into English and posts them on its website and has set up a system allowing stockholders to vote electronically.

CSR Guidelines & Activity Reports - Communication

Communication with Business Partners

Social Initiatives

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](#)

CSR Guidelines & Activity Reports - Communication

Communication with Employees

Social Initiatives

Communication via In-house Newsletters and Intranet

Toray Group employs various forms of media such as printed in-house newsletters, intranet, and company-wide bulletin boards to provide information on the Group's management policies and issues, as well as to promote dynamic communication that will strengthen the Toray brand and foster a sense of belonging among Group employees. Messages from the company president appear in all of these media. The printed 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 intranet called TORAYNAVI Lite in Japanese and English for group companies in and outside Japan to share timely information on a global basis.

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 6,000 copies per issue (published four times per year)

Toray Management newsletter for managers:

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

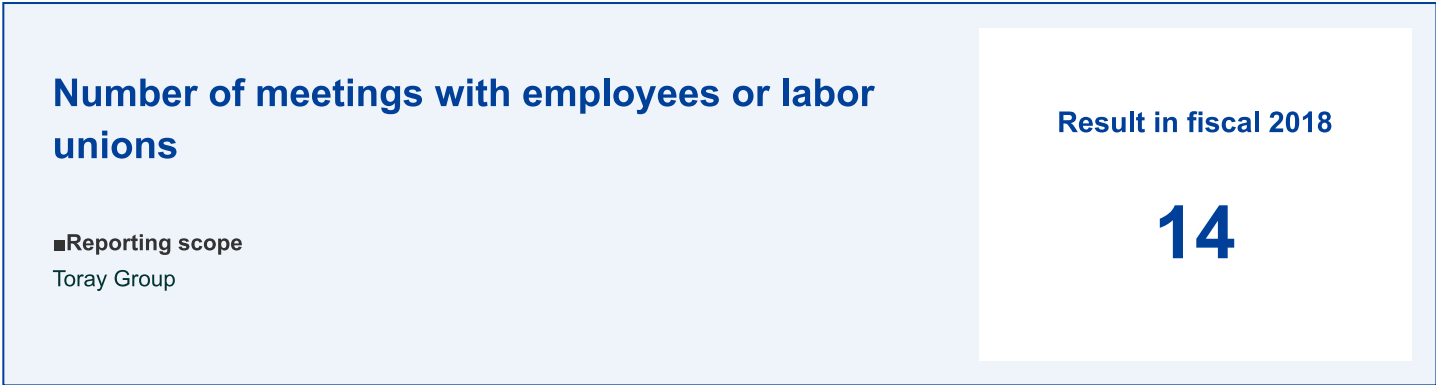


Employee Attitude Survey

Toray Industries, Inc. conducts an employee attitude survey, in the same time frame as the customer satisfaction survey, 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 as feedback and are utilized to make improvements.

In addition, in fiscal 2018, a similar survey was launched in five languages (English, Chinese, Indonesian, Thai, and Korean) for employees of group companies outside Japan.

Meetings with Employees and Labor Unions



CSR Guidelines & Activity Reports - Communication

Communication with the Media

Social Initiatives

Number of news releases

■Reporting scope	■Target in fiscal 2018
Toray Group	200

Result in fiscal 2018

180

Toray Industries, Inc. recognizes that public relations and corporate communication activities have a role in fulfilling responsibilities for information disclosure as well as influencing public opinion. Accordingly, the Company's Corporate Communications Department 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 2018, Toray Group issued 180 press releases and carried out 295 interviews in response to media requests.

Related Information

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

CSR Guidelines & Activity Reports - Communication

Communication with Local Communities

Social Initiatives

Number of meetings with communities

■ Reporting scope
Toray Group

Result in fiscal 2018

70

Toray Group creates a variety of opportunities for communication with nearby residents. 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 plant premises. The Group also collaborates with non-profits, such as the Mt. Fuji National Trust and the Arakawa Clean Aid Forum, on [community programs](#).



Participation in a local boat race (Toray Composite Materials America, Inc.)



Company orientation and plant tour for local elementary school students (Toray Textiles, Inc.)



Company orientation and plant tour for local students (P.T. Indonesia Toray Synthetics)



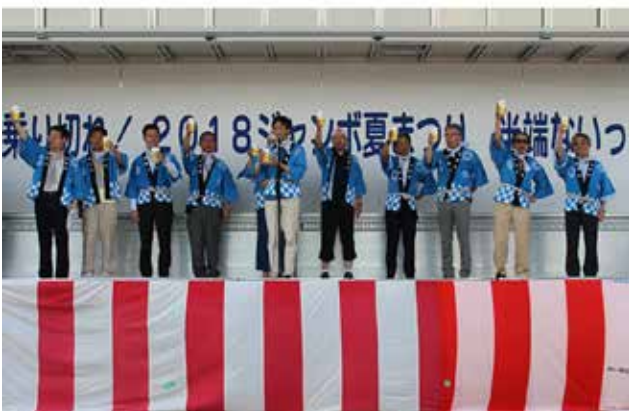
Summer festival at Ishikawa Plant with a crowd of about 1,000, including employees, their families, and local residents (Toray Industries, Inc.)



Community meeting with local government leaders at Ishikawa Plant (Toray Industries, Inc.)



Company orientation and plant tour for local elementary school students (Ogaki Fuso Spinning Co., Ltd.)



Summer festival at Shiga Plant with a crowd of about 2,500, including employees, their families, and local residents (Toray Industries, Inc.)



Joint disaster training with local residents at Seta Plant (Toray Industries, Inc.)

CSR Guidelines & Activity Reports

Social Contribution Activities

Social Initiatives

Proactively participate in local communities and the larger society in order to contribute to development in a way befitting a good corporate citizen.



Basic Approach

As the foundation of its business activities, Toray Group works to build ties with local communities and contribute to society through its core businesses. Embracing a corporate philosophy of contributing to society as the ultimate objective of its corporate activities, Toray Industries, Inc. has worked to foster social development since its founding. The Group's Corporate Missions were set out in 1995 and include "For society: To establish ties and develop mutual trust as a responsible corporate citizen." Social contribution activities were included in Toray Group's CSR Guidelines established in 2004, and these activities have been a part of the Group's CSR activities ever since.

Under the Sixth CSR Road Map, the Group is focused on social issues addressed by the United Nations Sustainable Development Goals (SDGs)¹ and the Green Innovation and Life Innovation businesses under the medium-term management program, Project AP-G 2019. The Group has set targets in several priority areas, namely science and technology promotion, environment and communities, and health and welfare. Toray Group will maintain its scale of social contribution activities over the long term and focus particularly on providing educational support to train the human resources needed to achieve a sustainable society. The Group's goal is to provide a total of 100,000 people with educational support, including science and environmental education addressing the topics of water and climate change, between fiscal 2014 and fiscal 2020. The educational materials incorporate hollow membranes and carbon fiber developed by Toray Group, in keeping with its corporate philosophy of contributing to society through its business.

¹ The Sustainable Development Goals (SDGs) were adopted in September 2015 at the UN Sustainable Development Summit attended by more than 150 Heads of State. These 17 goals and 169 targets are worldwide objectives to be reached by 2030.

Related Policies

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



Social Contribution and the Sustainable Development Goals

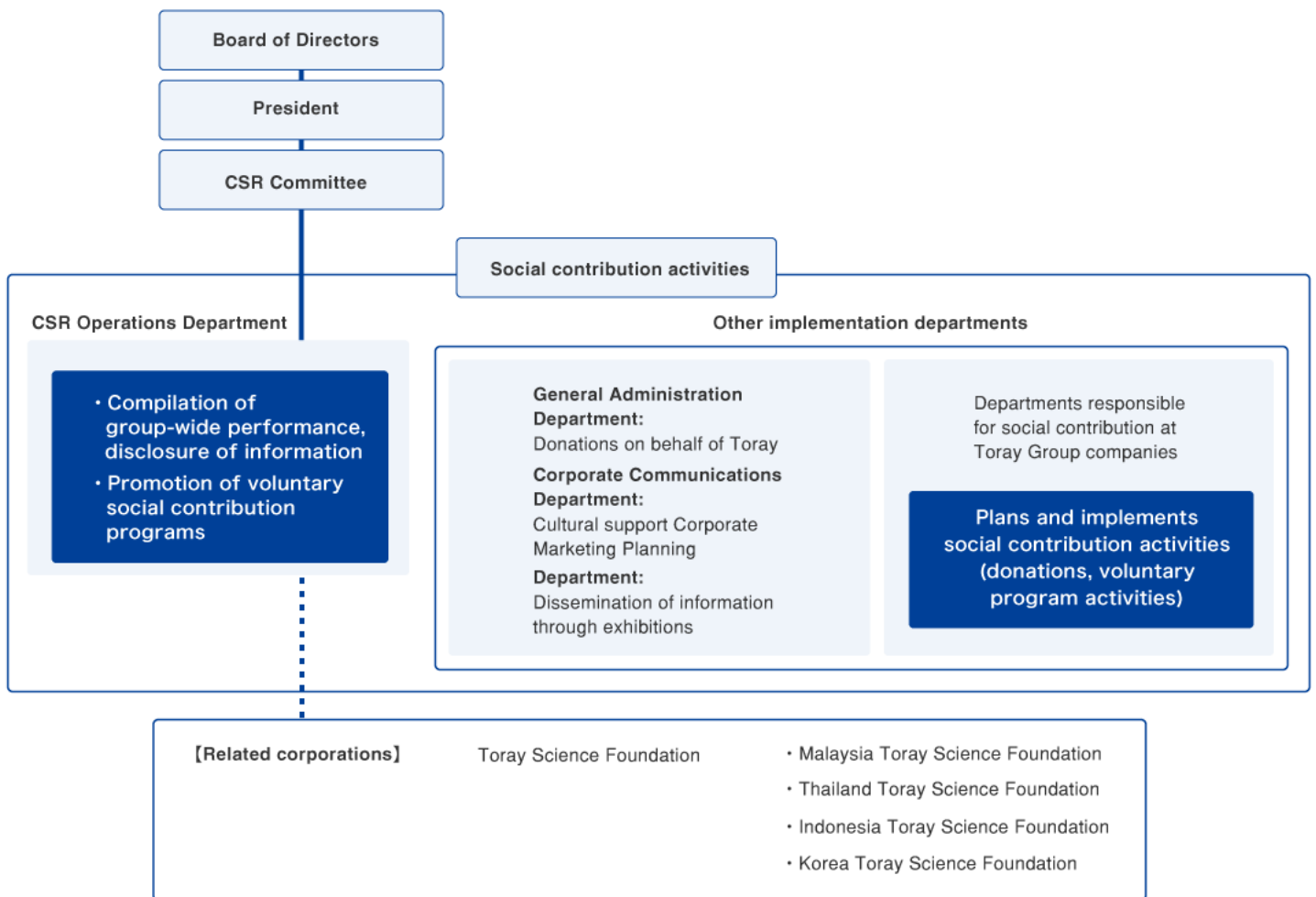
Toray Industries has from the beginning engaged in corporate activities with the ultimate purpose of contributing to society, viewing itself as a public entity. The Company considers the growth of its business as an indication that it has earned the recognition and support of society as a corporation that is endeavoring to practice its philosophy of contributing to society. In 1955, Toray Industries established the company principle that "Toyo Rayon contributes to communities" as an explicit statement of its founding principles. From around that time, everyone at Toray Industries, from management to employees, began pursuing diverse initiatives to realize the philosophy of contributing to society. These activities ranged from making donations to various organizations and institutions, providing humanitarian assistance and financial aid to disaster-stricken areas, and inviting students to visit Toray's manufacturing sites and providing them with informational materials. In 1986, Toray Industries established the corporate philosophy of "Contributing to society through the creation of new value with innovative ideas, technologies and products," which carries on the core concept of the previous company principle. Toray Group pursues this corporate philosophy by emphasizing the social contributions of its businesses in making business decisions. The Group considers every aspect of its corporate conduct and the conduct of its employees through the lens of contributing to society. It is for this reason that Toray Group's core businesses naturally align with the United Nations

Sustainable Development Goals (SDGs), whose themes include resolving global environmental issues and contributing to health and longevity. While the SDGs are relatively new on the scene, Toray Group has from the beginning been working to resolve the global social issues they address as it strives to live up to its corporate philosophy.

Structure

Since April 2012, Toray Industries has positioned the CSR Operations Department as a specialized department focusing on social contribution activities. The department is responsible for planning and promoting its own voluntary programs implemented independently, as well as aggregating CSR performance across Toray Group. Policy related to CSR activities and major CSR initiatives are discussed by the CSR Committee. Policy is communicated to Toray Group sites in and outside Japan through “CSR line activities” designed to resolve CSR issues in specific workplaces, as well as meetings attended by representatives from each country where the Group operates outside Japan, in order to promote activities that are suitable for the particular circumstances of each country and company.

Social Contribution Activities Operational Structure



CSR Road Map Targets and Results

Pursue ongoing social initiatives throughout the Toray Group in the priority areas of “science and technology promotion,” “environment and communities,” and “health and welfare.”

01

■KPI

Social contribution expenditure (% compared with fiscal 2012-2017 average)

■Reporting scope

Toray Group

■Target in fiscal 2018

100% or more

Result in fiscal 2018

124%

02

■KPI

Number of persons reached through educational initiatives in these key fields

■Reporting scope

Toray Group

■Target in fiscal 2018

15,000 or more

Result in fiscal 2018

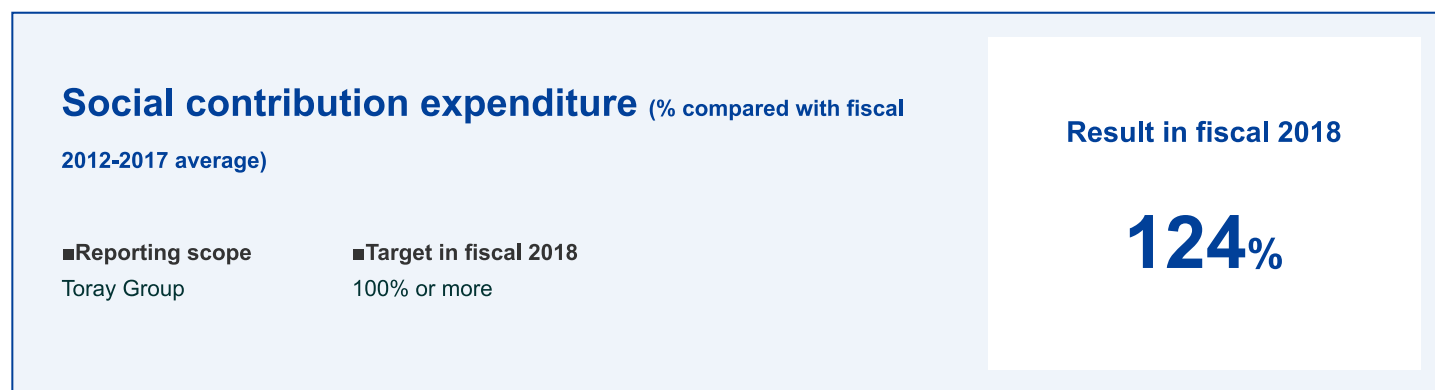
15,759persons

Looking to the Future

Moving forward, Toray Group will continue to fully implement its founding pledge to contribute to society in its activities and businesses. At the same time, the Group will act as a good corporate citizen and pursue initiatives to build trust with communities and contribute to their advancement. In particular, the Group will continue to focus its efforts on initiatives in the priority areas of science and technology promotion, environment and communities, and health and welfare, while supporting education to foster people who can help build a sustainable world.

Fiscal 2018 Results

Social Initiatives



As stated in the Toray Group Social Initiative Policies established in 2005, the Group has pledged to invest about one percent of its consolidated ordinary income in social contribution activities.

In fiscal 2018 the Group invested some 1.7 billion yen on a consolidated basis (1.3% of consolidated ordinary income) and some 1.1 billion yen on a non-consolidated basis (1.6% of non-consolidated ordinary income), to achieve the one percent target. The main beneficiaries were the Toray Science Foundation in Japan, the Toray science foundations in Malaysia, Thailand, Indonesia, and the Republic of Korea, and sponsorship of the Shanghai International Marathon.

In fiscal 2018, Toray Industries Inc., on behalf of Toray Group, donated approximately 220 million yen to Toray Science Foundation. Toray Group companies outside Japan donated approximately 220 million yen to Toray science foundations around the world.

Related Information

➤ [Toray Science Foundations around the World](#)

Breakdown of Expenditure in Fiscal 2018

Others

11 %

Environment,
communities

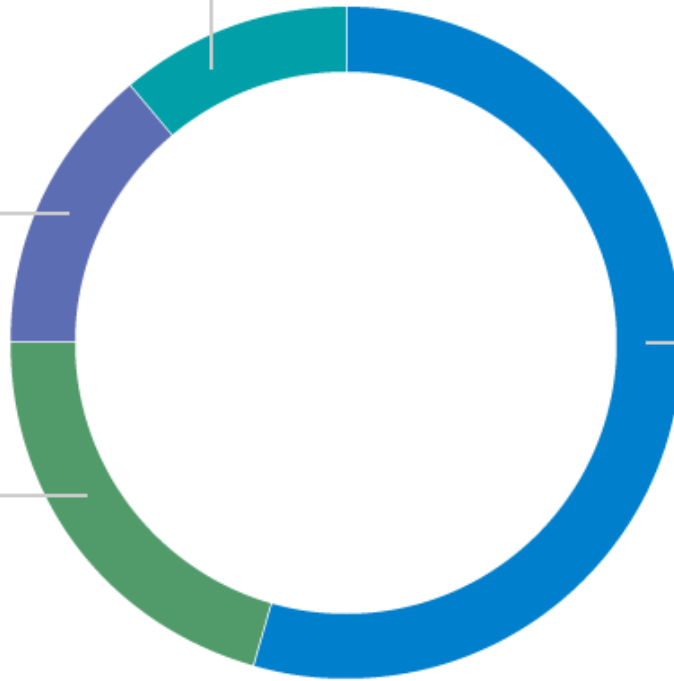
14 %

Health,welfare,
sports

21 %

Academics,
science research,
education

54 %



Science and Technology Promotion



Social Initiatives

In its long-term corporate vision, 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 deliver 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 Toray Science Foundation and Toray science foundations outside Japan, to raise interest in science.

Related Information

▶ [Toray Science Foundations around the World](#)

Supporting Science in the Classroom

Since 2007, Toray Group has been sending employees to teach in science classes at elementary and junior high schools in local communities. As part of an effort to familiarize children with science, the Group has developed a science workshop program utilizing its products as educational materials. The Group currently implements four programs and provides teacher with free educational materials for science experiments, which are used in teacher development courses at universities. In recent years, the Group has also been cooperating with teacher training efforts by providing opportunities for teachers to learn about advanced materials and technologies.

Toray Group Workshops / Teaching Material Supply Programs

Topic	Program name	Target	No. of hours
Science experiment	Thinking about water filtration and the global environment	Fifth-year elementary school students	2 hours
	Learning about particles in water	First-year junior high school students	1 hour
Environmental education	Water treatment membrane and global environmental issues	Six-year elementary school students	1 hour
	Advanced materials and global environmental issues : Materials can change our lives	Third-year junior high school students	1 hour

Note: In science experiment programs, Toray Group supplies schools with lab materials, as well.

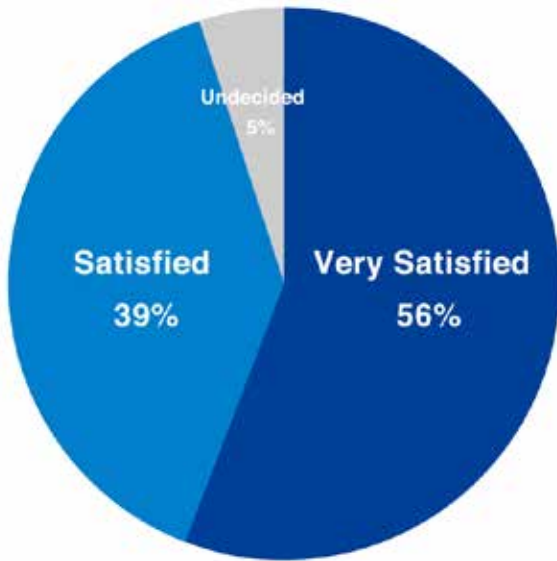
The educational materials are available in three languages: Japanese, English, and Thai. Toray Composite Materials America, Inc. (CMA) and Thai Toray Synthetics Co., Ltd. (TTS) launched their own science class programs in 2012 and 2015, respectively, adjusting the content to their needs. The programs are having a positive impact on communities and helping to build positive relations. From 2012 through 2018, more than 1,700 students have participated in CMA's programs, which are increasingly in demand as they gain further recognition among local schools.

“Before I joined CMA at the end of 2017, I was very impressed to hear from my son that CMA conducted a science workshop at his junior high school. I hope we will continue to implement these activities.” – Joyce Moore (at left in photo), Human Resources Department

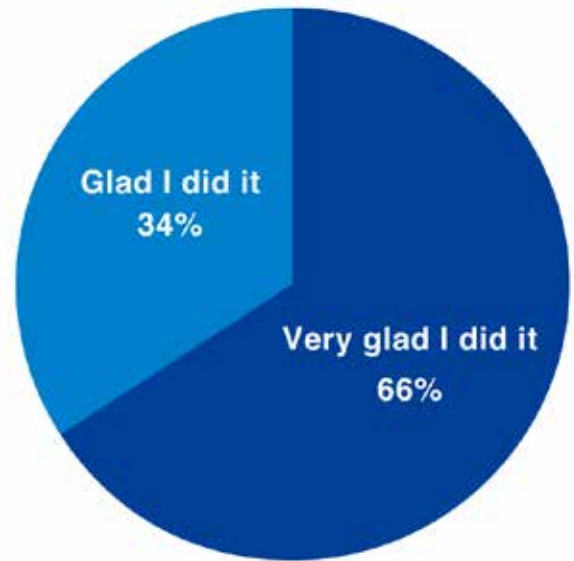
“We believe that having employees from various departments interact with children in the classroom and having students learn about CMA's technological innovations are extremely valuable for Toray Group. Our employees enjoy it, and I am very proud of these activities myself.” – Kazumi Kawamura, Manager, General Affairs Department (at right in photo)



Satisfaction with Science Classes (Questionnaire Results)



School Teachers Satisfied with Science Classes



Experience of Toray Group Instructors

School Teachers Satisfied with Science Classes

95%

In fiscal 2018, Toray Group sent employees to teach science classes at a total of 16 schools in and outside Japan (for a total of 45 schools when combined with the Group's environmental classes). Toray Group also supplied lab equipment and teaching materials to schools across Japan and cooperated on teacher training in Tokyo. The driving forces behind the continuation of initiatives to support education are the satisfaction gained by the employees involved and the motivation they get from it.

Related Information

➤ [Environmental Education Program for Elementary and Junior High School Students](#)



Conducting a science class (Thai Toray Synthetics Co., Ltd.)



Teacher training in Tokyo conducted with cooperation (Toray Industries, Inc.)

Collaborating on Science Events

In response to requests from local communities, Toray Group participates in and collaborates on a variety of activities designed to increase interest in science, technology, and manufacturing.

Summer Riko-challe¹ 2018 Science Event Sponsored by Toray Industries



High school girls get firsthand research experience (Toray Research Center, Inc., Global Environment Research Laboratories, Toray Industries, Inc.).

¹ Riko-challe is an initiative established by the Gender Equality Bureau division of the Japanese Cabinet Office to provide support for junior high and high school girls who are interested in science and engineering, designed to help them envision their future and choose career paths in those fields.

Related Information

▶ [Toray Summer Riko-challe 2019 Research Workshop Course \(Japanese site\)](#) 

Initiatives in Mexico



“Special Class by Daddies” held at the Japanese School of Guadalajara, Jalisco State, Mexico (Zoltek de México, S.A. de C.V., Toray Advanced Textile Mexico, S.A. de C.V., Toray Resin Mexico, S.A. de C.V.)

Initiatives in the United States



Employees participate in these science events for local children (Toray Composite Materials America, Inc.)

Workshops at the Science Museum

Since 2012, Toray Industries, Inc. has conducted workshops at the Science Museum located in Kitanomaru Park in Tokyo, every day that the museum is open. In fiscal 2018, more than 6,000 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.

Sponsoring the Japan Biology Olympiad

Since 2007, Toray Industries 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 29th Olympiad, held in Iran in July 2018, winning two silver and two bronze medals.



Four students from Japan (photo courtesy of Organization of Japan Biology Olympiad Committee)

Held Aozora Science School

In 2015, Toray Industries started the Aozora Science School² to foster youth interest in science through exposure to nature. The programming changes every year to provide campers with a fun menu of activities that combine nature and science. The campers conducted an experiment to filter impurities from lake water, learned biomimetics by observing nature in the forest, and played volleyball by applying scientific principles.

² Aozora Science School is a hands-on educational camp designed by Toray Industries, supervised by Leave a Nest Co., Ltd. and provided by JTB Corporation.



Campers made their own customized rockets

Related Information

- ▶ [Aozora Science School official website \(Japanese site\)](#) 
- ▶ [Aozora Science School Facebook page \(Japanese site\)](#) 

Toray Science Foundations around the World

Social Initiatives

Toray Science Foundation

Toyo Rayon Science Foundation (now called Toray Science Foundation) was established in 1960 to commemorate the 35th anniversary of the company's founding. Toray Industries, Inc. contributed 1 billion yen when it was established, and has continued to donate funds to cover operating costs through the present.

The Foundation was much talked about when it was first established as a pioneering corporate foundation. Its support activities such as grants and prizes for basic science have continued to win high praise. Five¹ of the recipients of the Foundation's Science and Technology Prizes or Science and Technology Grants have gone on to win Nobel Prizes.

¹ Reona Esaki (recipient of the Foundation's Science and Technology Prize in 1961 and the Nobel Prize in Physics in 1973), Ryoji Noyori (recipient of the Foundation's Science and Technology Prize in 1990 and the Nobel Prize in Chemistry in 2001), Isamu Akasaki (recipient of the Foundation's Science and Technology Prize in 2000 and the Nobel Prize in Physics in 2014), Shinya Yamanaka (recipient of the Foundation's Science and Technology Grant in 2004 and the Nobel Prize for Physiology or Medicine in 2012) and Tasuku Honjo (recipient of the Foundation's Science and Technology Grant in 1981 and the Nobel Prize for Physiology or Medicine in 2018).

Main activities of Toray Science Foundation²

- (1) Toray Science and Technology Grant: This grant provides financial assistance to young researchers engaged in exploratory research in science and technology.
- (2) Toray Science and Technology Prize: This prize is awarded to scientists for their distinguished achievements in science and technology.
- (3) Toray Science Foundation International Research Grant: This grant is awarded to young researchers engaged in basic research on science and technology in Indonesia, Malaysia, and Thailand.
- (4) Toray Science Education Prize: This prize is awarded to commend junior and senior high school teachers who have given creative and innovative lessons in science with good results. Japan's Ministry of Education, Culture, Sports, Science and Technology backed the program in fiscal 2006 by establishing the Minister of Education, Culture, Sports, Science and Technology Prize. The Foundation publishes a booklet collecting the description of the prizewinner's works and circulates about 16,000 copies of it to junior and senior high schools every year for teachers to use.

² The prize and grant recipients are selected by a third-party committee made up of experts.

Cumulative achievements, fiscal 1960-2018

Category	Number awarded	Amount (million yen)
Toray Science and Technology Grant	647	6,755
Toray Science and Technology Prize	123	458
Toray Science Education Prize	684	213
Japan total	1,454	7,426
Grants for researchers outside Japan ³	727	443
Total	2,181	7,869

³ Including direct grants to universities in 1989-1993 (61 cases, totaling 68 million yen)

59th Toray Science Foundation Presentation Ceremony

The 59th Toray Science Foundation Presentation Ceremony was held in March 2019. The Foundation awarded Eiji Yashima and Hitoshi Kuninaka the Toray Science and Technology Prize, and science teachers the Science Education Prize, and all received certificates, medals, and prize money. Also given was a total of 130 million yen in grants to recipients of the Science and Technology Grants.

Dr. Yashima was recognized for his research into the precision control and function of helical molecules, while Dr. Kuninaka was recognized for his R&D into the microwave discharge of micro ion engines and promoting solar system exploration.

The foundation is known for the Toray Science Education Prize and Minister of Education, Culture, Sports, Science and Technology Prize, which was awarded to Shogo Takano, who teaches at Hiramatsu Junior High School in Asakura City, Fukuoka Prefecture. His students have experienced a heavy rain disaster in the city. He used upper air weather charts to three-dimensionally replicate the meteorological phenomena that caused the heavy rain and helped his students focused on the causal relationship of atmospheric movement to understand common meteorological phenomena.



Dr. Eiji Yashima, recipient of the Toray Science and Technology Prize (right)



Dr. Hitoshi Kuninaka, recipient of the Toray Science and Technology Prize (right)



Shogo Takano, recipient of the recipient of the Toray Science Education Prize (right)



Toray Science and Technology Grant recipients at 59th presentation ceremony

Related Information

[> Toray Science Foundation](#) 

Toray Science Foundations outside Japan

Toray Industries has established science foundations in three Southeast Asian nations where it has started businesses 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 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. In January 2018, Toray Industries established Korea Toray Science 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 (MTSF)

Since its inauguration in August 1993, MTSF has extended awards and grants totaling 10.23 million ringgit to 744 researchers and science teachers. MTSF holds an annual award presentation ceremony with the attendance of guests from the Government of Malaysia and the Embassy of Japan in Malaysia. The awards are a badge of honor for the award winners and grant recipients.

The 25th Malaysia Toray Science Foundation Award Ceremony was held in November 2018, and a total of 350,000 ringgit in prize money (equivalent to about 9.5 million yen) and grants were awarded to two Malaysian scientists, 12 young researchers and 15 science teachers (a total of 29 recipients). Deputy Secretary General Dr. Ramzah Dambul, speaking on behalf of the Malaysian Minister of Energy, Science, Technology, Environment and Climate Change, expressed his appreciation to Toray Group for giving Malaysian scientists inspiration and actively helping to elevate the research culture in Malaysia since MTSF was founded in 1993.



25th presentation ceremony of Malaysia Toray Science Foundation with Science and Technology Prize winners

Related Information

➤ [Malaysia Toray Science Foundation](#) 

Thailand Toray Science Foundation <TTSF>

Since its inauguration in June 1994, TTSF has extended awards and grants totaling 129.38 million baht to 716 researchers and science teachers. TTSF holds an annual award presentation ceremony. From the inaugural ceremony in 1995 through 2009, the ceremony has been 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 and grant winners.

The 25th Thailand Toray Science Foundation Award Presentation Ceremony was held in Bangkok in March 2019, and two Science and Technology Awards, 20 Science and Technology Research Grants and nine Science Education Awards were presented to the winners, for a total of 5.335 million baht (equivalent to about 18.3 million yen) in prize money and grants. After the awards were presented, His Excellency General Surayud Chulanont took to the podium and encouraged the awardees to advance research for the technological growth of Thailand.



25th presentation ceremony of Thailand Toray Science Foundation with Science and Technology Award winners

Related Information

➤ [Thailand Toray Science Foundation](#) 

Indonesia Toray Science Foundation <ITSF>

From the beginning, ITSF has enlisted the cooperation of the Indonesian Institute of Sciences, whose Director-General also chairs the Foundation. Since its inauguration in December 1993, ITSF has extended awards and grants totaling 21.4 billion rupiah to 715 researchers and science teachers. ITSF has assisted many individuals who are contributing to the progress of science and technology in Indonesia. Many of the past recipients of research 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.

The 25th presentation ceremony of Indonesia Toray Science Foundation was held in Jakarta in March 2019; 18 scientists were awarded the Science and Technology Research Grant and 10 science teachers received the Science Education Award, for a total of 1.127 billion rupia (equivalent to about 8.6 million yen).

On the day before the ceremony, a briefing session by the winners of the fiscal 2018 grants was held along with a science education seminar. In the seminar, one education specialist delivered lectures and the 10 recipients of this year's Science Education Award gave presentations.



25th presentation ceremony of the Indonesia Toray Science Foundation, with science and technology grant recipients

Related Information

[Indonesia Toray Science Foundation](#) 

Korea Toray Science Foundation (KTSF)

KTSF was established in January 2018 to contribute to the promotion of science and technology in the Republic of Korea. The first award presentation ceremony for the KTSF was held in October 2018 at a venue in Seoul. Two Science and Technology Awards, four Science Technology Research Grants and four Technology Research Grants were presented to the winners, for a total of 400 million won (equivalent to about 40 million yen) in prize money and grants. Toray Industries President Akihiro Nikkaku addressed the audience and congratulated the award recipients on behalf of the Company. The guest speaker was Dr. Ryoji Noyori, 1990 recipient of Toray Science & Technology Prize and winner of the 2001 Nobel Prize in Chemistry, who currently serves an outside director of Toray Industries.



1st presentation ceremony of Korea Toray Science Foundation, with science and technology grant recipients

Related Information

[▶ Korea Toray Science Foundation](#) 

Environment and Communities



Social Initiatives

Toray Group leverages the specialized technologies and human resources of its Green Innovation businesses to support environmental education. The Group is also working with community stakeholders on environmental preservation activities to encourage social efforts to foster biodiversity.

Raising Environmental Awareness, with a Focus on Water Issues

Toray Group has developed original environmental education programs for elementary and junior high school students. Group employees from diverse professional backgrounds including engineering, research, sales, and management give workshops. In fiscal 2018, the Group offered workshops at 29 schools in local communities.

In March 2019, the Company gave a workshop for fifth grade students at Toshima Municipal Nagasaki Elementary School in Tokyo. One student said, “It’s amazing that the science we learn in the classroom becomes science and technology that is useful to our lives, helping people worldwide.”



An employee gives a lecture (Toray Industries, Inc.)

Local Environmental Preservation Activities

In addition to activities focused on preserving the natural environment around Toray Group production sites, employees also take part in river and coastline cleanup and tree planting campaigns in collaboration with municipalities, towns, villages, and non-profit organizations. The Group helps promote employee understanding of environmental and biodiversity issues by including talks by non-profit organizations in conjunction with these activities.



Mt. Fuji tree planting organized jointly by Toray labor and management



Toray employees clean up the shoreline in Tagonoura, Japan as part of the introductory training for new employees (Toray Industries, Inc.)



The Toray head office collaborates with the non-profit Arakawa Clean Aid Forum to clean up the shores of the Arakawa River, while educating participants about impacts on the global environment and ecosystems (Toray Industries, Inc.)



Environmental classes at a local middle school near its headquarters and plant in Tacoma, Washington, USA (Toray Composite Materials America, Inc.)



Employees plant mangroves to conserve a mangrove forest (Carbon Magic (Thailand) Co., Ltd.)



Coral reef conservation project at Yao Beach, Sattahip Province, Thailand (Toray Plastics Precision (Thailand) Co., Ltd.)



River bank conservation initiatives in Seoul, the Republic of Korea (Toray Advanced Materials Korea Inc.)

Promoting Communication Between Education and Business

As part of the Keizai Koho Center's Business Training for Japanese School Teachers program, Toray Industries has accepted around ten teachers each year in Shizuoka Prefecture since 1994. The participants learn about the Company's corporate philosophy and human resources development, and study research, production, safety, and environmental conservation at Toray Industries' Mishima Plant, as well as visiting the production floor. One participant said, "I learned about the efforts of a private sector company, which will make a big difference in the instruction that I provide to students." Complimentary feedback like this indicates that participants are using what they learn in this program in their classrooms.



Hazard-prediction training at Mishima Plant (Toray Industries, Inc.)

Ongoing Support in Areas Affected by the Great East Japan Earthquake

Toray Group continues to provide support for areas affected by disaster through initiatives that make the most of its own resources.

Vocational Research Support for Junior High School Students (Toray Industries)

Since 2012, Toray Industries has sent researchers each year to Career Challenge Day¹, a career education event held in Ofunato City, Iwate Prefecture. Representatives from the Company speak with local junior high school students and explain the nature of the R&D work done at a manufacturer.

¹ Career Challenge Day is an alternative program for the workplace experience education that was no longer possible after the Great East Japan Earthquake. In fiscal 2012, the program was awarded the Minister of Education, Culture, Sports, Science and Technology Award.



Researcher from the Toray Pharmaceutical Research Laboratories gives a talk (July 2018)

Volleyball Clinic (Toray Industries Tohoku Branch, Toray Arrows)

Since 2013, the Tohoku Branch of Toray Industries has used volleyball as a means of providing support for local reconstruction efforts. In June 2018, ex-national team member Kana Oyama and other former players of the Toray Arrows volleyball team taught children at Tomigaya Elementary School in Tomigaya City and Akai-minami Elementary School in Higashi Matsushima City, Miyagi Prefecture about the joys of physical activity and teamwork.



Kana Oyama teaches class at Tomigaya Elementary School

Assisting Areas Devastated by Heavy Rains in July 2018

In July 2018, heavy rains caused devastation in parts of western Japan, particularly in Ehime Prefecture and Hiroshima Prefecture, which are home to some of the Company's plants and offices. Toray Industries provided financial aid to these areas and donated Toray Group products made from advanced materials to aid in their recovery. The items included tents made of SUMMER SHIELD™ fabric with heat, light, and ultraviolet shielding, LIVMOA™ protective clothing that offers dust protection and breathability, and gloves made from Kevlar® that have excellent strength and superior resistance to cutting and heat.



LIVMOA™ protective clothing offers excellent dust protection and breathability



Gloves made from Kevlar®

Note: Kevlar® is a registered trademark of E.I. du Pont de Nemours and Company.

Diverse Community Initiatives

Toray Group engages in diverse initiatives to build better communities, as a responsible corporate citizen that is committed to the advancement of communities.



Desks are donated to students at nearby elementary and junior high schools in collaboration with other Japanese companies in the Sri City Industrial Site in India. (Toray Industries (India) Private Limited)



Donating relief supplies and aid for victims of the Sulawesi earthquake in Indonesia (Penfabric Sdn. Berhad, Malaysia)

CSR Guidelines & Activity Reports - Social Contribution Activities

Health and Welfare

Priority Areas



Social Initiatives

Engaged in Life Innovation businesses, Toray Group works on initiatives to contribute to health maintenance and longevity. These activities include promoting sports, cancer screening, support for childhood development and welfare at Group worksites.

Promoting Sports and Childhood Development

In addition to helping to promote sports through athletic activity, Toray Industries, Inc. also contributes to childhood development through sports instruction and training camps.



Boys' kendo class sponsored by the Toray Kendo Club (Shiga Plant)



Toray Arrows volleyball clinics held across Japan



Boating Club members give instructions to local junior high school boating club.

Supporting Physical Education at Elementary Schools

Since 2015, former players of the Toray Arrows men's and women's volleyball teams have visited elementary schools to provide support by teaching soft volleyball clinics in physical education classes. In fiscal 2018, the clinics were conducted at two schools in Tokyo, and Toray Group supported training programs for elementary school teachers.



Teaching during an elementary school physical education class



Helping provide practical physical education training for elementary school teachers

Promoting Sports Participation by Sponsoring the Shanghai International Marathon

Toray Industries, Inc. and Toray Industries (China) Co., Ltd. are helping to promote sports in China by sponsoring the Shanghai International Marathon. The 2018 edition of this brilliant and spectacular Shanghai event, the 23rd, attracted 38,000 participants.



2018 Shanghai International Marathon takes runners through the streets of Shanghai

Supporting the Pink Ribbon Campaign

The Toray Pan Pacific Open Tennis Tournament provides support for the efforts of the Japan Ladies Tennis Federation (JLTF) to eradicate breast cancer. A booth is set up in the arena to sell Pink Ribbon badges, with the money raised donated to help supply breast cancer screening equipment. A mobile mammogram bus is parked at the venue and provides screenings to those who have signed up in advance. Participating tennis players are also actively involved in promoting the campaign.



Mobile mammogram bus

Supporting Fureai Trio Concerts

To support culture, education, and welfare, Toray Industries co-sponsors concerts by the Fureai Trio for persons with disabilities, with Toray Group employees helping to organize and run the concerts. The Trio performs Fureai Concerts at venues across Japan including elementary schools and social welfare facilities, bringing music to the people through music instruction, mini-concerts, and audience participation. In fiscal 2018, the Trio performed 16 concerts in six cities, which were enjoyed by more than 4,000 people including around 250 people in Ishikawa Prefecture and some 700 people in Tokyo. 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 Concerts held in November 2018

Charitable Activities at Group Companies Outside Japan

Toray Group companies outside Japan work with outside organizations to carry out a variety of charitable activities designed to provide solutions to issues that local communities face.



USA: Employees collect donations for the needy (Toray Composite Materials America, Inc.)



Malaysia: Collaboration with St. Nicholas' Home, a non-profit, non-governmental organization that serves the visually impaired (Toray Malaysia Systems Solution Sdn. Bhd.)



Republic of Korea: "Santa Claus of Love" initiative to give presents to needy children (Toray Advanced Materials Korea Inc.)

CSR Guidelines & Activity Reports

Safety, Accident Prevention, and Environmental Preservation

Environment

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.



Basic Approach

For information on Toray Group's basic approach and policies on safety, accident prevention and environmental preservation, please visit the links for the related topics in the Activity Reports below.

Safety, Health, Accident Prevention and Environmental Preservation Management

Action Policy and Main Activities

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 2018

Action policy		Main activities
Safety	3Z activities ¹ for zero accidents	<ul style="list-style-type: none"> • Thoroughly practice “Anzen Koh-Doh”² • Thorough elimination of similar accidents • Thoroughly practice safety activities in each business • Expand communication to foster positive, communicative, and disciplined 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 a plan for countermeasures against pandemic influenza • Enhance mental health management
Accident prevention	Achieve zero fire accidents	<ul style="list-style-type: none"> • Thoroughly take fire prevention measures
	Improve large-scale earthquake response	<ul style="list-style-type: none"> • Maintain large-scale earthquake preparedness • Execute large-scale earthquake and tsunami response drills
Environment	Achieve zero environmental accidents	<ul style="list-style-type: none"> • Implement strict measures to prevent environmental accidents
	Help to build a more sustainable world	<ul style="list-style-type: none"> • Implement the Fifth Medium-Term Environmental Plan

¹ 3Z Activities is a program that aims for zero accidents, zero problems, and zero claims under the slogan of “Maintaining Zero, Day-to-Day.” The Manufacturing Division leads the program, which aims to achieve the goals of the Toray Group’s medium-term management program.

² This refers to thinking about and acting on the basics of safety in order to enhance personal hazard sensitivity, identify hazards in the workplace, and ensure one’s own safety.

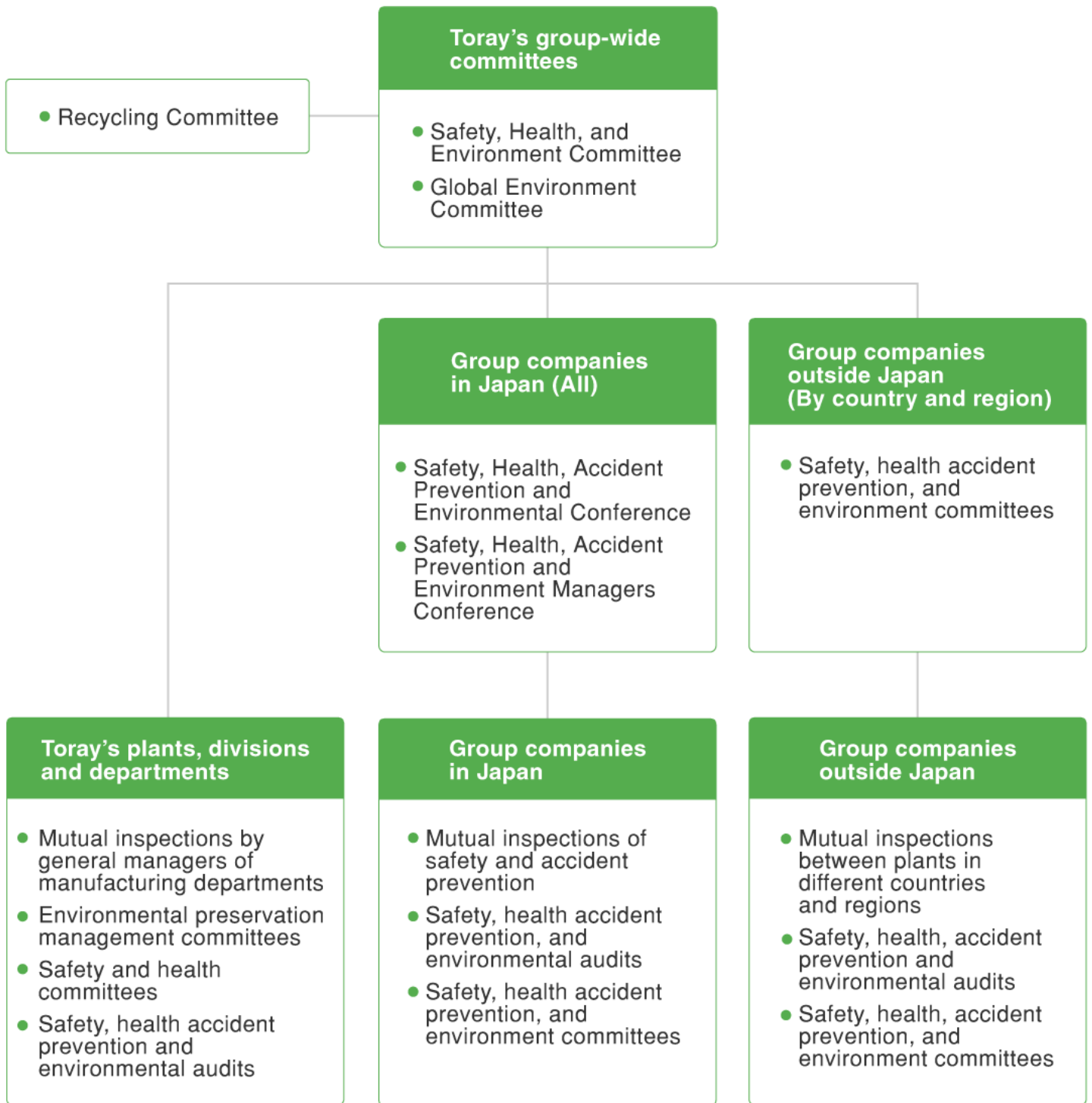
Structure

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

Toray Industries, Inc. 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 Committee³ (see chart below). Each committee meets annually.

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. The chairs of both committees have absolute responsibility and authority. Progress on the issues determined by the committees is managed in the business divisions and plants using the PDCA cycle.

³ With the dissolution of the Global Environment Committee on August 1, 2018, responsibility for environmental technology development was transferred to the Technology Committee and responsible care to the Safety, Health, and Environment Committee. The Recycling Committee, which had been overseen by the Global Environment Committee, was also eliminated, and product recycling initiatives are now implemented by individual business divisions.



Audits and Follow-Up Measures

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 2018, audits were conducted for all 13 plants and one research laboratory at Toray Industries, 46 plants operated by 27 group companies in Japan, and 73 plants operated by 53 group companies outside Japan. The audits focused on the following areas: ensuring basic safety rules are followed; thoroughly eliminating similar accidents; increasing the safety awareness of unit heads and unit chiefs; implementation of strict measures to prevent environmental accidents; and progress on Fifth Medium-Term Environmental Plan activities. The audits helped to secure systematic improvements by identifying and addressing facility issues and issues relating to management.

ISO 14001 Certification

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 Industries had completed accreditation for all 13 of its plants by the end of 2000. By fiscal 2018, 35 plants at 21 group companies in Japan and 58 plants at 43 group companies outside Japan were certified. In fiscal 2018, one plant at Toray BSF Coating Korea Limited in the Republic of Korea 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 Industries implements its program in accordance with the Responsible Care Global Charter.⁴ In fiscal 2018, the Company set priority issues: implementing the Fifth Medium-Term Environmental Plan, strengthening accident-prevention countermeasures and ensuring implementation of the chemical risk assessments.

⁴ 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 Industries was a signatory to both the original and revised Charter.

Complying with REACH and Other International Chemical Substance Regulations

All business divisions of Toray Industries, as well as its group companies in and outside Japan, have systems in place for securing compliance with regulations on the restriction of chemical substances such as the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) in Europe. Toray Group completed registration of substances designated by REACH by the final deadline of May 31, 2018. The Group is also registering chemical substances based on recently revised laws in the Republic of Korea and Taiwan.

Toray Industries and some of its group companies in Japan use chemical substance management systems and the List of Lists (LOLI) Database,⁵ a comprehensive database of chemical hazard and toxicity information and regulations in countries around the world, to strengthen their efforts to handle chemical substances safely and in compliance with relevant laws and regulations worldwide.

⁵ 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 Law⁶ in April 2011, companies have been required to report on the manufacture, import, and utilization of general chemical substances. Toray Industries and its group companies in Japan studied the revisions, made the necessary preparations and completed their report covering fiscal 2018 in June 2019.

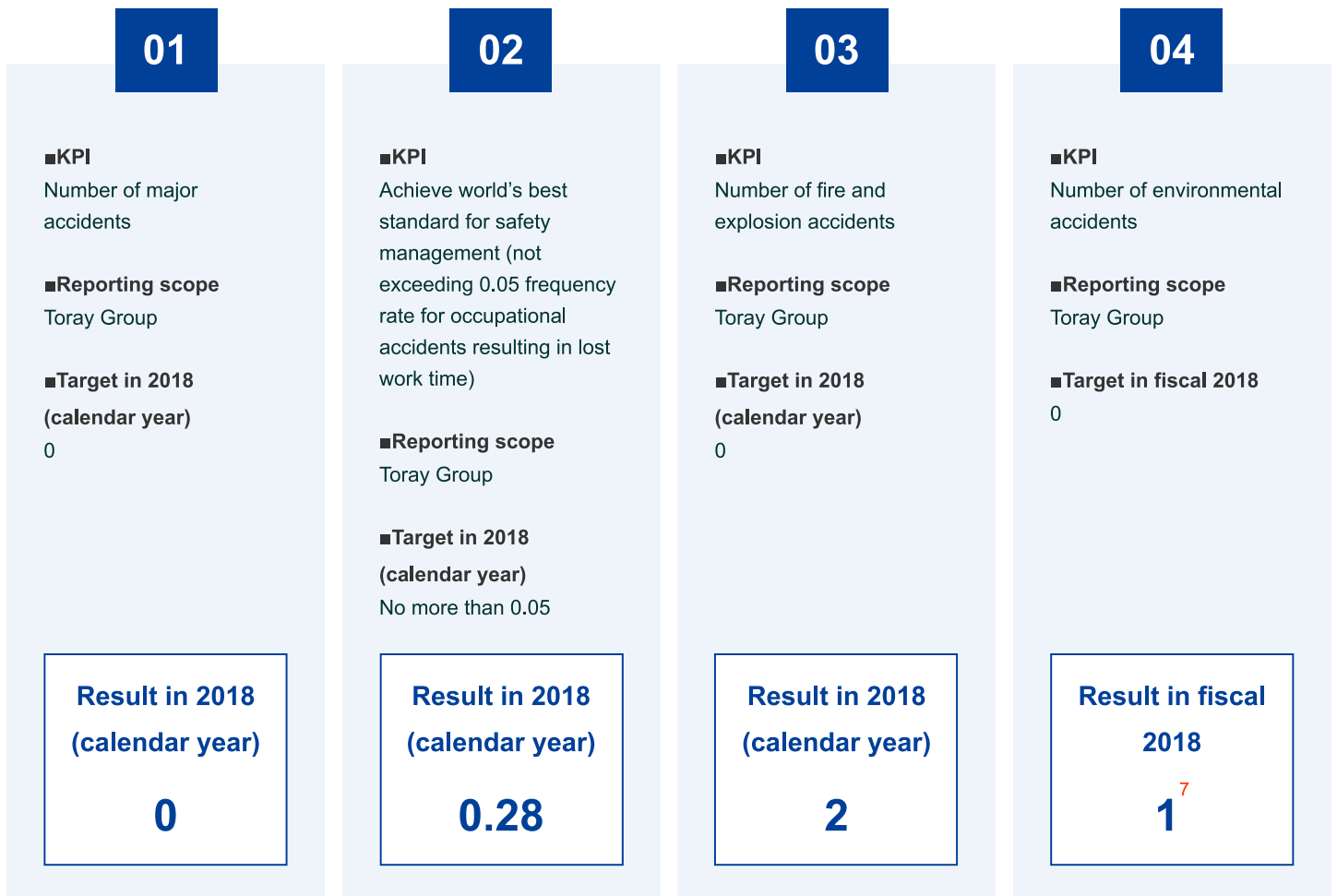
⁶ Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.

CSR Road Map Targets and Results

Clarify and fully comply with the basics of safety guidelines, and encourage employees to think carefully before taking action to prevent accidents

[Related material issue for CSR]

- Ensuring safety and disaster preparedness



⁷ The impact on the environment was extremely minor. For more information, please refer to the “Environmental Risk Management” page in the “Safety, Accident Prevention, and Environmental Preservation” section.

Reduce environmental impact by working to fulfill the Fifth Medium-Term Environmental Plan (achieve targets by fiscal 2020)

[Related material issues for CSR]

- Addressing substances with negative environmental impact
- Addressing resource and energy issues
- Reducing greenhouse gas emissions

05

■KPI

Reduction of atmospheric VOC emissions (%)

■Reporting scope

Toray Group

■Target in fiscal 2018

At least 70% lower than fiscal 2000

Result in fiscal 2018

72%

06

■KPI

Waste recycling rate (%)

■Reporting scope

Toray Group

■Target in fiscal 2018

At least 86%

Result in fiscal 2018

85.7%

07

■KPI

Reduction of greenhouse gas emissions per unit of sales (%)

■Reporting scope

Toray Group (Japan)

■Target in fiscal 2018

At least 15% lower than fiscal 1990

Result in fiscal 2018

30%

Pursue environmental preservation on the basis of policies on water resources and biodiversity

[Related material issues for CSR]

- Initiatives for managing water resources
- Conserving biodiversity

08

■KPI

Water usage per unit of sales (%)

■Reporting scope

Toray Group

■Target in fiscal 2018

No more than 61% of 2001 level

Result in fiscal 2018

51%

09

■KPI

Number of companies and plants developing greenery policy and plan

■Reporting scope

Toray Group

■Target in fiscal 2018

at least 50

Result in fiscal 2018

54

Looking to the Future

Toray Group will continue to carry out safety, accident prevention and environmental preservation activities based on international frameworks such as ISO 14001 and Responsible Care as well as the Group's medium- and long-term and single-year goals. The Group is committed to protecting the health and safety of employees and the public and reducing its environmental impact.

Occupational Safety and Accident Prevention Activities

 Materiality Focus

Environment

Toray Group pursues its own safety activities using occupational health and safety management systems (such as OHSAS 18001 and ISO 45001). In addition, officers and other employees audit all group companies and plants every year and evaluate and seek improvements in the status of their management of safety and health, accident prevention and environment from a standardized perspective. In addition, best practices are shared at sites throughout the Group to enhance the entire Group's performance. Employees are key stakeholders of 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, Toray Group creates a group-wide safety slogan. In fiscal 2018, the Group used the unique keyword of "Anzen Koh-Doh"¹ to remind employees worldwide to take thoughtful safety actions. 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 potentially serious impact of an accident not only within the company but on surrounding communities, the Group acts with strong determination to prevent accidents such as fires and explosions, making accident prevention a top priority. Toray Group sets up safety and health committees and works to ensure the safety and health of its employees through united efforts of labor and management, based on occupational health and safety laws in the countries in which it operations. These efforts help to ensure a pleasant working environment.

¹ This refers to thinking about and acting on the basics of safety in order to enhance personal hazard sensitivity, identify hazards in the workplace, and ensure one's own safety.

2019 Safety Slogan

AP-G 2019

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

—"Seriousness," "Motivation," "Awareness"

Every year, company presidents and plant managers from Toray Industries and its group companies around the world meet at the Toray Group Safety Meeting. At the meeting, safety action policies and main activities are shared to set a common course, activities at worksites are reported, and safety awards are given 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 Industries 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.



2018 Toray Group Safety Meeting in Toray Human Resources Development Center



Toray Group Safety Summit in China

Toray Group Safety Record

Number of major accidents

■Reporting scope
 Toray Group

■Target in 2018 (calendar year)
 0

Result in 2018

0

Number of fire and explosion accidents

■Reporting scope
 Toray Group

■Target in 2018 (calendar year)
 0

Result in 2018

2

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

■Target in 2018 (calendar year)
 No more than 0.05

Result in 2018 (calendar year)

0.28

Toray Industries has collected data on all occupational accidents since 1980, and for Toray Group since 1990. 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. The frequency rate for occupational accidents resulting in lost work time for Toray Group overall in 2018 improved by 0.11 points to 0.28. Although this is a positive result compared with that of Japan's manufacturing industry (1.20), it fell far short of the target of 0.05 or lower. One reason for this is that group companies outside Japan that recently joined Toray Group had many accidents resulting in lost work time. Accordingly, the Group is working to strengthen safety management at those group companies with support and guidance from Toray's main plant in Japan.

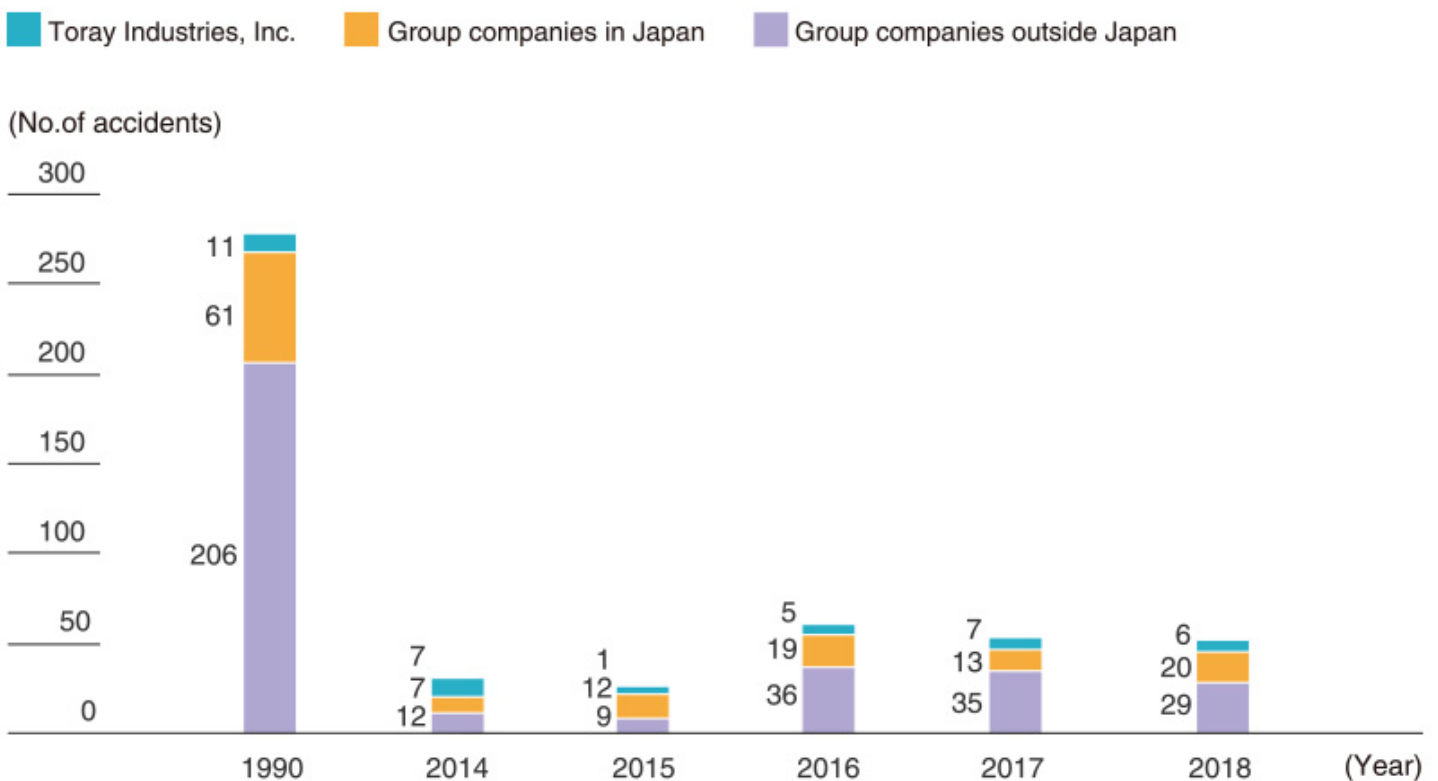


A safety meeting with the participation of unit heads at Plant (Toray Industries, Inc.)

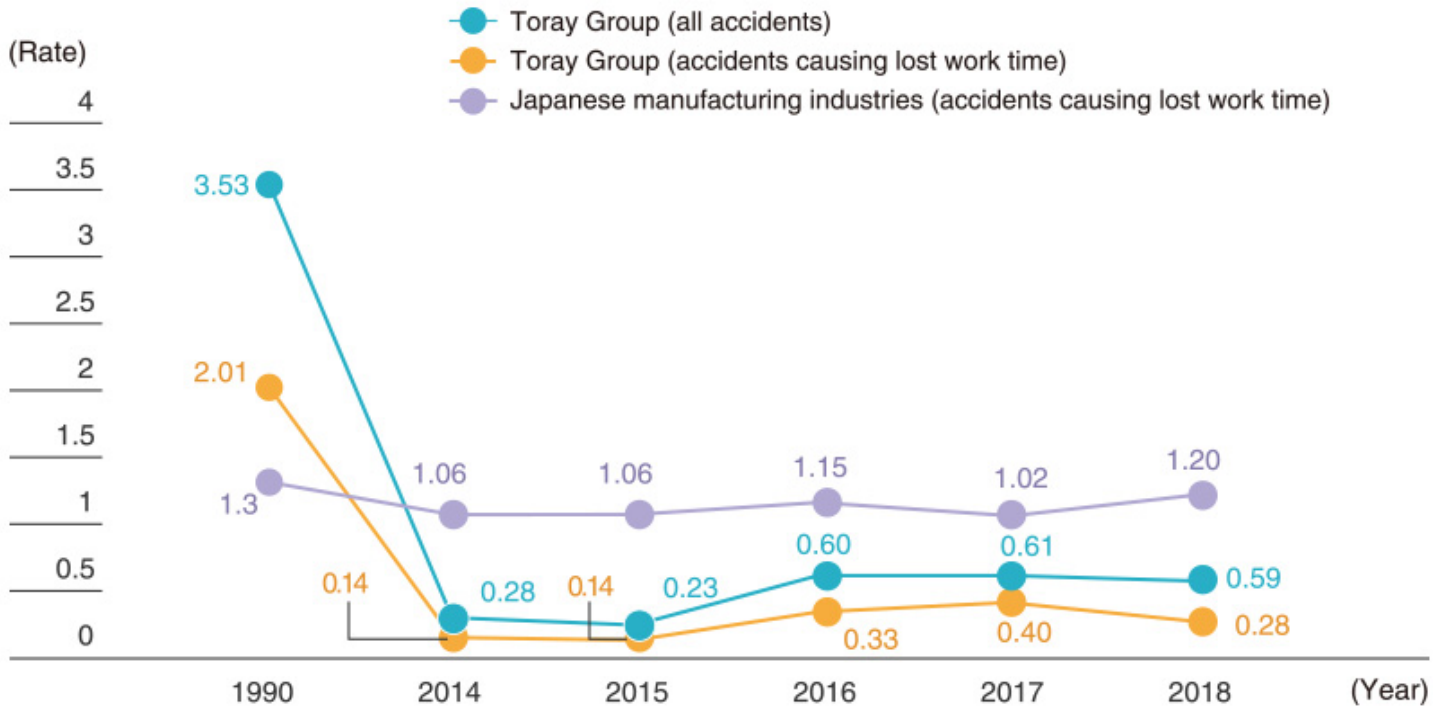
Toray Group will continue to identify the root cause of each accident to prevent reoccurrence, and avoid similar accidents based on the lessons learned in these accidents, while taking "Anzen Koh-Doh" even further. To ensure familiarity with "Anzen Koh-Doh" practices, unit heads in charge of work sites will take the leading role at Toray Industries and its group companies in Japan in reforming safety awareness and actions in their own workplaces. Toray Industries has held report meetings for discussion of safety, in which unit heads meet to share and discuss their activities, since 2015.

In terms of fire prevention, small-scale fires occurred at Toray Industries and one group company outside Japan, but these accidents did not cause human damage nor did either affect any area outside of plant premises. One accident involved a fire in a vehicle parked in the employee parking lot, and the other a fire on the lawn caused by a spark from the neighboring company's construction sites; neither involved fire in a Toray plant itself.

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



Occupational Accident Frequency Rate²: Toray Group



² Occupational accident frequency rate: The number of fatalities and injuries at worksites per one million cumulative working hours

Identifying Danger (Hazards), Evaluating Risk, and Accident Surveys

(1) Identifying danger (hazards) and evaluating risk

Toray Group has a system whereby employees report any potential risks in the workplace to managers and the managers provide feedback on countermeasures and improvements. Before starting work, hazard prediction information, near miss reports, and safety proposals are shared with employees to confirm and mitigate risks.

Company inspectors also carry out inspections to determine whether there are any problems with the system for preventing occupational accidents and the status of the implementation of countermeasures. If there are any problems, the inspectors give instructions for improvements.

(2) Accident surveys

In the event of an occupational accident, the emergency response review meeting and the countermeasure meeting are convened to clarify the chain of events leading up to the accident, identify the cause and decide on countermeasures. In addition, information about the accident is shared throughout the Group and measures taken to prevent a recurrence.

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.

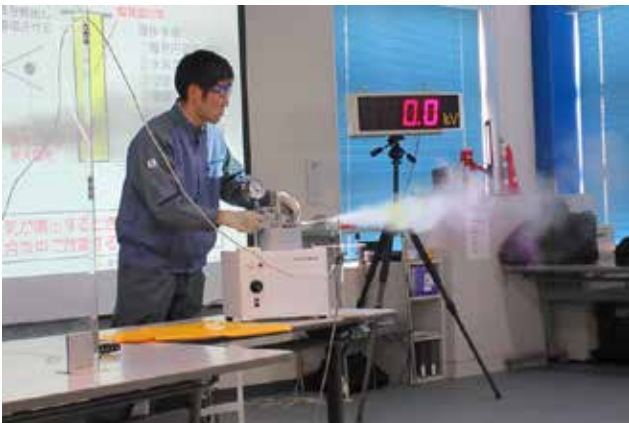
Additionally, the Group publishes on familiar topics regarding safety and accident prevention in its in-house newsletter, *People*. In 2018, as in the previous year, the newsletter focused on the basics of fires and explosions.



Simulation training at Okazaki Plant (Toray Industries, Inc.)



Training using accident case studies at Nagoya Plant (Toray Industries, Inc.)



Demonstrating the danger of fires and explosions at Nasu Plant (Toray Industries, Inc.)

Implementing Safety Management Together with Subcontractors

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. Regular safety and liaison meetings are conducted to gain input from subcontractors, and are used to communicate the Group's policies and measures. At plants, Toray and subcontractors work together on safety initiatives, including safety posters, slogan contests and safety suggestions.



Safety meeting at Mishima Plant (Toray Industries, Inc.)

Mutual Safety Inspections by Toray Affiliates on Premises of Toray Plants

Toray Industries had the presidents of Toray affiliates that provide ancillary services for plant operations participate in annual mutual safety inspections of their facilities in order to verify the progress of safety initiatives. In 2018, the monitoring of hazardous work included work with sharp blades and heavy load transport. Personnel advised each other on areas needing improvement and monitored the progress of improvements.



Mutual safety inspection
(Tsuchiura Shokusan Inc.)

Preparing for Accidents through Fire-Prevention Drills

All companies and plants in 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.



Safety confirmation team during an evacuation drill (Du Pont-Toray Co., Ltd.)



Firefighting training (Toray Textiles, Inc.)

Initiatives for Improving Fire-Prevention Capabilities

In 2018, Toray Group outlined four key tasks (see below) to strengthen fire prevention at Toray Group. The Toray Group's internal accident prevention experts provided support and guidance in identifying the root cause and taking countermeasures to prevent reoccurrence of those fire accidents and near misses for which the experts decided onsite audits and investigations were necessary.

In earthquake preparedness measures, Toray places the highest priority on employee safety and has strengthened its earthquake response by implementing evacuation drills using its employee safety verification system. Additionally, the Group conducts business continuity planning in order to meet its social responsibility to keep supply lines open in the event of a large-scale earthquake.

Four Tasks

Tasks	Results of 2018 activities
Effectively use fire-prevention checklists	<ol style="list-style-type: none"> 1. Revised fire-prevention checklists Revised checklists to reflect knowledge and lessons learned from recent near-misses at Toray Group and began using them
Enhance fire-prevention training	<ol style="list-style-type: none"> 1. Provided fire-prevention training for engineers, etc., company-wide (elementary and intermediate levels) 2. Prepared plant education for entire group and carried out on a trial basis 3. Provided fire-prevention training for operators at plants (younger operators and leader courses)
Enhance change management	<ol style="list-style-type: none"> 1. Operated manufacturing process change standards on manufacturing conditions, work contents, workers and equipment. 2. Applied these standards at group companies outside Japan guided by Toray's main plant
Build a safety management system for hot work	<ol style="list-style-type: none"> 1. Supported and guided companies and plants to appropriately operate the framework (in Japan) 2. Rolled out the initiative to group companies outside Japan



Fire-prevention training for engineers, etc., company-wide
(Toray Human Resources Development Center)

Distribution Safety Initiatives

Toray Industries is working to ensure safe distribution in its operations. In an effort to manage safety when transporting hazardous substances, the Company 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

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. Toray Group is working in good faith with individuals diagnosed with asbestos-related health issues by assisting with their applications for workers' compensation and providing an ongoing program of medical examinations. The Group has not been contacted about health issues by residents living near affected plants.

The health effects on former and current Toray Group employees as of March 31, 2019 are described below.

Certified occupational accidents arising from handling asbestos (Toray Group): 104 (77)

Certified health victims based on Japan's Act on Asbestos Health Damage Relief (Toray Group): 8 (7)

Medical examination recipients involving asbestos (Toray Group): 4,022

Note: Figures in parentheses refer to fatalities.

CSR Guidelines & Activity Reports - Safety, Accident Prevention, and Environmental Preservation

Progress on the Fifth Medium-Term Environmental Plan

Environment

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 Target

Area	Toray Group fiscal 2020 target	Fiscal 2018 results
Curb global warming	Maintain greenhouse gas emissions at least 15% below the fiscal 1990 level (Toray Industries, Inc.)	23% reduction
	15% or greater reduction in greenhouse gas emissions per unit of sales compared to fiscal 1990 (Toray Group in Japan)	30% reduction
Management of chemical substances	Atmospheric emissions of PRTR Law-Specified substances: Maintain at least 70% below the fiscal 2000 level (Toray Group)	66% reduction
	Atmospheric emissions of volatile organic compounds (VOCs): Maintain at least 70% below the fiscal 2000 level (Toray Group)	72% reduction
Waste reduction	Zero emissions goal: Achieve at 45 or more Toray Group plants	Achieved at 44 plants
	Simply disposed waste rate: 22.5% or lower (Toray Group)	21.6%
	Recycling rate: Maintain at 86% or more (Toray Group)	85.7%
	Landfill waste rate: 1.3% or lower (Toray Group in Japan)	1.0%

Conserving Energy and Curbing Global Warming

 Materiality Focus

Environment

Addressing Climate Change

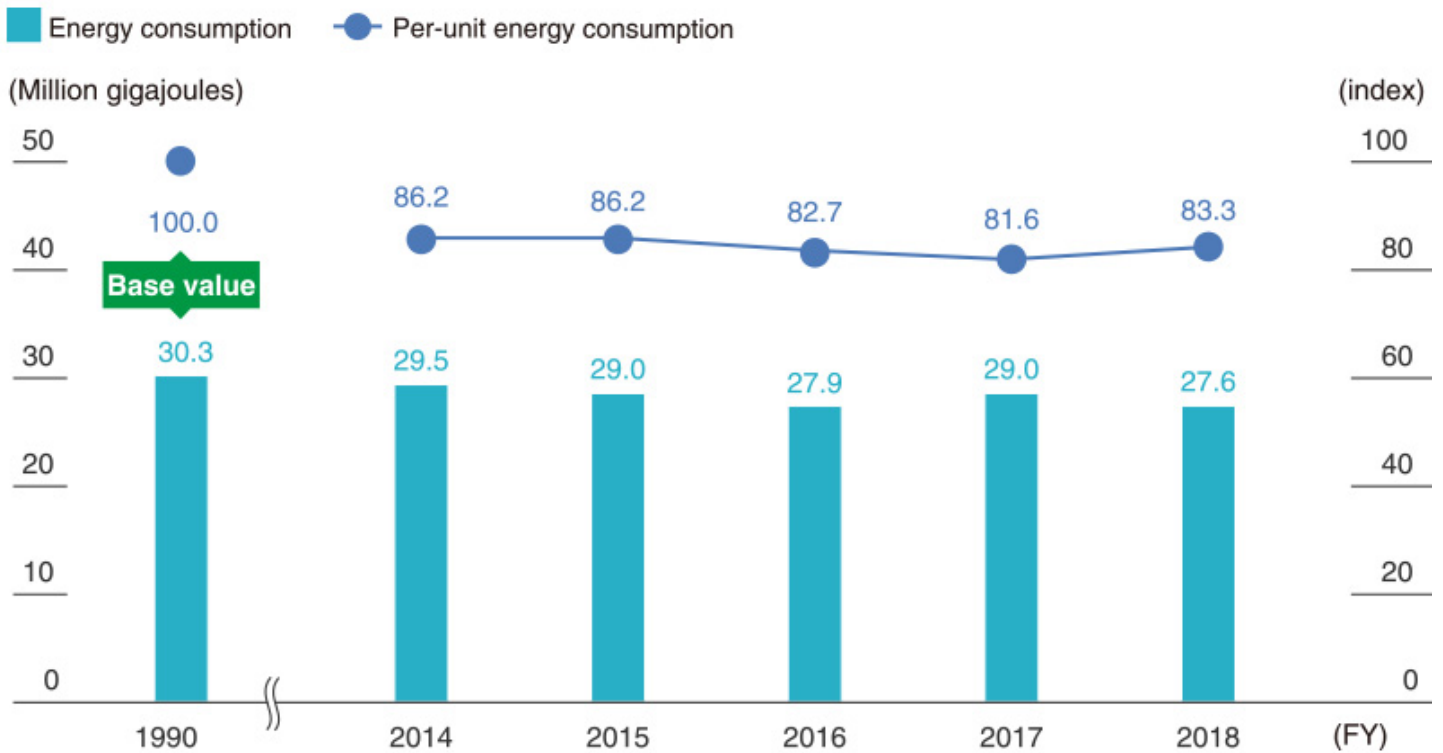
With a view to helping realize sustainable, low-carbon societies, the Toray Group has been pursuing initiatives for reducing greenhouse gas emissions. Toward this end, the Group is working to reduce CO₂ emissions and save energy during manufacturing by improving manufacturing processes, increasing utilization of renewable energy and reducing coal consumption in accordance with its Fifth Medium-Term Environmental Plan, which was launched in fiscal 2016.

Toray Industries' Energy Conservation Activities

Toray Industries, Inc. has set a goal of reducing its per-unit energy consumption¹ by 2% annually. In fiscal 2018, the Company's energy consumption was down 4.7% year-on-year due mainly to a decrease in production volumes. Meanwhile, its per-unit energy consumption rose 2.1% year-on-year (16.8% below the base year of fiscal 1990).

¹ Energy consumption per converted production volume

Energy Consumption and Per-unit Energy Consumption Index (Toray Industries, Inc.)



Toray Group organizes energy conservation teams to help carry out annual energy conservation diagnostics at plants in Toray Industries and its group companies around the world. In fiscal 2018, these activities were conducted at 4 of Toray Industries' plants, along with 2 group company plants at in Japan and one outside Japan. Thanks to these proactive energy-saving initiatives, the Group reduced greenhouse gas emissions by about 39,600 tons-CO₂ equivalent.



Review for energy conservation diagnostics at Toray Plastics Precision Co., Ltd.

Toray Industries' Efforts to Fight Climate Change

Reduction of greenhouse gas emissions per unit of sales

■ Reporting scope
Toray group (Japan)

■ Target in Fiscal 2018
At least 15% lower than fiscal 1990

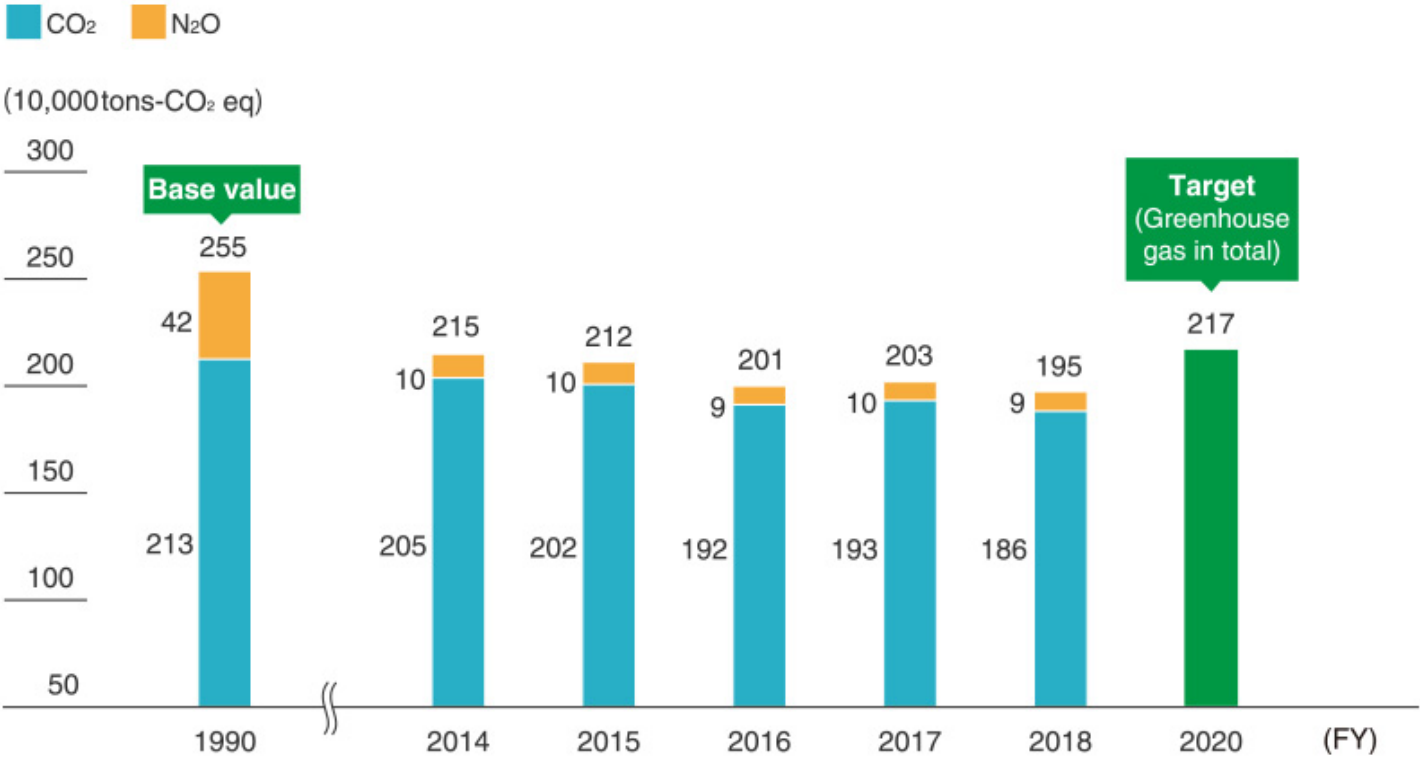
Result in fiscal 2018

30%

Toray Industries systematically works to reduce greenhouse gas emissions, with the goal of maintaining greenhouse gas emissions at least 15% lower than the 1990 level by 2020. In fiscal 2018, the Company's CO₂ emissions decreased by 74,000 tons year-on-year. Greenhouse gas emissions were down 3.8% year-on-year at 1.95 million tons, which was 23.2% below the 1990 level, continuing to meet the reduction target (11% below fiscal 2013 level).

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

Greenhouse Gas Emissions (Toray Industries, Inc.)



Related Information

Toray Industries has obtained third-party assurance of its greenhouse gas emissions from Lloyd's Register Quality Assurance Limited (LRQA) for Scope 1 (direct emissions from plants, offices, vehicles, etc. owned by the Company), Scope 2 (indirect emissions from the generation of energy), and Scope 3 (other indirect emissions).²

Scope 1: 1,610,000 ton

Scope 2: 340,000 ton

Scope 3: 740,000 ton

² Scope 3 emissions are calculated for Category 2 (capital goods), Category 3 (fuel and energy-related activities not included in Scope 1 or Scope 2), and Category 4 (upstream shipping and distribution).

[> Third-Party Assurance](#)

Installing Renewable Energy Systems

Toray Group is systematically installing renewable energy systems. Toray Industries installed and started to operate a small hydroelectric system that generates power using the incoming industrial water pressure in Nagoya Plant in fiscal 2016, and installed a solar power generation system in Seta Plant in fiscal 2017. Both systems have been operating. In addition, the Tokai Plant began co-combusting sludge fuel, which is carbon neutral, as boiler fuel from fiscal 2017.



Facility for co-combustion of sludge fuel at Tokai Plant (Toray Industries, Inc.)

Renewable energy generated in fiscal 2018

10,325 MWh

Toray Group has installed solar power generation facilities at the following plants:

Toray Industries, Inc.

- Seta Plant
- Ehime Plant
- Mishima Plant
- Okazaki Plant
- Nasu Plant

Group companies in Japan

- Toray Textiles, Inc.
- Toyo Plastic Precision Co., Ltd.
- Toray Advanced Film Co., Ltd.
- Toray Fine Chemicals Co., Ltd.
- Soda Aromatic Co., Ltd.
- Toray Carbon Magic Co., Ltd.
- Toray Engineering Co., Ltd.
- Toray Construction Co., Ltd.
- Toyo Jitsugyo Co., Ltd.

Group companies outside Japan

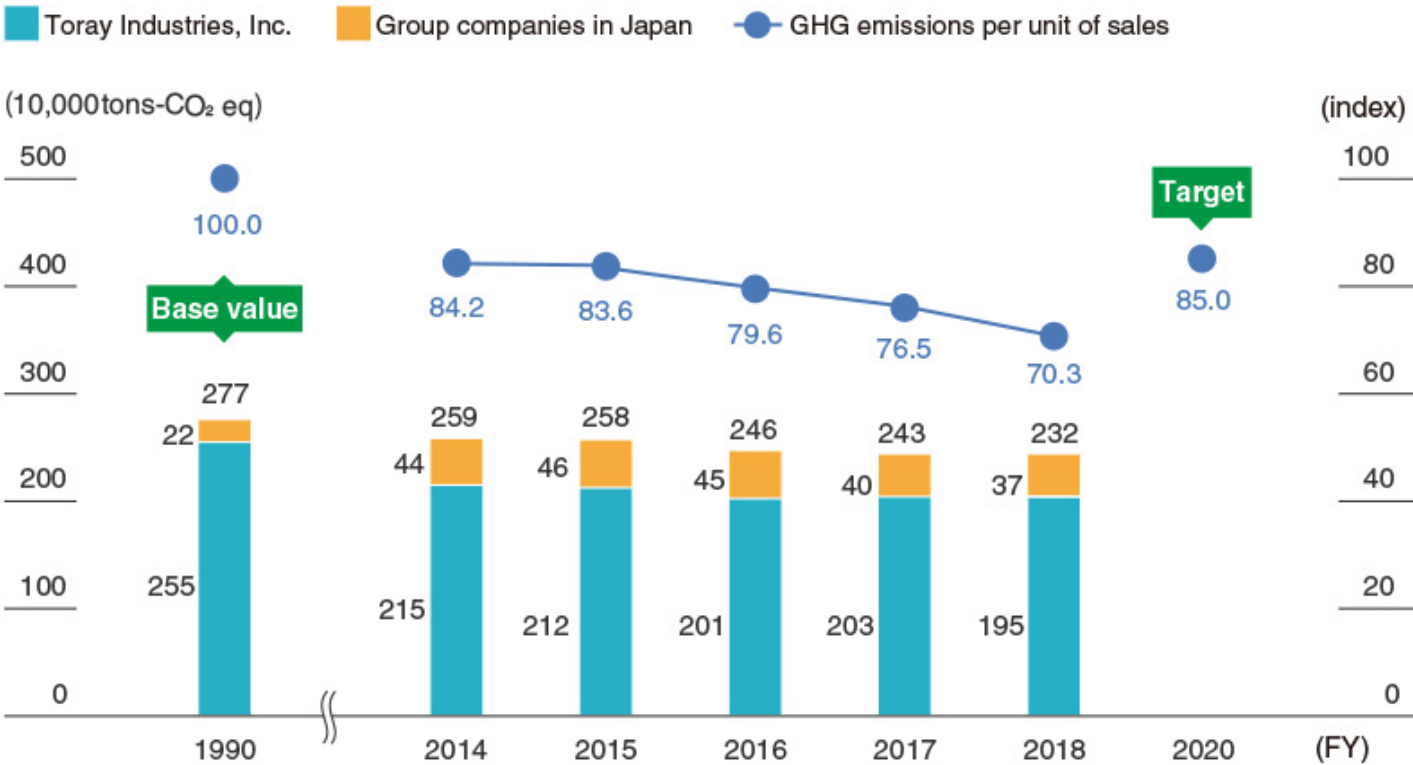
- Toray Membrane USA, Inc.
- Toray Plastics (America), Inc.
- Thai Toray Synthetics Co., Ltd.
- Penfabric Sdn. Berhad
- Toray Polytech (Nantong) Co., Ltd.
- Toray Advanced Materials Korea Inc.

Greenhouse Gas Emissions (Toray Industries and Its Group Companies in Japan)

Toray Industries and its group companies in Japan are addressing climate change under a 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 4.3% in fiscal 2018 compared to the previous fiscal year. Greenhouse gas emissions per unit of sales improved by 6.2 points compared to the previous fiscal year and were 29.7% below the base year.

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



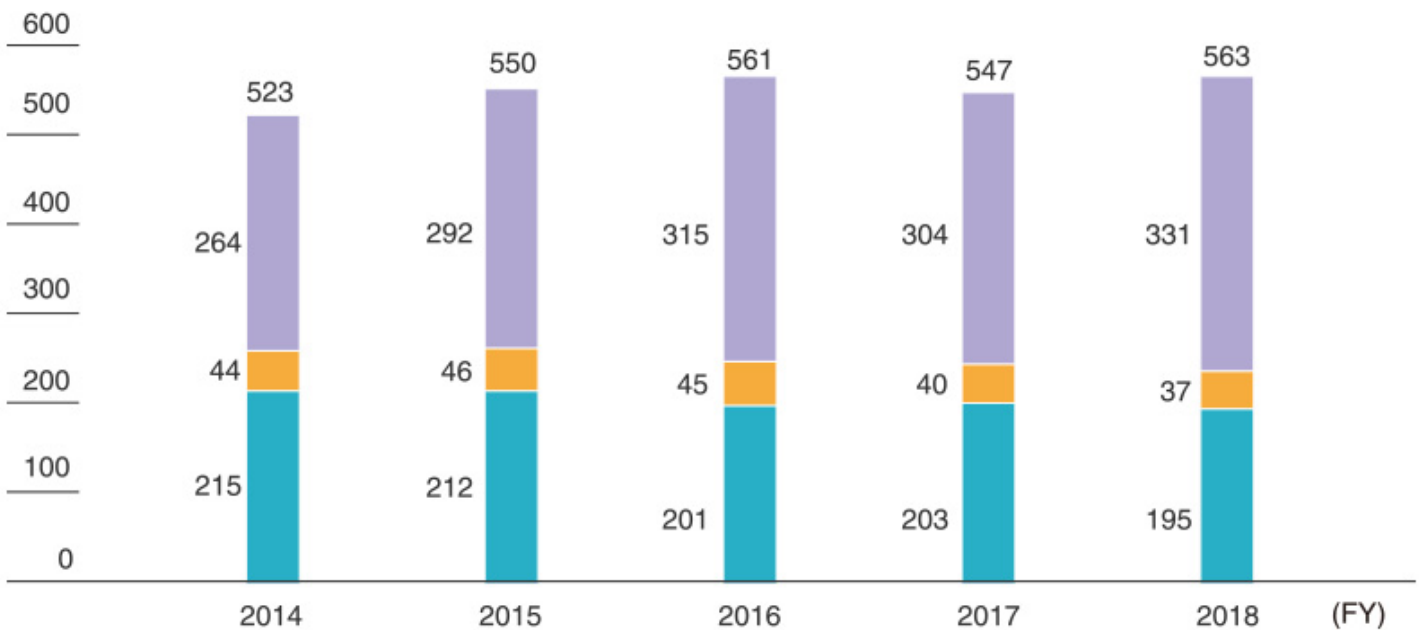
Greenhouse Gas Emissions (Toray Group)

Fiscal 2018 greenhouse gas emissions for Toray Group worldwide were 5.63 million tons-CO₂ equivalent, an increase of 2.9% 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)

■ Toray Industries, Inc.
 ■ Group companies in Japan
 ■ Group companies outside Japan

(10,000tons-CO₂ eq)



Initiatives to Protect the Ozone Layer

Toray Industries 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.

Voluntary Initiatives to Reduce Atmospheric Emissions of Chemical Substances

 Materiality Focus

Environment

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

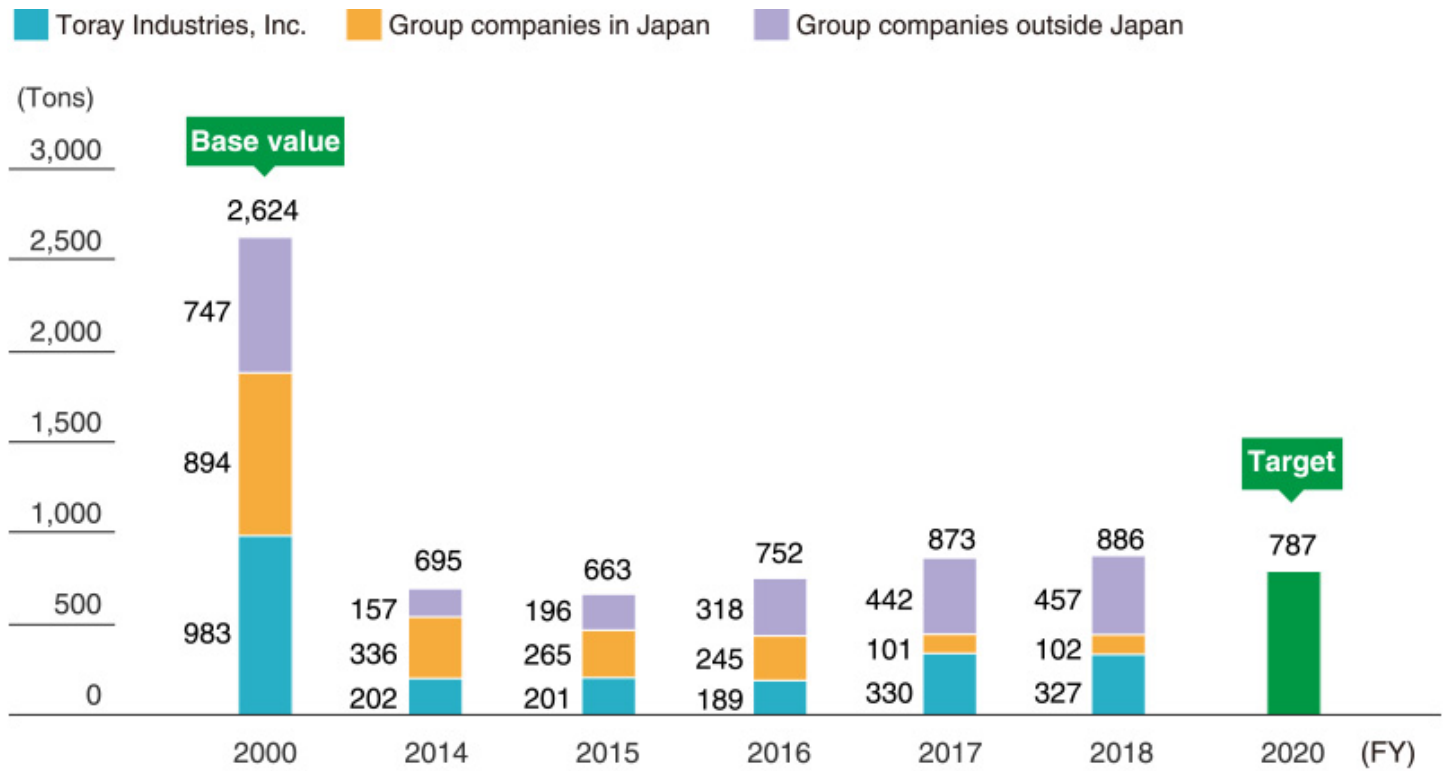
Under the Fifth Medium-Term Environmental Plan, which covered fiscal 2016–2020, the Group works to achieve its targets for reducing atmospheric emissions of volatile organic compounds (VOCs) and substances specified under Japan's Pollutant Release and Transfer Register Law (PRTR Law).

Reducing Atmospheric Emissions of PRTR Law-Specified Substances

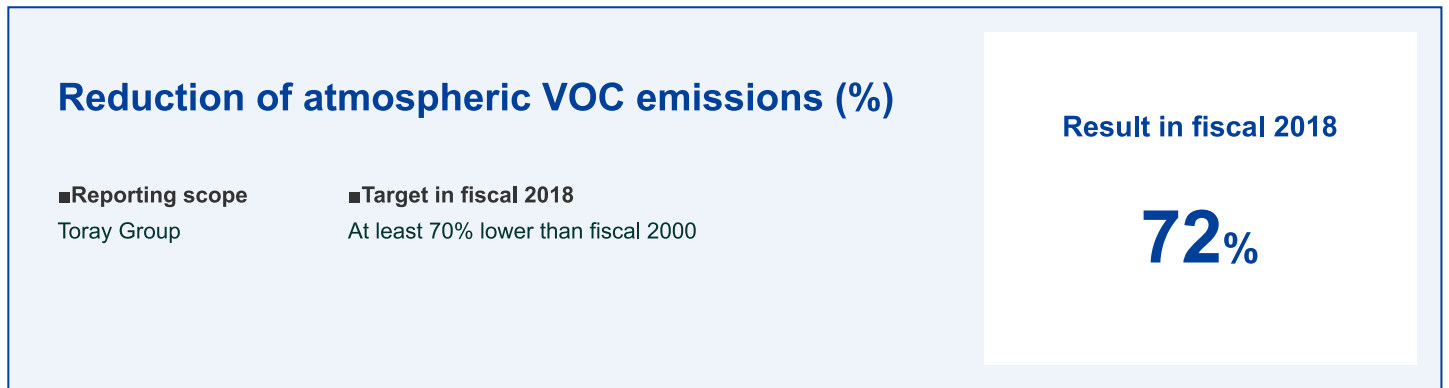
In fiscal 2018, Toray Group's atmospheric emissions of PRTR Law-specified substances were 886 tons, which represented a 66% reduction compared to the base year of fiscal 2000. However, the Group fell slightly short of the target of a 70% reduction compared with the base year under the Fifth Medium-Term Environmental Plan.

In fiscal 2018, as in the previous year, the amount of atmospheric emissions of PRTR Law-specified substances increased due to increased production volume at Toray Battery Separator Film Korea Limited (TBSK), and other Toray sites. Toray Group aims to reduce atmospheric emissions by improving waste gas adsorption device operations and taking other measures.

Atmospheric Emissions of PRTR Law-Specified Substances



Reduction of Atmospheric VOC Emissions

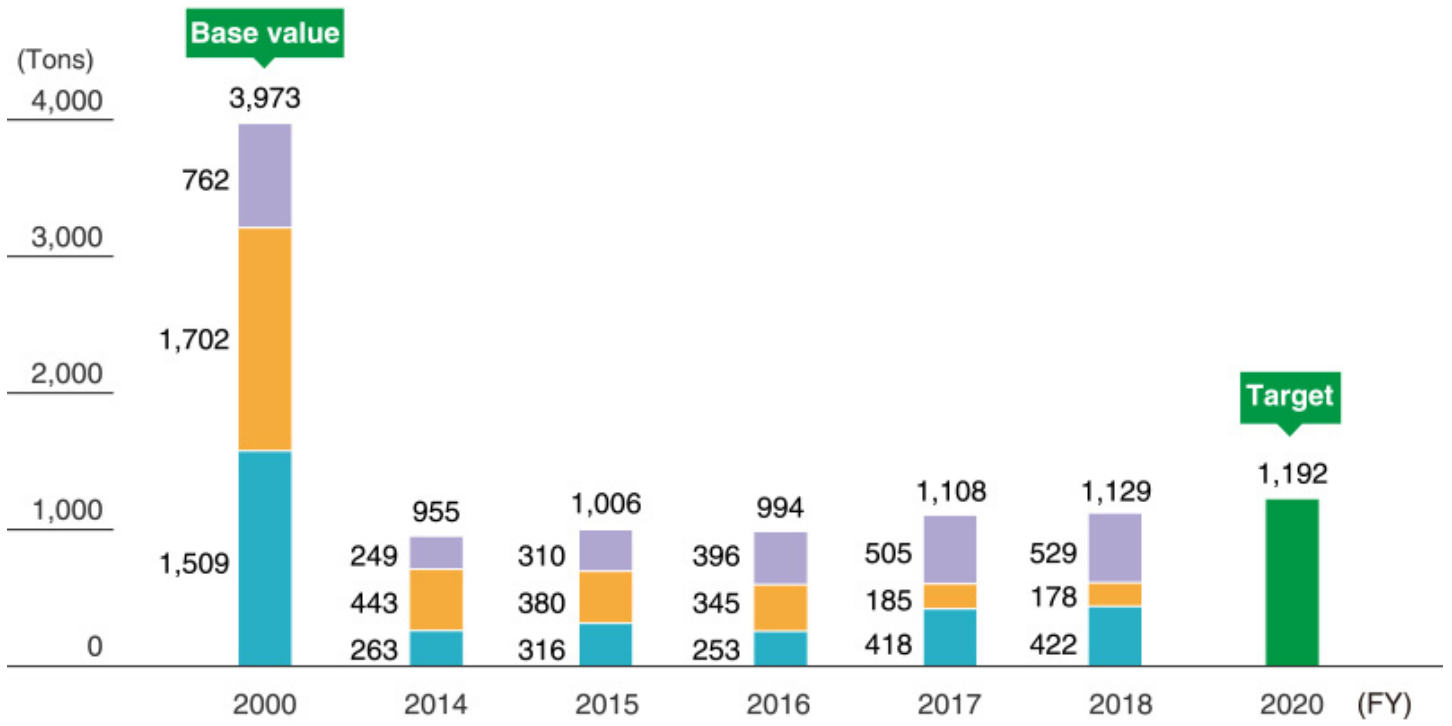


In fiscal 2018, Toray Group's atmospheric VOC emissions were 1,129 tons, up 2% (21 tons) compared to the previous fiscal year. As in the previous year, the major factor driving them up was increased production at Toray Battery Separator Film Korea Limited (TBSK). Toray Group is working to reduce planned emissions by taking steps such as improving waste gas adsorption device operations and identifying leak locations.

The emissions were 72% below the base year of fiscal 2000, achieving the fiscal 2020 target of a 70% reduction compared to the base year.

Atmospheric VOC Emissions

■ Toray Industries, Inc.
 ■ Group companies in Japan
 ■ Group companies outside Japan



Initiatives to Prevent Air and Water Pollution

Materiality Focus

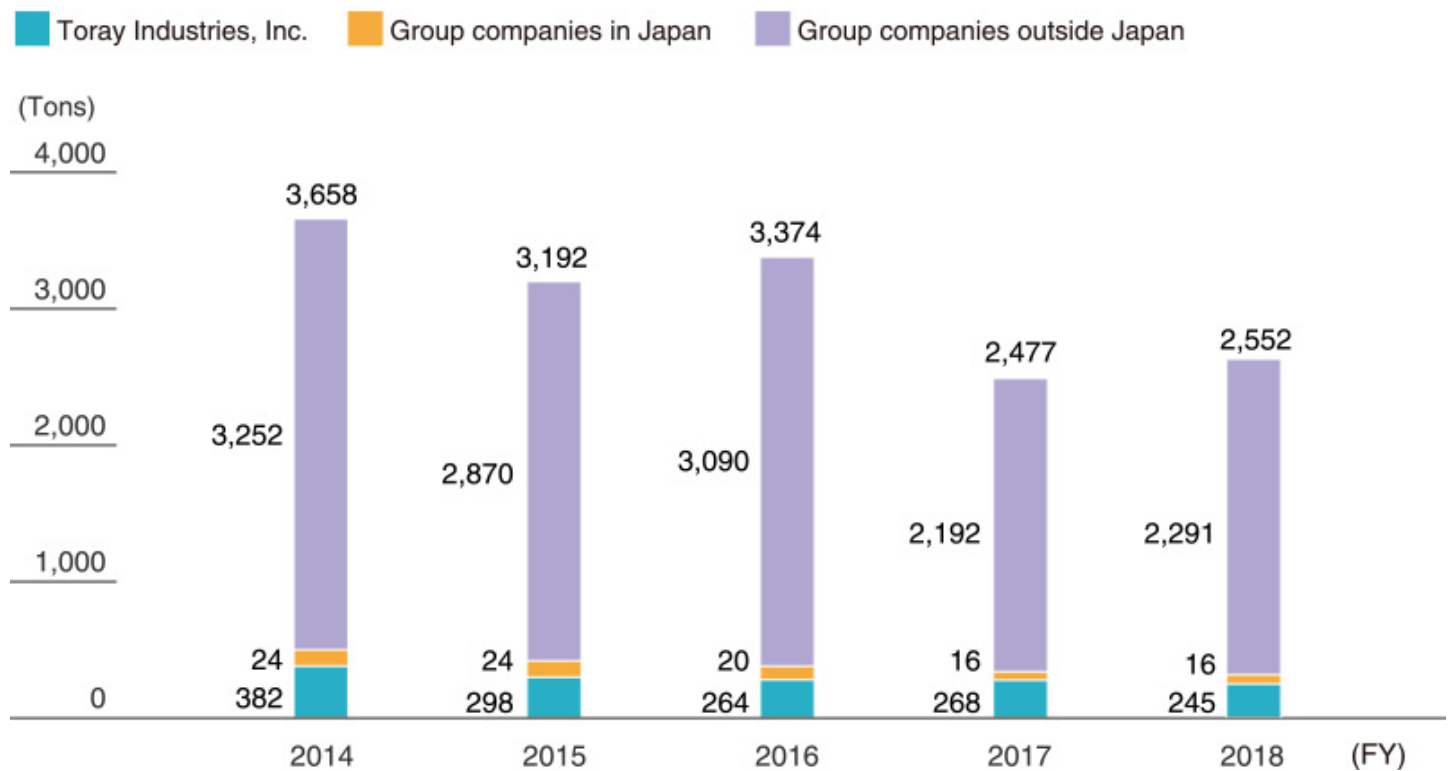
Environment

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.

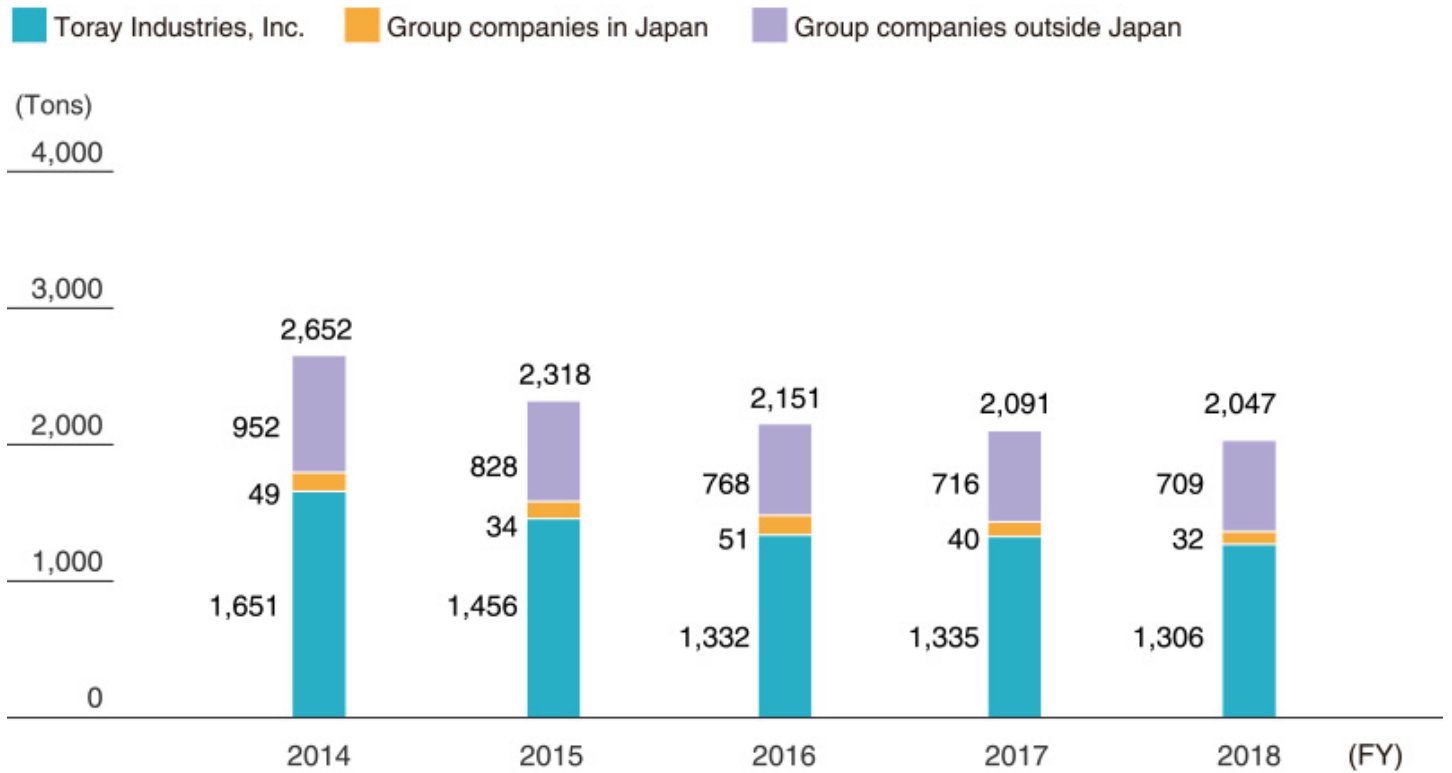
Air Quality Management

In fiscal 2018, Toray Group recorded 2,552 tons of SOx emissions (up 3% year-on-year), 2,047 tons of NOx emissions (down 2% year-on-year), and 271 tons of dust emissions (up 20% year-on-year). The increases in SOx and dust emissions were due to increased use of coal at group companies outside Japan.

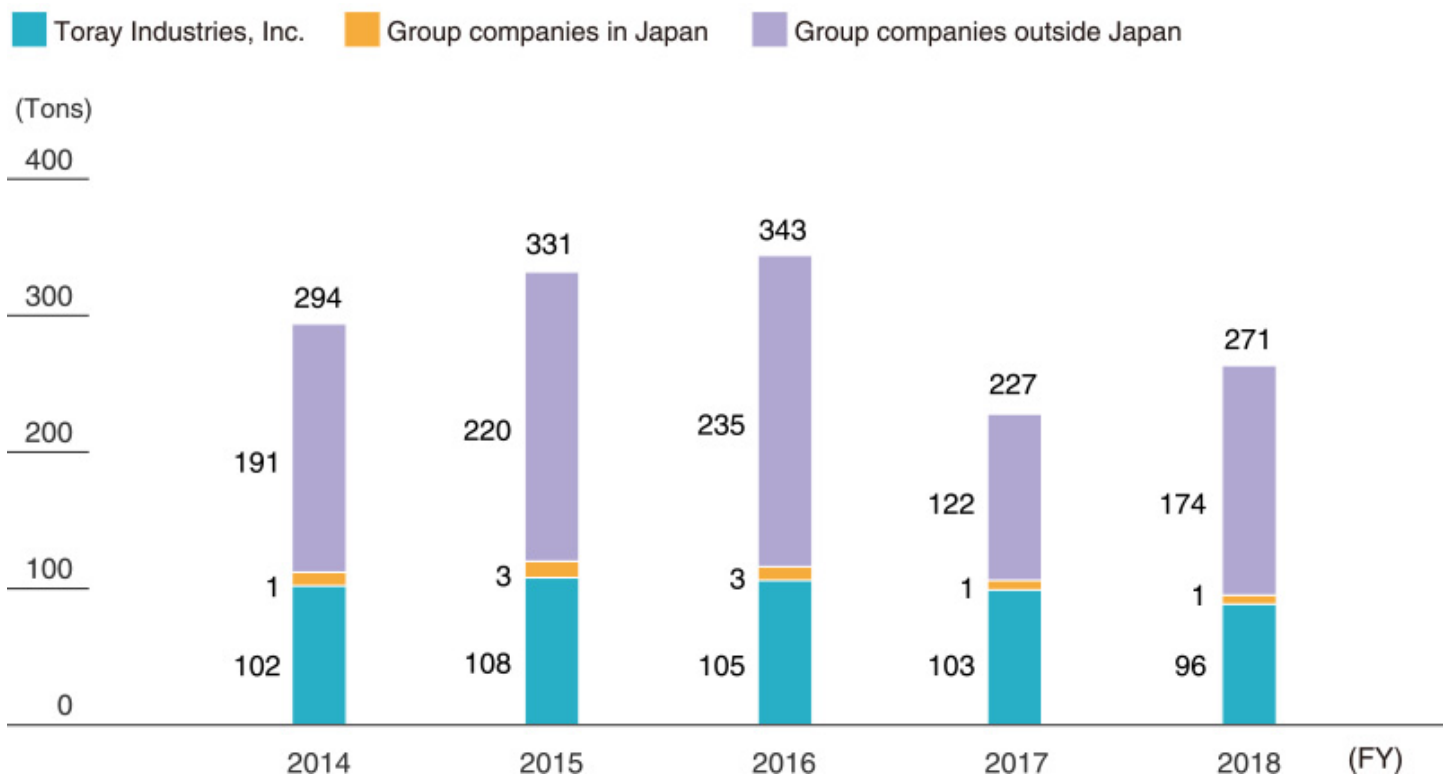
Atmospheric Emissions (SOx)



Atmospheric Emissions (NOx)



Atmospheric Emissions (Dust)

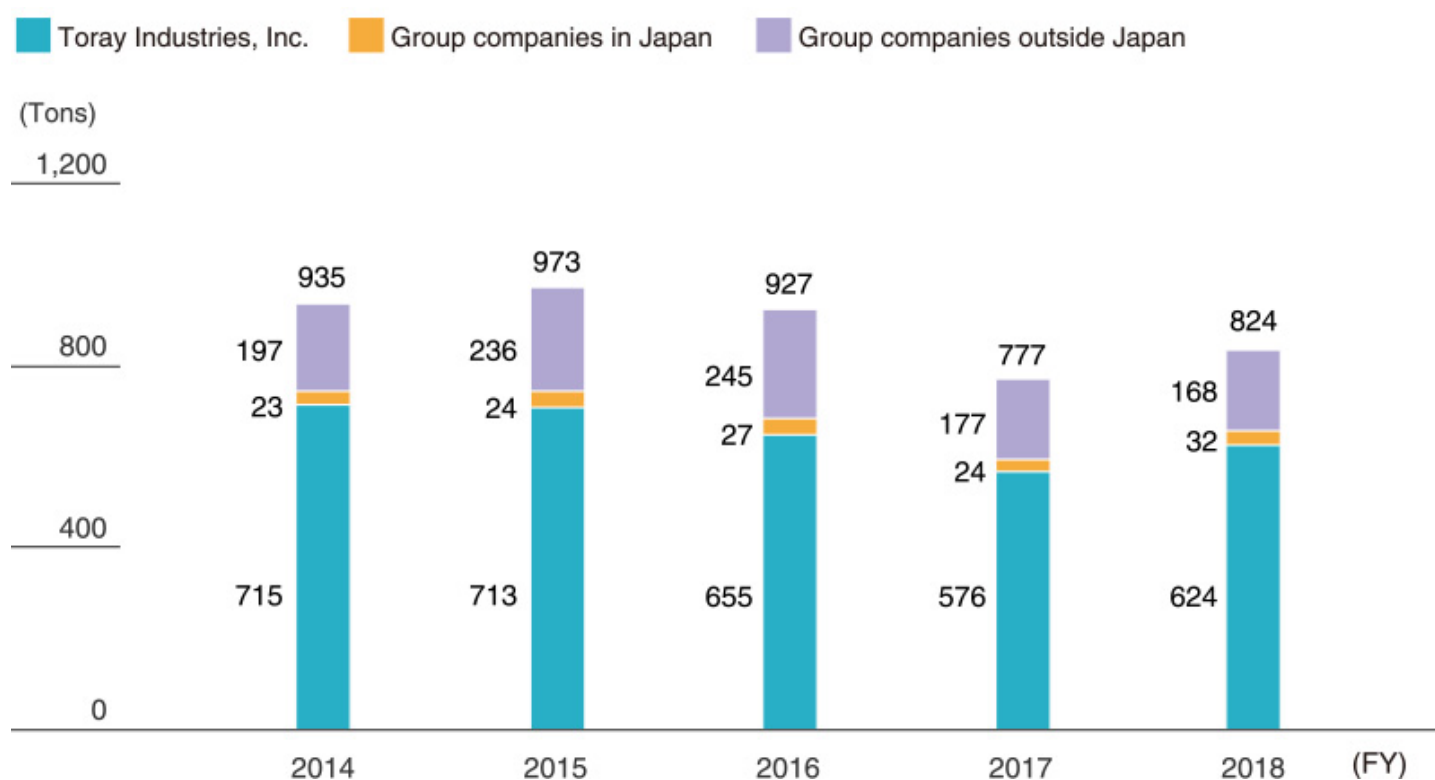


Water Quality Management

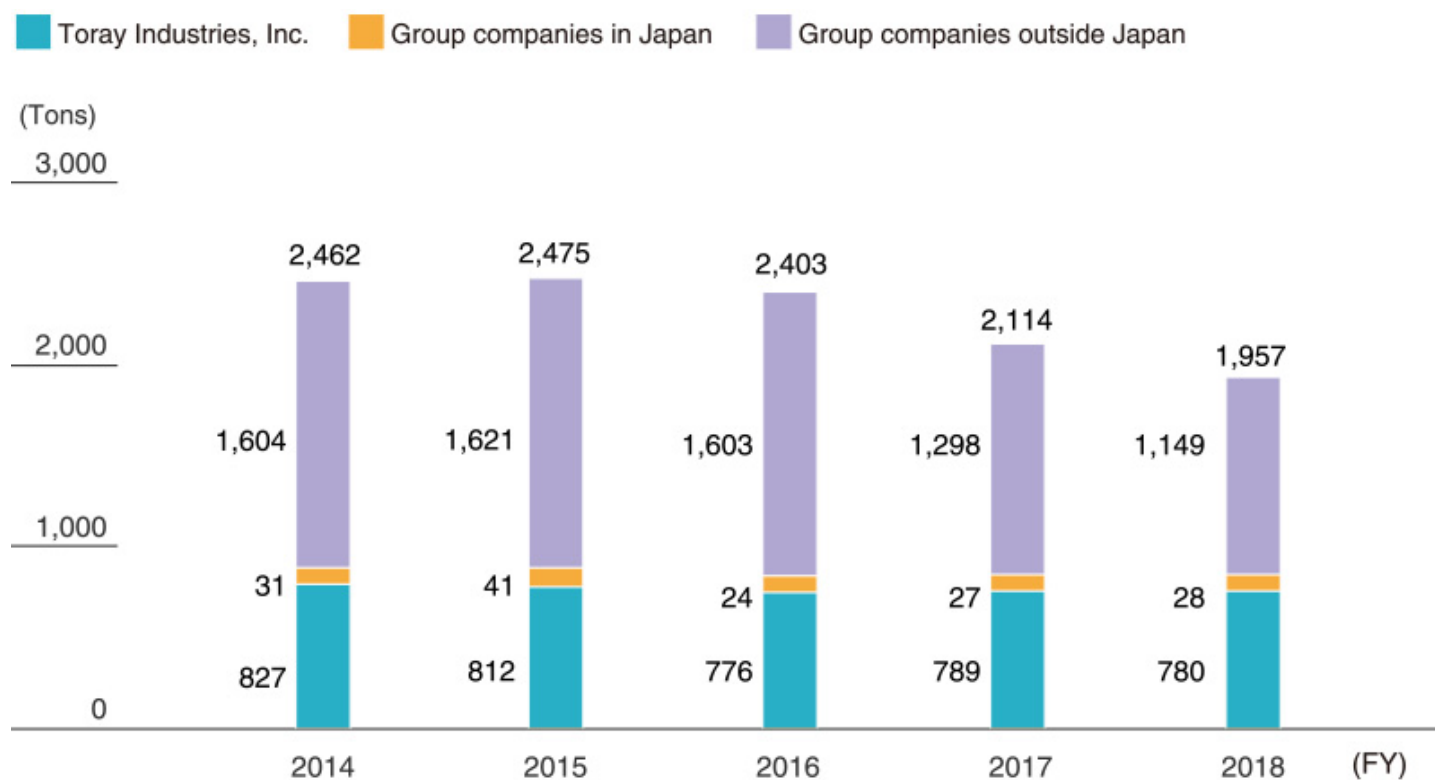
In fiscal 2018, Toray Group recorded 824 tons of BOD emissions (up 6% year-on-year) and 1,957 tons of COD emissions (down 7% year-on-year).

BOD emissions were up due to a change in the method of operating wastewater treatment facilities at Toray Industries Ehime Plant. A reason for the improvement in COD emissions was an upgrade to the method of operating wastewater treatment facilities at Luckytex (Thailand) Public Company Limited, a group company outside Japan.

Water Emissions (BOD)



Water Emissions (COD)



The Group brings together wastewater managers every year to share and discuss strategies for enhancing wastewater management at production sites. The fiscal 2018 meeting was attended by 21 persons from nine of Toray Industries' plants and five persons from one group company in Japan.

Initiatives for Managing Water Resources

Materiality Focus

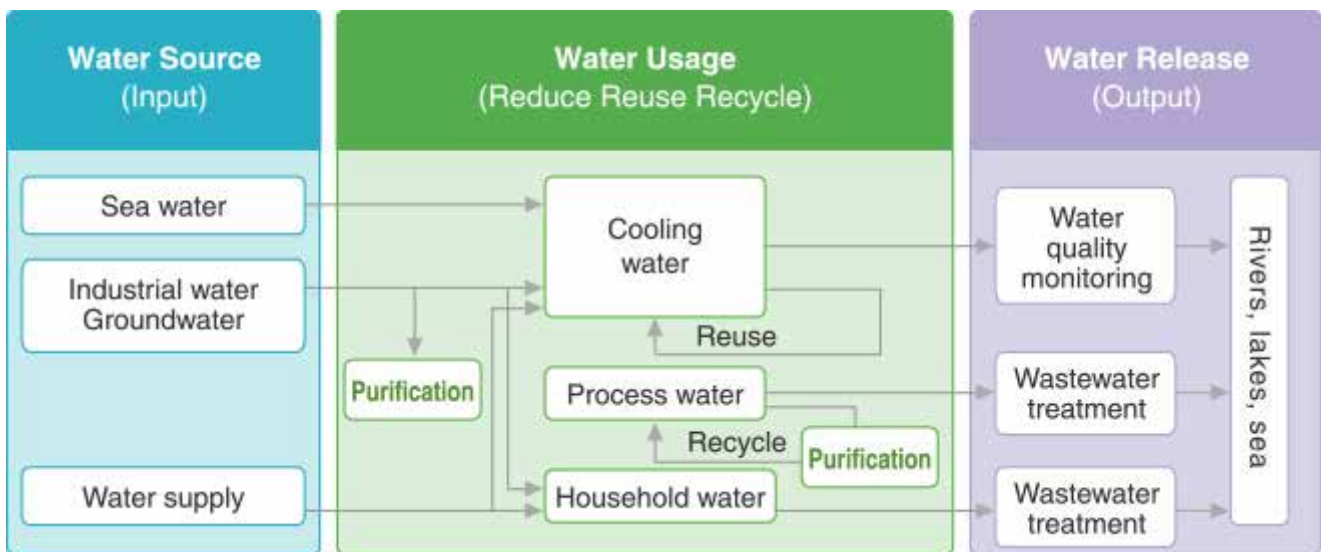
Environment

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

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. Group companies outside Japan that are located in drought areas in particular recycle cooling water and wastewater and work to reduce the amount of industrial water used.

Water Resource Management by Toray Group



Water Usage Management

Water usage per unit of sales

■Reporting scope
Toray Group

■Target in fiscal 2018
No more than 61% of 2001 level

Result in fiscal 2018

51%

Toray Group used 230 million tons of water in fiscal 2018, an increase of 1% 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 2018 was 51.0 points, down 3.0 points from the previous fiscal year (a 24% decrease from fiscal 2013). This improvement, despite the fact that the amount of water used was basically the same as the previous fiscal year, was due to the increase in Toray Group sales.

Related Information

➤ [Environmental Data \(Water Usage\)](#)

Comparative Water Usage Per Unit of Sales (Toray Group)

(FY)	2001	2013	2014	2015	2016	2017	2018
Comparative water usage per unit of sales	100	66.7	59.7	56.2	59.5	54.0	51.0

Initiatives to Reduce Waste

Materiality Focus

Environment

Waste recycling rate

■Reporting scope
Toray Group

■Target in fiscal 2018
At least 86%

Result in fiscal 2018

85.7%

Toray Group is carrying out zero emission initiatives as it works toward the realization of a sustainable, recycling-based world. Under the Fifth Medium-Term Environmental Plan, the Group worked to achieve its fiscal 2020 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)

In recent years, Europe in particular has embraced a business model aligned with the concept of a circular economy, which is a resource circulation policy aimed at reducing the procurement of natural resources and the production of waste. Adding to its previous initiatives, Toray Corporate Business Research, Inc. now publicizes its survey results regarding the circular economy as part of its economic trends survey.

Related Information

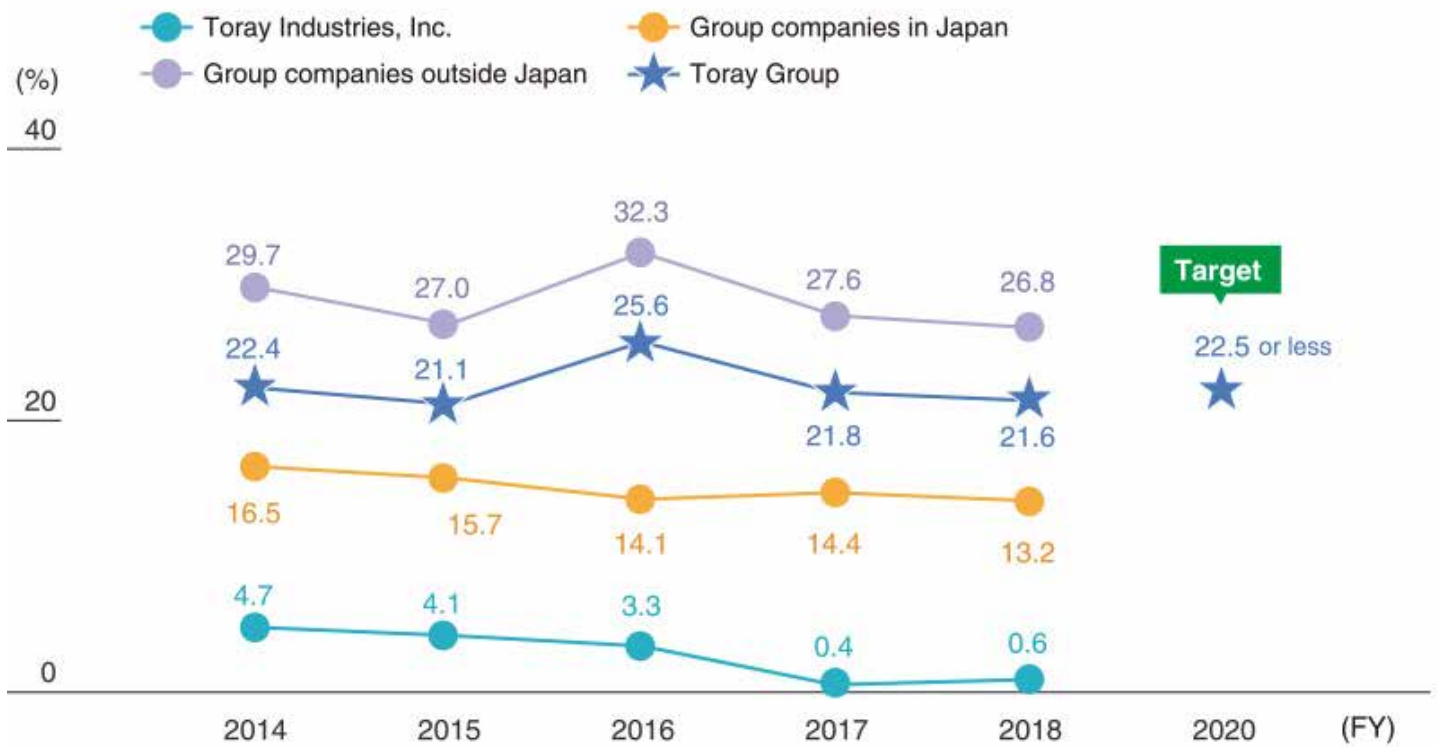
➤ Toray Corporate Business Research, Inc.: *Business Strategies in the Age of the Circular Economy* (Japanese site) [\[2\]](#)

Results in Fiscal 2018

Simply Disposed Waste Rate

The simply disposed waste rate for Toray Industries, Inc. increased by 0.2 percentage points year-on-year to 0.6% because the total waste volume (the denominator in the equation) declined by about 2,000 tons. The rate for Toray Group as a whole improved 0.2 points year-on-year to 21.6%, more than meeting the Group's 22.5% target. The Group will continue to work on bringing its simply disposed waste rate down.

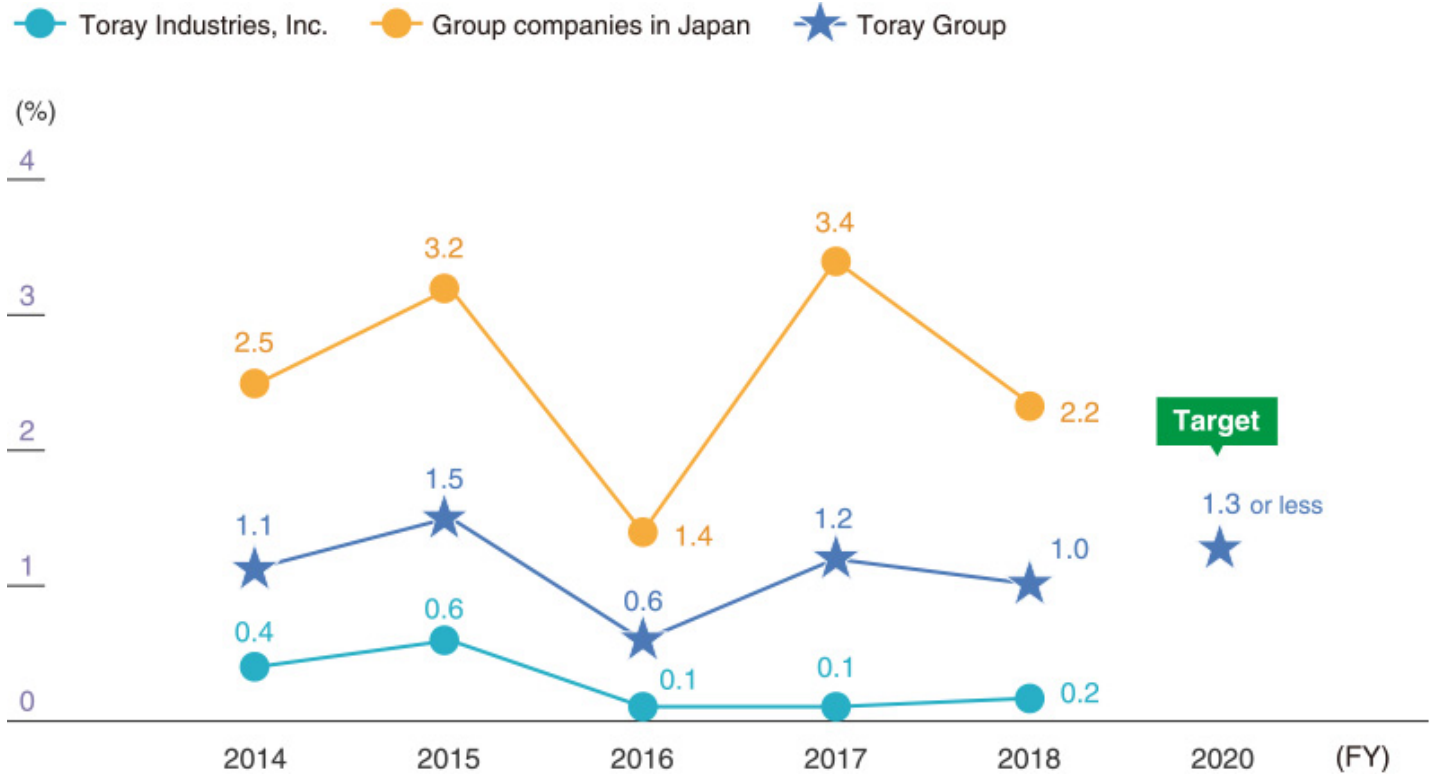
Simply Disposed Waste Rate (Toray Group)



Landfill Waste Rate

The rate of landfill waste at Toray Group fell by 0.2 percentage points to 1.0% from the previous fiscal year. This progress was due to Toray Group companies' efforts to recycle resources and turn them into valuable resources, which more than offset negative factors such as the disposal of some recycled resources as landfill waste at a group company in Japan due to the impact of a fire at a waste plastic processor.

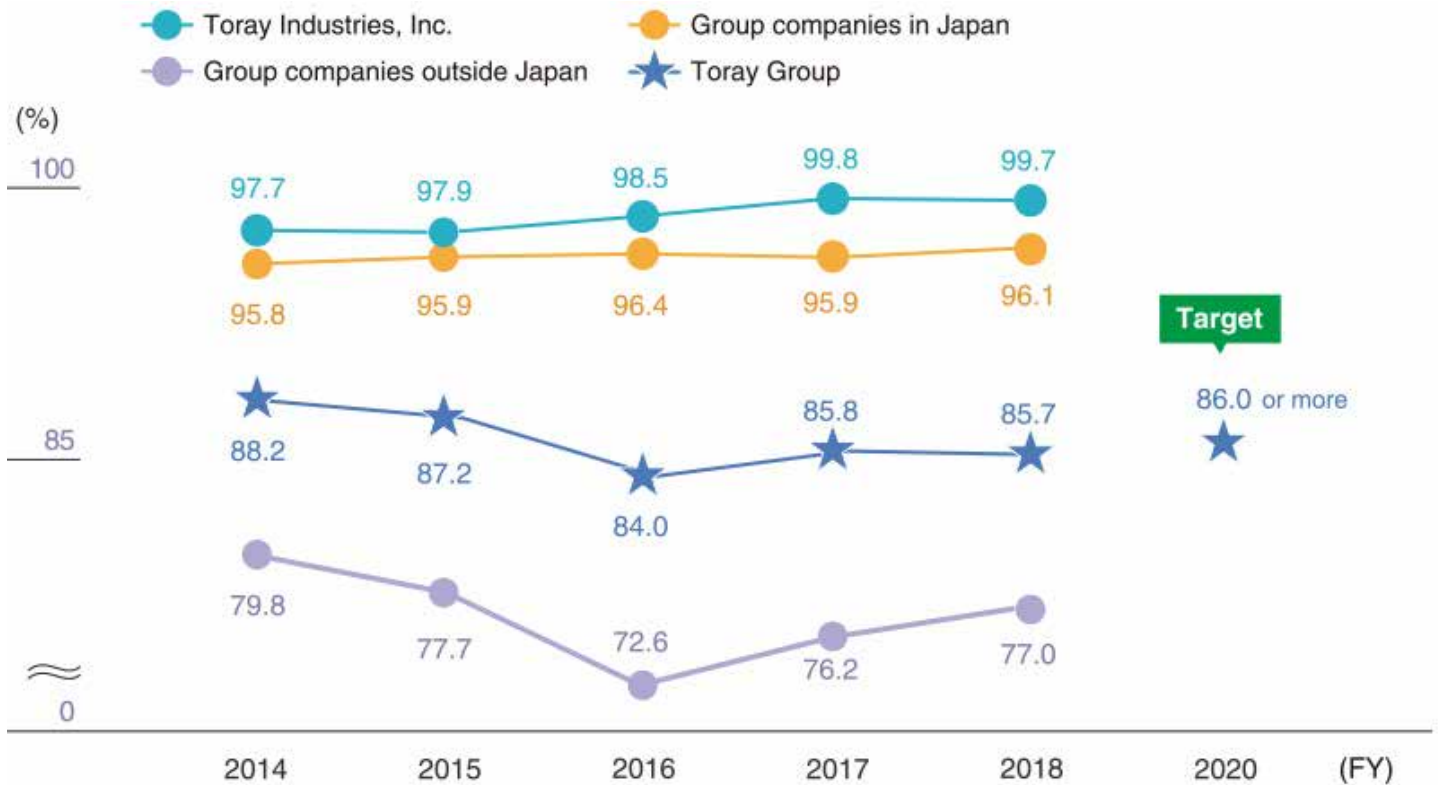
Landfill Waste Rate (Toray Industries, Inc. and Its Group Companies in Japan)



Recycling Rate

Toray Group's recycling rate decreased by 0.1 percentage points year-on-year to 85.7% as a result of efforts to promote recycling at Toray Group companies outside Japan.

Recycling Rate (Toray Group)



Zero Emissions Initiatives at Companies and Plants

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. However, in fiscal 2018, the number of plants with zero emissions decreased by one, bringing the total to 44 plants, at 22 companies, just missing the target.

Companies and Plants with Zero Emissions Status in Fiscal 2018

Toray Industries, Inc.	Shiga Plant, Seta Plant, Ehime Plant, Nagoya Plant, Tokai Plant, Aichi Plant, Okazaki Plant, Mishima Plant, Chiba Plant, Tsuchiura Plant, Gifu Plant, Ishikawa Plant, Nasu 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, Komatsu], Soda Aromatic Co., Ltd. [Koriyama], Toray Opelontex Co., Ltd., Du Pont-Toray Co., Ltd. , Toyo Plastic Seiko Co., Ltd. [Okazaki, Mishima, Koriyama], Toray Advanced Film Co., Ltd. [Nakatsugawa, Mishima, Takatsuki, Fukushima], Toray Fine Chemicals Co., Ltd. [Moriyama, Tokai, Matsuyama], Toray Medical Co., Ltd.
Group companies outside Japan	Toray Plastics (America), Inc. [Rhode Island], Toray Plastics (Shenzhen) Ltd., P.T. Toray Polytech Jakarta, Toray Chemical Korea Inc. [Anseong, Yugu], Toray Advanced Film Kaohsiung Co., Ltd, Toray Kusumgar Advanced Textile Private Limited

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

Environmental Risk Management

Materiality Focus

Environment

Number of environmental accidents

■ Reporting scope
Toray Group

■ Target in fiscal 2018
0

Result in fiscal 2018

1

Compliance with Environmental Laws and Accidents in Fiscal 2018

In fiscal 2018, one environmental accident occurred within Toray Group. In this case, chemical solutions leaked outside of the plant and the impact on water quality at some measurement points exceeded the agreed level, but had an extremely minor impact on the environment.

This incident resulted from a failure to confirm defects with the liquid feed control program before work began. To prevent recurrence of similar accidents, measures were taken such as changing the program so that the flow of chemical solutions could be suspended in the event of an abnormality in the liquid feed control.

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 Accidents in Fiscal 2018 (Toray Group)

Administrative disposition due to violations of laws or ordinances ¹	0
Accidents (environmental accidents, etc.)	0
Slight but temporary exceeding of standard values ²	1
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

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 2018, remediation using wells to clean up groundwater pollution continued at Toray Monofilament Co., Ltd., and remediation to address soil pollution continued at Toray Industries' Nagoya Plant. Toray Group will continue these ongoing remediation efforts and voluntary surveys to monitor soil and groundwater pollution.

Japan's Soil Contamination Countermeasures Act was revised in April 2019. Toray Industries is working to familiarize the entire Group in Japan with the revisions. In the event that any pollution is identified, the Company's policy ensures that measures are promptly taken to ensure that immediate cleanup steps are taken to remediate the pollution in line with the revised laws.

CSR Guidelines & Activity Reports - Safety, Accident Prevention, and Environmental Preservation

Environmental Accounting

Environment

Fiscal 2018 Environmental Accounting Report (Toray Industries)

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

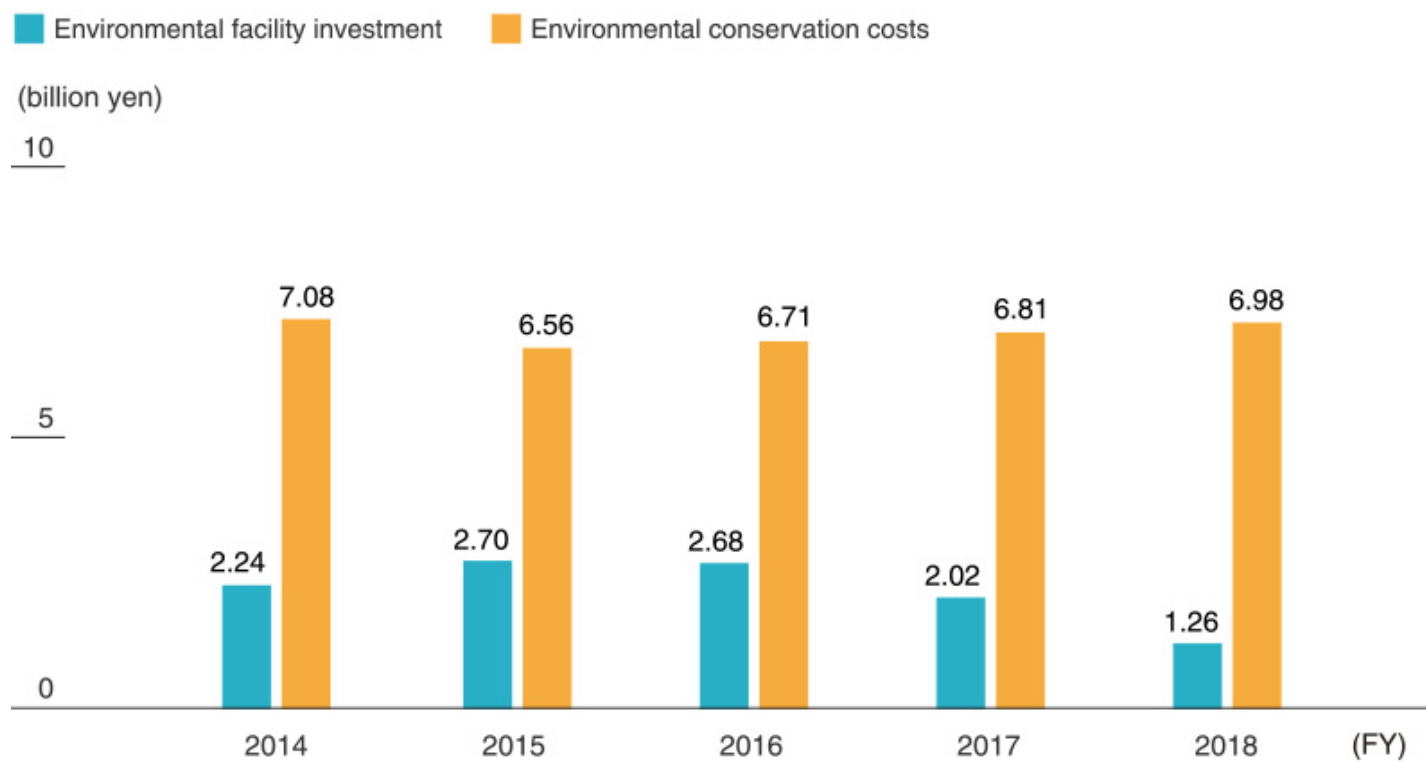
In fiscal 2018, the Company's environment-related investment amounted to 1.26 billion yen, down 0.76 billion yen compared to the previous year. Cost totaled 6.98 billion yen, up 0.17 billion yen compared to the previous year.

Fiscal 2018 Environmental Accounting Report (Toray Industries, Inc.)

Expenses				
Item		Subcategory and description	Investment (million yen)	Cost (million yen)
Business area costs	Pollution prevention costs	Air (including CFC countermeasures)	96	1,959
		Water quality	679	2,380
		Noise and vibration	14	8
		Greening	0	318
		Odors and other	128	170
	Global environment conservation costs	Energy conservation and combating global warming	334	-
	Resource recycling costs	Industrial waste reduction, recycling, disposal, and PCB waste disposal services	11	1,433
Upstream and downstream costs		Product recycling	0	0
		Container and package recycling	0	1
Management activity costs		Indirect labor costs, ISO certification and maintenance, environmental communications, and education	0	444
Social initiative costs		Regional initiatives, support for organizations, etc.	0	86
Environmental remediation costs		SOx fines, soil purification, etc.	0	180
Total			1,262	6,980

Effectiveness		
Item		Amount (million yen)
Financial effects	Reduction in energy costs	179
	Reduction in industrial waste disposal costs	27
	Sale of valuable recycled resources with monetary value	618
Quantitative environmental effects	Reduction of greenhouse gas emissions	9,500 tons-CO ₂ eq

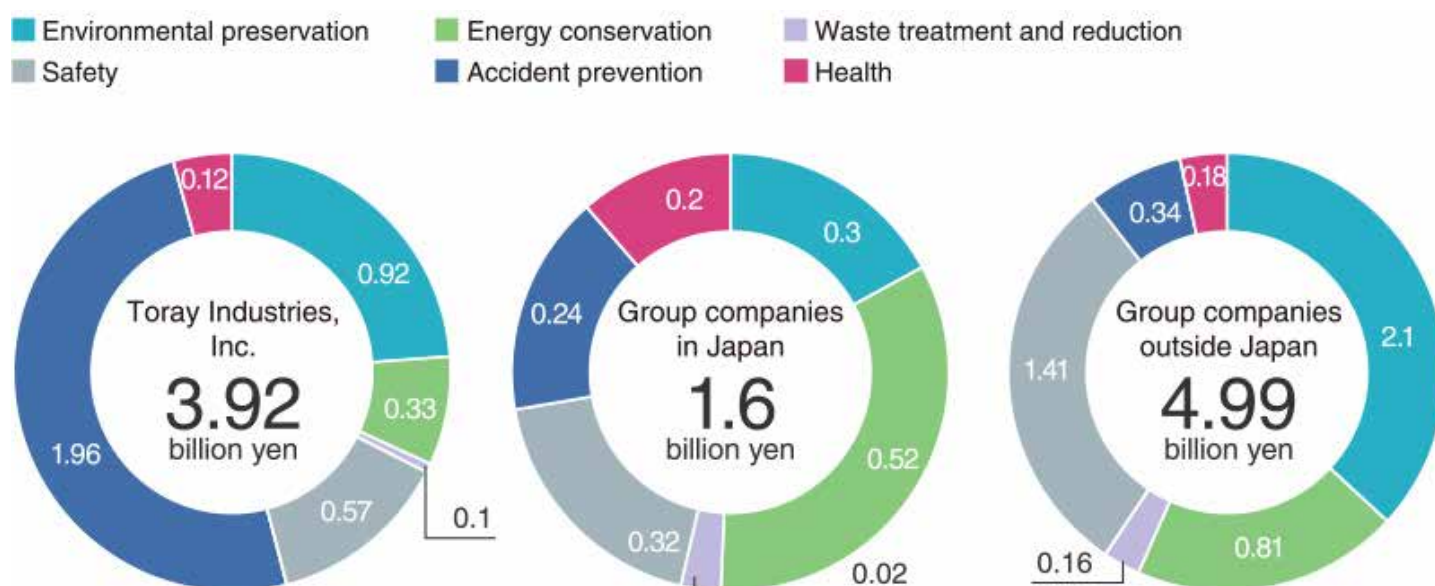
Environmental Facility Investment and Environmental Conservation Costs (Toray Industries, Inc.)



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

Toray Group reports on facility investments relating to safety, health, accident prevention, and environmental preservation projects. Continuous investments included equipment security upgrades and upgrading fire protection and fire extinguishing equipment. Investments in environmental preservation included the installation of improving gas emissions and wastewater treatment facilities.

Fiscal 2018 Facility Investment in Safety, Health, Accident Prevention, Environmental Preservation, and Energy Conservation Projects (Toray Group)



Toray Industries 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.

Biodiversity Initiatives

 Materiality Focus

Environment

Biodiversity is being destroyed at a dangerously fast pace with the advance of climate change, the depletion of natural resources, the destruction of ecosystems, and the extinction of species. This is one of the most urgent problems facing the world.

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

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 2017, the Group implemented initiatives under the third road map, which runs from fiscal 2016 to fiscal 2018.

Biodiversity Initiatives Adopted December 2010

Basic Approach

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

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 has applied the rules to all products.

Social Initiatives

Toray Group endeavors to conserve biodiversity with its social initiatives. In fiscal 2018, employees and families of Toray Group companies in the Tokyo area took part in the fifth Toray Group Arakawa Clean Aid event, a joint initiative with the non-profit Arakawa Clean Aid Forum. After learning about garbage in rivers and oceans and the impact on the environment and ecosystems, participants join a garbage collection and inspection program, where they separate and record the type of refuse, learn about the natural environment, and then review the day. The idea is to help them understand the problem of garbage firsthand and to gain an awareness of the importance of the environment, which fosters natural diversity. In the outdoor learning session on the natural environment, which is based on the theme of experiencing the Arakawa River's biodiversity, participants learn about the importance of biodiversity by handling red flower crabs and juvenile Japanese sea perch, which live in the Arakawa River.



Garbage collection and inspection around the Arakawa River



Studying biodiversity using the juvenile Japanese sea perch, which lives in the Arakawa River

Increasing Green Areas

Number of companies and plants developing greenery policy and plan

■Reporting scope
Toray Group

■Target in fiscal 2018
at least 50

Result in fiscal 2018

54

Plants at Toray Industries, Inc. and its group companies in Japan are operating 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.

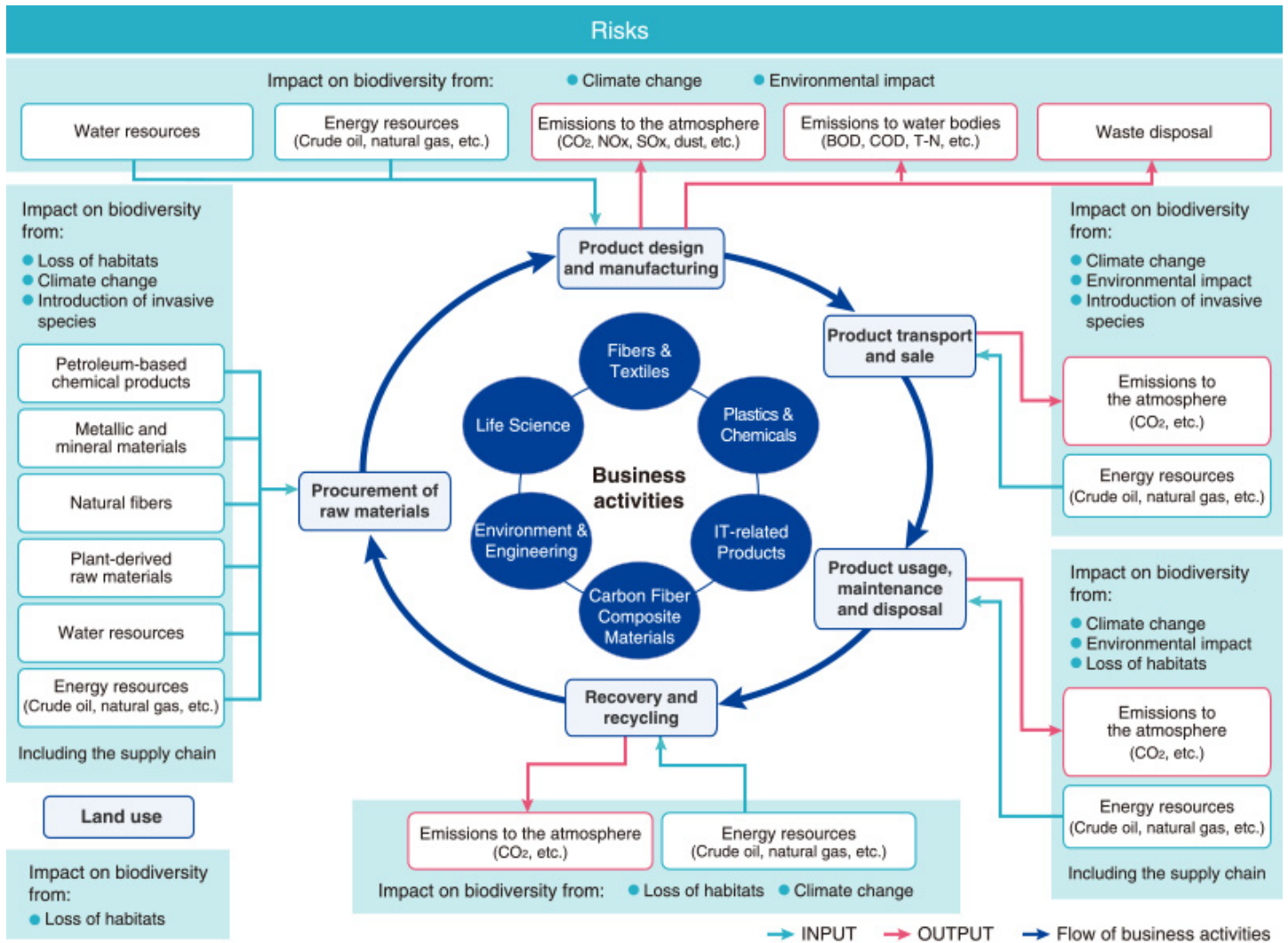
Toray Group's Basic Policy for Increasing Green Areas Established June 2012

- 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.

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

Starting from the procurement of raw materials, the entire lifecycle of Toray Group's business activities has a wide range of effects on biodiversity. On the risk side, these effects include the use of water resources and energy resources and emissions into the atmosphere and water, while on the opportunity side, these effects include reductions to CO₂ emissions by offering products that reduce the weight of parts for aircraft and other equipment and protecting habitats by offering products that maintain green areas and protect water resources.

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 emission

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

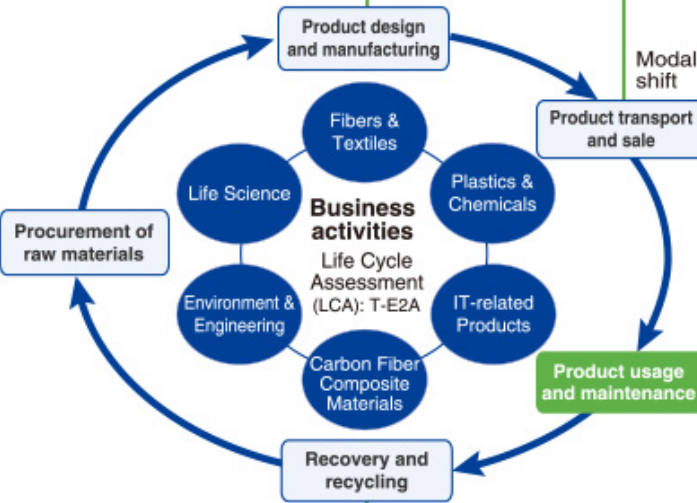
Social contribution activities

Contribute to biodiversity

Increasing green areas

Contribute to biodiversity by:

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



Recycling materials

Contribute to biodiversity by:

- Curbing global warming
- Protecting habitats

Reduction of CO₂ emissions

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

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 blades

Increasing green areas to protect habitats



Encouraging plant growth on mine tailings (biodegradable products)



Water treatment membranes for seawater desalination plants

Environmental Impact Overview

Environment

Environmental Impact Overview Fiscal 2018

	Toray Industries, Inc.					Group companies in Japan					Group companies outside Japan				
	FY2015	FY2016	FY2017	FY2018	Compared to previous year (%)	FY2015	FY2016	FY2017	FY2018	Compared to previous year (%)	FY2015	FY2016	FY2017	FY2018	Compared to previous year (%)
INPUT															
Energy (1,000,000 gigajoules)	29.0	27.9	29.0	27.6	-4.8	7.2	7.2	6.5	6.2	-4.6	46.8	52.0	50.8	54.0	6.3
Water usage (1,000,000 tons)	171	168	174	176	1.1	12	13	13	13	0.0	38	44	41	42	2.4
Industrial water	135	135	139	139	0.0	5	4	4	5	16.7	13	23	17	16	-5.9
Public water	0	0	0	0	6.5	0	0	0	0	-100.0	13	12	11	11	0.1
Seawater	6	5	5	6	17.2	1	1	1	1	-11.6	6	7	7	1	-85.6
Groundwater	24	23	25	25	0.9	6	7	8	7	-12.5	0	0	0	8	1983.1
Others	6	5	5	6	11.4	0	1	0	0	-100.0	6	2	6	6	-0.6
OUTPUT															
GHG (10,000 tons CO₂eq)															
6 gases including CO ₂	212	201	203	195 ¹	-3.9	45	45	40	38	-5.0	304	314	304	331	8.9
PRTR Law-specified substances (tons)															
Atmospheric emissions	201	189	330	327	-0.9	265	245	101	102	0.5	196	318	442	457	3.4
Water emissions	30	31	27	28	4.7	0	0	0	0	0.0	0	0	0	0	0.0
Waste transfers	939	866	1,023	746	-27.0	1,340	1,246	1,554	1,334	-14.2	1,270	9,960	7,628	2,799	-63.3
Air pollutants (tons)															
SO _x	298	264	268	245	-8.6	24	20	16	16	0.2	2,870	3,090	2,192	2,291	4.5
NO _x	1,456	1,332	1,335	1,306	-2.2	43	51	40	32	-20.0	828	768	716	709	-1.0
Dust	108	105	103	96	-6.8	3	3	1	1	0.6	220	235	122	174	42.6
Industrial wastewater (million tons)															
	167	159	164	167	1.8	10	10	10	10	3.1	24	25	24	23	-4.2
Water pollutants (tons)															
BOD	713	655	576	624	8.4	24	27	24	32	33.6	236	245	177	168	-5.3
COD	812	776	789	780	-1.1	41	24	27	28	2.5	1,621	1,603	1,298	1,149	-11.5
Nitrogen	437	406	415	394	-5.2	18	14	14	14	-2.5	-	-	-	-	-
Phosphorus	28	27	25	31	24.0	1	1	1	2	65.3	-	-	-	-	-
Waste (1,000 tons)															
Recycled	30.5	29.0	32.4	30.6	-5.6	14.2	14.5	14.7	15.9	8.0	79.0	89.0	101.7	112.8	10.9
Incinerated and other	1.1	0.9	0.1	0.1	16.7	2.1	2.1	1.9	2.0	5.9	9.7	17.6	16.6	20.5	23.8
Direct landfill Disposal	0.2	0.0	0.00	0.1		0.5	0.2	0.6	0.4	-31.9	19.5	24.4	24.1	24.1	0.0

	Toray Industries, Inc.					Group companies in Japan					Group companies outside Japan				
	FY2015	FY2016	FY2017	FY2018	Compared to previous year (%)	FY2015	FY2016	FY2017	FY2018	Compared to previous year (%)	FY2015	FY2016	FY2017	FY2018	Compared to previous year (%)
Coal ash (1,000 tons)															
Recycled	63.9	62.4	57.8	68.7	18.9	-	-	-	-	-	26.7	17.2	19.1	22.6	18.6
Direct landfill disposal	2.3	2.0	1.9	3.2	66.7	-	-	-	-	-	0.7	0.4	0.2	0.2	3.3

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

Index of Environmental Impact Per Unit of Sales²

	Toray Industries, Inc. and its group companies in Japan					Group companies outside Japan					Total				
	FY2015	FY2016	FY2017	FY2018	Year-on-year comparison (points)	FY2015	FY2016	FY2017	FY2018	Year-on-year comparison (points)	FY2015	FY2016	FY2017	FY2018	Year-on-year comparison (points)
GHG emissions	67.9	64.7	62.2	57.1	-5.1	65.7	74.2	58.7	57.8	-0.9	73.8	76.4	67.8	64.7	-3.1
PRTR atmospheric emissions	30.4	28.2	27.2	26.0	-1.2	15.5	27.4	31.1	29.1	-2.0	24.4	28.3	29.7	28.1	-1.6
SOx emissions	5.2	4.6	4.5	3.9	-0.6	15.4	16.8	10.5	9.9	-0.6	17.4	18.0	12.6	12.1	-0.5
Water usage volume	71.5	70.9	70.4	68.6	-1.8	42.6	53.7	41.1	36.8	-4.3	56.2	59.5	54.0	51.0	-3.0
BOD emissions	44.3	40.9	34.8	36.6	1.8	19.8	22.4	13.3	11.3	-2.0	33.8	33.3	25.1	24.9	-0.2
Landfilled waste volume	13.6	5.3	11.2	8.3	-2.9	43.1	52.9	47.7	37.3	-10.4	64.3	73.1	73.6	59.3	-14.3

² 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 Industries, Inc.	Group companies in Japan	Group companies outside Japan
GHG	All 13 plants and 1 research laboratory	51 plants at 25 companies	75 plants at 54 companies
PRTR Law-specified substances	All 13 plants and 1 research laboratory	50 plants at 25 companies	75 plants at 54 companies
SOx, NOx, dust	All 13 plants and 1 research laboratory	43 plants at 23 companies	75 plants at 54 companies
BOD	All 13 plants and 1 research laboratory	43 plants at 23 companies	75 plants at 54 companies
COD ³	All 13 plants and 1 research laboratory	43 plants at 23 companies	75 plants at 54 companies
Nitrogen and phosphorus	All 13 plants and 1 research laboratory	43 plants at 23 companies	-
Waste	All 13 plants and 1 research laboratory	50 plants at 25 companies	75 plants at 54 companies

³ COD figures for Toray group companies in Japan and Korea are given in CODmn (using the potassium permanganate method). Other group companies outside Japan are given in CODcr (using the potassium dichromate method).

Chemical Substance Emissions and Transfer Data

Environment

PRTR Law-Specified Substance¹ Emissions and Transfer Data for Fiscal 2018

¹ Chemical substances designated Class 1 under the April 2010 revision of Japan's PRTR Law

Toray Industries, Inc.	Tons (dioxins: mg-TEQ)			
Substance name	Atmospheric emissions	Water emissions	Soil emissions / company landfill	Waste transfers
Methyl acrylate	0.3	0.0	0.0	0.0
Acrylonitrile	19.8	4.5	0.0	334.9
Acetaldehyde	2.9	0.0	0.0	0.0
Antimony and antimony compounds	0.0	0.0	0.0	0.3
Asbestos	0.0	0.0	0.0	8.7
Ethylbenzene	4.8	0.0	0.0	0.0
ε-Caprolactam	0.0	12.5	0.0	0.0
Xylene	4.5	0.0	0.0	0.0
Chlorobenzene	0.1	0.0	0.0	1.9
Chloroform	2.6	0.0	0.0	14.6
Cobalt and cobalt compounds	0.0	1.2	0.0	15.5
4,4'-diaminodiphenyl ether	0.0	0.0	0.0	0.2
Inorganic cyanide	38.3	0.0	0.0	0.0
1,4-Dioxane	0.2	2.1	0.0	0.4
Diuron	0.0	0.0	0.0	0.3
Dichlorobenzene	10.5	0.0	0.0	1.4

Toray Industries, Inc.	Tons (dioxins: mg-TEQ)			
Substance name	Atmospheric emissions	Water emissions	Soil emissions / company landfill	Waste transfers
Dichloromethane	159.0	0.0	0.0	4.9
N, N-dimethylacetamide	0.1	0.0	0.0	24.5
N, N-dimethylformamide	9.3	0.6	0.0	191.2
Styrene	8.2	0.0	0.0	1.4
Terephthalic acid	0.0	0.0	0.0	5.3
Dimethyl terephthalate	0.0	0.0	0.0	4.5
Trichloroethylene	0.4	0.2	0.0	0.6
Toluene	7.5	0.0	0.0	35.9
Nitrobenzene	0.0	0.0	0.0	16.7
O-, m- and p-Phenylenediamine	0.0	3.2	0.0	7.6
Phenol	0.0	2.7	0.0	0.0
Bromomethane	49.4	0.0	0.0	0.0
Benzene	1.5	0.8	0.0	0.0
Poly (oxyethylene) alkyl ether	0.2	0.0	0.0	10.7
Manganese and manganese compounds	0.0	0.2	0.0	1.5
Methacrylic acid 2,3-Epoxypropyl	0.0	0.0	0.0	2.7
Methyl methacrylate	4.2	0.0	0.0	8.6
Methylenebis (4,1-phenylene) diisocyanate	3.6	0.0	0.0	46.3
Nickel and nickel compounds	0.0	0.3	0.0	5.8
Dioxins	2.2	15.5	0.0	19.9
Total	327.4	28.3	0.0	746.3

Note: The list shows emissions and transfers of 36 substances (out of Toray Industries' 60 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
Butyl acrylate	0.1	0.0	0.0	0.2
Acetonitrile	0.1	0.0	0.0	12.1
1-Allyloxy-2,3-epoxy propane	0.0	0.0	0.0	5.0
Ethylbenzene	16.4	0.0	0.0	47.9
Ethylene oxide	0.2	0.0	0.0	0.0
Ethylene glycol monoethyl ether	0.3	0.0	0.0	0.6
Epichlorohydrin	0.0	0.0	0.0	6.2
Xylene	14.6	0.0	0.0	31.0
p-Chloronitrobenzene	0.0	0.0	0.0	0.1
1-chloro-2,4-dinitrobenzene	0.0	0.0	0.0	0.4
Ethylene glycol monoethyl ether acetate	0.0	0.0	0.0	0.2
Ethyl acetate	1.5	0.0	0.0	0.3
Dichloromethane	1.0	0.0	0.0	26.3
N, N-dimethylacetamide	17.0	0.0	0.0	394.0
N, N-dimethylformamide	11.0	0.0	0.0	64.6
Styrene	0.3	0.0	0.0	0.3
Toluene	36.4	0.0	0.0	577.2
Carbon disulfide	0.5	0.4	0.0	0.0
1-nonanol	0.0	0.0	0.0	3.7
Hydroquinone	0.0	0.0	0.0	2.4
n-hexane	1.1	0.0	0.0	44.1
Poly (oxyethylene) alkyl ether	0.2	0.0	0.0	48.3
Formaldehyde	0.2	0.0	0.0	0.1
Maleic anhydride	0.0	0.0	0.0	2.9
Methacrylate acid	0.0	0.0	0.0	24.0

Group companies in Japan	Tons (dioxins: mg-TEQ)			
Substance name	Atmospheric emissions	Water emissions	Soil emissions / company landfill	Waste transfers
Methyl methacrylate	0.1	0.0	0.0	5.0
α -methylstyrene	0.0	0.0	0.0	0.4
Methylpyridine	0.6	0.0	0.0	36.3
Molybdenum and molybdenum compounds	0.0	0.0	0.0	0.3
Dioxins				
Total	101.5	0.4	0.0	1333.7

Note: The list shows emissions and transfers of 30 substances (out of the 67 PRTR Law-specified substances for group companies in Japan) exceeding 50 kg and dioxins.

Sites with ISO 14001 Certification

Environment

Sites with ISO 14001 Certification (as of March 2019)

Toray Industries, Inc. : All 13 plants
Shiga, Seta, Ehime, Nagoya, Tokai, Aichi, Okazaki, Mishima, Chiba, Tsuchiura, Gifu, Ishikawa, Nasu
Group companies in Japan: 35 plants at 21 companies¹
<ul style="list-style-type: none"> • 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. • Toray Plastics Precision 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 Amenity and Civil Engineering Co., Ltd. [Ehime, Fukushima] • Dow Corning Toray Co., Ltd. [Chiba, Fukui, Yamakita, Komatsu] • Suido Kiko Kaisha, Ltd. • Toray Medical Co., Ltd. • Ichimura Sangyo Co., Ltd. • Toray International, Inc., Ltd. • Chori Co., Ltd. • Toray Carbon Magic Co., Ltd.

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

² Information in brackets refers to the names of the plants.

³ 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 2018. Toray Battery Separator Film Co., Ltd. has been counted as Toray Industries' Nasu Plant since fiscal 2017.

Group companies outside Japan: 58 plants at 43 companies	
USA	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Toray Textiles Europe Ltd.
France	<ul style="list-style-type: none"> • Toray Films Europe S.A.S. • Toray Carbon Fibers Europe S.A. • Toray Carbon Fibers Europe (Lacq)
Germany	<ul style="list-style-type: none"> • Euro Advanced Carbon Fiber Composites GmbH • Greenerity GmbH
Italy	<ul style="list-style-type: none"> • Alcantara S.p.A. • DELTA
Czech Republic	<ul style="list-style-type: none"> • Toray Textiles Central Europe s.r.o.
Hungary	<ul style="list-style-type: none"> • Zoltek (Hungary)
Indonesia	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Thai Toray Textile Mills Public Company Limited • Thai Toray Synthetics Co., Ltd. [Bangkok, Ayutthaya, Nakhonpathom] • Luckytex (Thailand) Public Company Limited (M1, M2, M3)
Malaysia	<ul style="list-style-type: none"> • Penfibre Sdn. Berhad • Penfabric Sdn. Berhad (M1, M2, M3, M4) • Toray Plastics (Malaysia) Sdn. Berhad
China	<ul style="list-style-type: none"> • 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 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	<ul style="list-style-type: none"> • Toray Advanced Materials Korea Inc (M1, M2, M3) • STEMCO, Ltd. • Toray Chemical Korea Inc (M1, M2, M3, M4) • Toray Battery Separator Film Korea, Ltd • Toray BSF Coating Korea Limited⁴
Taiwan	<ul style="list-style-type: none"> • Toray Advanced Film Kaohsiung Co., Ltd.

⁴ A company that newly acquired ISO14001 certification in fiscal 2018.

Environmental Data for Toray Industries and Principal Group Companies

Environment


Environmental Data for 13 Toray Industries' 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	Waste										
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	8.4	1	0	0	13	0	30	5	36	65	22.8	3,603	13	0	<ul style="list-style-type: none"> • Base material of ultrasuede™ man-made suede • LUMIRROR™ polyester film • TOPTICAL™ color filter • TORAYVINO™ home water purifier
Seta Plant	0.2	0	0	0	0	0	0	0	0	0	0.1	79	0	0	<ul style="list-style-type: none"> • TORAYLON™ acrylic fiber • Medical devices (Inoue Balloon catheters, ANTHRON™ P-U catheters)
Ehime Plant	65.4	67	10	0	555	229	689	83	109	129	32.5	6,289	25	0	<ul style="list-style-type: none"> • TORAY TETORON™ polyester staple fiber • TORAYCA™ carbon fiber • ROMEMBRA™ reverse osmosis membrane module • TORAYCON™ PBT resin
Nagoya Plant	9.5	18	0	0	53	0	49	2	86	124	30.0	3,834	27	27	<ul style="list-style-type: none"> • AMILAN™ nylon resin • TORAYCON™ PBT resin • Various fine chemicals
Tokai Plant	64.4	55	18	0	15	8	371	1	340	359	19.1	6,994	54	0	<ul style="list-style-type: none"> • Caprolactam • Terephthalic acid • TORAY TETORON™ polyester chips • TORELINA™ PPS resin
Aichi Plant	2.3	0	0	0	8	0	2	0	2	0	1.6	171	1	0	<ul style="list-style-type: none"> • Nylon filament yarn • RAYTELA™ plastic optical fiber

	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	Waste										
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		
Okazaki Plant	8.5	7	0	0	75	0	32	2	12	7	3.8	2,042	9	9	<ul style="list-style-type: none"> Nylon filament yarn TORAY WATERLESS PLATE™ printing plate Filtrizer™ hemodialyzers TORAYVINO™ home water purifier
Mishima Plant	13.5	1	0	0	5	3	71	0	15	24	35.5	1,294	2	1	<ul style="list-style-type: none"> LUMIRROR™ polyester film TORAY TETORON™ polyester filament yarn DORNER™ oral administration prostacyclin PGI2 derivative FERON™ natural interferon-β preparation
Chiba Plant	1.7	20	0	0	2	0	10	0	5	56	4.1	2,288	30	21	<ul style="list-style-type: none"> TOYOLAC™ ABS resin
Tsuchiura Plant	2.2	0	0	0	0	0	4	0	1	0	0.3	454	0	0	<ul style="list-style-type: none"> TORAYFAN™ BO polypropylene film
Gifu Plant	8.2	0	0	0	19	0	25	1	11	10	9.5	879	0	0	<ul style="list-style-type: none"> ultrasuede™ man-made suede LUMIRROR™ polyester film TORELINA™ PPS film
Ishikawa Plant	6.4	1	0	0	1	5	15	0	4	6	7.0	1,440	9	5	<ul style="list-style-type: none"> TORAY TETORON™ polyester filament yarn Nylon filament yarn TORAYCA™ prepreg
Nasu Plant	4.1	157	0	0	0	0	6	2	0	0	0.1	1,095	7	0	<ul style="list-style-type: none"> Lithium-ion rechargeable battery
Toray Hybrid Cord, Inc.	1.4	2	0	0	1	0	1	0	2	4	0.7	334	2	2	<ul style="list-style-type: none"> Tire cord Carpet pile fiber
Toray Advanced Film Co., Ltd. [Mishima]	0.3	1	0	0	23	0	0	0	0	0	0.3	226	0	0	<ul style="list-style-type: none"> CERAPEEL™ Release film LUMISOLAR™ PV-back sheet
Malaysia Penfibre Sdn. Berhad[Fibers & Textiles]	3.4	0	0	0	0	0	0	12	1	5	0.2	137	87	58	<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	12	0	3	15	1.5	2,777	3,746	683	<ul style="list-style-type: none"> LUMIRROR™ polyester film

Third-Party Assurance

Environment



Assurance Statement
related to Toray Industries, Inc.'s GHG Emissions
for the fiscal year 2018

Terms of Engagement
This assurance statement has been prepared for Toray Industries, Inc..
Lloyd's Register Quality Assurance Ltd. (LR) was commissioned by Toray Industries, Inc. (the Organization) to assure its greenhouse gas (GHG) emissions data for the fiscal year 2018 (1 April 2018 to 31 March 2019) (the Report).

The Report relates to the direct GHG emissions (CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, NF₃), energy indirect GHG emissions, and other indirect GHG emissions (Scope 3) from the activities of the Organization. The Scope 3 emissions associated with categories 2, 3, and 4 were included.

The Report includes GHG emissions¹ associated with the operations and activities of the Organization in Japan.

Management Responsibility
The Organization's management was responsible for preparing the Report and for maintaining effective internal controls over the data and information disclosed. LR's responsibility was to carry out an assurance engagement on the Report in accordance with our contract with the Organization. Ultimately, the Report has been approved by, and remains the responsibility of the Organization.

LR's Approach
Our verification has been conducted in accordance with ISO 14064-3:2006 Greenhouse Gases-Part 3: 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 Organization'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:

- revised 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;
- visited Shiga 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 2018.

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.


LR's Opinion
Based on LR'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 Organization'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).

¹ GHG quantification is subject to inherent uncertainty.

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LR's Recommendations
The Organization should continue improving the quality assurance and control systems with internal self-verification.

LR's standards, competence and independence
LR implements and maintains a comprehensive management system that meets accreditation requirements for ISO 14065 Greenhouse gases - Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition and ISO/IEC 17021-1 Conformity assessment - Requirements for bodies providing audit and certification of management systems - Part 1: Requirements that are at least as demanding as the requirements of the International Standard on Quality Control 1 and comply with the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants.

LR ensures the selection of appropriately qualified individuals based on their qualifications, training and experience. The outcome of all verification and certification assessments is then internally reviewed by senior management to ensure that the approach applied is rigorous and transparent.

LR is the certification body of ISO9001 and IATF16949 for the Organization and as such does not compromise our independence or impartiality.

Signed:  Date: 20 June 2019

Takahiro Iio
LR 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
LR reference: YKA005148

Table 1. Summary of Toray's GHG Inventory for the fiscal year 2018

Scope of GHG Emissions	Tonnes CO ₂ e
Direct GHG Emissions (Scope 1)	1,831,246
Energy Indirect GHG Emissions (Scope 2, Market-based) ¹	365,341
Energy Indirect GHG Emissions (Scope 2, Location-based) ¹	383,928
Other indirect GHG emissions (Scope 3)	743,609
GHG emissions (Market-based) taken into consideration Japan's Act on Promotion of Global Warming Countermeasures (Act No. 117).	1,953,491

Note 1: Scope 2: Location-based and Scope 2: Market-based are as defined in the GHG Protocol Scope 2 Guidance, 2015. Scope 3 includes Category 2,3,4.

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In the case of any conflict between the English and Japanese versions of this legal section, the English version shall prevail.

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(PDF : 116KB)

PDF

CSR-Related Policies and Guidelines / ESG Data

CSR-Related Policies and Guidelines

Policies and guidelines related to Toray Group CSR are listed below.

Management

[Toray Group's Management Philosophy >](#)

Governance

[Basic Policy on Corporate Governance >](#)

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

[CSR Guidelines & Activity Reports >](#)

[Information Disclosure Principles >](#)

Corporate Ethics and Legal Compliance

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

[Toray Group Policy for Human Rights >](#)

Safety and Environment

Ten Basic Environmental Rules >	Recycling Activity Principles >
Toray Group's Basic Policy for Increasing Green Areas >	Biodiversity Initiatives >

Product Safety and Quality Assurance

Product Safety Management Basic Policy >	Quality Policy >
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Purchasing and Procurement

Basic Purchasing Policies >	Basic Distribution Policies >
CSR Procurement Guidelines >	

Others

Basic Policies to Promote Dialogue with Stakeholders >

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

Toray Group Social Initiative Policies >

CSR-Related Policies and Guidelines / ESG Data

ESG Data

Environment-Related

		Scope	Period	2015	2016	2017	2018	Unit
Environment conservation costs	Investment	Toray Industries, Inc.	FY	2.70	2.68	2.02	1.26	billion Yen
	Cost			6.56	6.71	6.81	8.11	
Economic impact of environmental initiatives		Toray Industries, Inc.	FY	1.25	1.21	0.53	0.82	billion Yen
Energy consumption	Toray Industries, Inc.		FY	29.0	27.9	29.0	27.6	million gigajoules
	Group companies in Japan		FY	7.2	7.2	6.5	6.2	
	Group companies outside Japan		FY	46.8	52	50.8	54	
Unit energy consumption index (% compared to fiscal 1990)		Toray Industries, Inc.	FY	86.2	82.7	81.6	83.2	—
Water	Toray Industries, Inc.		FY	171	168	174	176	million tons
	Group companies in Japan		FY	12	13	13	13	
	Group companies outside Japan		FY	38	44	41	42	
Industrial wastewater	Toray Industries, Inc.		FY	167	159	164	167	million tons
	Group companies in Japan		FY	10	10	10	10	
	Group companies outside Japan		FY	24	25	24	23	
Greenhouse gas emissions	Toray Industries, Inc.	Scope-1	FY	1,730	1,670	1,650	1,610	1,000 tons CO ₂ eq
		Scope-2	FY	390	340	380	340	
	Toray Industries, Inc.		FY	2,120	2,010	2,030	1,950	
	Group companies in Japan	Scope-1	FY	50	60	60	50	
		Scope-2	FY	400	390	340	320	
	Group companies in Japan		FY	450	450	400	370	

	Group companies outside Japan	Scope-1	FY	1,600	1,600	1,500	1,730	
		Scope-2	FY	1,440	1,540	1,540	1,580	
		Group companies outside Japan	FY	3,040	3,140	3,040	3,310	
Atmospheric emissions (NOx)	Toray Industries, Inc.		FY	1,456	1,332	1,335	1,306	tons
	Group companies in Japan		FY	34	51	40	33	
	Group companies outside Japan		FY	828	768	716	709	
Atmospheric emissions (SOx)	Toray Industries, Inc.		FY	298	264	268	245	tons
	Group companies in Japan		FY	24	20	16	16	
	Group companies outside Japan		FY	2,870	3,090	2,192	2,292	
Emissions of substances subject to the PRTR Act	Toray Industries, Inc.		FY	201	189	330	327	tons
	Group companies in Japan		FY	265	245	101	102	
	Group companies outside Japan		FY	196	318	442	457	
VOC atmospheric emissions	Toray Industries, Inc.		FY	316	253	418	422	tons
	Group companies in Japan		FY	380	345	185	178	
	Group companies outside Japan		FY	310	396	505	529	
Atmospheric emissions (Dust)	Toray Industries, Inc.		FY	108	105	103	97	tons
	Group companies in Japan		FY	3	3	1	1	
	Group companies outside Japan		FY	220	235	122	174	
Coal ash (recycled)	Toray Industries, Inc.		FY	63.9	62.4	57.8	68.7	1,000 tons
	Group companies in Japan		FY	—	—	—	—	
	Group companies outside Japan		FY	26.7	17.2	19.1	22.6	
Waste (direct landfill disposal)	Toray Industries, Inc.		FY	0.2	0.0	0.0	0.1	1,000 tons
	Group companies in Japan		FY	0.5	0.2	0.6	0.4	
	Group companies outside Japan		FY	19.5	24.4	24.1	24.1	
Water emissions (BOD)	Toray Industries, Inc.		FY	713	655	576	624	tons
	Group companies in Japan		FY	25	27	24	32	
	Group companies outside Japan		FY	236	245	177	167	

Water emissions (COD)	Toray Industries, Inc.	FY	812	776	789	780	tons
	Group companies in Japan	FY	42	24	27	28	tons
	Group companies outside Japan	FY	1,621	1,603	1,298	1,149	
Wastewater: Total nitrogen emissions	Toray Industries, Inc.	FY	437	406	415	394	tons
	Group companies in Japan	FY	18	14	14	14	
	Group companies outside Japan	FY	—	—	—	—	
Wastewater: Total phosphorous emissions	Toray Industries, Inc.	FY	28	27	25	31	tons
	Group companies in Japan	FY	1	1	1	2	
	Group companies outside Japan	FY	—	—	—	—	

Note: Corrected a data tabulation error in the 2015 CSR Report.

Society-Related

		Scope	Period	2015	2016	2017	2018	Unit
Number of employees	Total	Toray Industries, Inc.	As of the end of each fiscal year	7,223	7,220	7,625	7,585	persons
	Male			6,452	6,440	6,785	6,749	
	Female			771	780	840	836	
Percentage of women in unit manager or higher positions		Toray Industries, Inc.	As of April each year	8.7	8.9	9.0	9.3	%
Women in management positions (%)	Management staff (Section manager or higher positions)			4.4	4.5	4.6	4.9	
Employment rate of persons with disabilities		Toray Industries, Inc.	Year	2.12	2.10	2.20	2.21	%
Average time on the job	Total	Toray Industries, Inc.	FY	14.1	14.5	14.6	15.0	years
	Male			13.9	14.2	14.5	14.9	
	Female			15.8	16.1	15.8	16.0	
Percentage of available annual paid leave used by employees		Toray Industries, Inc.	FY	92.9	89.8	88.4	89.7	%
Number of employees taking childcare leave	Total	Toray Industries, Inc.	FY	56	68	71	62	persons
	Male			3	4	3	4	

	Female			53	64	68	58	
Number of employees taking family care leave		Toray Industries, Inc.	FY	5	3	1	1	persons
Number of employees hired	Total	Toray Industries, Inc.	FY	357	314	337	338	persons
	Male			315	270	283	280	
	Female			42	44	54	58	
Occupational accident frequency rate (Toray Group)		Toray Group (all accidents)	Year	0.23	0.60	0.61	0.59	—
		Toray Group (accidents causing lost work time)	Year	0.14	0.33	0.40	0.28	—


Governance-Related

	Scope	Period	2015	2016	2017	2018	Unit
Number of members of the Board	Toray Industries, Inc.	FY	23	23	19	19	persons
Number of outside directors (independent officers)	Toray Industries, Inc.	FY	2	2	2	2	persons
Number of female directors	Toray Industries, Inc.	FY	0	0	0	0	persons
Ratio of female members of the Board	Toray Industries, Inc.	FY	0	0	0	0	%
R&D expenses	Toray Group	FY	58.8	59.2	66.2	66.4	billion yen
Ratio of R&D expenses to net sales	Toray Group	FY	2.8	2.9	3.0	2.8	%
Number of major violations of laws or ordinances	Toray group	FY	0	1	1	0	violation
Monetary contribution to Political fund-raising organization (The People's Political Association)	Toray Industries, Inc.	FY	50	50	50	30	million yen
Ratio between the total annual compensation of the CEO and the mean employee compensation	Toray Industries, Inc.	FY	21.87	21.36	22.23	21.26	times

Comparative Tables with GRI Standards and ISO 26000 Subjects

Comparative Table with GRI Standards

General Disclosures

Organizational profile		References
102-1	Name of the organization	> Corporate Outline
102-2	Activities, brands, products, and services	> Corporate Outline > Our Business
102-3	Location of headquarters	> Global Network
102-4	Location of operations	> Global Network
102-5	Ownership and legal form	> Corporate Outline > Financial Results
102-6	Markets served	> Corporate Outline > Financial Results
102-7	Scale of the organization	> Corporate Outline > Financial Results
102-8	Information on employees and other workers	> ESG Data
102-9	Supply chain	
102-10	Significant changes to the organization and its supply chain	N/A
102-11	Precautionary Principle or approach	> Risk Management > Corporate Ethics and Legal Compliance > Facilitating CSR Initiatives Throughout the Supply Chain
102-12	External initiatives	> Human Rights Promotion and Human Resources Development Statement on the UK's Modern Slavery Act 
102-13	Membership of associations	Toray Industries, Inc. belongs to the following associations: Nippon Keidanren (Japan Business Federation), Japan Chemical Industry Association, and Sustainable Apparel Coalition (SAC)
Strategy		References
102-14	Statement from senior decision-maker	> Message from the President

Organizational profile		References
102-15	Key impacts, risks, and opportunities	> Securities Report (available only in Japanese)
Ethics and Integrity		References
102-16	Values, principles, standards, and norms of behavior	> Management Philosophy and CSR
102-17	Mechanisms for advice and concerns about ethics	> Establishing a Corporate Culture of Total Respect for Corporate Ethics and Legal Compliance
Governance		References
102-18	Governance structure	> Corporate Governance and Management Transparency Corporate Governance Report PDF
102-19	Delegating authority	> Organizational Structure for Social Responsibility
102-20	Executive-level responsibility for economic, environmental, and social topics	> CSR Road Map > Organizational Structure for Social Responsibility
102-21	Consulting stakeholders on economic, environmental, and social topics	> Communication
102-22	Composition of the highest governance body and its committees	Corporate Governance Report PDF > Basic Policy on Corporate Governance > Corporate Governance and Management Transparency
102-23	Chair of the highest governance body	Corporate Governance Report PDF
102-24	Nominating and selecting the highest governance body	Corporate Governance Report PDF
102-25	Conflicts of interest	Corporate Governance Report PDF
102-26	Role of highest governance body in setting purpose, values, and strategy	> Basic Policy on Corporate Governance
102-27	Collective knowledge of highest governance body	
102-28	Evaluating the highest governance body's performance	Corporate Governance Report PDF
102-29	Identifying and managing economic, environmental, and social impacts	
102-30	Effectiveness of risk management processes	> Risk Management
102-31	Review of economic, environmental, and social topics	
102-32	Highest governance body's role in sustainability reporting	
102-33	Communicating critical concerns	Corporate Governance Report PDF > Organizational Structure for Social Responsibility > Risk Management > Establishing a Corporate Culture of Total Respect for Corporate Ethics and Legal Compliance

Organizational profile		References
102-34	Nature and total number of critical concerns	
102-35	Remuneration policies	Corporate Governance Report PDF
102-36	Process for determining remuneration	Corporate Governance Report PDF
102-37	Stakeholders' involvement in remuneration	Corporate Governance Report PDF
102-38	Annual total compensation ratio	
102-39	Percentage increase in annual total compensation ratio	
Stakeholder Engagement		References
102-40	List of stakeholder groups	<ul style="list-style-type: none"> > Communication > Materiality > Implementing CSR Activities and Improving CSR Education > Corporate Governance and Management Transparency
102-41	Collective bargaining agreements	> Corporate Governance and Management Transparency
102-42	Identifying and selecting stakeholders	> Communication
102-43	Approach to stakeholder engagement	<ul style="list-style-type: none"> > CSR Road Map and Progress on Key Performance Indicators in Fiscal 2018 > Communication
102-44	Key topics and concerns raised	<ul style="list-style-type: none"> > Comments from Thought Leaders > Materiality
102-45	Entities included in the consolidated financial statements	<ul style="list-style-type: none"> > Corporate Outline > Financial Results
102-46	Defining report content and topic Boundaries	<ul style="list-style-type: none"> > Materiality > Editorial Policy
102-47	List of material topics	<ul style="list-style-type: none"> > Materiality > CSR Road Map and Progress on Key Performance Indicators in Fiscal 2018
102-48	Restatements of information	N/A
102-49	Changes in reporting	N/A
102-50	Reporting period	> Editorial Policy
102-51	Date of most recent report	September ,2018
102-52	Reporting cycle	End of August yearly
102-53	Contact point for questions regarding the report	> Contact Us

Organizational profile		References
102-54	Claims of reporting in accordance with the GRI Standards	> GRI Standards Content Index
102-55	GRI content index	> GRI Standards Content Index
102-56	External assurance	> Third-Party Assurance

Management Approach		
General Requirements for Reporting the Management Approach		References
103-1	Explanation of the material topic and its Boundary	> Materiality
103-2	The management approach and its components	<ul style="list-style-type: none"> > Organizational Structure for Social Responsibility > CSR Guidelines > Contributing Solutions to Social Issues through Business Activities > Corporate Governance and Management Transparency > Corporate Ethics and Legal Compliance > Risk Management > Human Rights Promotion and Human Resources Development > Product Safety and Quality > Facilitating CSR Initiatives Throughout the Supply Chain > Communication > Social Contribution Activities > Safety, Accident Prevention, and Environmental Preservation
103-3	Evaluation of the management approach	<ul style="list-style-type: none"> > Contributing Solutions to Social Issues through Business Activities > Corporate Governance and Management Transparency > Corporate Ethics and Legal Compliance > Risk Management > Human Rights Promotion and Human Resources Development > Product Safety and Quality > Facilitating CSR Initiatives Throughout the Supply Chain > Communication > Social Contribution Activities > Safety, Accident Prevention, and Environmental Preservation
Economic		
Economic Performance		References
201-1	Direct economic value generated and distributed	<ul style="list-style-type: none"> > Financial Results > Securities Report (available only in Japanese)
201-2	Financial implications and other risks and opportunities due to climate change	<ul style="list-style-type: none"> > Contributing Solutions to Social Issues through Business Activities > Toray Group Sustainability Vision
201-3	Defined benefit plan obligations and other retirement plans	> Securities Report (available only in Japanese)
201-4	Financial assistance received from government	Restrictions related to confidentiality and/or information difficult to obtain
Market Presence		References

202-1	Ratios of standard entry level wage by gender compared to local minimum wage	> Application guidelines for new graduates (available only in Japanese)
202-2	Proportion of senior management hired from the local community	
Indirect Economic Impacts		References
203-1	Infrastructure investments and services supported	
203-2	Significant indirect economic impacts	
Procurement Practices		References
204-1	Proportion of spending on local suppliers	
Anti-corruption		References
205-1	Operations assessed for risks related to corruption	> Establishing a Corporate Culture of Total Respect for Corporate Ethics and Legal Compliance > Compliance with Antitrust Laws and Global Anti-Bribery Regulations
205-2	Operations assessed for risks related to corruption	> Establishing a Corporate Culture of Total Respect for Corporate Ethics and Legal Compliance > Socially Responsible Procurement Initiatives at Toray Group
205-3	Confirmed incidents of corruption and actions taken	No incidents
Anti-competitive Behavior		References
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	N/A
Environment		
Materials		References
301-1	Materials used by weight or volume	
301-2	Recycled input materials used	Information difficult to obtain
301-3	Reclaimed products and their packaging materials	> Initiatives to Reduce Waste > Toray Group Distribution Initiatives (Expanding Collection and Reuse of Packaging Materials)
Energy		References
302-1	Energy consumption within the organization	> Conserving Energy and Curbing Global Warming > Environmental Impact Overview
302-2	Energy consumption outside of the organization	> Third-Party Assurance
302-3	Energy intensity	> Conserving Energy and Curbing Global Warming > Environmental Impact Overview

302-4	Reduction of energy consumption	<ul style="list-style-type: none"> > Conserving Energy and Curbing Global Warming > Environmental Impact Overview
302-5	Reductions in energy requirements of products and services	<ul style="list-style-type: none"> > Green Innovation Business Expansion Project
Water and Effluents		References
303-1	Interactions with water as a shared resource	<ul style="list-style-type: none"> > Initiatives for Managing Water Resources
303-2	Management of water discharge-related impacts	
303-3	Water withdrawal	<ul style="list-style-type: none"> > Environmental Impact Overview
303-4	Water discharge	<ul style="list-style-type: none"> > Initiatives to Prevent Air and Water Pollution > Environmental Impact Overview
303-5	Water consumption	<ul style="list-style-type: none"> > Environmental Impact Overview
Biodiversity		References
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas Biodiversity Initiatives	<ul style="list-style-type: none"> > Biodiversity Initiatives
304-2	Significant impacts of activities, products, and services on biodiversity	<ul style="list-style-type: none"> > Biodiversity Initiatives
304-3	Habitats protected or restored	<ul style="list-style-type: none"> > Biodiversity Initiatives
304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	Information difficult to obtain
Emissions		References
305-1	Direct (Scope 1) GHG emissions	<ul style="list-style-type: none"> > Conserving Energy and Curbing Global Warming > Environmental Impact Overview > Third-Party Assurance
305-2	Energy indirect (Scope 2) GHG emissions	<ul style="list-style-type: none"> > Conserving Energy and Curbing Global Warming > Environmental Impact Overview > Third-Party Assurance
305-3	Other indirect (Scope 3) GHG emissions	<ul style="list-style-type: none"> > Conserving Energy and Curbing Global Warming > Environmental Impact Overview > Third-Party Assurance
305-4	GHG emissions intensity	<ul style="list-style-type: none"> > Conserving Energy and Curbing Global Warming > Environmental Impact Overview
305-5	Reduction of GHG emissions	<ul style="list-style-type: none"> > Conserving Energy and Curbing Global Warming > Environmental Impact Overview
305-6	Emissions of ozone-depleting substances (ODS)	<ul style="list-style-type: none"> > Conserving Energy and Curbing Global Warming (Initiatives to Protect the Ozone Layer)
305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	<ul style="list-style-type: none"> > Initiatives to Prevent Air and Water Pollution > Environmental Impact Overview > Chemical Substance Emissions and Transfer Data

Effluents and Waste		References
306-1	Water discharge by quality and destination	> Environmental Impact Overview
306-2	Waste by type and disposal method	> Environmental Impact Overview
306-3	Significant spills	> Environmental Risk Management
306-4	Transport of hazardous waste	N/A
306-5	Water bodies affected by water discharges and / or runoff	N/A
Environmental Compliance		References
307-1	Non-compliance with environmental laws and regulations	> Environmental Risk Management
Supplier Environmental Assessment		References
308-1	New suppliers that were screened using environmental criteria	> Socially Responsible Procurement Initiatives at Toray Group
308-2	Negative environmental impacts in the supply chain and actions taken New suppliers that were screened using environmental criteria	> Socially Responsible Procurement Initiatives at Toray Group
Social Initiatives		
Employment		References
401-1	New employee hires and employee turnover	> Securing and Developing Human Resources to Create New Value
		> Creating a Positive Workplace for Employees
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	> Promoting Diversity
		> Creating a Positive Workplace for Employees
401-3	Parental leave	> Creating a Positive Workplace for Employees
Labor Management Relations		References
402-1	Minimum notice periods regarding operational changes	
Occupational Health and Safety		References
403-1	Occupational health and safety management system	> Safety, Accident Prevention, and Environmental Preservation
403-2	Hazard identification, risk assessment, and incident investigation	> Safety, Accident Prevention, and Environmental Preservation
403-3	Occupational health services	> Safety, Accident Prevention, and Environmental Preservation
403-4	Worker participation, consultation, and communication on occupational health and safety	> Occupational Safety and Accident Prevention Activities

403-5	Worker training on occupational health and safety	> Occupational Safety and Accident Prevention Activities
403-6	Promotion of worker health	> Creating a Positive Workplace for Employees
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	
403-8	Workers covered by an occupational health and safety management system	> Occupational Safety and Accident Prevention Activities
403-9	Work-related injuries	> Occupational Safety and Accident Prevention Activities
403-10	Work-related ill health	> Occupational Safety and Accident Prevention Activities
Training and Education		References
404-1	Average hours of training per year per employee	> Securing and Developing Human Resources to Create New Value
404-2	Programs for upgrading employee skills and transition assistance programs	> Securing and Developing Human Resources to Create New Value > Promoting Diversity
404-3	Percentage of employees receiving regular performance and career	> Securing and Developing Human Resources to Create New Value
Diversity and Equal Opportunity		References
405-1	Diversity of governance bodies and employees	> Promoting Diversity > ESG Data
405-2	Ratio of basic salary and remuneration of women to men	> Human Rights Promotion and Human Resources Development
Non-discrimination		References
406-1	Incidents of discrimination and corrective actions taken	> Human Rights Promotion and Human Resources Development
Freedom of Association and Collective Bargaining		References
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	> Corporate Governance and Management Transparency
Child Labor		References
408-1	Operations and suppliers at significant risk for incidents of child labor	> Human Rights Promotion and Human Resources Development > Socially Responsible Procurement Initiatives at Toray Group
Forced or Compulsory Labor		References
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	> Human Rights Promotion and Human Resources Development

		> Socially Responsible Procurement Initiatives at Toray Group
Security Practices		References
410-1	Security personnel trained in human rights policies or procedures	
Rights of Indigenous People		References
411-1	Incidents of violations involving rights of indigenous peoples	
Human Rights Assessment		References
412-1	Operations that have been subject to human rights reviews or impact assessments	
412-2	Employee training on human rights policies or procedures	> Committed to Human Rights
412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	> Socially Responsible Procurement Initiatives at Toray Group
Local Communities		References
413-1	Operations with local community engagement, impact assessments, and development programs	> Environmental Accounting > Social Contribution Activities
413-2	Operations with significant actual and potential negative impacts on local communities	N/A
Supplier Social Assessment		References
414-1	New suppliers that were screened using social criteria	> Socially Responsible Procurement Initiatives at Toray Group
414-2	Negative social impacts in the supply chain and actions taken	> Socially Responsible Procurement Initiatives at Toray Group
Public Policy		References
415-1	Political contributions	> ESG Data
Customer Health and Safety		References
416-1	Assessment of the health and safety impacts of product and service categories	> Initiatives for Product Safety and Quality Assurance
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	> Initiatives for Product Safety and Quality Assurance
Marketing and Labeling		References
417-1	Requirements for product and service information and labeling	> Our Business > Initiatives for Product Safety and Quality Assurance
417-2	Incidents of non-compliance concerning product and service information and labeling	N/A

417-3	Incidents of non-compliance concerning marketing communications	N/A
Customer Privacy		References
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	> Protection of Personal Information
Socioeconomic Compliance		References
419-1	Non-compliance with laws and regulations in the social and economic area	> Corporate Ethics and Legal Compliance

Comparative Tables with GRI Standards and ISO 26000 Subjects

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 Corporate Social Responsibility
	Materiality
	CSR Road Map and Progress on Key Performance Indicators in Fiscal 2018
	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	Human Rights Promotion and Human Resources Development
2. Human rights risk situations	Human Rights Promotion and Human Resources Development
	Socially Responsible Procurement Initiatives at Toray Group
3. Avoidance of complicity	Human Rights Promotion and Human Resources Development
	Socially Responsible Procurement Initiatives at Toray Group
4. Resolving grievances	Establishing a Corporate Culture of Total Respect for Corporate Ethics and Legal Compliance
	Human Rights Promotion and Human Resources Development
5. Discrimination and vulnerable groups	Human Rights Promotion and Human Resources Development
	Promoting Diversity
6. Civil and political rights	Corporate Ethics and Legal Compliance
	Human Rights Promotion and Human Resources Development
7. Economic, social and cultural rights	Human Rights Promotion and Human Resources Development
	Securing and Developing Human Resources to Create New Value
	Social Contribution Activities
8. Fundamental principles and rights at work	Human Rights Promotion and Human Resources Development

Labor practices

Issues	Toray's initiatives
1. Employment and employment relationship	Human Rights Promotion and Human Resources Development
	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	Contributing Solutions to Social Issues through Business Activities
	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
	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	Socially Responsible Procurement Initiatives at Toray Group
	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
	Human Rights Promotion and Human Resources Development

Consumer issues

Issues	Toray's initiatives
1. Fair marketing, factual and unbiased information and fair contractual practices	Communication with Customers
2. Protecting consumers' health and safety	Initiatives for Product Safety and Quality Assurance
3. Sustainable consumption	Contributing Solutions to Social Issues through Business Activities
	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
	SDGs in Action
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	Social Contribution Activities (Science and Technology Promotion)
6. Health	Social Contribution Activities (Health and Welfare)
7. Social investment	Social Contribution Activities (Fiscal 2018 Results)

Editorial Policy

Toray Group issues an annual corporate social responsibility (CSR) report in order to communicate its CSR initiatives to stakeholders.

The report focuses on fiscal 2018 efforts in each of the areas outlined in the Group's CSR Guidelines, which is the policy guiding Toray Group CSR initiatives.

In addition, the information posted on the website is also available for download in a PDF version.

Period Covered by this Report

This report covers fiscal 2018, the period from April 1, 2018 to March 31, 2019. Contents may include efforts underway after this period.

Environmental Data

Covers Toray Industries, Inc. and the following 79 manufacturing subsidiaries (80 companies in all). Occupational safety data also encompasses non-manufacturing companies and covers Toray Industries, Inc. and 52 group companies in Japan, together with 78 group companies outside of Japan (131 companies in all).

* 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.

* 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.

Group companies in Japan: 25

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., 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: 54

North America

Toray Fluorofibers (America), Inc., Toray Plastics (America), Inc., Toray Resin Co., Toray Membrane USA, Inc., Toray Composite Materials America, Inc., Zoltek Companies, Inc., Zoltek de Mexico, S.A. de C.V., Toray Resin Mexico, S.A. de C.V., Toray Advanced Textile 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, Composite Materials(Italy) s.r.l, Delta-Tech S.p.A

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 WBD Membrane Technology (JS) 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., Cangzhou Toray Fine Chemicals Co., Ltd., Toray Plastics (Chengdu) Co., Ltd., Toray Advanced Film Kaohsiung Co., Ltd. Toray Advanced Materials Korea Inc., Toray Chemical Korea Inc., STEMCO, Ltd., Toray Kusumgar Advanced Textile Private Limited, Toray Membrane Middle East LLC, Toray Battery Separator Film Korea Limited, Toray BSF Coating Korea Limited

Social Data

Covers Toray Industries, Inc. and its consolidated subsidiaries (61 companies in Japan, 124 companies outside of Japan), but scope of reporting may differ for some items.

Economic Data

Covers Toray Industries, Inc. and its 275 consolidated companies (276 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.

Reference Guidelines

- GRI Standards

Note: The comparative table referencing the GRI Standards is available at the Toray website.

- Responsible Care Code issued by the Responsible Care Council of the Japan Chemical Industry Association
- Environmental Accounting Guidelines 2005 issued by the Ministry of the Environment, Japan
- ISO 26000:2010 (Guidance on social responsibility)

Note: The comparative table referencing ISO 26000:2010 is available at the Toray website.

Issued

September 2019 (Next issue scheduled for August 2020. Previous report issued in September 2018.)