

The background features a complex, abstract graphic composed of several overlapping, curved layers. From the center outwards, there is a white circle, a dark grey carbon fiber texture, a purple band, a green band, a blue band, and a pink band. The layers have a 3D effect, appearing to curve and overlap. The overall composition is dynamic and modern, suggesting advanced materials and technology.

Leveraging  
the Power of Materials to  
**Change the World**

Focusing on Innovation and Challenge

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Toray Group publishes an annual corporate social responsibility (CSR) report in order to communicate its CSR initiatives to stakeholders.

This report describes the connection between Toray Group's management philosophy, business strategies and CSR initiatives, and shows how the Group's innovations are helping to address social issues. It also presents the Group's specific CSR targets and performance results for fiscal 2014, following the structure of the Toray Group CSR Guidelines.

The theme of this year's report is "Focusing on Innovation and Challenge," highlighting Toray Group's bold, creative approach to fulfilling its social responsibilities and helping to build a more sustainable world.

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### Additional Information Disclosure

Toray Group posts news about social responsibility to its website, together with comprehensive information not included in the print version of the report due to space limitations.

Toray Group also issues a number of printed publications including an Annual Report with financial information, a Research and Development brochure, and a corporate brochure. To request a copy of any of these publications, please contact:  
e-mail: CSR-suishin@nts.toray.co.jp

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### Data Accuracy

Environmental data used in this report concerning greenhouse gas emissions by Toray Industries, Inc. has been verified by a third party, Lloyd's Register Quality Assurance Limited. Verified data is indicated with a ● mark.

Toray Group welcomes external input and has asked two knowledgeable authorities to provide their overall opinions of this report (see Third Party Opinions).

#### Disclaimer:

This report contains forward-looking statements in addition to historical and current facts. These forward-looking statements are assertions or assumptions that were prepared on the basis of available information at the time of publication. Actual future social conditions and results of business activities may differ from any forecasts contained in this report, as a result of changing circumstances.

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## Report Content

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### Report Boundary

#### Environmental Data

Covers Toray Industries, Inc. and the following 68 manufacturing subsidiaries (69 companies in all).

Occupational safety data also encompasses non-manufacturing companies and covers Toray and 52 group companies in Japan, together with 63 group companies outside of Japan (116 companies in all).

Note: 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 Toray Group. Under Toray's Fourth Medium-Term Environmental Plan, if a target is managed based on an absolute value (such as air emissions of a chemical substance), the target is managed by adding to a baseline value the performance data for the fiscal year in which data was first collected.

### Group companies in Japan: 26

Toray Opelontex Co., Ltd.  
Ogaki Fuso Spinning Co., Ltd.  
Toray Textiles, Inc.  
Toray Coatex Co., Ltd.  
Toray Amtecs Inc.  
Toray Monofilament Co., Ltd.  
Toray Hybrid Cord, Inc.  
Maruichi Fiber Co., Ltd.  
So-Wa Textile Co., Ltd.  
Du Pont-Toray Co., Ltd.  
Toyo Plastic Seiko Co., Ltd.  
Toray PEF Products Inc.  
Toray Advanced Film Co., Ltd.  
Toray KP Films Inc.  
Toray Battery Separator Film Co., Ltd.  
Dow Corning Toray Co., Ltd.  
Toray Fine Chemicals Co., Ltd.  
Soda Aromatic Co., Ltd.  
Toray ACE Co., Ltd.  
Toray Engineering Co., Ltd.  
Toray Precision Co., Ltd.  
Suido Kiko Kaisha, Ltd.  
Toray Medical Co., Ltd.  
Toray Research Center, Inc.  
Toyo Jitsugyo Co., Ltd.  
Toray Carbon Magic Co., Ltd.

## Report Content

### Group companies outside Japan: 42

#### North America

Toray Fluorofibers (America), Inc.  
 Toray Plastics (America), Inc.  
 Toray Resin Co.  
 Toray Membrane USA, Inc.  
 Toray Carbon Fibers America, Inc.  
 Toray Composites (America), Inc.

#### 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.

#### Asia

P.T. Acryl Textile Mills  
 P.T. Century Textile Industry Tbk  
 P.T. Easterntex  
 P.T. Indonesia Synthetic Textile Mills  
 P.T. Indonesia Toray Synthetics  
 P.T. Toray Polytech Jakarta  
 Luckytex (Thailand) Public Company Limited  
 Thai Toray Textile Mills Public Company Limited  
 Thai Toray Synthetics Co., Ltd.  
 Penfabric Sdn. Berhad  
 Penfibre Sdn. Berhad  
 Toray Plastics (Malaysia) Sdn. Berhad  
 Toray BASF PBT Resin Sdn. Berhad  
 Toray Fibers (Nantong) Co., Ltd.  
 Toray Polytech (Nantong) Co., Ltd.  
 Toray Sakai Weaving & Dyeing (Nantong) Co., Ltd.  
 Toray Jifa (Qingdao) Textile Co., Ltd.  
 Toray Plastics (Suzhou) Co., Ltd.  
 Toray BlueStar Membrane Co., Ltd.  
 Toray Fibers & Textiles Research Laboratories (China) Co., Ltd.  
 Toray Advanced Materials Research Laboratories (China) Co., Ltd.  
 Toray Plastics (Shenzhen) Ltd.  
 Toray Plastics Precision (Zhongshan) Ltd.  
 Toray Film Products (Zhongshan) Ltd.  
 Toray Medical (Qingdao) Co., Ltd.  
 Toray Advanced Film Kaohsiung Co., Ltd.  
 Toray Plastics (Chengdu) Co., Ltd.  
 Toray Advanced Materials Korea Inc.

#### Toray Chemical Korea Inc.

STEMCO, Ltd.

Note: A name in **bold and blue** indicates a company newly added to reporting boundary.

#### Social Data

Covers Toray Industries, Inc. and its consolidated subsidiaries (58 companies in Japan, 98 companies outside of Japan), but scope of reporting may differ for some items.

#### Economic Data

Covers Toray Industries, Inc. and its 253 consolidated companies (254 companies in all).

#### Period Covered by this Report

This report covers fiscal 2014 from April 1, 2014 to March 31, 2015. Some content may be current up to July 2015.

#### Reference Guidelines:

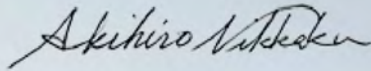
- *Environmental Accounting Guidelines 2005* by Japanese Ministry of the Environment
- ISO 26000: 2010
- *G4 Global Reporting Initiative (GRI) Guidelines* for sustainability reporting



Toray prepared this report in compliance with the Responsible Care Code published by the Japan Chemical Industry Association Responsible Care Council. Starting with the fiscal 2016 report, the Company will prepare reports in accordance with the *G4 GRI Guidelines*.

# Message from the President

President, Toray Industries, Inc.



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

The globalization of business has brought a greater social focus on the governance of multinational corporate groups. It is more important than ever for these enterprises to exercise stronger governance and take creative steps to fulfill social responsibilities, taking into account cultural and other differences across countries and regions. Meanwhile, in order to ensure the sustainable growth of human societies, it is imperative not only to ensure economic development but also to find solutions to environmental and other global issues.

At Toray Group, we are committed to a corporate philosophy of contributing to society through the creation of new value with innovative ideas, technologies, and products. We are convinced that materials have the power to fundamentally change the world. Inspired by the slogan, "Innovation by Chemistry," we are working to leverage the power of chemistry to help address many different social issues. At the same time, we have made it our highest management priority to meet our social responsibilities in the areas of safety, accident prevention, and environmental preservation together with corporate ethics and legal compliance. The entire Toray Group shares this determination to pursue business in a socially responsible manner.

Toray Group has established a long-term corporate vision, AP-Growth TORAY 2020, to inspire our businesses through 2020, as well as a medium-term management program, Project AP-G 2016, which is guiding us from fiscal 2014 through fiscal 2016. Under these strategies, we are making an all-out, Group-wide effort to expand our business in growth segments. We seek to capitalize on growth, for example, with our Green Innovation business, where Toray solutions are helping to address today's increasingly urgent global environmental issues and resource/energy issues, and with our Life Innovation business, where we provide solutions that enhance the quality of medical care, reduce the burden on medical staff, and contribute to health maintenance and longevity. We are also focused intently on driving business expansion in countries and regions with growing economies, focusing on Asia, the Americas, and the emerging countries.

Toray Group is already seeing results from executing these growth strategies. In fiscal 2014, the inaugural year of Project AP-G 2016, net sales increased by 9.4% year-on-year to 2,010.7 billion yen, and operating income was up 17.3% to 123.5 billion yen. Ordinary income was up 16.2% to 128.6 billion yen, and net income was up 19.1% to 71 billion yen. These are all-time highs in all four areas.

At Toray Group, social responsibility is integrated with our management philosophy and strategy. We see corporate social responsibility as going hand in hand with business growth. We will continue to increase the value Toray Group provides to stakeholders by providing products, services, and technologies that help to solve social issues. Our growth is inseparable from sustainable social development.

This report describes the CSR initiatives of Toray Group and its progress in fiscal 2014 on goals important to all stakeholders, and seeks to present the information in an accessible, well-organized manner. I invite you to learn more about the significant progress we are making.

August 2015

# Changing the world through materials innovation

**Toray's Green Innovation Business Expansion (GR) Project is developing innovative technologies and materials to help build a more sustainable world so human societies can thrive for generations to come.**

## **Embracing 21st-century corporate responsibility to address global environmental issues and create new value**

According to the Fifth Assessment Report that was published by the Intergovernmental Panel on Climate Change (IPCC)<sup>1</sup> in October 2014, global warming continues unabated and requires global-scale measures. Global environmental issues such as climate change, resource depletion, air pollution, and water shortages affect all of humankind.

As a corporation engaged in chemical-related businesses, Toray Group has a major social responsibility to help to build sustainable, low-carbon, recycling-based societies by developing innovative technologies that help address these global environmental issues. Toray Group is determined to keep developing innovative technologies and materials for the planet and its stakeholders.



### **Shinichiro Hata**

General Manager,  
Global Environment Business Strategic Planning Department,  
Toray Industries, Inc.

## **Next stage of Toray Green Innovation**

In April 2011 Toray Group unveiled the long-term corporate vision, AP-Growth TORAY 2020, and launched the medium-term management program, Project AP-G 2013, to implement the first phase of the vision. The Group also launched the Green Innovation Business Expansion (GR) Project as a corporate initiative headed by the president, reaffirming the Group's focus on environmentally responsible management.

The GR Project directs the Group to engage in environmentally responsible management driven by a life cycle management<sup>2</sup> process with firm foundations in life cycle assessment<sup>3</sup>. It sets a target of increasing net sales of Green Innovation products (the next page for the diagram) to one trillion yen by around 2020, encompassing solutions that help address global environmental, resource, and energy issues. The Group is also pursuing the goal of helping customers to realize a 200 million ton annual reduction in CO<sub>2</sub> emissions by adopting its green innovation products.

Toray launched its latest medium-term management program, Project AP-G 2016, in April 2014. Under the project, Toray continues to place the highest priority on implementing the GR Project, where steady progress is being made.

Toray will continue to rise to the challenge of helping to address global environmental issues such as climate change, resource depletion, air pollution, and water shortages through the power of chemistry.

<sup>1</sup> IPCC is an intergovernmental body under the auspices of the United Nations that gathers and assesses scientific research regarding climate change.

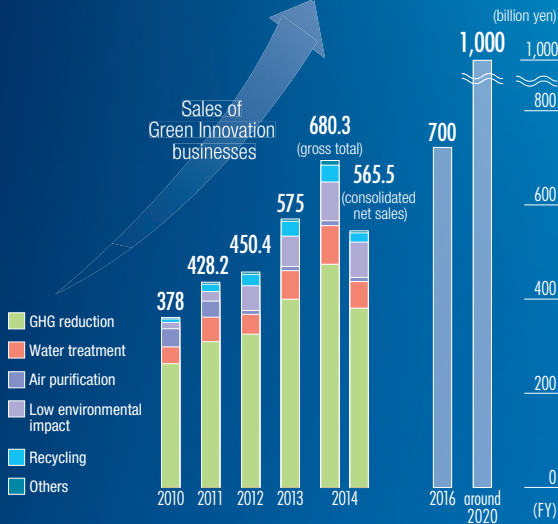
<sup>2</sup> Life cycle management: Management that uses life cycle assessment to reduce environmental impact while securing economic growth.

<sup>3</sup> Life cycle assessment: Assessment of environmental impacts taking into account the entire life cycle of products and services—from resource extraction to manufacturing, use, and disposal.

# Helping to build low-carbon, recycling-based societies

Sales of Green Innovation businesses (Toray Group)  
Target by around 2020

Sales  
trillion yen



Note: Figures through fiscal 2013 represent the gross total including transactions within Toray Group. For fiscal 2014 and beyond, they are calculated on a consolidated basis.

## Changing human societies



## Changing the global environment



Environmental impact categories for Green Innovation products

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

## Making aircraft lighter— Carbon fiber helps to resolve global issues with resources and energy

The outstanding advantages of carbon fiber are its light weight and strength. Its specific gravity is around 1.8, one-fourth that of steel (of which the specific gravity is 7.8). Carbon fiber is lighter even compared with aluminum and fiberglass (of which the specific gravity is 2.7 and 2.5, respectively). Toray has been developing carbon fibers for aircraft applications, utilizing the above features, since the early days. Now, we see passenger aircraft made of carbon fiber composite materials in their main structures such as the fuselage, wing and empennage, achieving improved fuel efficiency, aerodynamics and passenger comfort.

### MOA to supply for Boeing 777X wings

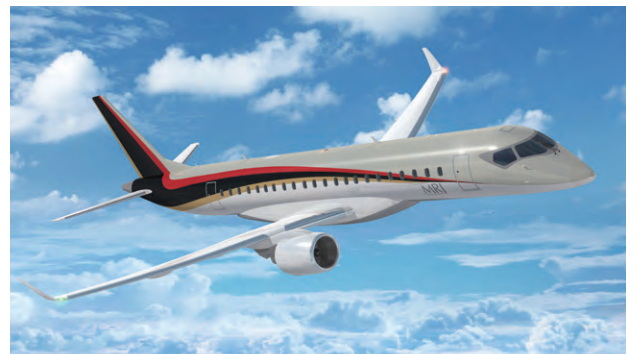
Toray has been supplying TORAYCA™ carbon fiber prepreg for the Boeing 787 Dreamliner, a middle size passenger aircraft, based on a supply contract agreed in 2005. In November 2014, Toray and Boeing jointly announced a memorandum of agreement for Toray to supply the TORAYCA™ prepreg also for main wings of the 777X, a large size passenger aircraft currently under development by Boeing. The duration of the supply will be over 10 years. Both companies also agreed to carry out joint



Akihiro Nikkaku, President of Toray Industries, Inc., and Dr. John Tracy, CTO of The Boeing Company, holding a model of the Boeing 777X at a press conference

developments in a wide range of fields, from materials to parts fabrication, design, production and assembly, aiming to promote further utilization of composite materials in aircraft structures.

Since Toray started supplying TORAYCA™ prepreg for primary structures such as the empennage of the Boeing 777, which entered into service in 1995, it has been closely working with Boeing to lighten the aircraft that Boeing develops. Through collaborations with Boeing, Toray will continue to make efforts to innovate aircraft structures and, eventually, aircraft performance.



The Mitsubishi Regional Jet (MRJ), a Japan made aircraft, of which the empennage is made of carbon fiber composites  
Courtesy: Mitsubishi Heavy Industries, Ltd.

### Voice

The 777X will be 12% more fuel-efficient than its competition in part due to all-new composite wings. Toray worked with Boeing to pioneer the use of prepreg composites in the 1970s, and Toray continues to be an industry leader in carbon fiber innovation and production. We look forward to continuing this partnership and, together, improving the commercialization of composites in the aerospace market. Waste reduction and recycling of composite materials are critical as we produce the world's most fuel-efficient airplanes. Boeing will continue to rely on Toray's expertise in continuously finding ways to reduce the costs of carbon fiber materials while maintaining the high quality and on-time delivery of products.



**William T. Shaffer**  
Commercial Airplanes Material & Standards Director,  
The Boeing Company

We are committed to delivering high-performance materials with consistent quality on time to manufacturers of parts for the Boeing 787 around the world, from manufacturing sites in the United States and Japan. In order to meet the production rate increases of the 787, we are currently enhancing manufacturing capability. In addition to being on time with material supply, we are particularly keen to develop new materials that enable lighter structures and superior aerodynamic shape. This will lead to improvements in aircraft fuel consumption and reductions in CO<sub>2</sub> emissions, thus contributing to making our global environment a better place to live.



**Keisuke Ishii**  
General Manger, Torayca, Aerospace Business, Torayca & Advanced Composites Division,  
Toray Industries, Inc.





Courtesy: The Boeing Company

### History and future-carbon fiber composites for aircraft

Soaring crude oil prices triggered by the oil crisis in the beginning of the 1970s prompted research activities on the application of carbon fiber composites to reduce aircraft weight, mainly in the United States and Europe. From the early 1980s, aircraft manufacturers including Boeing and Airbus started employing composite materials for secondary structures such as spoilers, elevators and rudders. In the late 1980s, composites materials were employed for the empennage, which is a primary structure, and the scope of their application in aircraft gradually expanded. The latest middle size aircraft, the Boeing 787 (EIS, entry into service, 2011) and the Airbus A350XWB (EIS 2014), use composites in the main wings and fuselage. Nowadays, composites comprise more than 50% of the airframe structure. Both the structural weight and the fuel economy of the Boeing 787 have been improved from a conventional aircraft of the same size by around 20%. Carbon fiber is helping to reduce CO<sub>2</sub> emissions and helping to realize a more sustainable environment on the earth.

The advantage of carbon fiber composites goes beyond reducing the weight of aircraft. Composites also contribute to improved aircraft performance. Carbon fiber is corrosion-resistant, which enables reduction of maintenance cost, comfortable humidification of passenger cabins, and so on. Furthermore, in jet engines, fan diameters can be increased by using composites for the fan blades and fan containment case, and this improves fuel efficiency. Composites are also being increasingly utilized in the field of space.



Carbon fiber

Aircraft made of **CFRP<sup>1</sup>** in at least **50%** of airframe structure, compared with conventional ones with no CFRP use

Approximately **20% lighter**

**Life cycle CO<sub>2</sub> emissions:**

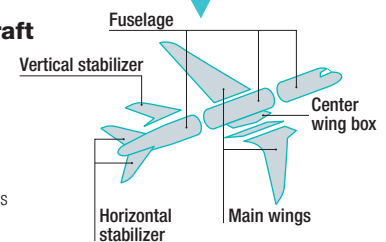
Conventional aircraft <b>395,000 t-CO<sub>2</sub> emissions</b>	–	Aircraft of 50% CFRP <b>368,000 t-CO<sub>2</sub> emissions</b>	=	<b>27,000</b> t-CO <sub>2</sub> reduction per aircraft/decade
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Source: Life Cycle Assessment Model, the Japan Carbon Fiber Manufacturers Association

### Carbon Fiber Application to Aircraft

**Boeing 787**  
All-composite aircraft  
Entry into service: November 2011

■ Structural components using carbon fiber composite materials



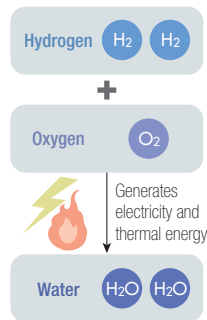
<sup>1</sup> Carbon Fiber-Reinforced Plastic

# Providing cutting-edge technologies for hydrogen and other renewable energies

## Toray's technology helps to make hydrogen viable

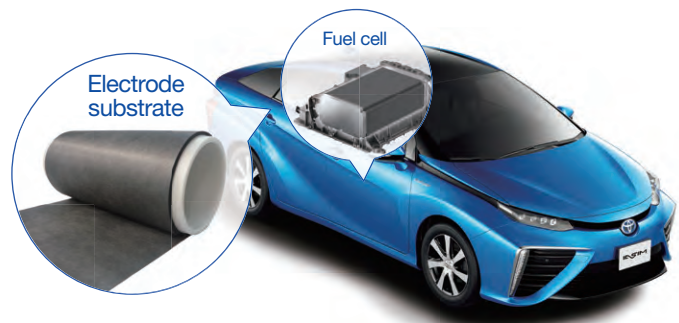
Hydrogen is being closely watched today as a clean energy source to meet future power generation needs, due to the efficiency of storing and transporting hydrogen and the fact that it does not produce CO<sub>2</sub> emissions. Industry, government, and academia are working hard on hydrogen energy research, looking to solve the challenges that remain before a hydrogen grid can become viable social infrastructure. Toray Group is developing carbon fiber for hydrogen tanks, electrode substrates, and electrolyte membranes for use in fuel cell vehicles that offer superior eco-friendly performance. Some fuel cell technology is already being used in the Mirai car from Toyota Motor Corporation, which is Japan's first fuel cell vehicle. Toray's hydrogen energy technology is also drawing interest for hydrogen production, in addition to fuel cell applications. Pilot energy storage projects using power-to-gas technology that converts excess power from renew-

### How Fuel Cells Work



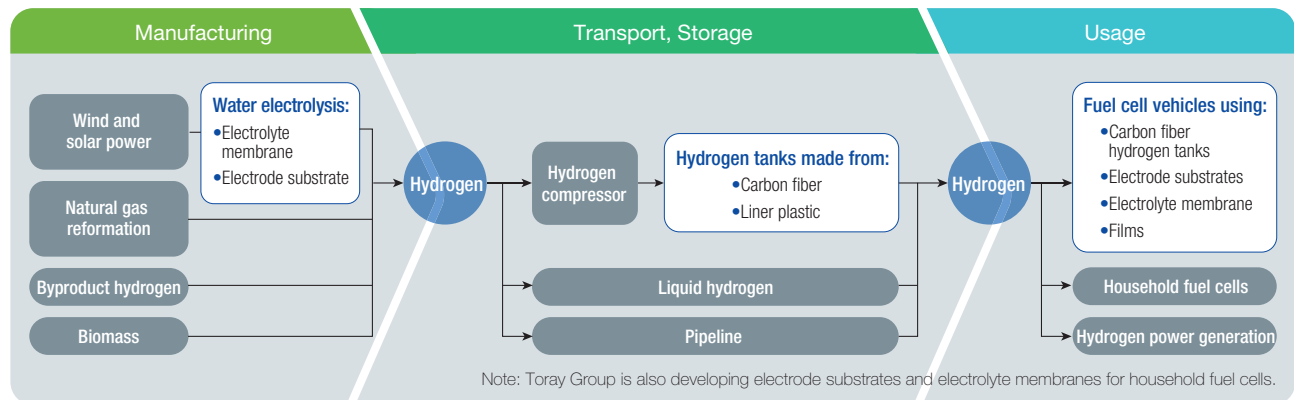
able energy sources such as solar and wind power into hydrogen have been launched, using electrolyte membranes supplied by Toray Group.

Toray envisions its materials being used broadly in a hydrogen-powered world, beyond electrode substrates and electrolyte membranes. Toray will work with others and conduct further research to help realize an energy-efficient, low-impact, hydrogen-powered world.



Courtesy: Toyota Motor Corporation

## Toray Group Products for a Hydrogen-Powered World Where Toray Group products help



### Voice

Developing new energy sources is not the goal in itself. Our goal is to get hydrogen ready to be useful in daily life as part of the social infrastructure of the future. To achieve this, looking to the distant future, collaboration between NEDO, whose role is to prepare development frameworks, and corporations like Toray, who bring advanced technical capabilities to the table, is the key.



Eiji Ohira

Project Manager, Fuel Cell and Hydrogen Technology Group, New Energy Technology Department, New Energy and Industrial Technology Development Organization (NEDO)

Toray is working to develop innovative fuel cell electrolyte membranes in partnership with NEDO. We have also launched a joint project in power-to-gas technology based on water electrolysis utilizing membrane technology. Our goal is to create new value that will help realize a hydrogen-powered world.



Daisuke Izuhara

Manager, Advanced Materials Research Laboratories, Toray Industries, Inc.

## Creating advanced technologies for smart communities

Toray Group is working with a consortium of companies to realize a transportation system that generates zero waste and emissions in the city of Kitakyushu, Japan. As part of the project, the Group supplies carbon fiber used to reduce the weight of buses that run on lithium-ion batteries. The buses run on photovoltaic power that is stored in large storage batteries, and they draw no energy from the power grid.

Toray's technology is being extensively used in components and systems for the project, from photovoltaic power generation, lithium-ion batteries, and lightweight carbon fiber-bodied buses to chargers and general electrical systems.

Kitakyushu borders the Genkai Sea, and its close geographic proximity to other parts of Asia has made it a showcase for environmental technologies. The city receives many dignitaries from abroad and has become a hub for advanced technology.

The City of Kitakyushu is also developing a Hydrogen Town Project to demonstrate next-generation hydrogen technologies. Toray Group, working with the City, is leveraging various technologies from Toray Engineering Co., Ltd. and other Group companies, to help create an environmental showcase city.



Quick charger

Describing how the zero-emission transportation system works to local elementary school students

### Voice

The City of Kitakyushu has been working hard on energy conservation and new energy measures for a long time. With advanced technological capabilities and the ambition to contribute to solving social challenges, Toray is a reliable partner for our vision of building a new energy environment including both solar power generation and zero emission transportation systems. Together, we hope to stimulate new investment inside and outside Japan.



**Shyuichi Kamono**

Director, New Growth Strategy Promotion Office, Industry and Economics Bureau, City of Kitakyushu

The Kyushu area, and the City of Kitakyushu in particular, have been accelerating pioneering efforts, such as early hydrogen research. This initiative to run electric vehicle buses with zero emissions using electricity from sunlight is part of these efforts. We consider ourselves fortunate indeed to be a trusted partner in such an important endeavor.



**Toyohiko Miyazaki**  
General Manager, Kyushu Branch,  
Toray Industries, Inc.

## Supporting renewable energy worldwide

Large-scale wind farms have become increasingly common today, especially in Europe. Larger rotor blades are needed to increase power generation efficiency within land constraints. To meet the demand for large rotor blades that are light and rigid, Toray Group, working primarily with its group company, Zoltek Companies, Inc., manufactures carbon fiber for wind power applications. Zoltek, which operates its plants in Hungary and

Mexico, supplies carbon fiber to Vestas Wind Systems A/S, one of the world's leading manufacturers of wind power plants. Moving forward, Toray Group will continue supporting the wind power sector, where demand is expected to grow as a major source of clean energy.

### Voice

Using carbon fiber in large wind turbines allows us to make the blades even longer and lighter, which simultaneously increases the volume of power generated and reduces generating costs. Zoltek supplies carbon fiber to two of the world's ten major wind power blade manufacturers. We are also promoting projects together with other manufacturers and cooperating to spread wind power even further.



**Philip L. Shell**

Executive Vice President, Zoltek Companies, Inc.



# Supplying technologies to mitigate environmental changes and make life more comfortable around the world

## Enabling agricultural production through revegetation of deserts and arid land helps to address economic disparity

Many developing nations face desertification and soil degradation caused by climate change and tailings from mining, and they are in need of environmental solutions. Toray and Mitsukawa Co., Ltd. have joined forces to develop and deploy systems that revegetate deserts and arid land to enable agricultural production. The systems, which require minimal labor and time, use tube-shaped Roll Planter® products, which are made from ECODEAR™ plant-based polylactic acid fiber.

The tubes are simply stuffed with local soil or sand and laid down in grids on the ground, to provide a base for vegetation with excellent breathability and water retention. Roll Planter® leaves no impact on the environment, breaking down into water and carbon dioxide gas over time (5–10 years). The vegetation base enables the growing and harvesting of cash crops, or can be used to encourage plant growth on mine tailings to keep toxic dust from becoming airborne. Toray is realizing a business model that encompasses local production of Roll Planter® to create jobs while at the same time helping to address food shortages and

pollution issues.

Pilot programs have already been successfully launched in South Africa, and Toray will work to bring the system to other developing nations.



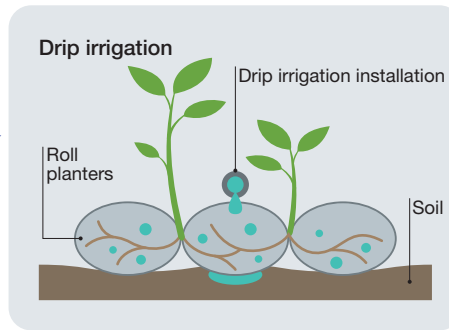
Creating jobs with local production of roll planters

Note: Roll Planter® is a registered trademark of Mitsukawa Co., Ltd.



Toray receives the 24th Grand Prize for the Global Environment Award from the Minister of Economy, Trade and Industry

### Roll Planter® – Remediating symptoms of climate change



**Other applications:**

- Greening urban rooftops in Japan
- Pilot project to control desertification in Gansu Province, China

**Voice**

Visionary corporate innovation is vital to encouraging people in Africa to tackle environmental issues and help them to gain economic strength. Roll Planter®, which helps to create arable land and produce cash crops—and can even be locally produced—is playing a major role.



**Toshiya Nishigori**  
Public Affairs Specialist,  
UNDP Representation Office in Tokyo,  
United Nations Development Programme (UNDP)

Some East African countries have become aware of the South African example and are exploring the possibilities of Roll Planter®. Going forward, we have high expectations of Toray because of its inclusive business approach involving African people in the chain of economic activity.



**Ai Ohara**  
BCTa Outreach Consultant,  
UNDP Representation Office in Tokyo,  
United Nations Development Programme (UNDP)

In Africa, our support approach started with a strong commitment to engaging the local people in the effort to create arable land. We did not want to stop at turning barren land into arable land. We also wanted to build a cycle enabling people to produce Roll Planter® themselves, grow viable cash crops, and then reinvest the funds. Thanks to on-the-ground coordination by everyone at UNDP, our communication with the locals went very smoothly.

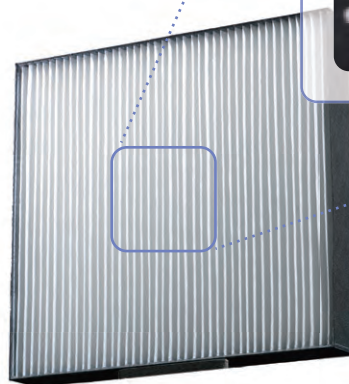


**Koji Sasaki**  
General Manager,  
Fibers & Textiles Green Innovation & Life Innovation Business Department,  
Fibers & Textiles Division, Toray Industries, Inc.

## Providing filters to combat air pollution, a growing issue

Air pollution is primarily caused by human socioeconomic activity and continues to be a problem, with growing concerns over PM2.5 pollution today. In China, people have turned to air purifiers in order to live with air pollution.

Toray Group works with air purifier manufactures during the product design and development stages, to optimize air filters for each purifier and realize better performance. In addition to air purifier applications, Toray develops and manufactures high-performance filters for other applications such as vehicle air filters, meeting global demand for environmental solutions in markets such as China.



Fibers receive Toray's proprietary treatment to enable each single fiber to trap particulates.



**TORAYMICRON™**  
ultra fine fiber  
nonwoven fabric

### Voice

The market for air purifiers has potential for growth in China, where air pollution is severe. The Chinese government has established new product standards, and is promoting initiatives aimed at maintaining quality. Toray is providing support with the consistently high performance of our air filters and the most advanced level of solutions in the industry. We hope to further enhance functions and reduce prices, encouraging market expansion.

**Feng Yuanyuan**  
Domestic Appliances Purchasing Manager,  
Philips (China) Investment

Air filters that use Toray's TORAYMICRON™ are popular in China because of their consistent performance, ensuring high permeability while reliably catching contaminants. We hope to analyze the conditions of atmospheric pollution in detail to develop air filters that are even more suited to China's air problems in order to provide households with safe, clean air.



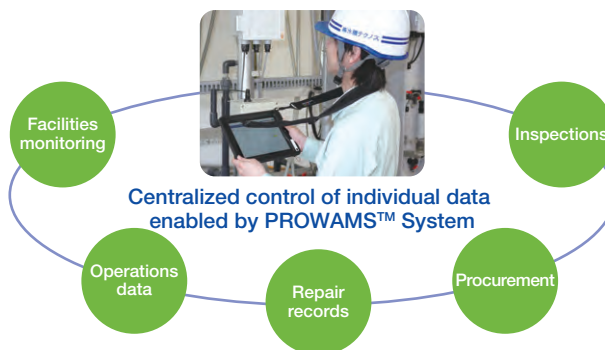
**Wang Liang**  
Air Filter Sales Department Assistant Manager,  
Toray Fibers (Nantong) Co., Ltd.

## Utilizing private sector technology to support municipal waterworks projects

Suido Kiko Kaisha, Ltd., a member of the Toray Group, comprehensively supports municipal waterworks projects in the city of Ninohe, Iwate Prefecture, Japan, under a service agreement to operate water treatment facilities in the municipality. The agreement has been in place since 2010. In 2015, the company introduced the PROWAMS™ IT system to comprehensively improve work efficiency, centralizing management of data that was previously managed at the facility or job specific level. The systematic management of waterworks facilities data has optimized maintenance work and is helping to extend the life of the facilities and contributing to a safer, more secure water supply. Committed to safe water for everyone, Toray Group will

continue working to support the efficient, sustainable operation of municipal waterworks projects.

### Introduction of PROWAMS™ System



### Voice

Ensuring that technical skills are passed down from the baby boomer generation and maintained by the younger generations is a challenge. That's why, since 2010, we have been outsourcing operations to the Suido Kiko Group. We are pleased with the stable supply of safe, reliable water, as well as their proposals, which contribute greatly to enhanced service. We hope to keep collaborating in the future to achieve water supply projects tailored to our area, including seeking partnerships with other local governments nearby and sharing expertise.



**Ryoji Narita**  
General Manager, Bureau of Waterworks, City of Ninohe

As water supply facilities deteriorate with age, the proper repair and updating of facilities as well as the maintenance and passing down of operation and management skills are vital challenges for local governments nationwide. Therefore, we help by offering efficient operations management using the latest IT-based systems to solve these challenges and contribute to the supply of safe, reliable water. In coming years, we hope to further extend the reach of our systems.



**Fumikazu Sona**  
O&M Business Division, Suiki Technos, Ltd.

# Supporting life through materials

**Toray's Life Innovation Business Expansion (LI) Project is helping to address social issues in the medical and healthcare field.**

## **Evolving health and medical care**

Aging demographics and increases in chronic disease are issues in both developed and developing nations. Meanwhile, the cost of healthcare continues to rise and solutions to social issues are needed in the medical field. With the advances that have been made in medical care, there is a growing focus on healthcare that sustains a high quality of life by enhancing physical and psychological well-being and social value.

Given the circumstances, changes are needed at the policy/regulation level and to industrial infrastructure, in addition to changes in elemental technologies such as the development of rapid diagnostic methods, innovative disease prevention methods, and new treatments.

## **Life innovations leveraging Toray's core technologies**

Since inauguration, Toray Group has fostered the core technologies of organic synthetic chemistry, polymer chemistry,

and biotechnology, and more recently has added to this list nanotechnology, an area in which it has made rapid advances. The Group has leveraged these four technologies to develop a very broad portfolio of advanced materials.

Toray Group is pursuing Life Innovation businesses under its medium-term management program, Project AP-G 2016, seeking to address social needs by improving the quality of medical care, reducing the burden on medical staff, and contributing to health maintenance and longevity. This is being accomplished by comprehensively leveraging and combining advanced materials based on the Group's four core technologies and business platforms in various fields including pharmaceuticals and medical devices.

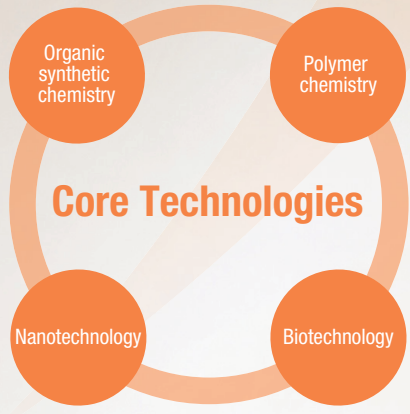
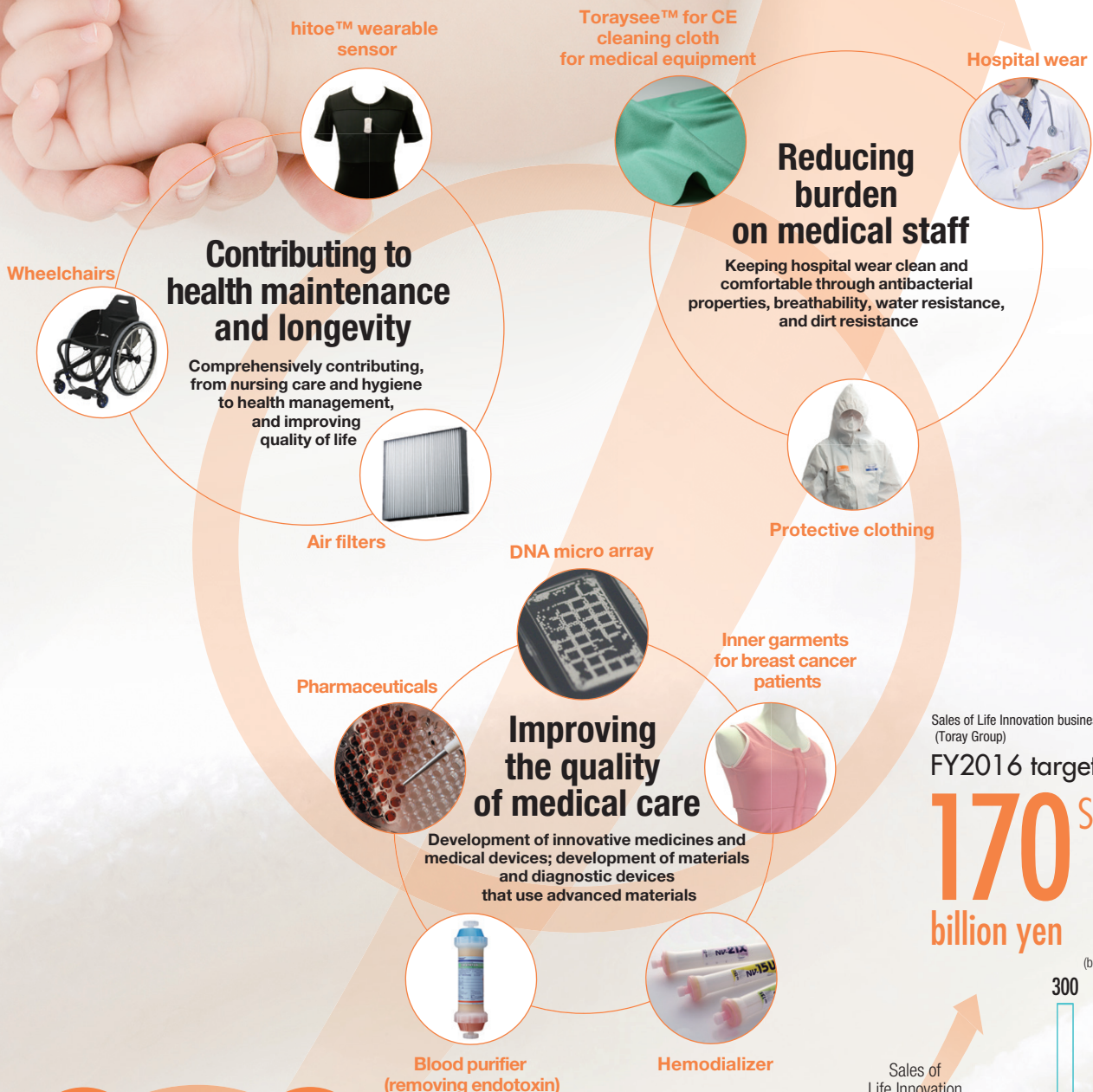
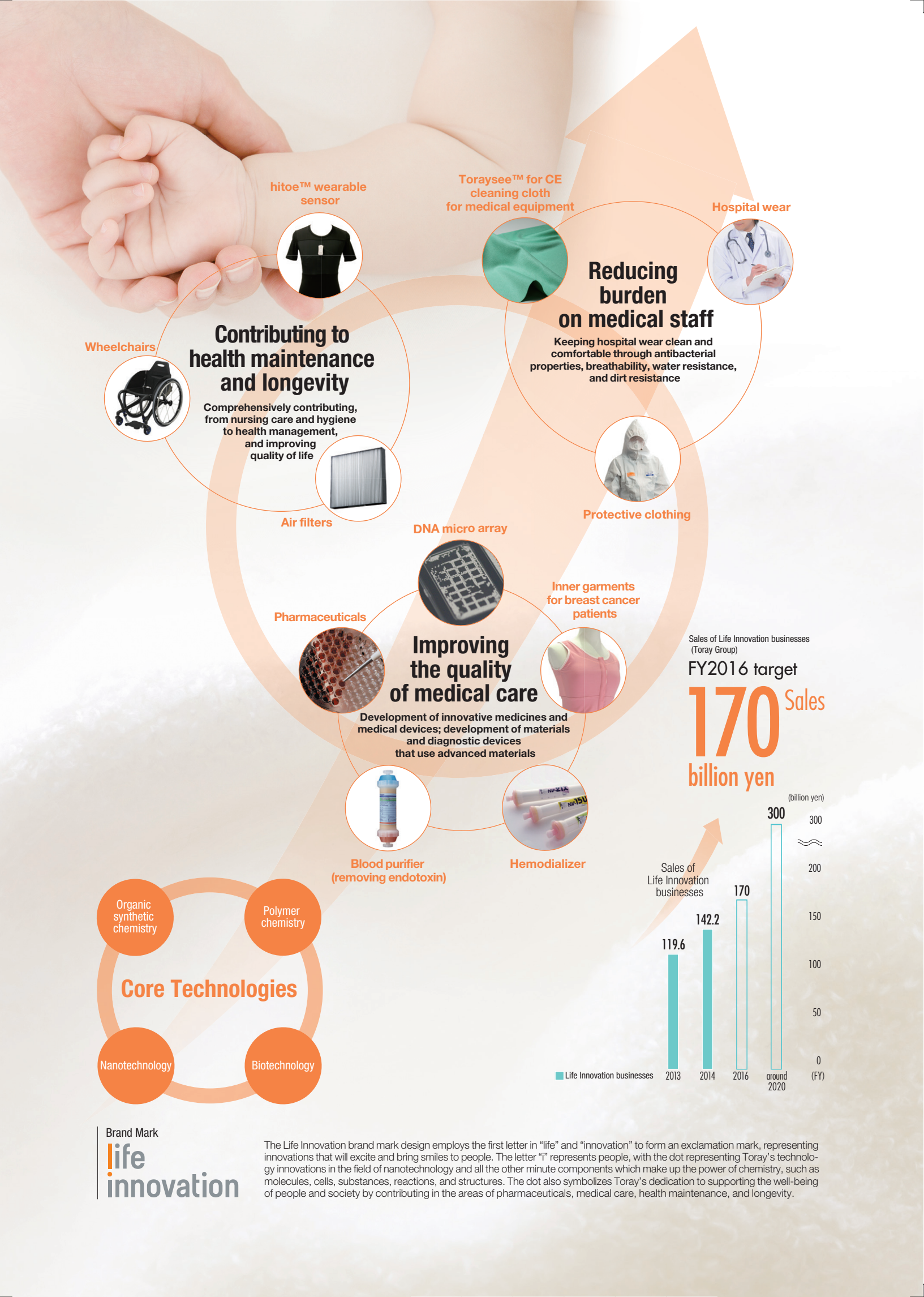
## **Open innovation, looking to the future**

Toray Group is accelerating the application of its new materials and technologies, by combining technologies developed within the Group, drawing on external resources and knowledge, and integrating these with external technologies. The Life Innovation Business Strategic Planning Department is under the direct control of the president and drives the implementation of key Group-wide projects. It also facilitates collaboration with geographically diverse research institutes, medical institutions, and manufacturers in other industries. Toray has also established open innovation offices in medical clusters in Minnesota, USA and Kobe, Japan.

By leveraging its core technologies, advanced materials, and business platforms, Toray Group will realize unique life innovations that help to address social issues.

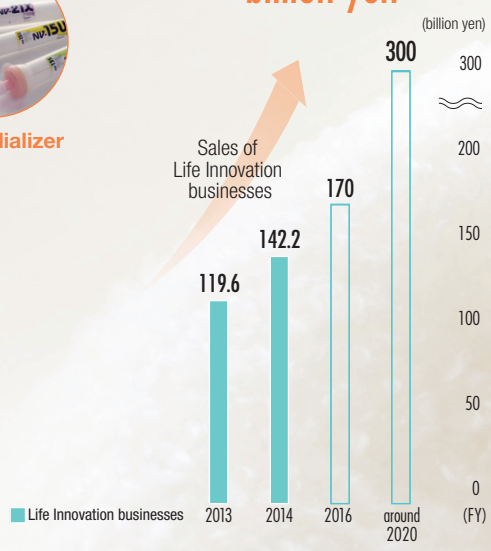


**Kazuya Matsumura**  
General Manager,  
Life Innovation Business Strategic Planning Department,  
Toray Industries, Inc.



Sales of Life Innovation businesses (Toray Group)

FY2016 target  
**170** Sales  
billion yen



Brand Mark  
**life**  
innovation

The Life Innovation brand mark design employs the first letter in "life" and "innovation" to form an exclamation mark, representing innovations that will excite and bring smiles to people. The letter "i" represents people, with the dot representing Toray's technology innovations in the field of nanotechnology and all the other minute components which make up the power of chemistry, such as molecules, cells, substances, reactions, and structures. The dot also symbolizes Toray's dedication to supporting the well-being of people and society by contributing in the areas of pharmaceuticals, medical care, health maintenance, and longevity.

# Realizing better medical care through advancements in diagnostic technology and enhanced quality of life

Cancer has an extremely high profile in Japan. Toray is developing time- and cost-saving tools for the early detection of various cancers. Additionally, Toray has developed inner garments that reduce the burden on breast cancer patients, so that they can maintain a positive outlook. These are just some of the ways that Toray is working to improve medical care and quality of life in connection with cancer treatment.

Early  
Detection

Testing that screens for multiple cancers, reducing the burden on patients

## Early cancer detection using microRNA technology

Toray is developing new biotools by combining its nanotechnology such as for polymer materials, with biotechnology developed for pharmaceuticals and medical care. For example, Toray has developed the highly-sensitive DNA microarray **3D-Gene®** that can detect a small amount of microRNA in body fluids through

a fine columnar structure. MicroRNA is a type of ribonucleotide, and around 2,500 different kinds are found in body fluids such as blood, saliva, and urine. MicroRNA has a variety of functions, and it is known that levels of microRNA related to disease fluctuate with changes in the body's condition.

In August 2014, the New Energy and Industrial Technology Development Organization (NEDO) provided funding for a consortium of scientific institutions and corporations centering on the National Cancer Center, to launch a project to develop a technology platform for detecting microRNA in body fluids. Since April 2015, the project has been implemented under the Japan Agency for Medical Research and Development (AMED). The project is advancing research to discover microRNA markers in body fluids using DNA microarray **3D-Gene®**. In the near future, it will become possible to detect 13 types of cancers and Alzheimer's Disease in the early stages using developed microRNA markers, which will help to improve the quality of medical care.

Note: **3D-Gene®** is not an in-vitro diagnostic reagent.



DNA microarray delivers a quantum leap in microRNA analysis **3D-Gene®**

1 Compared with conventional glass DNA microarray

### Voice

The New Business Development Department developed the DNA microarray **3D-Gene®** and launched it as a research tool in 2006. Since then, the department has been working to see it broadly adopted. Medical institutions, the likely customers of the future, have commented, "We expect Toray's technology to help in the early detection of various diseases and in enhancing the effectiveness of treatment." We will continue striving to generate new value for needs in the world of healthcare through a national project currently underway.



**Satoshi Kondo**  
Senior Staff, New Projects Development Division,  
Toray Industries, Inc.





Helping patients live comfortable, positive daily lives

**Reducing the burden on patients suffering from side effects**

In July 2014, Toray and the Japanese Foundation for Cancer Research jointly launched a project to develop a new type of garment that can be comfortably worn by breast cancer patients during cancer treatment.

Post-operative radiation therapy improves long-term survival rates for patients with breast cancer, but the radiation-induced side effects include redness and sensitive skin (radiation dermatitis). Ointments are applied to treat radiation-induced dermatitis and the affected or irradiated areas are covered with bandages, but the ointments can stain clothing and can have a noticeable odor. Furthermore, regular inner garments can cause skin irritation and discomfort, making it difficult for patients to use their regular inner garments during and after radiation therapy. To address this problem, Toray and the Japanese Foundation for Cancer Research set out to develop inner garments that can be comfortably worn by patients suffering from treatment-related dermatitis.

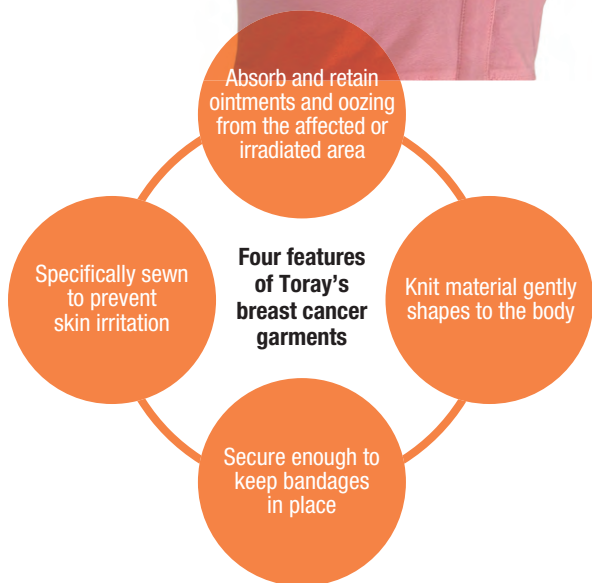
The garments that were developed reduce skin irritation for patients receiving breast cancer treatment and address patient concerns about odor and staining from ointments, helping to give patients a more positive outlook. Toray will develop garments for other dermatitis sufferers besides breast cancer patients, who face similar challenges.



Note: Breast cancer garments are not medical devices.



**Industry-university collaboration to develop garments for patients**



**Voice**

In the past, patients' underwear has been left up to the ingenuity of the individual, without any active efforts from the medical side of things. It's wonderful that patients will now be able to go through daily life without any troubles thanks to Toray's technical capabilities. I hope that Toray will keep up its assistance in the medical field in the future.

**Masahiko Oguchi, MD, PhD (right in picture)**  
 Director of Radiation Oncology Department,  
 The Cancer Institute Hospital of JFCR



Patients who suffer from radiation dermatitis feel pain and discomfort with even minor irritation. I felt encouraged that Toray listened enthusiastically to our requests during development to make the texture and design gentle on wounds. When we saw the prototype, I felt really happy that our requests had taken shape.

**Shiho Goto, RN, CNS (left in picture)**  
 The Cancer Institute Hospital of JFCR

## Protecting people from infectious disease

Toray Group is leveraging its technologies to improve working conditions for medical staff, in addition to improving treatment and quality of life for patients. Toray's vision for Life Innovation encompasses a goal of improving conditions for people who work in special environments, to facilitate their work.

### Advanced fiber technology reducing the burden on medical staff

Protective clothing is extremely critical to people working in environments where they are exposed to pesticides or chemicals. Conventional protective clothing lacks breathability, trapping moisture inside to create a humid and sweaty environment that causes unnecessary fatigue. Toray developed improved protective clothing that is approximately 20% less humid inside compared with conventional clothing, through the application of

proprietary fine processing to achieve a material with superior permeability, water resistance, and breathability. Versions of the clothing for pesticide spraying and decontamination work are already available on the market, helping to realize safer and less burdensome working conditions even under the sun.

Toray will release protective clothing for infectious disease control in 2016. The clothing will reduce the burden on medical staff including those working in tropical environments, helping to support infectious disease efforts worldwide.

### Toraysee™ for CE cleaning cloth for medical equipment

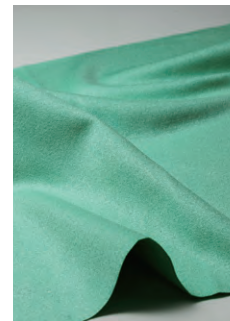
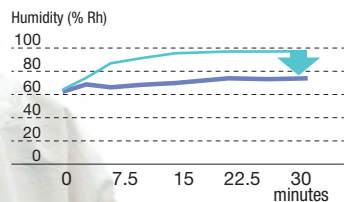
Toraysee™ for CE cleaning cloth is made from ultra-fine microfiber (average diameter approximately 2,000 nm), ideal for wiping medical equipment without the use of disinfectants and chemical agents. The microfiber cloth traps and removes dirt, helping to clean and preserve medical equipment and it removes harmful bacteria through its superior wiping performance, so that medical environments can be kept clean.

Compared with competitor's products (within 30 minutes of wearing)

Internal humidity:

Approx.

20%  
reduction



### Voice

I was dispatched as part of the JICA Japan Disaster Relief Team to help after the major earthquake in Nepal, where we used Toraysee™ for CE on the medical front of the disaster. As we performed surgery in tents set up in schoolyards, we were unable to completely prevent the intrusion of sand and dust, however much we tried. Therefore, we used TORAYSEE™ for CE to clean the operating theater and medical instruments, and it was really useful, even wiping off dirt that could not be removed with conventional cleaning cloths. I was also thankful for the fact that it is light, because we had to carry in most of our supplies to the disaster area.



Masashi Morizane, CE  
Chief, Department of Clinical Engineering,  
Saiseikai Yokohama Tobu Hospital

## Protecting the health of workers

Wearable monitors that feature IT integration are most often associated with communication technology, but major strides in wearable technology are also being made in the field of life science, where the technology is beginning to be used for health management. The ability to easily record daily health data will help people to live long and healthy lives.

### Biosensing fabric detects cardiographic waveforms

In 2014, Toray collaborated with Nippon Telegraph and Telephone Corporation (NTT) to develop hitoe™ biosensing fabric that measures heart rate and cardiographic waveforms. hitoe™ is made from nanofibers that are coated with highly conductive polymer resin. Garments that use the fabric are already on the market, and they link to a smartphone app. The first product to use hitoe™ fabric is the C3fit IN-pulse line of sportswear from Goldwin Inc., which is designed for athletes who wish to maintain and enhance their physical performance.

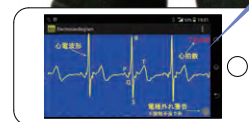
Within the next year or two, the applications for hitoe™ fabric will be expanded to benefit field staff working in harsh climates and facing strenuous physical demands. The release of systems that enable real-time and remote monitoring of the health condition of workers, through biosensing fabric that reads heart rate and fatigue levels, will enhance health management.

Wearable heart rate sensing fabric enables continuous monitoring without burdening the individual. In the future, hitoe™ fabric's applications will be expanded to include medical settings. Toray will continue working to expand these applications, tailoring the fabric design to the characteristics and condition of the wearer including age, gender, and health, so that everyone can enjoy better health.

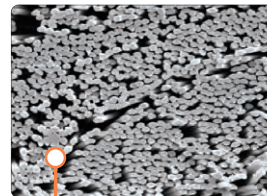
Note: hitoe™ is not a medical device.



Detects heart rate and cardiographic waveforms, viewable on a smartphone



#### Nanofiber



Fiber diameter 700 nm

Electro-conductive polymer is densely filled into numerous voids in nanofibers

Wearable biosensing fabric for continuous body data sensing



### Voice

The C3fit IN-pulse is a wearable device, so there is no slipping while running, unlike what happens with heart rate belts. Customers have commented that it is extremely comfortable during exercise. Going forward, we hope to join forces with Toray in the quest to improve its fit as a garment while further responding to needs.



Soichi Hirayama  
C3fit Group, Goldwin Business Department,  
Goldwin Inc.

hitoe™ initially began with sports applications. However, we now consider using hitoe™ for monitoring the safety and health of workers and even in services for people with heart disease and the elderly, who require nursing care and monitoring. Going forward, we hope to use Toray's technology to contribute to realizing a society in which people can live with peace of mind.



Takashi Teshigawara  
Manager, Tokyo Uniform Section, Uniform & Advanced Textiles Department,  
Toray Industries, Inc.

# Mobilizing diverse human resources to drive further innovation

**Toray embraces diversity and endeavors to create a corporate culture in which diverse individuals can apply their talents and take their own unique approach to work based on their personality, cultural background, and experience. This corporate culture is a critical ingredient in fueling true innovation.**

## Individuality leads to innovation

The number of non-Japanese employees at Toray has been rising since 1998, as Toray has focused on hiring and fostering diverse human resources. Discrimination based on race, gender, academic background, nationality, religion, and physical characteristics is strictly forbidden. Toray embraces diversity, recognizing that teams of unique individuals have the most potential to drive further innovation as it expands its global business.

Toray aims to build a corporate culture with diverse employees and positive, vibrant workplaces, so that employees can fully apply their talents. This will in turn drive change and strengthen Toray's business, bringing positive changes to society.

## Advocating for women in the workplace, early on

Toray has long encouraged women in the workplace through provisions and policies to support female employees. Employee provisions for taking parenting leave were introduced in 1974, nearly 20 years before parenting leave became mandatory in Japan. In 2004, Toray launched a corporate project aimed at fostering a corporate culture that encourages women in the workplace. Under the project, Toray has reviewed its employee provisions related to parenting, nursing care for relatives, and maternity leave. New provisions were introduced to better enable employees to balance the demands of work and home, such as providing subsidies for babysitting. In 2010, Toray established a labor-management committee that is examining various aspects of work-life balance including ways to help employees juggle work and home obligations. As a result, Toray has been selected as a Nadeshiko Brand company for three years in a row by the Tokyo Stock Exchange and Japan's Ministry of Economy, Trade and Industry, in recognition of its outstanding efforts to advance women's roles in the workplace.

## Proactively promoting women to management positions

Toray has long supported the career advancement of women, promoting its first female manager in 1958 and first appointing a woman to lead a subsidiary as its president in 2003.

Recognizing that results will naturally follow as career hurdles are removed, Toray is currently focusing on career development for female employees. Since the corporate project was launched in 2004, the percentage of women in management positions has increased from 1.9% in 2004 to 4.4% in 2015. Toray will continue to introduce provisions to encourage women in the workplace and implement individualized career development to ensure career success. Building on these efforts, Toray anticipates adding a woman to its senior management team in the near future.



## Career advancement seminar for female managers and professionals

Toray Group held a two-day seminar February 13–14, 2015 on career development and leadership for female managers and professionals. Led by female general managers, the seminar provided a platform for women to learn from each other and spur one another's career development. The inaugural seminar was attended by 81 women including employees from Group companies outside of Japan, providing an excellent learning platform for women to advance their careers.



The keynote speaker was Fumiko Hayashi, Mayor of Yokohama City, who started her career at Toyo Rayon Co., Ltd. (now Toray Industries, Inc.)



At the training center, childcare was provided during the seminar

The seminar provided a valuable opportunity to learn directly from female career role models at Toray Group.



Group discussions were conducted after the lectures on both days, giving employees an opportunity to further explore the topics.

## Comments from participants

“Fumiko Hayashi won me over with her keynote speech, as she spoke from experience.”

“The lecturers spoke honestly about their experiences, which enabled us to speak frankly in the group discussions.”

“I wish the company would provide a means for its female employees to network online, so that we can regularly share information.”

“It's important that the conference leads to something concrete that is implemented across the company.”

“It was incredibly valuable to have a seminar specifically for women.”

Related Information ▶ Promoting Diversity

## Voice

### A Company That Makes the Most of Every Person

In February 2015, Toray Group held a career advancement seminar for female managers and professionals. It was voluntarily planned by seven female general managers and held with support from the Personnel & Industrial Relations Division. Programs related to child-raising and maternal care that go beyond legal requirements have been established at Toray, creating an environment which is easy for women to work in. Because many women taking advantage of these programs play an active role in the pharmaceutical and medical-related departments where I work, I initially felt uncomfortable about a women-only training when I began the planning.

However, in the process of planning and conducting the seminar, I came into contact with the diverse conditions in which the more than 80 female managers and professionals working at the Toray Group are placed, as well as with a variety of role models, and this brought

about a change in my attitude. In other words, I realized that we can further increase the value of individual human resources by building networks to share experience and information.

In June, I was appointed as the first female director (*riji*) at Toray Industries, Inc. Going forward, I hope to make all possible efforts to make Toray a company where diverse human resources, not only women, can utilize their talents to participate even more actively based on their individual circumstances.



**Harumi Horinouchi**

Director for Pharmaceuticals and Medical Products; General Manager, Regulatory Compliance Division; General Manager, Medical Products Quality Assurance Department, Toray Industries, Inc



**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 Senior Vice President in Charge of CSR Activities**

**Fully committed to seeing Toray Group practice social responsibility and enhance its value to all stakeholders**

Toray Group has from the beginning pledged to have a positive impact on society through its business and has made corporate social responsibility one of its highest management priorities, as an integral part of management philosophy. Today, corporations are facing an ever diversifying array of issues, and there is growing recognition that the disclosure of important non-financial information can have a positive impact on long-term corporate value.

At Toray Group, we take a proactive approach to social responsibility, guided by our CSR Guidelines and CSR Road Map. As part of these efforts, we have recently conducted a materiality analysis our social responsibility practices. Moving forward, we will continue to build the global business of the Toray Group by seizing growth opportunities while aiming to improve our ability to respond dynamically to social issues and change. This will ensure that our businesses contribute to social development and help to address social issues such as those relating to environmental stewardship, human rights, and compliance. Our pledge is always to act in a manner that enhances the value Toray Group provides to all stakeholders.



**Akira Uchida**  
Senior Vice President in charge of CSR Activities, Toray Industries, Inc.

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## Toray Group's 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 \(website\)](#)
- > [Corporate Missions \(website\)](#)
- > [Corporate Guiding Principles \(website\)](#)

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

##### 1. Contribute to society

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

##### 2. Communicate with society

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

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

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

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

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

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

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

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

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

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

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

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

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

**Ten Basic Environmental Rules** (Adopted January 2000 and revised June 2011)**1. Prioritize environmental preservation**

We shall comply with all laws, regulations, and agreements in all of our business activities. Taking into consideration biodiversity, we shall place the highest priority on environmental preservation in the manufacture, handling, use, sale, transport, and waste disposal of products.

**2. Prevent global warming**

We shall promote energy conservation and work to reduce our unit energy consumption and our carbon dioxide emissions.

**3. Achieve zero emissions of environmental pollutants**

We shall strive continuously to reduce our emissions with the ultimate goal of achieving zero emissions of hazardous chemical substances and waste materials into the environment.

**4. Use safer chemical substances**

We shall collect, maintain, and provide information on the health and environmental effects of the chemical substances we handle while striving to use safer chemical substances.

**5. Promoting Recycling**

We shall develop recycling technologies for products, containers, and packaging and cooperate with society in promoting the recovery and reuse of such items.

**6. Improve the level of environmental management**

We shall work to maintain and improve the level of our environmental management while working to upgrade our environmental management technology and skills, performing self auditing, and taking other measures.

**7. Contribute to society through environmental improvement technologies and products**

We shall meet the challenge of developing new technologies and shall contribute to society through environmental improvement technologies as well as products that place a low burden on the environment.

**8. Improve the environmental management of our overseas businesses**

In our overseas business activities, we shall place top priority on complying with local laws and regulations, and further, we shall manage those businesses in accordance with the management standards of Toray Group.

**9. Improve employees' environmental awareness**

We shall strive to improve our employees' awareness of environmental issues through environmental education, social activities, internal communications activities, and other means.

**10. Share environmental information with society**

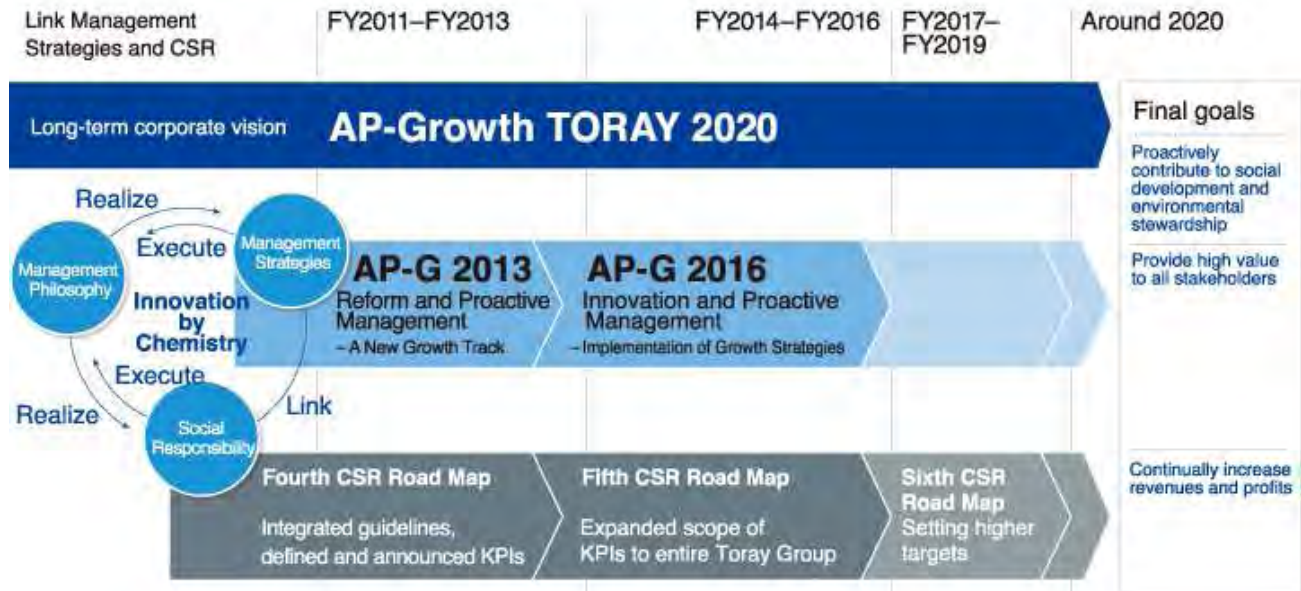
We shall deepen mutual understanding of Toray Group environmental policies and practices by widely publicizing our environmental preservation efforts and their results in environmental reports and other publications directed at local communities, investors, and the media.



## Toray Group's Management Strategies and CSR

Toray Group recognizes that corporate social responsibility goes hand in hand with business growth. The Group continually strives to enhance its value to society and stakeholders by linking management strategy to CSR.

### Link Management Strategies and CSR



In 2002, Toray Group outlined a long-term corporate vision covering the next ten years and has since introduced medium-term management programs covering periods of three to five years. The Group reviews these as management strategies change over time. In April 2011, the Group unveiled a new long-term corporate vision, AP-Growth TORAY 2020, which is a comprehensive strategy aimed at continually increasing revenues and profits.

As the second phase under its long-term corporate vision, the Group launched the medium-term management program, Project AP-G 2016, in April 2014. Under Project AP-G 2016, the Group incorporated new perspectives and outlined eight basic strategies based on the main approaches of expanding business in growth fields and growing countries and regions, and enhancing competitiveness.

Toray Group places social responsibility front and center in its strategy to develop its global business and capitalize on business opportunities while minimizing risks. The final goals of AP-Growth TORAY 2020 encompass three important elements of corporate social responsibility. Additionally, Project AP-G 2016 designates social responsibility in the areas of safety, accident prevention, and environmental preservation, together with corporate ethics and legal compliance, as the Group's highest management priority.



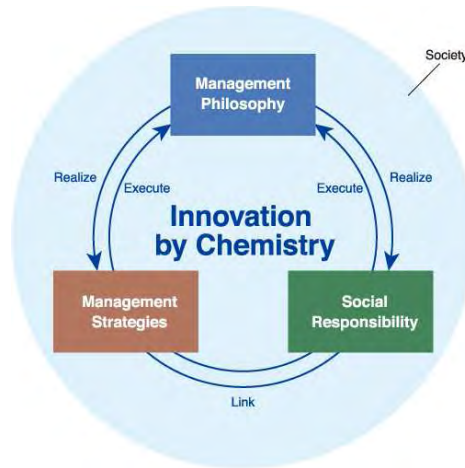
#### Related Information

- > [Medium-Term Management Program "Project AP-G 2016" \(website\)](#)

## "Working Comprehensively on Social Responsibility, Management Philosophy and Management Strategy" "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 coordinates six other group-wide committees and assigns tasks along with the themes in CSR Guidelines to the six committees.

#### Group-wide Committees Responsible for Executing CSR Guidelines

Organization overseeing CSR activities	CSR Committee	
Themes in the Toray Group CSR Guidelines	Group-wide committees	Subordinate organizations
<b>1</b> Corporate Governance and Management Transparency	Corporate Ethics Committee	
<b>2</b> Corporate Ethics and Legal Compliance	Corporate Ethics Committee	Company-Wide Legal Compliance Committee
<b>3</b> Safety, Accident Prevention, and Environmental Preservation	Safety, Health, and Environment Committee	
<b>4</b> Product Safety and Quality	Product Safety and Quality Assurance Committee	
<b>5</b> Risk Management	CSR Committee	Risk Management Committee
<b>6</b> Communication	Corporate Communications Committee	
<b>7</b> Contributing Solutions to Social Issues through Business Activities	Global Environment Committee	
<b>8</b> Human Rights Promotion and Human Resources Development	Corporate Ethics Committee	Human Rights Promotion Committee
<b>9</b> Facilitating CSR Initiatives Throughout the Supply Chain	CSR Committee	
<b>10</b> Social Contribution Activities	CSR Committee	

## "Social Responsibility at Toray Group" "Progress on Key Performance Indicators in Fiscal 2014"

### CSR Road Map

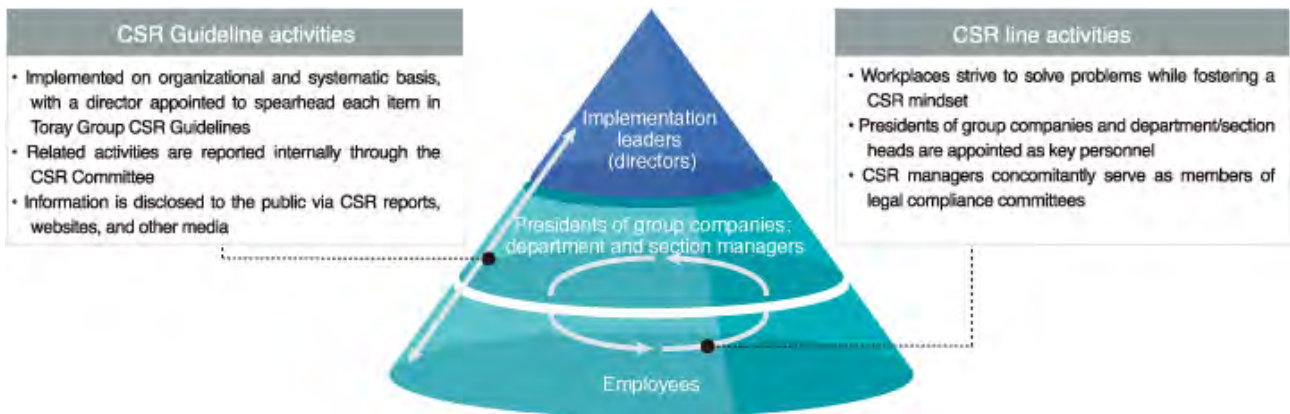
Toray Group systematically practices social responsibility as an organization, guided by a three-year CSR Road Map. The Fifth CSR Road Map spans fiscal 2014 through 2016 and includes CSR strategies, medium- and long-term tasks, and a detailed action plan.



**Related Information**  
[> Fifth CSR Road Map](#)

### "CSR Guideline activities" and "CSR Line Activities"

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



### Progress on Key Performance Indicators in Fiscal 2014

Toray Group did not achieve several of the targets under the key performance indicators (KPIs) of the Fifth CSR Road Map. The Group assessed the reasons that it fell short and is making improvements to ensure that those targets are met by the end of fiscal 2015, while continuing to maintain progress on all the other KPIs.

**Related Information**  
[> Fifth CSR Road Map](#)

## Materiality at Toray Group

### Materiality Analysis Process

With reference to the aspects listed in the G4 Sustainability Reporting Guidelines from the Global Reporting Initiative (GRI), Toray Group conducted materiality analysis and mapping process, incorporating these perspectives: (1) materiality for stakeholders, including customers, employees, shareholders, and society, as stated in the Corporate Missions, and (2) risk and opportunity related to the aspects with greatest materiality for Toray Group. As a result, the Group has identified 19 unique material aspects. Toray Group will continue to review materiality on a regular basis, taking into account internal and external changes. This will enable Toray Group to seek sustainable growth in concert with society and fulfill the important social task of enhancing its value to all stakeholders.

### Materiality

The 19 material aspects are organized based on the four categories of Toray Group's CSR Guidelines.

Value Creation	<ul style="list-style-type: none"> <li>• Expanding businesses in growth sectors and growth countries and regions</li> <li>• Practicing environmentally responsible management considering the entire produce life cycle</li> <li>• Contributing to health maintenance and longevity</li> </ul>
Governance	<ul style="list-style-type: none"> <li>• Ensuring compliance</li> <li>• Preventing corruption</li> <li>• Avoiding anti-competitive conduct</li> </ul>
Social Initiatives	<ul style="list-style-type: none"> <li>• Respecting human rights</li> <li>• Providing stable employment</li> <li>• Securing and developing human resources</li> <li>• Securing product safety and quality</li> <li>• Managing social and environmental impact of suppliers</li> <li>• Engaging in dialogue with communities</li> <li>• Contributing to communities</li> </ul>
Environment	<ul style="list-style-type: none"> <li>• Addressing global warming</li> <li>• Addressing resource and energy issues</li> <li>• Addressing water resource issues</li> <li>• Addressing substances with negative environmental impact</li> <li>• Ensuring safety and disaster preparedness</li> <li>• Conserving biodiversity</li> </ul>





# Value Creation

The materials from which all products are made have the power to fundamentally change the world. Toray Group is committed to leading the way in technological innovation and having a positive social impact by developing advanced technologies and new materials that can be used in the growth sectors of the global environment, medical care, and health.

## Contributing Solutions to Social Issues through Business Activities

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- Approach to Green Innovation Product Sector-----	(34)
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## Contributing Solutions to Social Issues through Business Activities

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

### **Fifth CSR Road Map goals**

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

### **Management**

Toray Group's medium-term management program, Project AP-G 2016, includes the Green Innovation Business Expansion Project and the Life Innovation Business Expansion Project. These group-wide initiatives to expand business in growth segments are under the direct leadership of the president.

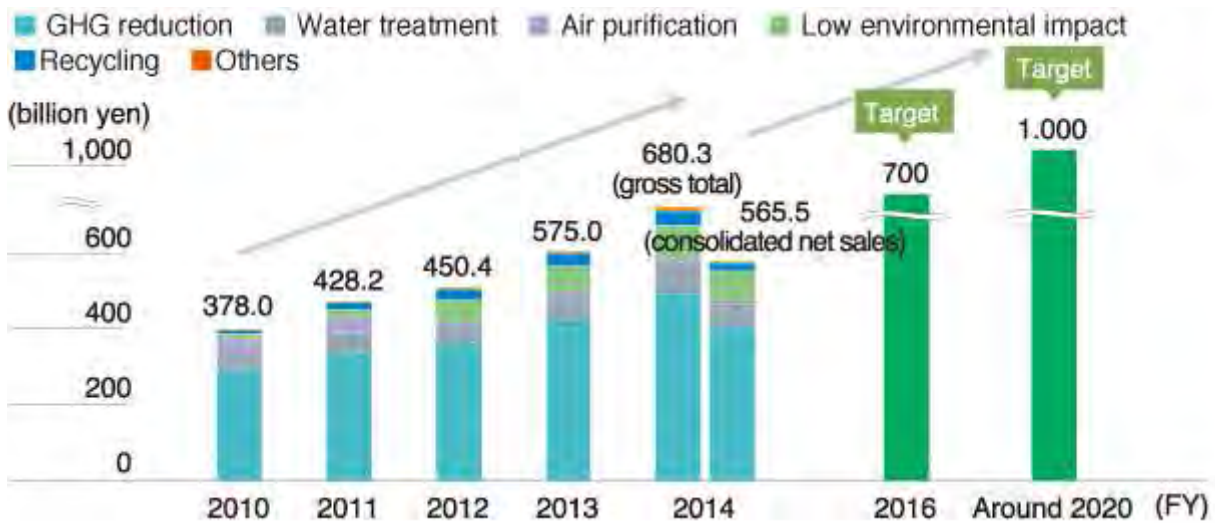
## Green Innovation Business Expansion Project



Toray Group's embraces a management policy mandating that all business strategies must place priority on the global environment in an effort to help realize a sustainable, low-carbon society. The Group is endeavoring to realize this vision by addressing global environmental, resource, and energy issues. Toray Group has long worked to supply products and materials that help to conserve the global environment. The Group launched the Green Innovation Business Expansion Project in fiscal 2011 to further strengthen businesses that help address today's increasingly challenging global environmental issues. In fiscal 2014, which marks the first year of the new medium-term management program, Project AP-G 2016, net sales from the Green Innovation business were up 22% year-on-year at 565.5 billion yen, making steady progress toward the target of 700 billion yen in net sales by fiscal 2016. Also, Green Innovation products sold in fiscal 2014 accounted for a 59 million ton annual reduction of CO<sub>2</sub> emissions.<sup>1</sup>

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

Sales of Green Innovation Businesses (Toray Group)



Note: Figures through fiscal 2013 represent the gross total including transactions within Toray Group. For fiscal 2014 and beyond, they are calculated on a consolidated basis.



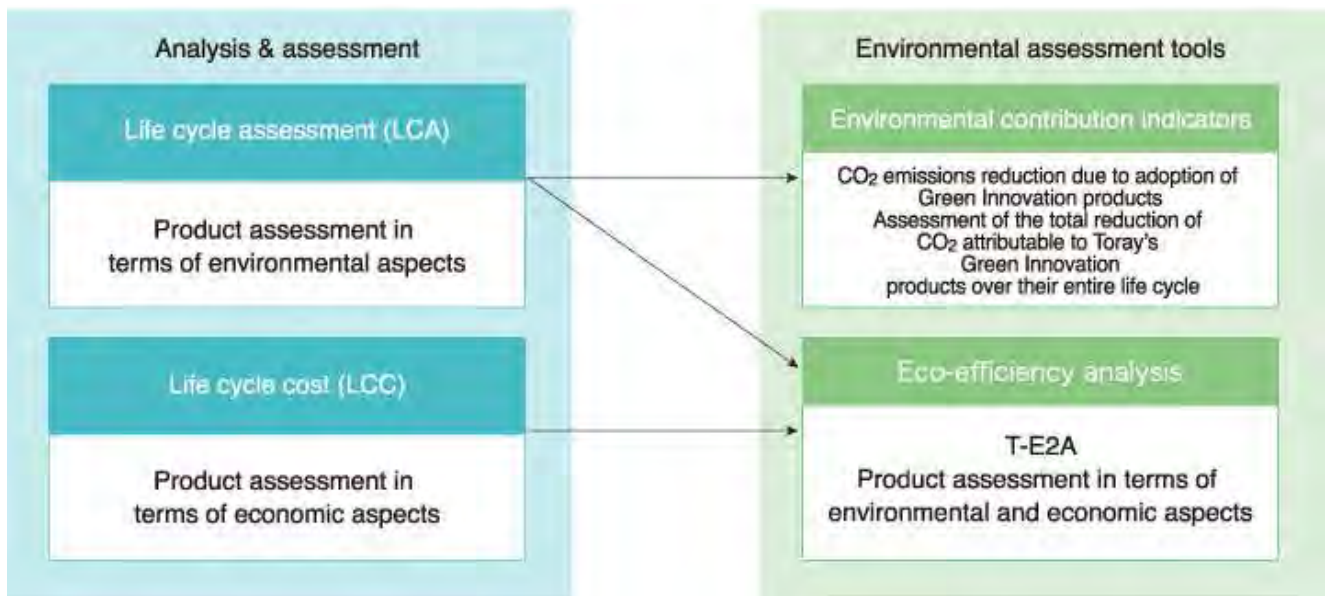
## Promoting Life Cycle Management

Toray Group implements life cycle management based on life cycle assessment.<sup>1</sup> The Group considers the entire life cycle of products and services in all business activities with the aim of reducing its environmental impact while raising its corporate and social value. This process the foundation of Toray's Green Innovation business. To implement life cycle management, Toray Group has adopted life cycle assessment methods and the Toray Eco-Efficiency Analysis (T-E2A)<sup>2</sup> tool, and it is working to entrench and promote them throughout its business activities.

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

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

Toray's Life Cycle Management Approach



## Approach to Green Innovation Product Sector

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

Green Innovation Product Certification Process



1 This includes LCA-related data, T-E2A data, and estimates of CO<sub>2</sub> reductions attributable to the product.

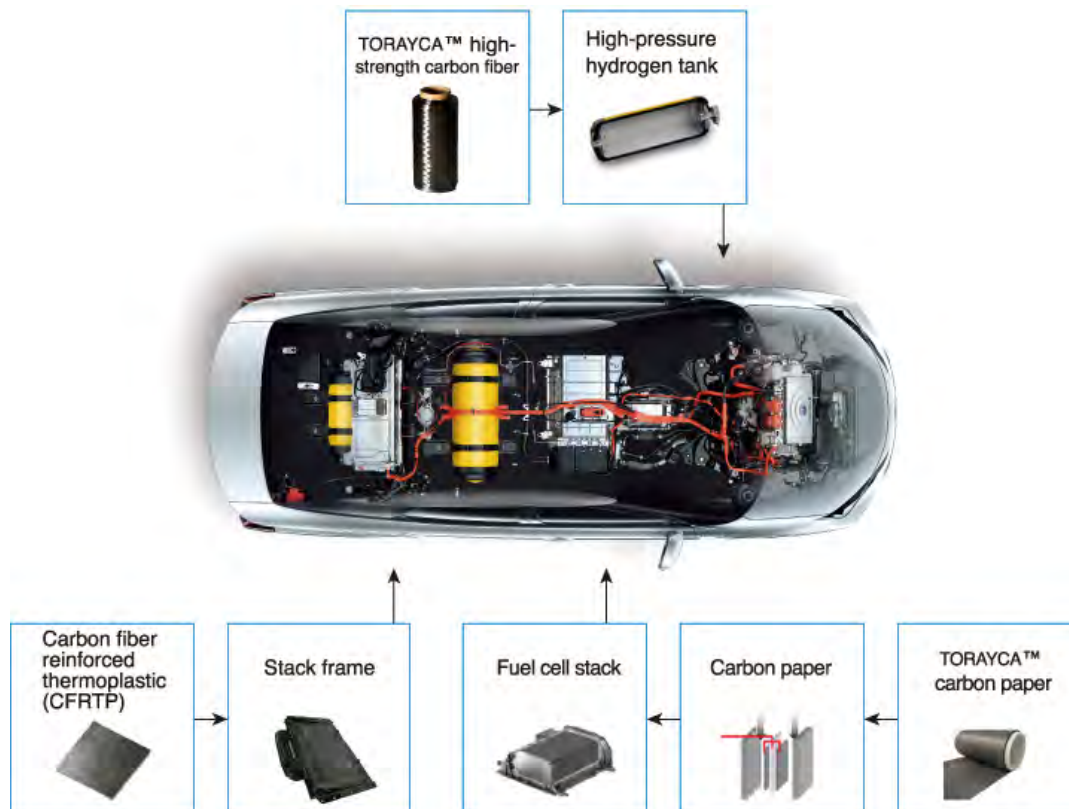
2 Comprised of members of Toray's Global Environment Business Strategic Planning Department, Marketing Planning Department, and Technology Center Planning Department, as well as outside experts when necessary.

## Fiscal 2014 Highlights

### Toray Supplies First-Ever CFRTP for Fuel Cell Vehicle

Toray supplies three types of materials for the Mirai fuel cell vehicle that was launched in December 2014 by Toyota Motor Corporation. The materials are carbon fiber reinforced thermoplastic (CFRTP) that Toray developed specifically for automotive structural parts, carbon paper for the electrode substrate of fuel cell stacks, and high-strength carbon fiber for high-pressure hydrogen tanks. The Mirai represents the first-ever application of CFRTP for use in the structural parts of a mass-produced vehicle.

As the world's leading supplier of carbon paper, Toray quickly jumped into development for fuel cells and is developing other critical components and materials, such as electrolyte membranes and gas diffusion layers. Through these innovations, Toray will work to make hydrogen power viable and respond to the expectations for a new energy infrastructure.



### ECODEAR™ Polylactic Acid-Based Polymer Used in Soprano Recorders

Toray supplies biomass-based polymers made from polylactic acid under the ECODEAR™ brand. The polymers are being used by Yamaha Corporation to make soprano recorders, for use in elementary and junior high school music programs. It is the first-ever use of a biomass-based polymer in a commercial music instrument.<sup>3</sup> The use of ECODEAR™ polymers in the recorders reduces CO<sub>2</sub> emissions by 20% over the entire life cycle from resource extraction to waste disposal, compared to the conventional petroleum-derived resin. The eco-friendly recorders made from ECODEAR™ polymers also help to raise awareness of global environmental issues among children.

<sup>3</sup> As of June 2014, according to a survey by Yamaha Corporation



## Promoting Recycling Initiatives

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

### Recycling Activity Principles Adopted in March 2004

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

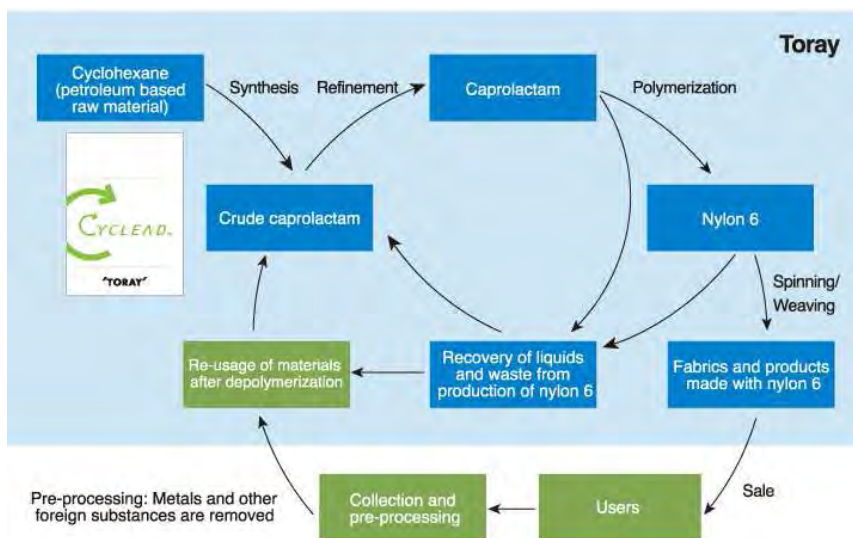
## Fiber and Textile Recycling

Toray offers CYCLEAD™ fabric made from recycled nylon 6 fibers, and ECOUSE™ polyester fabric<sup>1</sup> made from recycled PET bottles. Starting in fiscal 2014, Toray adopted plant uniforms made using both CYCLEAD™ and ECOUSE™ recycled fibers.

<sup>1</sup> In fiscal 2015, Toray is expanding the ECOUSE™ brand to encompass non-fiber products, as an integrated brand name for recycled materials and products offered by Toray.

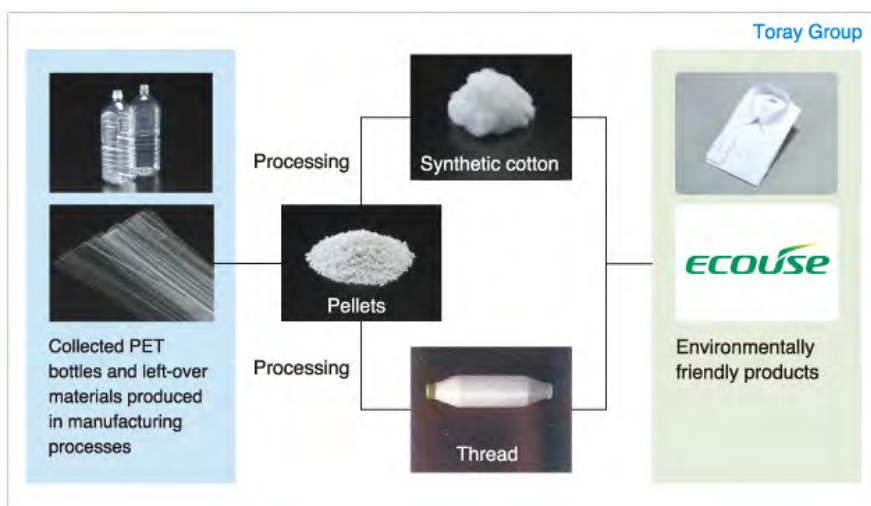
### Collection and Circulation Type Recycling with CYCLEAD™

Fabric made from recycled fibers recovered from disposed nylon products



### Regeneration Type Recycling with ECOUSE™

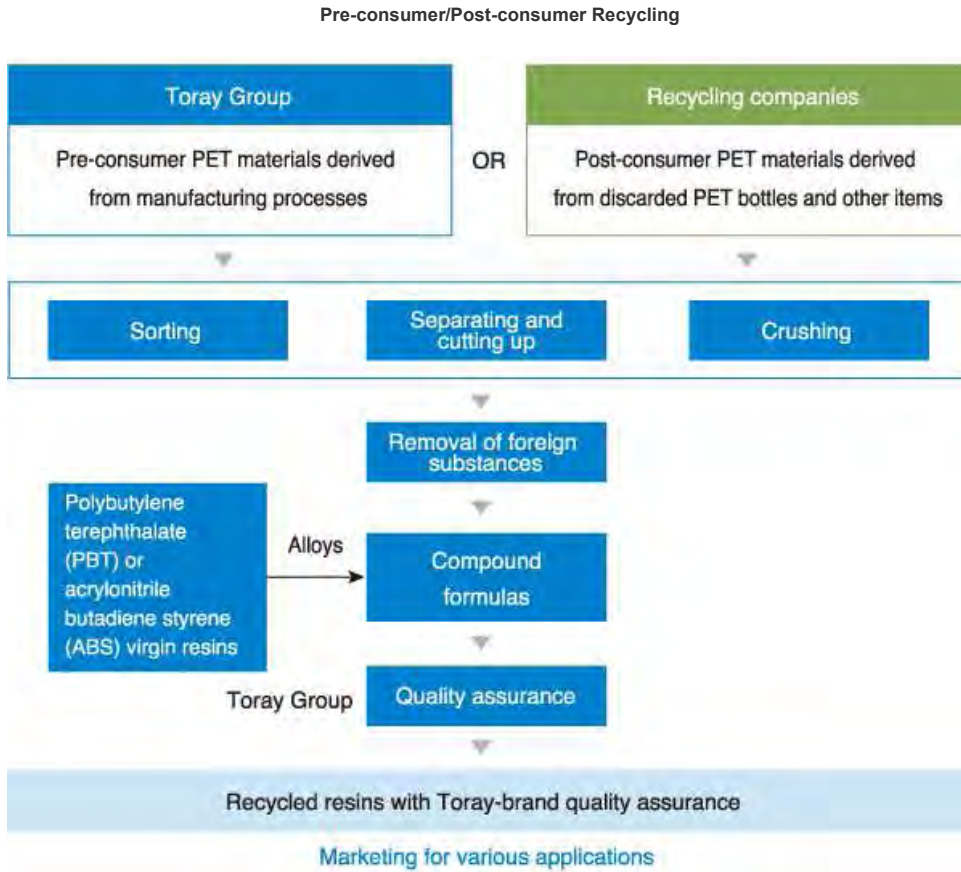
Fabric made from recycled PET bottles for uniforms and functional sportswear



## Resin Recycling

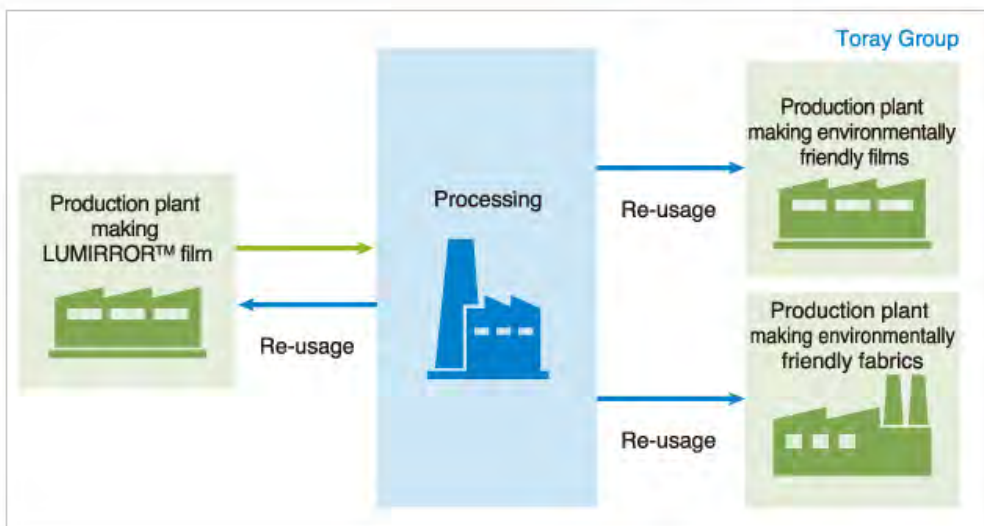
The fans inside home air conditioners are designated for recycling under Japan's Act on Recycling of Specified Kinds of Home Appliances. While continuing to conduct closed-loop recycling (in which end-of-life products are recycled into the same product) of fans and other products, Toray is also diversifying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

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



## Film Recycling

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



## Carbon Fiber Recycling

Carbon fiber is an advanced material that can contribute to solving global environmental issues, and its applications are expanding in the transportation, energy, and other industries.

In response to growing demand for carbon fiber, the Japan Carbon Fiber Manufacturers Association (JCMA) established a pilot plant in the Omuta Eco-Town in Omuta City, Fukuoka Prefecture. The plant was made possible through a project, launched in 2006 with support from the Ministry of Economy, to conduct pilot R&D for carbon fiber recycling technology. The plant has been developing basic technology for carbon fiber recycling since 2009, with additional government support from Fukuoka Prefecture and Omuta City. In March 2012, Toray joined Toho Tenax Co., Ltd. and Mitsubishi Rayon Co., Ltd. to establish the Consortium for Carbon Fiber Recycling Technology Development, which inherited the Omuta pilot plant and the technology and expertise developed by JCMA.

The consortium was dissolved in March 2015, after three years of technology development and having achieved the initial goal of establishing carbon fiber recycling technology. Moving forward, the three companies that invested in the consortium will utilize the technology and expertise that was gained through the joint development efforts, to individually develop own mass production technology and study commercialization opportunities. Toray Group is committed to realizing a recycling society as a leading global manufacturer of carbon fiber.

## Life Innovation Business Expansion Project



Toray Group launched the Life Innovation Business Expansion Project in April 2014 to help address social issues in the medical and healthcare field by leveraging the Group's technologies and business platforms.

The Life Innovation business is aimed at improving the quality of medical care, reducing the burden on medical staff, and contributing to health maintenance and longevity. The Life Innovation Business Strategic Planning Department reports directly to the president and coordinates the implementation of group-wide projects. These projects focus on supplying diverse Life Innovation products, and conducting research and technology development for new products.

### Product Definitions and Guidelines

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

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

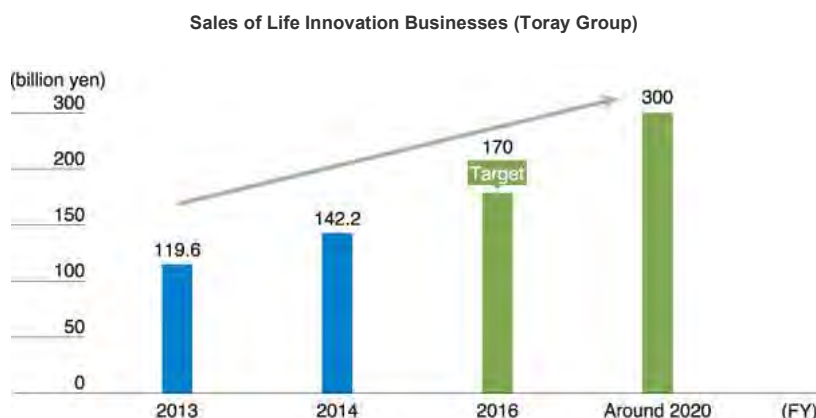
#### Contributing to health maintenance and longevity

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

Note: Includes materials and components used in the above products

## Life Innovation Business Target and Fiscal 2014 Results

Toray Group net sales from the Life Innovation business grew from approximately 120 billion yen in fiscal 2013 to roughly 140 billion yen in fiscal 2014. The Group has set a target of securing net sales of 170 billion yen by fiscal 2016.



## Fiscal 2014 Highlights

### Toray Files for Approval of Catheter Ablation System for Treating Paroxysmal Atrial Fibrillation

Toray recently filed for approval from Japan's Ministry of Health, Labour and Welfare for the manufacturing and sale of a catheter ablation system developed by Toray for use in treating paroxysmal atrial fibrillation.

Catheter ablation is a medical procedure that typically involves repeated and pointed cauterization of myocardial tissue that causes atrial fibrillation, using the electrode of a catheter tip. The system developed by Toray uses a catheter with a liquid-filled balloon at its tip. When warmed, the liquid indirectly cauterizes the myocardial tissue, which is gentler than direct cauterization using an electrode. Furthermore, since the balloon has a compliant round shape, it can be brought into contact with the opening of pulmonary veins that are main areas of treatment, to enable rapid treatment.

### Toray Applies for Approval of Additional Indication of REMITCH™ Capsules 2.5 µg for Treating Pruritus

Toray applied for approval of an additional indication of REMITCH™ 2.5µg capsules for improvement of pruritus in chronic liver disease patients. REMITCH™ 2.5µg capsules are currently marketed in Japan by Torii Pharmaceuticals Co., Ltd for pruritus treatment of hemodialysis patients. Sumitomo Dainippon Pharma Co., Ltd. will provide drug information regarding the additional indication for the drug to medical institutions.

Note: REMITCH™ is a registered trademark of Torii Pharmaceuticals Co., Ltd.

### Toray Showcases Life Innovation Solutions at Medical Japan 2015 in Osaka

Toray showcased its Life Innovation solutions at the Medical Japan 2015 trade show held in February 2015 at INTEX Osaka. This was Japan's first general trade show for the medical industry, and the solutions showcased by Toray included hospital wear and surgical clothing made from performance fibers, hitoe™ biosensing fabric that measures heart rate and cardiographic waveforms, 3D-Gene™ DNA chips, inner garments for breast cancer patients, and care products made from carbon fiber. The booth highlighted Toray Group's broad offerings in the Life Innovation business and marked the public unveiling of the new brand mark.



Toray booth at Medical Japan 2015





# Governance

To maintain the confidence and support of society, Toray Group employs a fair, effective governance structure and holds itself to a high standard of integrity. With the strong leadership of top management, the Group takes a variety of actions to ensure that employees group-wide are fully aware of the importance of corporate ethics and legal compliance.

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## Corporate Governance and Management Transparency

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

### Fifth CSR Road Map goals

1. Enhance management transparency, continually reflect stakeholder feedback in management, and fulfill responsibilities to explain corporate activities
2. Perform monitoring based on the Basic Policy for Internal Control Systems, in accordance with Japan's Companies Act
3. Establish a group-wide management system for social responsibility, and stimulate initiatives by expanding training and education, etc.

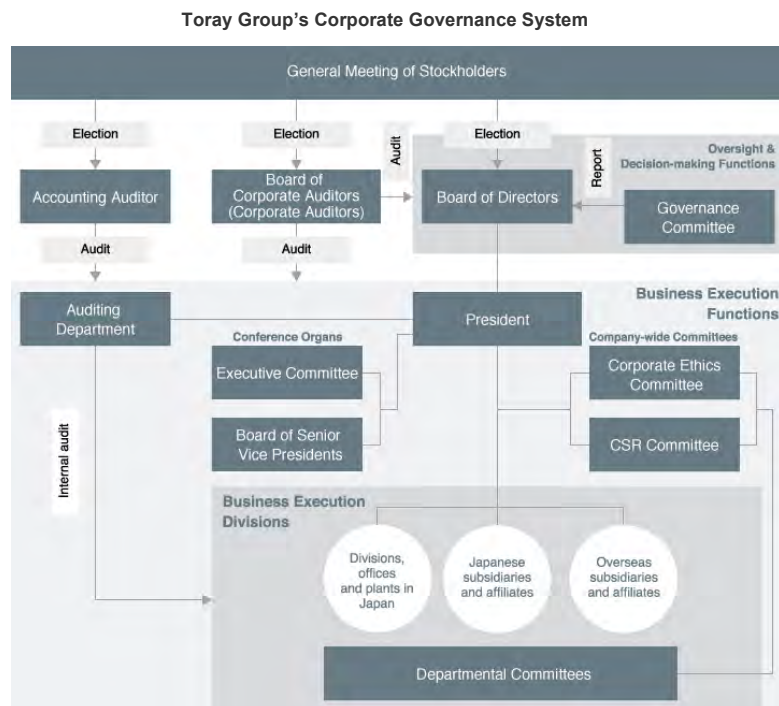
### Management

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

### Toray's Management Structure

Toray's Board of Directors is made up of 25 members. At the Ordinary General Meeting of Shareholders in June 2015, Toray appointed an additional outside director in order to expand the supervisory duties of the Board for greater transparency and objectivity of management. This brings the number of outside directors to two.

Toray operates under a corporate auditor system. Two members of the four-member Board of Corporate Auditors are outside corporate auditors. The Board of Corporate Auditors is completely independent from the Board of Directors. Outside corporate auditors have no conflict of interest related to the Company's operations. In fiscal 2014, the corporate auditors, including the outside corporate auditors, attended meetings of the Board of Directors. They also held level-specific meetings with managers including directors, division managers, and department managers, and conducted regular audits of offices, plants and group companies in and outside Japan.

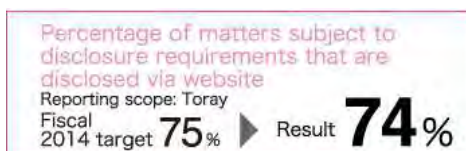


Remuneration for members of the Board consists of monthly remuneration, a bonus and stock acquisition rights in the form of stock options; meanwhile remuneration for corporate auditors consists of monthly remuneration. The purpose of this structure is to ensure management transparency and fairness, and to provide enhanced incentives for the improvement of financial performance and corporate value in the short-, medium- and long-term perspectives. Furthermore, the amount of remuneration to directors and auditors is determined while taking into account the results of research conducted by a third-party organization to ensure an objective perspective.

#### Related Information

[Corporate Governance \(Investor Relations\) \(website\)](#)

## Ensuring Proper Business Conduct and Transparency



Toray revised its Basic Policy for Internal Control Systems, in response to legislative revisions to Japan's Companies Act enacted in May 2015. The Company will continue to make every effort to apply internal controls to ensure legal compliance, efficient execution of duties, information storage and management, and risk management against losses.

Toray also employs internal guidelines on information disclosure and strives to secure management transparency, using its own indicators to measure information disclosure. Toray reported a 74% achievement rate for new disclosure items in fiscal 2014, roughly meeting its target.

### Information Disclosure Principles Adopted January 2004

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

In compliance with Japan's Corporate Governance Code, which was issued in 2015, Toray is preparing to disclose new items by December 2015.

### Dialogue with Labor Unions

Toray holds meetings of the Central Labor and Management Council twice a year. The meetings are attended by directors at the senior vice president level and higher and labor representatives at the union head level and above. In addition to briefing the union on management information, the meetings facilitate ongoing dialogue with the union. Resolution of labor issues is undertaken at separate Labor and Management Council meetings.

## Implementing CSR Activities and Improving CSR Education



### Organizational Structure for Social Responsibility

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

Based on self-assessment surveys concerning social responsibility implemented at group companies outside Japan in fiscal 2012, meetings were held with the Taiwanese subsidiary of Toray Advanced Film Co., Ltd. in fiscal 2014.

Committee and Implementation Organization



### Promoting CSR Initiatives in Every Workplace

A special characteristic of Toray Group's approach to corporate social responsibility is its "CSR line activities," a unique employee participation system that emphasizes putting CSR into practice on the job. In every workplace, relevant departments present suggested tasks corresponding to each of the 10 items in the Group's CSR Guidelines. Based on those tasks, each workplace sets specific actions suited to their respective circumstances and continues to work accordingly.

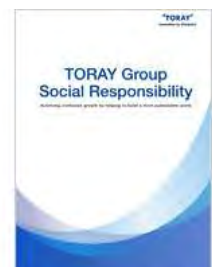
**Related Information**

> [CSR Guidelines](#)

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



Toray Group strives to ensure that social responsibility is firmly rooted in its culture by providing various training opportunities. In April 2015, the Group distributed a CSR pamphlet (available in Japanese and English) to all employees. The percentage of group companies that implemented CSR training in fiscal 2014 was 100%.



**VOICE****Message from an Outside Director**

Please allow me this opportunity to share my thoughts on being appointed a director of Toray Industries, Inc. at the Ordinary General Meeting of Shareholders in June 2015.

Humankind faces the challenge of sustaining life as we know it on Earth within the constraints of our planet's limited resources. I think many people feel in accord with Toray's corporate spirit and its technology outlook, which speaks directly to the future of civilization. We must find a balance between tradition and innovation. If we are to foster open innovation, we need diverse forms of collaboration between industry, government, and academia, not to mention "brain circulation" (where top intellects can move and contribute freely in various countries around the world) and even stronger information networks. In that sense, I hope that Toray's young staff—the people creating the technology of tomorrow—will keep their eyes and minds open to the outside world. As a single-minded scientist, I have always sought to keep research fresh and seek clarity. I will continue to endeavor to have a positive impact on society where it is needed, while maintaining a flexible attitude.



**Ryoji Noyori**  
Director-General, Center  
of Research and  
Development Strategy  
(CRDS), Japan Science  
and Technology Agency

## Corporate Ethics and Legal Compliance

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

### Fifth CSR Road Map goals

1. No major cases of non-compliance or violation notices throughout Toray Group
2. Promote compliance activities in accordance with the conditions of each country or region
3. Enhance awareness-raising and educational activities relating to corporate ethics and legal compliance

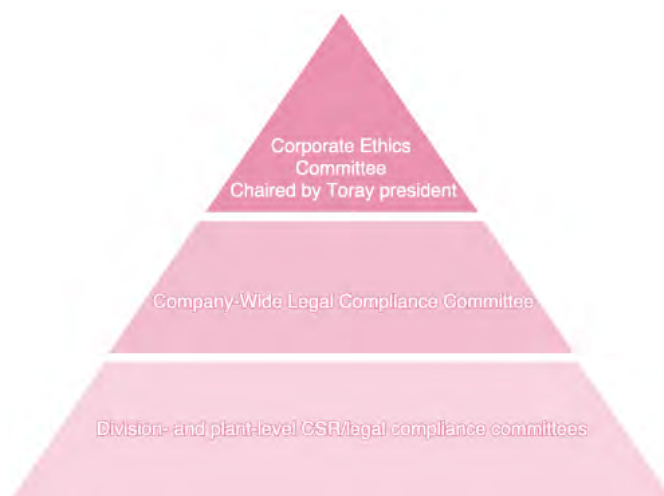
### Management

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

### Framework for Promoting Corporate Ethics and Legal Compliance at Toray

Toray operates a Corporate Ethics Committee chaired by the president. The committee oversees corporate policies relating to corporate ethics, and implements initiatives through the joint efforts of labor and management. Underneath it is a Company-Wide Legal Compliance Committee that implements internally driven compliance initiatives. This committee is primarily comprised of section managers and, while communicating with upper management, takes initiatives that address company-wide compliance issues. Furthermore, CSR/legal compliance committees operate at the divisional and plant levels to implement initiatives rooted in the workplace and fully engage all employees.

Framework for Promoting Corporate Ethics and Legal Compliance at Toray



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

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

### Company-wide Activities in Fiscal 2014

Toray established or undertook the following company-wide initiatives in fiscal 2014 relating to corporate ethics and legal compliance. Group companies in and outside Japan also work independently on their own activities based on these initiatives.

- Provided thorough training on security trade controls
- Maintained internal controls for financial reporting
- Provided all employees with comprehensive information on antitrust laws and anti-bribery rules around the world
- Continued to ensure strict compliance

## Corporate Ethics, Regulatory Infractions, and Recurrence Prevention



### Infractions in Fiscal 2014

In September 2014, an ex-employee of Toray Industries, Inc. who had previously been dismissed by the Company for gaining personal profit by commissioning fictitious construction work was arrested by authorities on suspicion of violating the law. The Company also dismissed an employee in February 2015 for repeatedly engaging in illegal transactions and embezzling funds.

In both cases, Toray determined that insufficient checks were in place to prevent the repeated illegal conduct. The Company is tightening its internal controls and introducing more rigorous checks and systems to prevent any recurrence. Toray will continue to systematically conduct regular workplace training to ensure that each employee understands the importance of ethical conduct and legal compliance.

## Ensuring Employees Understand the Importance of Ethical Conduct and Legal Compliance

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

The Corporate Ethics and Legal Compliance Code of Conduct is a strict set of standards that every Toray Group executive and employee closely follows when performing corporate activities. In the event that a violation is discovered, strict discipline is carried out in consultation with the Company's Rewards and Sanctions Committee. All Toray 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 in detail. Toray will update the handbook in fiscal 2015 and expand its application to all group companies in Japan. Thorough efforts are also made at group companies worldwide by providing similar codes of conduct, guidelines, handbooks, and other information to employees.



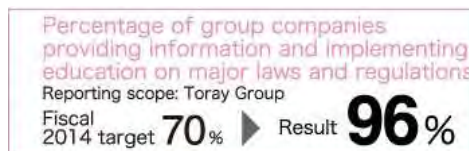
#### Main Content of the Corporate Ethics and Legal Compliance Handbook

- Carrying out proper transactions based on free, fair, and transparent market competition (compliance with Japan's Antimonopoly Act, Subcontract Act, and Act against Unjustifiable Premiums and Misleading Representations)
- Protecting the intellectual property rights of Toray and other companies
- Respecting local laws and regulations in all countries where Toray Group operates
- Respecting human rights and prohibiting all forms of discrimination
- Using proper accounting practices (complying with all relevant laws including Japan's Companies Act, all tax-related laws, and the Financial Instruments and Exchange Act)
- Complying with Japan's Foreign Exchange and Foreign Trade Act, Political Funds Control Act, and Public Offices Election Act
- Prohibiting any form of bribery involving stakeholders
- Corporate Ethics and Legal Compliance Helpline, an internal hotline system

#### Related Information

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

### Corporate Ethics and Legal Compliance Education



Toray posts information on CSR and legal compliance on its corporate intranet, and conducts monthly workshops at worksites where it reviews cases of external corporate misconduct. In addition, Toray relays important information about Japanese and other national legislation that relates to its business, such as antitrust laws, labor laws, and anti-bribery rules, to all group companies including those outside Japan.

Beginning in fiscal 2012, Toray has provided online training courses covering corporate ethics and legal compliance for all employees, including contracted, part-time and dispatched workers. In fiscal 2014, the training covered anti-bribery rules outside Japan. Group companies in Japan also conduct training using the same training materials.

### Utilizing an Internal Hotline System

Toray expects its employees to independently manage their conduct with respect to corporate ethics and legal compliance, and to consult with a supervisor at the earliest opportunity if a related problem arises. Recognizing that reporting or discussing a problem with supervisors may be difficult, Toray ensures that alternative means of reporting and consulting are available at each of its divisions, departments, offices and plants, as well as through the labor union.

Employees can also use a dedicated hotline or email service to directly contact the secretariat of the Company-Wide Legal Compliance Committee.

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



Toray's Corporate Ethics and Legal Compliance Helpline System



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## Improving Training Related to Security Trade Controls

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In the area of security trade controls, Toray Group encourages its employees to improve their expertise and readiness regarding emerging issues, and works to raise their awareness. The Group conducted training for some 889 employees in fiscal 2014.

Furthermore, Toray Group has been arranging for employees to take an exam authorized by the Center for Information on Security Trade Controls in Japan to test their abilities related to imports and exports governed by security trade controls. In fiscal 2014, a total of 325 Toray Group employees passed the exam, bringing the cumulative total of Toray Group employees who have passed the exam to 2,464.

### Related Information

> [Security Trade Control](#)

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## Compliance with Antitrust Laws and Anti-Bribery Rules around the World

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### Training, Compliance Education, and Auditing

Toray Group prepares compliance training materials and gathers examples of compliance violations to ensure that employees comply with national antitrust laws. Regular compliance training is also conducted, including at group companies outside Japan. The Group established internal regulations concerning entertainment and gifts in fiscal 2014, to secure compliance with anti-bribery rules in countries outside Japan.

The Group conducted 51 in-house audits in fiscal 2014. In March 2015, the general manager of the Legal Department visited 12 group companies outside Japan to monitor their compliance.

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## Protection of Personal Information

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

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

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

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

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

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

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## Risk Management

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

### **Fifth CSR Road Map goals**

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

## Management

Toray Group believes risk management is a fundamental element of corporate management. Every three years, Toray conducts a survey of potential management risks, and implements initiatives to reduce and prevent risks from materializing. The Group employs Crisis Management Regulations that set procedures for establishing an Emergency Quick Response System in the event of a major emergency to mitigate damage and rapidly secure business continuity.

## Risk Management System and Initiatives

### Developing a Risk Management System



Toray has established a Risk Management Committee under the CSR Committee to regularly monitor the progress of risk reduction measures across all group companies and conduct planning and promotion of risk management measures. Under the Risk Management Committee, local risk management committees have been established at each of Toray's divisions, departments, offices, and plants.

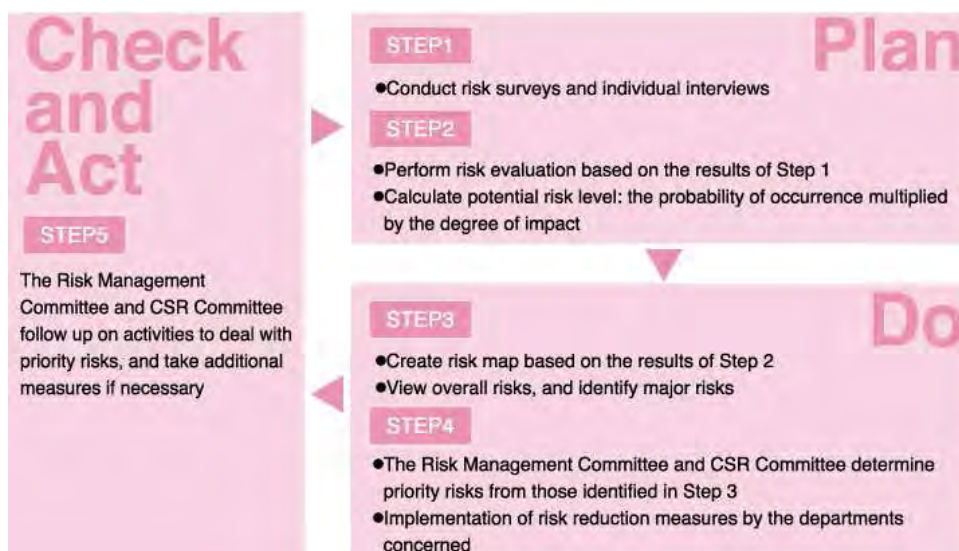
Group-wide measures determined by the Risk Management Committee are given to local risk management committees, which then incorporate these measures in their own initiatives to reduce risks particular to their respective division, department, office or plant, while carrying out coordinated risk management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

Toray Group has also established a risk management system for group companies, led by their presidents. The system promotes initiatives to reduce the specific risks faced by each company. Each group company reports on the results of these initiatives to the Risk Management Committee every fiscal year. Toray evaluates enterprise risks that could potentially impact Toray Group's business to identify priority risks. These risks are mitigated by implementing measures based on plan-do-check-action (PDCA) cycles.

Toray Risk Management System



PDCA Cycle for Enterprise Risk Management



## Dealing with Priority Risks



Toray addresses priority risks by designating specific departments that are responsible for mitigating the risk, or by establishing cross-departmental working groups to implement measures. The Risk Management Committee collects regular updates regarding the priority risk mitigation efforts and consults with company directors to assess the risk mitigation. Measures that were not implemented in fiscal 2014 due to their lower priority will be implemented in fiscal 2015.

### Measures Implemented by Working Groups

#### 1. Maintaining information security

Toray continues to offer information security training via its online course for all employees of the Company, including contracted, part-time and dispatched workers. In fiscal 2014, 8,410 people participated in the program. The Company also strengthened its information security by expanding the framework of the working group to provide for comprehensive management in four areas of security control.

#### 2. Supply chain risk reduction

Toray Group conducts checks for the use of conflict minerals<sup>1</sup> in all products and has been working to make its responses to customers' requests for surveys quicker and more efficient by integrating data management.

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

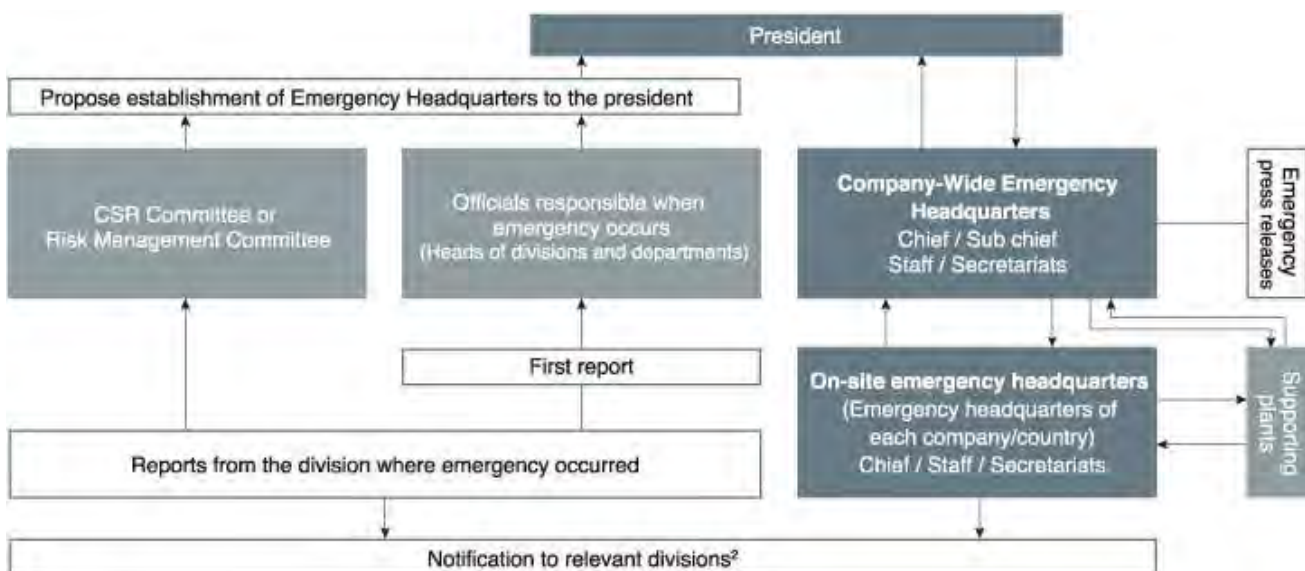
## Addressing Existing Major Risks

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

## Crisis Management Systems

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

Emergency Quick Response System



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

## Security Trade Control

Toray performs risk management of security trade controls covering the export of products, devices, materials, and samples, as well as the transfer of technologies outside Japan. Particularly strict management is necessary for TORAYCA™ carbon fiber and its composite materials, semiconductor coating agents, and water treatment membranes, which are listed as restricted items requiring export permission from the Japanese Minister of Economy, Trade and Industry. The following measures to enhance risk management were implemented in fiscal 2014.

1. Enhanced employees' capacity for accurate judgment
2. Conducted regular audits
3. Enhanced information sharing and reporting
4. Improved inspection systems

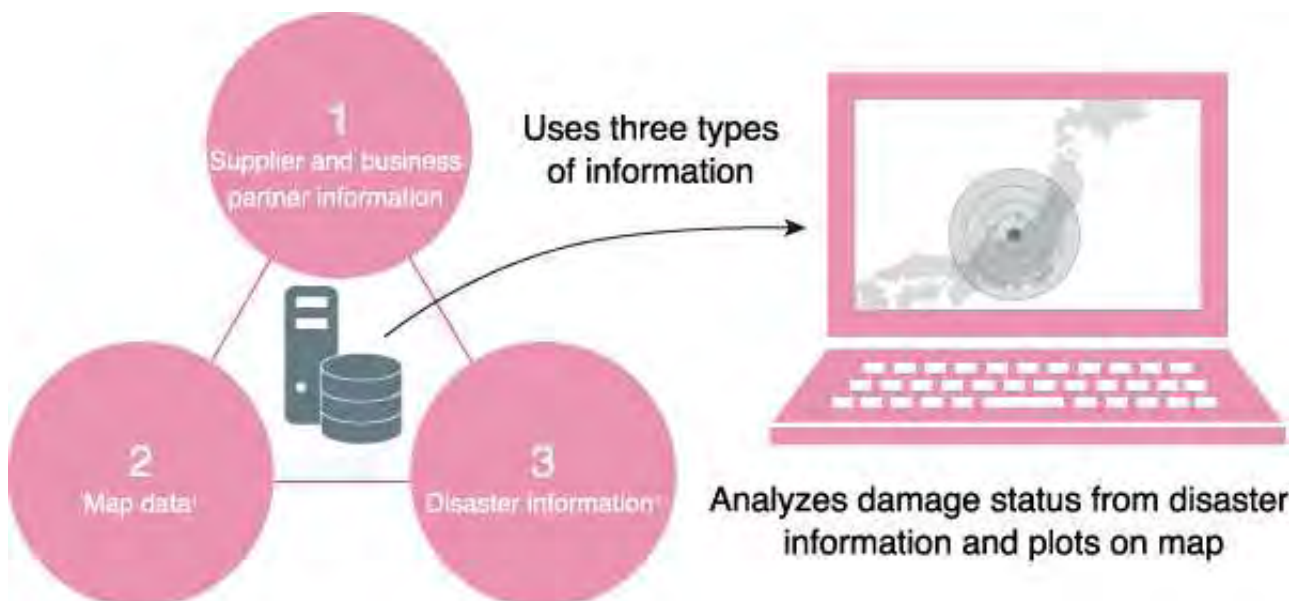
## Business Continuity Plan Initiatives



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

In fiscal 2014, Toray conducted drills based on a disaster scenario involving a major earthquake along the Nankai Trough that resulted in extensive damage to group companies and plants situated in parts of Japan from Shizuoka Prefecture to further west. To secure business continuity, Toray rolled out a major employee safety verification system to group companies in Japan, conducted systematic seismic upgrades for plant buildings, and verified the business continuity planning for products with a high social relevance. The Company also launched the Toray Disaster Map System, incorporating lessons learned from the Great East Japan Earthquake. In an emergency, the system would use Toray's business partner database along with external map and disaster information services to rapidly and accurately verify the status of Toray Group companies and business partners.

Disaster Map System



1 External service



# Social Initiatives

Toray Group respects diversity in all areas including human rights and hiring, and strives to facilitate a work-life balance that puts people first. The Group practices socially responsible procurement in cooperation with business partners, and seeks to build trust by practicing good communication and listening to feedback from stakeholders about all of its social initiatives.

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## Human Rights Promotion and Human Resources Development

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

### Fifth CSR Road Map goals

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

## Management

### Human Rights Promotion System

Toray has established its Company-Wide Human Rights Promotion Committee along with sub-committees at the office and plant level. These committees follow the guidance of the Company's Corporate Ethics Committee. At each workplace, the Company has appointed human rights advocates who are dedicated to making the work environment more pleasant and productive. In addition, Toray has set up a Human Rights Promotion Section in its Industrial Relations Department.

Toray's Human Rights Promotion System



## Committed to Human Rights

Toray Group believes that respect for human rights is a mandatory principle for corporate management. The Group works to promote and raise awareness of human rights and, in its Corporate Ethics and Legal Compliance Code of Conduct, outlines the importance of respecting human rights. Discrimination of any kind based on race, creed, skin color, gender, religion, nationality, language, physical characteristics, possessions, 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. In fiscal 2014, the Group expanded this commitment to address discrimination based on gender identification and sexual orientation.

Internationally, Toray Group takes stringent measures to comply with the related laws and regulations of each country in which it operates. Furthermore, the Group respects international standards including the United Nations Universal Declaration of Human Rights and the International Labour Organization's standards prohibiting all forced labor and child labor.

### Human rights training



Toray holds human rights promotion campaigns annually to help increase awareness and understanding of human rights issues. In fiscal 2014, the campaign focused on encouraging employees to build positive and caring workplaces, through better communication and consideration and respect for others. The campaign was aimed at preventing harassment in the workplace, by making employees aware that careless words and actions can hurt others. The campaign also addressed lesbian, gay, bisexual, and transgender (LGBT) rights, while communicating the increasing global emphasis that is being placed on human rights from a social responsibility perspective.

Training sessions were held for operational and administrative supervisors at the head office, and each office and plant. Workshops were also conducted in conjunction with workplace study groups. As in the previous year, in fiscal 2014 the Human Rights Promotion Section Manager visited Toray and its domestic group companies' offices and plants as part of the campaign, and held workshops for human rights advocates. Human rights training seminars were conducted at 53 group companies in Japan.



Human rights training at Toray Seta Plant

Fiscal 2014 Human Rights Training and Seminar (Toray)		
Type of training	Number of sessions	Number of participants
Training at head office	34	1,889
Training at offices and plants	1,227	15,224
Training at outside company	68	135

## Developing and Retaining Human Resources to Create New Value

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. Toray Group works to secure and develop human resources that operate on a global level with strong aspiration and ambition to develop global business operations. Based on the following three 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

To achieve these goals, Toray Group conducts various kinds of training programs tailored to each of the three goals. These programs are systematic and logically organized, and they are offered to employees of all levels working in every field in the Group. With a view to strengthening international operations, Toray Group has designed the training to improve management capabilities, sales performance, production technical skills, and specialized skills.

In managerial level training, a new Executive Management Seminar was launched in fiscal 2013 to develop top management candidates for Toray and its group companies. This training is in addition to existing programs such as the Toray Management School and Toray Group Management School, which aim to foster the lead managers of the future; Manager Training for New Appointees, which is designed to teach the management skills and know-how essential for administration and professional duties; and Management Basic Training which focuses on early development of the frontline leaders of the future.

To cultivate professional expertise, the Group offers Strategic Marketing and Merchandising Training; Mid-level Engineer Training; the Practical Sales Course; and the Technical Management Course. In addition, voluntary training programs are prepared for employees who wish to develop their abilities even further.

In more recent years, Toray Group has been enhancing and pursuing the development of international human resources. In addition to its Overseas Junior Training Program, Toray Business English School opened in fiscal 2011. The Group is also working to improve its Business English Proficiency Course, and has increased the number of joint sessions of its Toray Management School and International Senior Management Seminar. The Group is focusing on ongoing initiatives to secure and develop diverse personnel regardless of gender or nationality, and to develop a vibrant and rewarding workplace culture. Since fiscal 2013, Toray has conducted global diversity seminars for its non-Japanese employees, with the fourth seminar held in fiscal 2014.

With the addition of these and other new programs, Toray's training investment per employee has gradually increased to an average of 88,025 yen per employee in fiscal 2014.

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.

### VOICE

#### Fostering deeper understanding while sharing information on global diversity

I attended the Global Diversity Seminar held in September 2014 with one of my subordinates, Ms. Caiyue Jiang. The fundamental concept of work is that it is a universal activity, irrespective of nationality or gender. However, I realized that support in the workplace, including from supervisors, is essential to maintaining and advancing diversity, considering circumstances such as differences in culture and values, and balancing work and home life. In addition, I saw that the aspirations and anxieties of employees of diverse nationalities were shared by their supervisors, which was very significant. (Tomohiko Ikeda)

Training that you participate in with your supervisor was very novel. During the training, not only were we able to share our day-to-day thoughts with non-Japanese employees from our own generation, but we could also interact with supervisors from other departments who we don't usually have any contact with. This made the training quite enjoyable. I've been living in Japan for a long time, so I hardly ever feel a gap as a foreigner. However, I felt strongly that the fact that I was able to build networks with non-Japanese employees through this training will be useful in my working life in the future. (Caiyue Jiang)



**Tomohiko Ikeda (right)**  
Manager, Medical Devices Department, Medical Product Division, Toray Industries, Inc.

**Caiyue Jiang (left)**  
Medical Devices Department, Medical Product Division, Toray Industries, Inc.

Training category	Persons enrolled
Management	701
Technical	638
Sales, marketing, and administration	333
Global	333
General	383
<b>Total</b>	<b>2,388</b>

Company-Wide Training Course Enrollment in Fiscal 2014

### Early Leadership Development

To foster exceptional group management, Toray established the Toray Management School in 1991, designed to develop young mid-level managers into future executives. As of fiscal 2014, a total of 460 employees have participated in the school's programs over 23 terms. In addition, the Toray Group Management School was established in 2006 to foster top management successors at Toray Group companies and the next generation of leaders. Through Manager Training for New Appointees and Management Basic Training, Toray is developing outstanding frontline leaders by educating section and unit managers on coaching skills<sup>1</sup> and boosting their problem-solving skills. The Company has also established the Toray School of Technology and Business for training mid-level employees at plants. It offers selected employees a year of full-time education in a live-in schooling environment.

<sup>1</sup> Coaching skills: Communication skills designed to promote a greater degree of autonomous action by staff.

#### Toray's Personnel System

Management-by-objectives system	Each employee establishes annual objectives. At the end of the fiscal year, employees and their supervisors meet to review accomplishments and the extent to which they were able to meet their objectives.
Personnel appraisal system	Designed to facilitate a fair appraisal of employee contributions in terms of duties, responsibilities, capabilities, and performance.
Individual meeting system	Employees meet with their supervisors twice a year in a one-on-one setting. Supervisors provide consultation on employee performance and new objectives.
Self-assessment system for managers, occupational specialists, and G Course <sup>2</sup> 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 <sup>2</sup> 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.

<sup>2</sup> Global Level Assignment Course

### Establishing a Global HR Management Fundamental Policy

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

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

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

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

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

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

(1) Consistently recruit core staff based on mid/long-term HR management views.

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

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

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

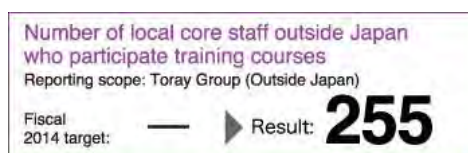
## 3. Pursue a "placing the right people to the right jobs" policy while enhancing fairness, understanding (by employees) through convincing explanations, and transparency

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

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

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

## Developing and Promoting Staff at Overseas Group Companies



Toray Group regards the development of core staff at its overseas group companies as one of its priority management objectives. The Group makes active efforts to promote employees locally hired at these companies to executive management positions, as well as to key posts and management positions at Toray's head office. To ensure thorough understanding of Toray Group's management philosophy and policies, core staff from overseas group companies participate in training programs in Japan, organized according to managerial level.

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

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

## Training Courses Held for Core Staff outside Japan in Fiscal 2014 (Toray Group)

### Japan-based courses

Training program	Managerial category	Number of participants
Toray Group Executive Seminar	Directors	15
Toray Group Senior Management Seminar	Department managers	15
Toray Trainee Program	Section managers	26
National Engineer Key Person Training	Section managers	2
Toray Management & Technical Training	Unit managers	2
Total number of employees receiving training		60

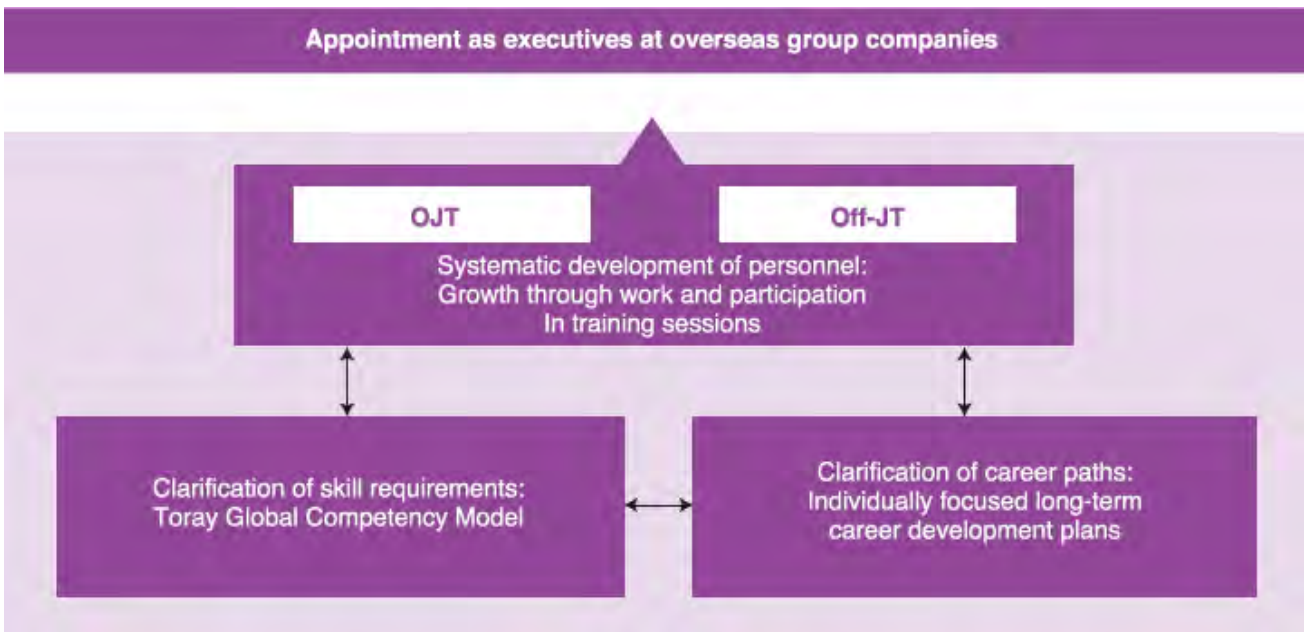
### Courses held outside Japan

Training program	Managerial category	Number of participants
Toray Group U.S. Senior Management Seminar	Department managers	13
Toray Group U.S. Management Training	Section managers	14
Toray Group EU Senior Management Seminar	Department managers	10
Toray Group EU Management Seminar	Section managers	16

Training program	Managerial category	Number of participants
Toray Group Indonesia Management Seminar	Section managers	23
Toray Group Thailand Senior Management Seminar	Department managers	26
Toray Group Malaysia Management Seminar	Section managers	15
Toray Group China Senior Management Seminar	Department managers	27
Toray Group East and North China Management Seminar	Section managers	30
Toray Group South China Management Seminar	Section managers	21
Total number of employees receiving training		195

### Infrastructure for Developing and Promoting Local Personnel

Positions deemed critical for the global management of Toray Group have been classified into four levels based on a group-wide standard. Toray’s head office is working with overseas group companies to develop and promote local staff in these positions; the employees are known as National Core Staff. Toray has specified the group-wide skill requirements and code of conduct expected of National Core Staff in the form of the Toray Global Competency Model. In accordance, individually focused long-term career development plans are formulated.



#### VOICE

##### Seminar a Valuable Opportunity to Interact with Senior Managers from Other Countries

I participated in the fiscal 2014 Toray Group Senior Management Seminar. The group research topic was particularly memorable. We were asked what Toray Group must do in order to be a business group with a vital, open-minded corporate culture that takes on challenges with enthusiasm. After thoroughly discussing it with the other members of my group, who were from Indonesia and Thailand, we came to this conclusion: Toray has cultivated a corporate culture in which each employee is highly committed to his or her work, and we personally have to ensure that this corporate culture is passed on to the employees who are coming up. The two weeks of discussions enabled me to gain a better understanding of my colleagues. I found it valuable to work with them to find answers by working together across our respective cultural backgrounds and values.

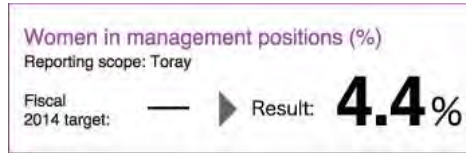


**Ooi Yinn Ling**  
 Manager, System Operation, Information Systems Division, Toray Industries (Malaysia) Sdn.Berhad.

## Promoting Diversity

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

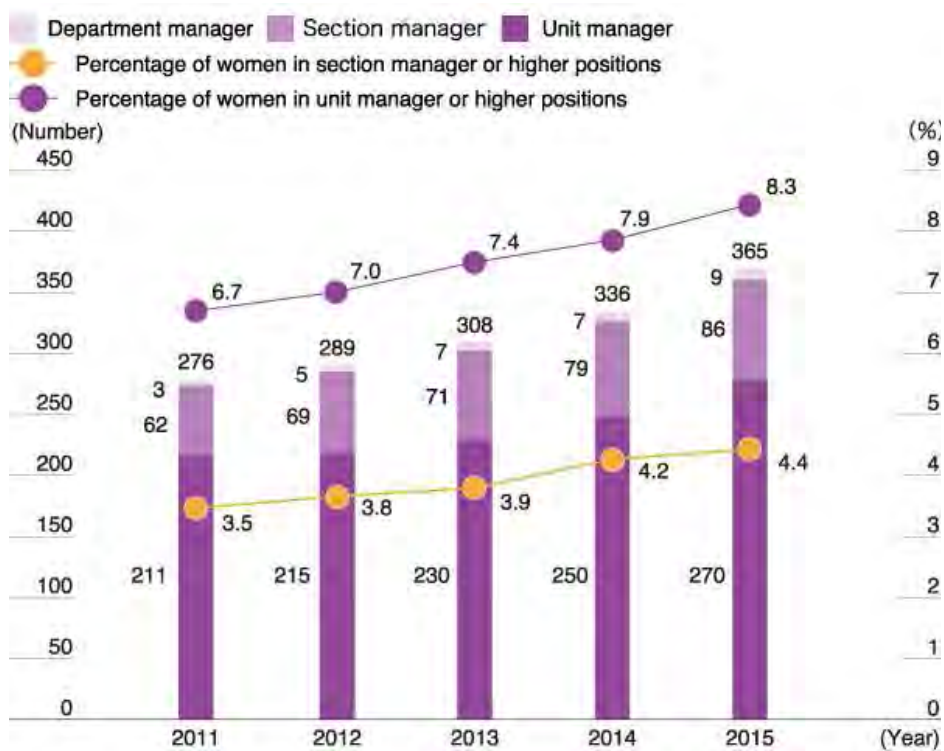
### Fostering an Organizational Culture Conducive to the Career Advancement of Women



Toray has long encouraged women in the workplace and implemented policies to support women to build fulfilling careers. The Company promoted its first female manager in 1958 and introduced employee provisions for taking parenting leave, nearly 20 years before parenting leave became mandatory in Japan. In 2003, a woman became president of a Toray Group company. Then, in 2004, Toray launched the Advancement of Women Project. As of April 2015, women held 8.3% of unit manager or higher positions and 4.4% of section manager or higher positions.

Toray has been selected as a Nadeshiko Brand company by the Tokyo Stock Exchange and Japan's Ministry of Economy, Trade and Industry, in recognition of its outstanding efforts to advance women's roles in the workplace. Moving forward, Toray will work on assisting women to develop and achieve their personal career plans.

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



Note: As of April each year

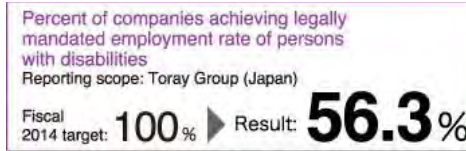
#### Related Information

> [Empowering Women](#)

### Employing a Diverse Workforce

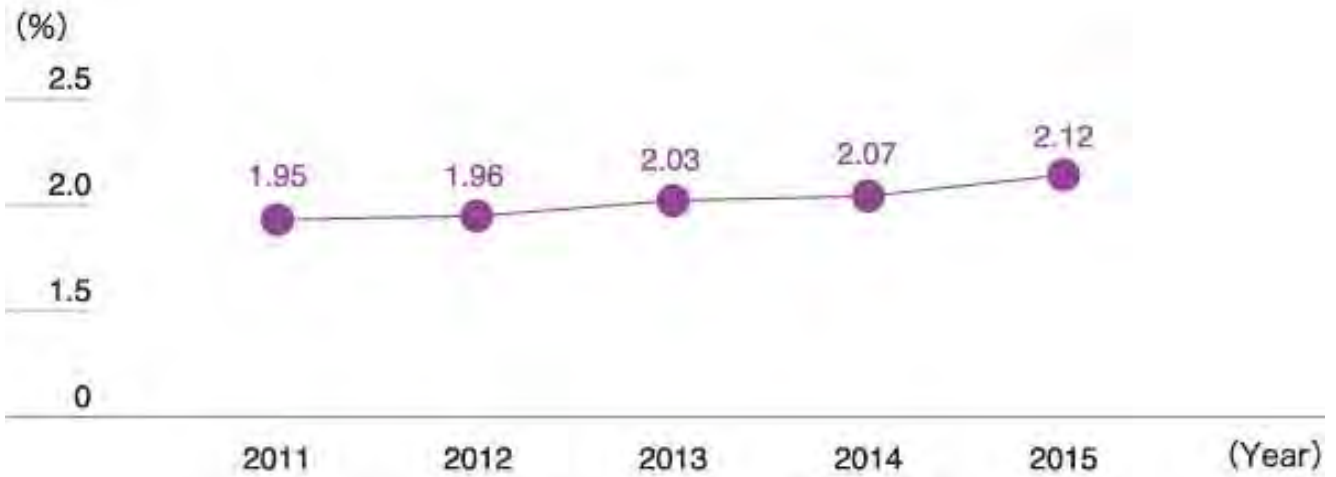
As Toray continues to globalize its operations, the Company aims to employ people who have a global perspective and mindset, highly specialized skills and strong language abilities. This is why the Company is recruiting Japanese university graduates who studied abroad, and non-Japanese graduates of either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

## Employment of Persons with Disabilities



Toray 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. In fiscal 2014, the percentage of Group companies who exceeded the legal minimum of 2.0% persons with disabilities in the entire workforce was 54.8%. Group companies in Japan that are subject to the hiring minimum will continue working to employ persons with disabilities and seek advice from employment assistance centers in order to meet or exceed the 2.0% minimum.

Employment Rate of Persons with Disabilities (Toray)



Note: As of June 1 each year

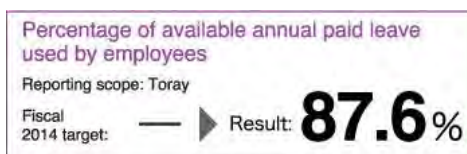
## Re-employment System

As part of initiatives to encourage full utilization of skilled individuals over 60 years of age, in fiscal 2001 Toray introduced a re-employment system open to all of its unionized employees who wish to continue working. The Company expanded the system in 2005 to include employees in management and specialized fields.



## Creating a Positive Workplace for Employees

### Helping Employees Maintain Work-Life Balance



Toray has been working to further improve systems that help employees achieve a harmonious balance between work and family life, by offering a wider variety of lifestyle options for men and women. Support systems that exceed those legally mandated for childcare, family care, and maternity protection are provided, the result of Toray's commitment to making them accessible and responsive for a diverse range of employee needs. In 2007, Toray was granted certification as a general corporate entity meeting the requirements for supporting the development of the next generation by Japan's Ministry of Health, Labour and Welfare.

#### Major Support Systems for Employee Work and Family Life Balance

Category	Description
Long-term childcare leave	<ul style="list-style-type: none"> <li>Available for employees using child care center services offering a leave of absence up to the end of March of the fiscal year in which the child turns one year of age or up to the time the child turns 18 months, whichever is longer</li> </ul>
Lower-hour work schedules for childcare	<ul style="list-style-type: none"> <li>A maximum reduction of two hours per day, calculated in 15-minute increments, available until the end of the fiscal year in which the child is in third grade of elementary school</li> <li>May be used concurrently with flextime system</li> </ul>
Long-term family care leave	<ul style="list-style-type: none"> <li>Available for a total of 365 days per situation requiring leave to provide care</li> <li>May be used concurrently with flextime system</li> </ul>
Leave to care for sick children	<ul style="list-style-type: none"> <li>Five days per year of leave per child available until the end of the fiscal year in which the child is in third grade of elementary school</li> <li>Days not taken by the end of the fiscal year may be rolled over to the following fiscal year (revised April 2013).</li> </ul>
Family care leave	<ul style="list-style-type: none"> <li>Five days per year of leave available per family member</li> <li>At maximum five additional days per year available when no other appropriate caregiver is available on those days (revised April 2013)</li> </ul>
Toray Smile Support Program	<ul style="list-style-type: none"> <li>Welfare point system offering a selection of programs with an emphasis on providing support for childcare and home acquisition</li> </ul>
Childcare services payment assistance	<ul style="list-style-type: none"> <li>Childcare coupons offering a 70% discount on services provided by participating companies issued as an additional Toray Smile Support Program service</li> <li>No restrictions on number of coupons or age of participating employee's child</li> </ul>
Telecommuting program	<ul style="list-style-type: none"> <li>Available for employees who meet certain requirements and have a family member requiring care or a child through the end of the fiscal year in which the child is in the third grade of elementary school (introduced April 2012)</li> <li>Available up to two days (15 hours) per week and no more than a maximum of six days (45 hours) per month for approved employees</li> </ul>
Registration system for reemployment	<ul style="list-style-type: none"> <li>Registration system providing reemployment opportunities to former employees who resigned due to personal matters such as marriage, childbirth and childcare, nursing care for family members, or a spouse's work transfer</li> <li>The registration period is ten years. Registrants may be immediately eligible for regular employee positions depending on the content of their jobs, expectations of their role in the company, and their personal situations.</li> </ul>
Commuting allowance for bullet train or other limited express travel	<ul style="list-style-type: none"> <li>Allowance for tickets for applicable distances on bullet trains or other limited express trains available for employees who wish to avoid (cease) living apart from their families due to job transfers or employees who bear personal responsibilities such as caring for family members</li> <li>In certain cases, employees may be required to pay a part of the commuting expenses out of pocket.</li> </ul>

After acquiring the certification, Toray revamped its child care support systems in June 2010 in an effort to encourage male employees to make use of them. Then in April 2011, the Company launched the Toray Smile Support Program, a point-based system that lets employees choose from various programs that provide financial assistance for childcare and purchasing homes. Toray initiated a telecommuting program in April 2012, aimed at making it easier for employees to work while raising children or caring for family members. Toray also expanded the scope of its commuting allowance for taking the bullet train in October 2012. In April 2013, Toray improved its support systems once again, offering special leave for parents to prepare children for nursery school, and extending eligibility for leave to care for sick children. In July 2013, the Company also revised working hours under its reduced-time work systems for childcare and family-care.

#### Utilization of Childcare and Family Care Leave Systems (Toray)

FY		2010	2011	2012	2013	2014
Employees taking childcare leave	Women	79	81	62	56	71
	Men	2	3	2	3	5
Employees taking family care leave	Women	2	1	2	0	2
	Men	1	0	0	1	1

Note: Figures show the number of employees taking leave.

As part of its commitment to workplace innovation, Toray makes provisions to help employees balance work and family life. Since fiscal 2008, regular workplace discussions are held in each workplace to raise awareness of different working styles, and working late at night or on holidays is prohibited, in principle. All lights in the workplace are turned off at a certain time at night, and company-wide “no overtime days” take place one day each month. Due to ongoing initiatives to reduce overtime hours and encourage employees to take annual paid leave, employees used 87.6% of available annual paid leave in fiscal 2014.

In October 2010, Toray set up a Work-Life Balance Committee, made up of labor and management representatives. Through this committee, labor and management have been engaged in discussions on a number of issues oriented toward helping employees balance job responsibilities with home life, as well as creating workplace environments that facilitate diverse working styles, preventing overwork and reducing excessive working hours, and enhancing mental healthcare at worksites.

In April 2014, the committee was renamed the AP-G 2016 Labor-Management Committee.

## Employee Health

Toray is working to promote better health among employees, encompassing both offices and plants. Employee health management is viewed as a management priority, and strategic initiatives are underway, including some undertaken in collaboration with the employee health insurance association. In March 2015, Toray was selected as a Health Productivity Brand company by Japan’s Ministry of Economy, Trade and Industry and the Tokyo Stock Exchange, in recognition of its outstanding efforts to promote employee health management.

### Related Information

- > [Evaluations from the Perspective of Socially Responsible Investment](#)

### Column

#### Employee Health Initiatives in Thailand

Toray Group companies in Thailand promote employee health as part of their social responsibility initiatives. These programs are tailored to social needs and the needs of employees, such as programs to help employees quit smoking, mental health education, and health seminars for pregnant mothers.



Health seminar for pregnant mothers at Luckytex (Thailand) Public Company Limited

## 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.**

### Fifth CSR Road Map goals

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

### Management

Guided by its policies on product safety and quality assurance, Toray Group has established an organizational framework for consistently delivering on its “customer first” and “quality first” commitments. Specifically, Toray’s Product Safety and Quality Assurance Committee deliberates on basic policies and other matters, while the Product Safety and Quality Assurance Planning Department plans and proposes measures for the entire Group. In fiscal 2014, the Group selected focus issues in the area of product safety and quality assurance in relation to executing its medium-term management program, Project AP-G 2016, and initiated strategies to address the issues. Moving forward, Toray Group will strengthen its management systems across the Group, pursuing continued synergies to enhance both product safety and quality assurance.

### 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.

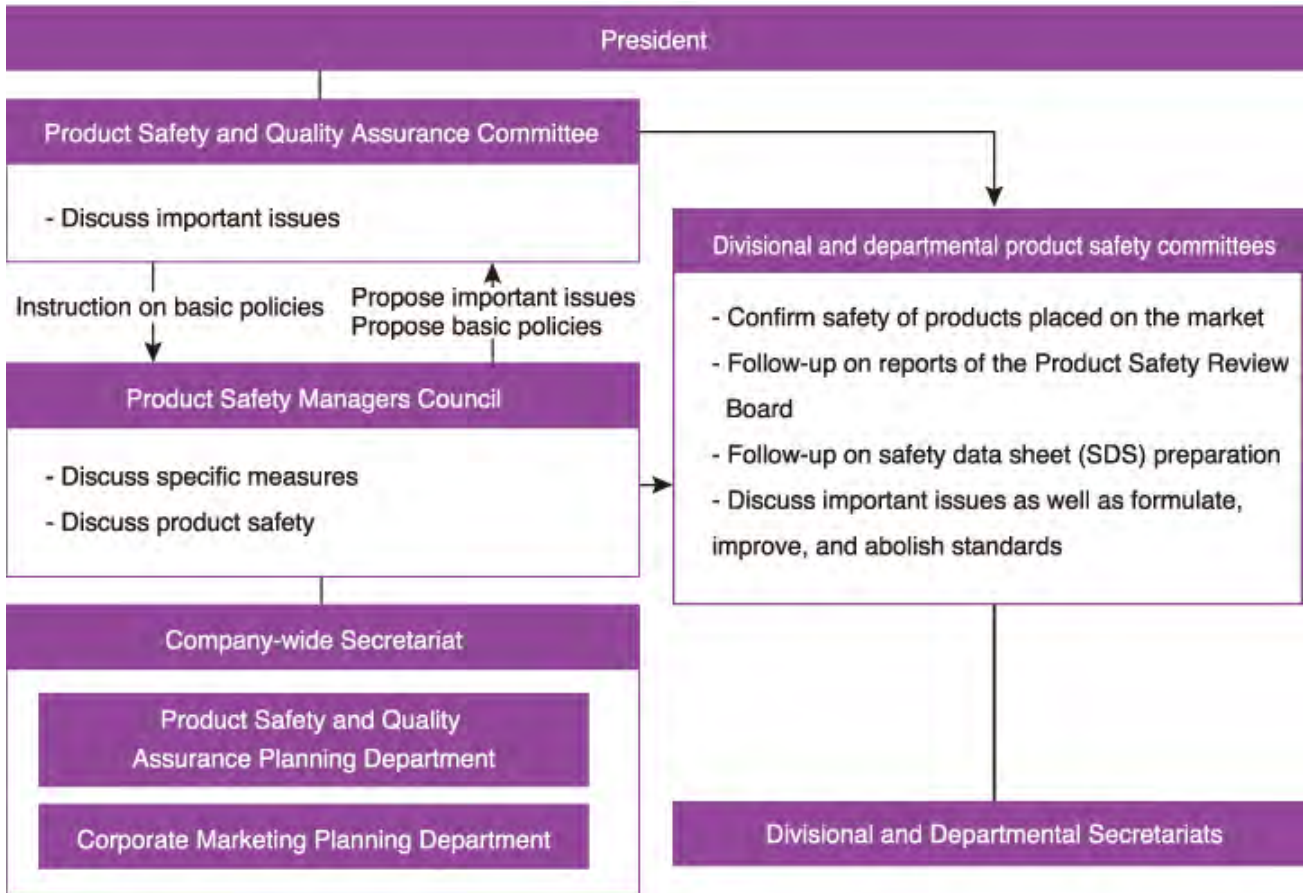
### Framework for Product Safety

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

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

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

Product Safety Framework



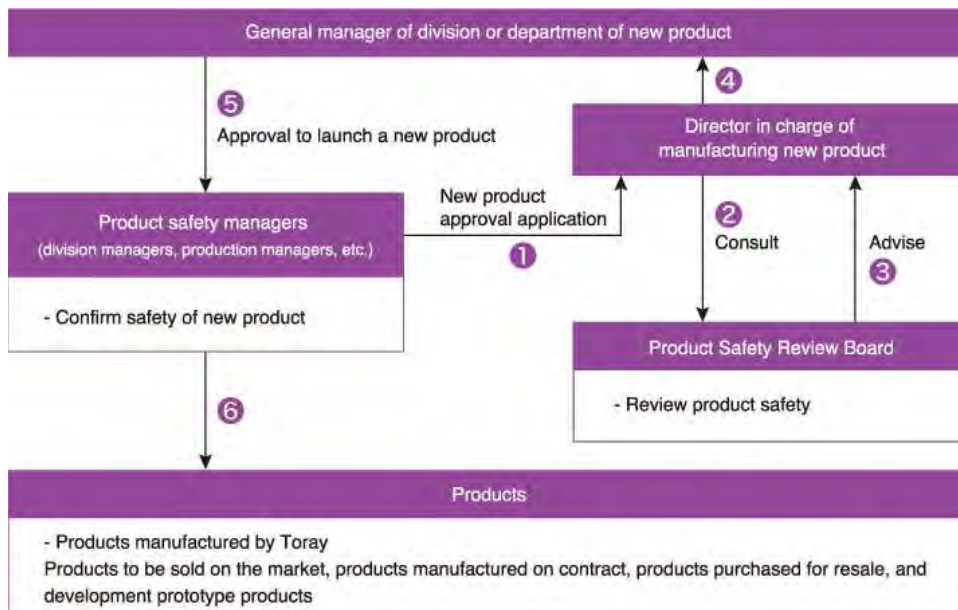
## Initiatives for Product Safety and Quality Assurance

### A Stronger Product Safety Review System

Safety reviews for new products are implemented under the responsibility of the directors in charge of manufacturing at Toray and the relevant directors at its group companies. These reviews encompass safety checks for the product itself as well as reviews of safety information supplied to customers such as safety data sheets, instruction manuals, warning labels, and catalogs. The reviews also examine the product's impact on the environment. If any doubts about product safety are identified, the Product Safety Review Board convenes a meeting comprised of impartial experts, including people from outside the Group when necessary. The product must then pass their review before being released to the market.

1 Toray Group has been phasing in safety data sheets (SDS) based on revised JIS standards that comply with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Product Safety Review Flow Chart



### Product Safety Education and Training

Toray provides training every year for newly appointed department and section managers at the Company and its group companies in Japan. Sessions are focused on the importance of product safety, the relationship between product safety and quality assurance, relevant laws and regulations, and Toray Group's product safety review system.

### Responding to an Accident Caused by a Product Defect

One noteworthy incident was recorded in fiscal 2014, involving a woman's swimsuit sold by Toray Diplomode, Inc. Adhesive that was used to affix the bijou accessory adorning the front of the swimsuit had hardened to create a sharp edge. A sales associate suffered a minor cut to a finger when picking up the garment. The company responded by issuing instructions to the garment manufacturer and improving the garment inspection process to prevent it from happening again. Toray Group will continue to institute measures to prevent accidents involving products that are procured from other countries, or involving subcontracted processes.

### Providing Product Safety Information

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

## Perfecting Systems in Support of Quality Assurance Activities

Every year, the Product Safety and Quality Assurance Committee determines company-wide tasks on the basis of quality assurance management rules. Each worksite works on the tasks under the

direction of a Quality Assurance Manager Council.

In fiscal 2014, the KPI of complaint costs to net sales deteriorated due to a product defect which led to an increase in complaint costs. In response, the Company instituted new measures for addressing major product complaints from customers, which require a thorough investigation of the underlying cause, and for relevant departments to mutually monitor the execution of countermeasures. In addition, effective measures are to be horizontally deployed across the organization. Toray also expanded its quality control guidelines to address the increase in global products that are manufactured in different plants worldwide to the same specifications.

Ratio of complaint costs to net sales,  
compared with fiscal 2011–2013 average  
Reporting scope: Toray

Fiscal 2014 target: 80% ▶ Result: **162%**

## Respecting the Eight Basic Consumer Rights

Toray Group is fundamentally committed to respecting the eight basic rights of consumers endorsed by Consumers International, in striving to secure the safety and quality of its products and services.

**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

### VOICE

#### Implementing Fundamental Improvements to Quality Control

Our department is responsible for quality assurance for pharmaceuticals and medical devices, to ensure that these products can be used safely. We work with quality assurance organizations at plants to manage the receiving of raw materials, check product shipment and labeling, and conduct testing and inspections.

In fiscal 2015, we laid out a strategy to secure quality assurance at the process level by focusing on understanding basic principles and rules, and applying fundamental practices, to shift quality assurance toward the production site. Under this strategy, we are strengthening the level of collaboration and support for group companies, beginning with Toray Medical Co., Ltd. and Toray Medical (Qingdao) Co., Ltd., in an effort to expand the dialysis market in Japan, Asia, and developing countries. Moving forward, we will keep working to build a global framework for quality assurance that delivers products of consistent quality.



**Sayuri Sakurai**  
Assistant General  
Manager, Medical  
Products Quality  
Assurance Department,  
Toray Industries, Inc.

## Facilitating CSR Initiatives Throughout the Supply Chain

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

### Fifth CSR Road Map goals

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

### Management

Toray Group's CSR Procurement Guidelines mandate the procurement of products and materials that meet social and environmental requirements. The Group works with suppliers and distribution partners to secure socially responsible value chains.

#### CSR Procurement Guidelines (Adopted in December 2004)

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

## Toray Group's CSR Procurement and Purchasing

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

### Basic Purchasing Policies (Revised in December 2004)

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

### Implementing CSR Procurement

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

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

PDCA Cycle for Supply Chain Management



### Surveying Suppliers about CSR

Toray asks its main suppliers and subcontractors to practice CSR procurement, targeting 90% compliance among business partners. Toray conducts a biannual survey on socially responsible practices, targeting major suppliers, manufacturing subcontractors, and sales agents who represent 90% of Toray's procurement by value. In fiscal 2013, the survey was expanded to cover distribution partners. The survey provides a comprehensive picture of socially responsible practices and includes questions specifically related to Toray Group's CSR Procurement Guidelines. The survey also gauges attitudes on areas of increased concern, such as biodiversity conservation and conflict minerals.

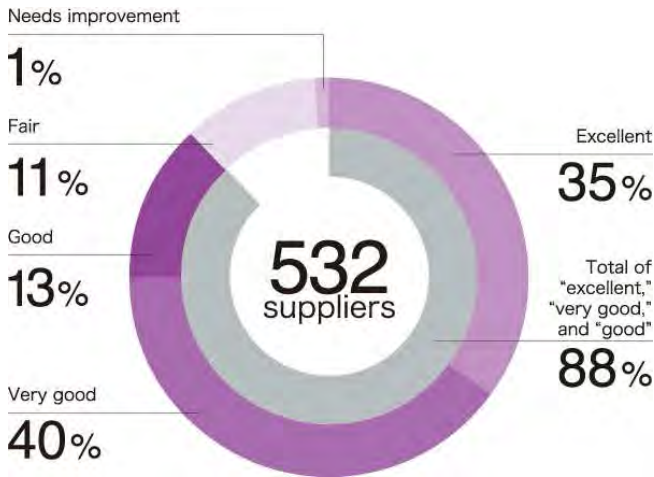
### CSR Survey Results Analysis and Feedback

An analysis of the results of the survey conducted in fiscal 2013 showed that 88% (total of "excellent," "very good," and "good") of respondents had made progress in CSR enough to build a sound partnership with Toray. Only 12% (total of "fair" and "needs improvement") of companies were considered to require a follow-up audit.

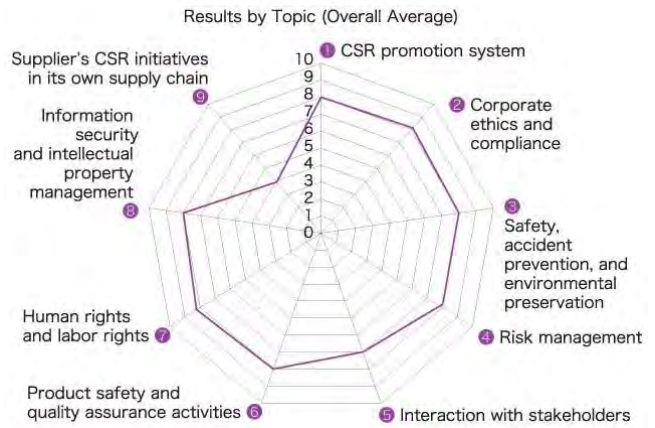
The companies surveyed were provided with both the assessment results and analysis as feedback. Toray also distributed a CSR Procurement Guidebook to further encourage socially responsible practices across the supply chain. Follow-up audits will be conducted for companies receiving lower assessments of "fair" or "needs improvement," using interviews and visits as well as written follow-up.



**CSR Status of Suppliers**



**Analysis of Survey Results**



**CSR Procurement Initiatives throughout the Supply Chain**

Toray has added conditions to its basic supplier agreement, regarding social responsibility in the areas of legal compliance, respect for human rights, environment, and safety. Both new suppliers and existing suppliers are asked to meet these conditions including upon contract renewal. Existing suppliers are also asked to sign written pledges. Furthermore, as a supplier, Toray continues to respond to all surveys on CSR status from companies to which Toray sells products.

**Human Rights and Supply Chains**

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

**Addressing Conflict Minerals**

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

**International Cooperation in the Textiles and Apparel Industry**

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.

**CSR Procurement at Group Companies in Japan**



In fiscal 2014, Toray Group achieved its target of ensuring that all group companies in Japan have a CSR procurement framework in place. The Group shares basic knowledge about CSR and presents its action policies to group companies at seminars, helping to raise awareness and encourage socially responsible practices.



CSR procurement seminar for group companies in Japan

**CSR Procurement at Group Companies Outside Japan**

In fiscal 2014, Toray Group conducted a survey on CSR procurement at 52 group companies outside of Japan. Moving forward, Group companies will prepare their own guidelines for socially responsible procurement that are consistent with corporate policies, and disseminate them internally and externally. The companies will maintain and update supplier lists, taking into account regional considerations.

## Toray Group Distribution Initiatives

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



Basic Distribution Policies

### Basic Distribution Policies (Adopted in December 2004)

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

## Reducing the Environmental Impact of Logistics

Toray is endeavoring to reduce CO<sub>2</sub> emissions in transport. These initiatives include reducing transport distances by reexamining inventory points and making use of regional ports, and shifting modes of transport by migrating to rail transport, which has less impact on the environment.

In fiscal 2014, CO<sub>2</sub> emissions from transport were at 29,800 tons, up slightly year-on-year due to increased sales. CO<sub>2</sub> emissions per unit of net sales were down by one percent year-on-year, due to ongoing logistical improvements. This enabled Toray to meet its mandate as a specified

consigner to reduce energy consumption per unit of net sales, by an average of at least one percent every year over the medium and long term.

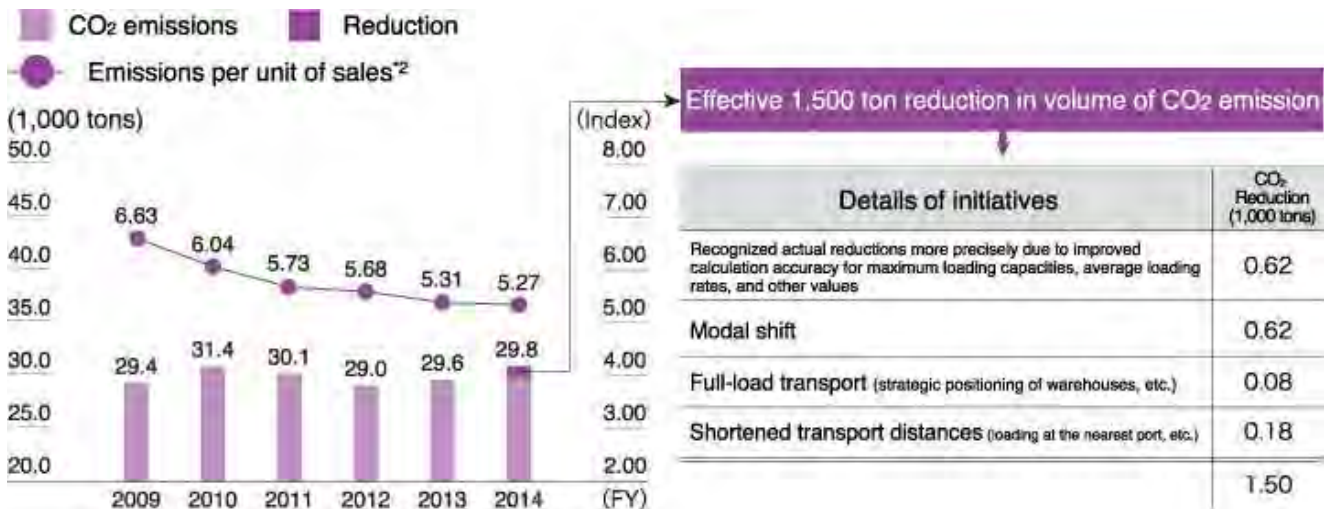
Moving forward, Toray will use its own logistics platform to track and calculate CO<sub>2</sub> emissions from transport. This will enable Toray to expand its initiatives to encompass group companies in Japan, in order to track and reduce CO<sub>2</sub> emissions on a consolidated basis.

Reduction in CO<sub>2</sub> emissions per unit of sales from distribution activities (year-on-year)

Reporting scope: Toray

Fiscal 2014 target: 1% ▶ Result: 1%

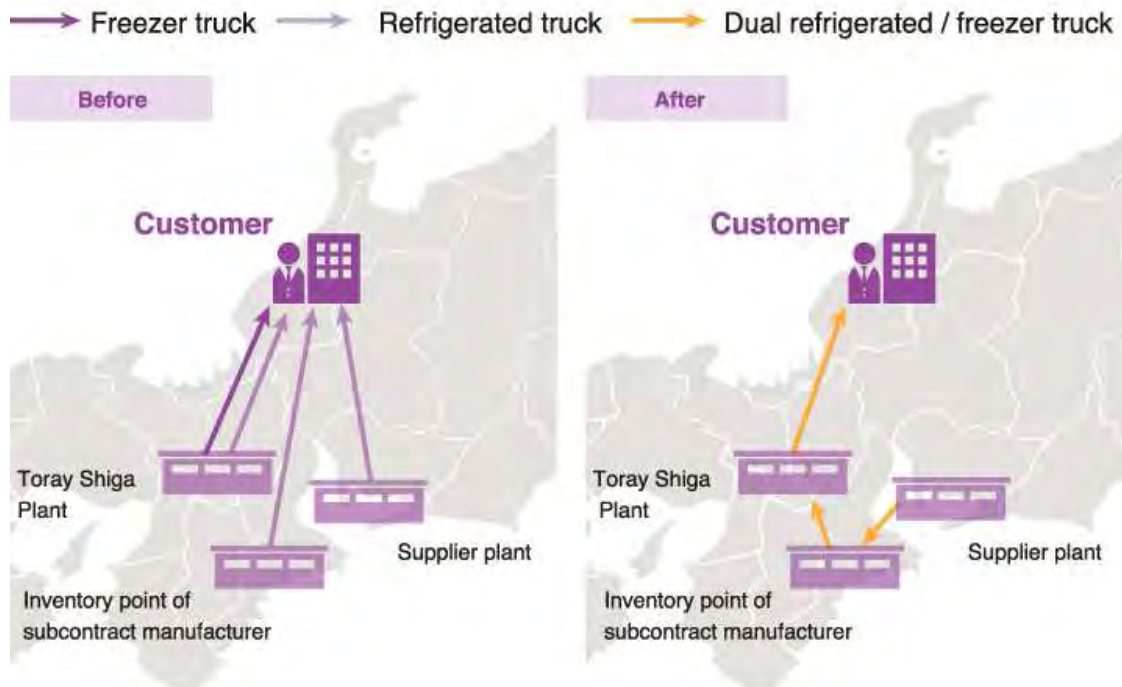
CO<sub>2</sub> Emissions Resulting from Distribution Activities (Toray)



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

## Optimizing Transport by Switching to Dual Refrigerated/Freezer Trucks

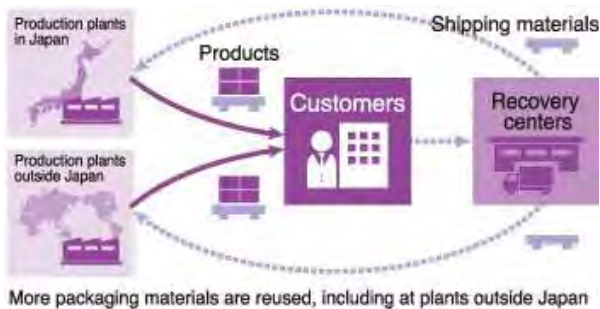
Toray previously used separate refrigerated trucks and freezer trucks to ship different LCD materials from three locations (the Shiga Plant and two other plants) to customers, due to the different shipping temperatures required for the materials. Toray significantly reduced the number of trips by switching to a transport company that uses dual refrigerated/freezer trucks. The move saved some 7.2 tons of CO<sub>2</sub> emissions annually, reducing emissions by 39%.



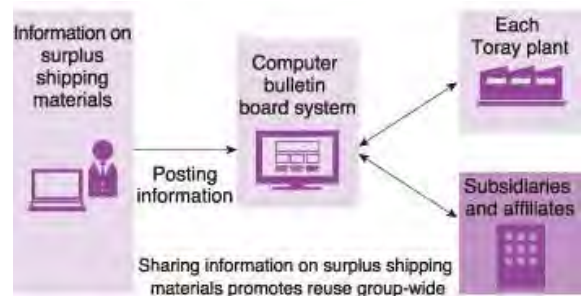
### Expanding Collection and Reuse of Packaging Materials

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.

Toray's System for Reusing Shipping Materials



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

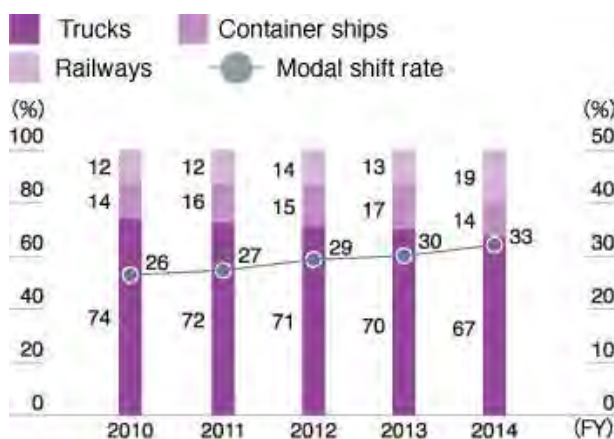


### Eco Rail Mark Acquisition

In March 2011, Toray was certified as an Eco Rail Mark Company by Japan's Ministry of Land, Infrastructure, Transport and Tourism and the Railway Freight Association. This recognizes Toray's active efforts to use rail freight transport, a relatively environmentally friendly means of transportation. The Company also obtained Eco Rail Mark Product certification for its TORAY TETORON™ polyester fiber.

Moving forward, Toray will actively use rail transport and pursue other strategies to achieve at least a 40% modal shift in transport by fiscal 2016, calculated by ton-kilometers. Toray is also adopting rail transport for some distances under 500 kilometers, to overcome a shortage of drivers that has affected truck transport availability.

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



Promoting a Modal Shift

Toray acquires certification as an Eco Rail Mark Company

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

TORAY TETORON™ certified as an Eco Rail Mark Product

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

▼

To further promote a modal shift, Toray is implementing an in-house environmental logistics project with the goal of achieving a modal shift rate of 40% by fiscal 2016.

## Initiatives to Improve Safety and Quality in Distribution

Toray is working with distribution partners to improve transport quality. The project involves sharing accident analysis data, logistics quality enhancement reports, and logistics accident hazard prediction training. Partners that make outstanding contributions to improving quality are recognized through annual awards.<sup>2</sup> 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.

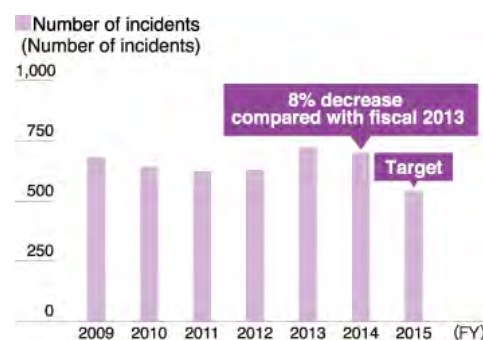
Starting in fiscal 2015, Toray will work with distribution partners to set accident reduction targets for each partner, working collaboratively to reduce the cumulative number of distribution incidents.

This initiative is part of Toray's commitment to further enhance logistics quality, setting and achieving progressively higher targets.

2 Distribution-partner companies receiving awards in fiscal 2014 (alphabetical order):

Ajinomoto Logistics Corporation, Chigusa Kosan Co., Ltd., Ichimiya Logistics Co., Ltd., Japan Transcity Corporation, Masauda Transportation Co., Ltd., Nagahama Reizo Co., Ltd., Okudakazu Co., Ltd., Okayamaken Freight Transportation Co., Ltd., Trinet Logistics Co., Ltd.

Distribution Incidents



## Logistics Quality Enhancement Reports

Toray distributes a bimonthly logistics quality enhancement report to its distribution partners. The report mainly focuses on accident case studies from other companies and topics such as hazard prediction training in logistics. Its aim is to increase awareness of logistics quality among distribution partners.

### VOICE

#### Learning from Accidents at Other Companies

The information that Toray provides regarding accidents that have taken place at other companies has helped us with our efforts to reduce logistics accidents. We have found the information about hazard prediction training to be particularly useful. The reports incorporate various perspectives from workers, as well, which has given our own workers new and specific insights into preventing accidents.

#### Masashi Ito

Tokyo Office, Kanto Branch, Japan Transcity Corporation



Quality meeting at Japan Transcity Corporation

## Using Digital Tachographs to Improve Driving Safety

Toray is encouraging its distribution partners to deploy digital tachographs, which record and output vehicle operation data, in their vehicles, to enhance safety and realize better fuel economy. Companies use the driving data they collect from digital tachographs to advise their drivers on how to drive more safely, improve their driving technique, and be more conscious of safety. The data also helps to prevent dangerous driving and reduce accidents, and is used to promote fuel-efficient driving practices.

## Yellow Card Emergency Response Measures

Drivers of shipping vehicles carry a yellow card<sup>3</sup> detailing emergency measures to be taken to minimize damage in the event of an accident. Toray has also established an emergency communication system and carries out emergency training. In the unlikely event of such an accident, Toray has procedures in place enabling the necessary staff to be dispatched as swiftly as possible to the accident site for assistance.

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

## Initiatives to Prevent Overloading

The overloading of trucks causes vibration, noise, damage to roads and facilities, and also creates driving hazards. Consequently, Toray is putting considerable effort into the prevention of overloading.

## Compliance and Security Measures for Importing and Exporting

As a measure to ensure the legality and safety of imports and exports as part of Toray Group's expanding global operations, a US subsidiary of Toray International, Inc. enrolled in the Customs-Trade Partnership Against Terrorism (C-TPAT)<sup>4</sup> with the aim of strengthening global supply chain compliance. In order to realize more efficient imports and exports of materials and to strengthen supply chain compliance and security measures, Toray is also encouraging its worldwide distribution partners to obtain Authorized Economic Operator (AEO)<sup>5</sup> status.

4 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.

5 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.

## Communication

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

### Fifth CSR Road Map goals

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

## Management

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

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

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

## Communication via Corporate Websites



With the launch of the medium-term management program, Project AP-G 2016, in fiscal 2014, Toray Group has been communicating its management strategies via in-house newsletters as well as the corporate website and mass media, reaching out to stakeholders both in and outside the Group. In accordance with one of the Group's cross-organizational initiatives, the Asia, Americas and Emerging Country Business Expansion (AE-II) Project, the Group has been expanding its global online presence by launching country and regional sites in the United States, China, Indonesia, Thailand, Malaysia, India, and Taiwan, where the Group operates business locations. In the future, the Group will launch sites for Europe, Brazil, and South Korea to promote business in these countries and regions.

Toray Group's websites use responsive design to ensure optimum access and viewing across a wide range of devices and screen sizes including smartphones and tablets.



Toray Group's global website

## Communication with Customers

Toray believes that customers come first, and as part of this commitment conducts regular customer satisfaction surveys. The survey conducted in February

2014 received a 70% response rate and yielded considerable useful feedback, including some requests not previously heard via usual customer interaction. This form of communication with customers plays an important role in raising the motivation of sales staff and securing business improvements. All survey results are made available internally at Board meetings and in-house newsletters, and feedback is given to specific departments if there are areas needing particular improvement. Employees are encouraged to take a personal stake in enhancing customer satisfaction and improving the quality of work. Toray is committed to achieving ongoing improvements, making customer satisfaction a top priority.

## Communication with Stockholders and Investors

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

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

Toray 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 2014. Feedback received at investor briefing sessions and through communication with investors and shareholders is regularly reported to the Board of Directors and Corporate Communications Committee, helping to guide management and business activities.

Activities	Attendees from Toray	Number of events	Number of participants/frequency
Briefings on business results announcements	President, Director in charge of Investor Relations Department, Director in charge of Finance and Controller's Division	4 times/year	573
Meetings and conference calls with investors and analysts	Director in charge of Investor Relations Department, General Manager and staff of the Investor Relations Department	As required	773

### External Evaluation of Information Disclosure to Investors

In the "Investor Relations" section of its corporate website, Toray provides information about its financial results and management policies and strategies for stockholders and investors. In an effort to disclose information fairly, Toray promptly posts financial data and presentation materials, including English translations, used in its briefings for institutional investors. In fiscal 2014, Toray's publications were evaluated externally by a number of organizations, as shown below.

Organization details	Evaluations
Daiwa Investor Relations Co., Ltd.	Awards for outstanding websites in 2014
Nikko Investor Relations Co., Ltd.	Most outstanding site in a completeness ranking of listed company websites in 2014
League of American Communications Professionals (LACP)	Gold Award in the corporate category of materials, 2014 Vision Awards Annual Report Competition

### Evaluations from the Perspective of Socially Responsible Investment

The Tokyo Stock Exchange (TSE) implements the +You project to encourage people to support the Japanese economy by investing in stocks. Through the project, TSE selects "themed stocks" that fit certain criteria and benchmarks, as a way to increase the number of new investors. As of March 31, 2015, Toray had been selected as a Nadeshiko Brand company for the last three years by the Tokyo Stock Exchange and Japan's Ministry of Economy, Trade and Industry, recognizing Toray as a leader in supporting women in the workplace. Toray has also been selected as a Health and Productivity Brand company for strategically supporting employee health management at the management level.



In addition, Toray was included in the following SRI indices as of March 31, 2015.

- Dow Jones Sustainability Index Asia Pacific
- MSCI Global Climate Index
- Ethibel Pioneer & Excellence labels
- Morningstar Socially Responsible Investment Index (MS-SRI)

### Convenient General Stockholders Meetings

For the convenience of its stockholders, Toray avoids holding its general meeting of stockholders on a date when many other companies in Japan hold their meetings. Toray also sends out notices of its general meetings of stockholders as early as possible to give sufficient time for stockholders to plan their attendance. In fiscal 2014, 1,893 stockholders attended the Company's ordinary general meeting of stockholders, up from 1,664 in fiscal 2013.

## Communication with Business Partners

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](#)

## Communication with Employees

In Toray Group, various forms of media such as printed in-house newsletters, intranet, and company-wide bulletin boards are employed to stimulate communication among employees. Messages from the company president appear in all of these media. The in-house newsletter is published in three languages (Japanese, English, and Chinese) to keep employees informed about management and business topics as well as corporate projects. The Chinese edition was originally merely translated from the English edition, but it is now being supplemented with locally written content, responding to reader requests in a fiscal 2014 survey of Toray Group employees in China.

### Circulation of Toray Group's publications

**Japanese edition of *People* in-house newsletter:**

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

**English edition of *People* in-house newsletter:**

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

**Chinese edition of *People* in-house newsletter:**

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

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

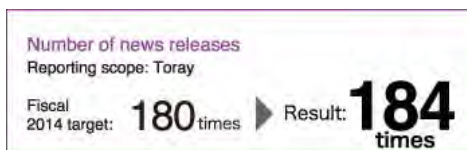
About 6,000 copies per issue (published five times per year)



In February 2014, Toray conducted an employee attitude survey around the same time as it implemented the customer satisfaction survey. The survey targeted employees of Toray and its personnel assigned to work at group companies in Japan, yielding a 90% response rate. The results were generally positive and were used to gauge any gaps that might exist between customer needs and employee attitudes. The survey results have been circulated internally to provide feedback.



## Communication with the Media



Toray recognizes that public relations and corporate communication activities have a role in fulfilling responsibilities for information disclosure as well as influencing public opinion. Accordingly, Toray's Corporate Communications Department reports directly to the president, and actively engages with a wide range of media organizations, linking the Company with the public. Based on Toray's Information Disclosure Principles, the department provides fair and impartial information, even if it may cast the Company in a bad light, in a timely and appropriate manner. In fiscal 2014, Toray issued 184 press releases and carried out 336 interviews in response to media requests.

### Related Information

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

### VOICE

#### Mass Media as a Bridge to Senior Management

Toray broadly disseminates corporate information through various direct avenues including public relations and advertising, websites, corporate reports and other publications, as well as in-house newsletters. At the same time, Toray gains exposure to the public via the media, which reports on and generates public interest in Toray's management and business activities, sometimes from a critical stance. The Corporate Communications Department works with the media as a means to reach out to the public and communicate Toray's activities. We also field requests and arrange interviews with the president, directors, and senior business managers, to create opportunities for them to directly communicate about our business activities. In fiscal 2014, we organized nine press conferences with the president and arranged 94 interviews with directors including 20 interviews with the president, while handling an additional 242 media inquiries.

Partly because of our recent strong earnings, the media has directed a lot of attention to the president's conviction that materials have the power to fundamentally change the world and his belief that all answers can be found at the production floor. The media has also widely reported on our carbon fiber composites business including Toray's collaboration with Boeing for the Boeing 787, as well as our strategic partnership with Fast Retailing, the owner of the UNIQLO brand.



**Yoshiaki Nakayama**  
General Manager,  
Corporate  
Communications  
Department, Toray  
Industries, Inc.

## Communication with Local Communities

Toray Group strives to engage in active dialogue with nearby residents in a variety of settings. Some examples of these activities include regular community meetings with local residents, participation in events sponsored by local governments, and inviting local residents to summer festivals held on sporting grounds on plant premises.



Toray Head Office employees and their families participate in a cleanup day around Tokyo's famous Nihonbashi bridge.



Employees and their families join local residents for a community event organized by Toray Plastics (Shenzhen) Ltd.



Toray's Okazaki Plant organizes a summer festival for some 2,000 members of the community including the Mayor of Okazaki City.

## Social Contribution Activities

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

### Management

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

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

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

Since fiscal 2013, Toray Group has been encouraging all of its companies to take social action in four priority areas: education, the environment, local communities, and employees.

#### Priority Areas for Social Contribution



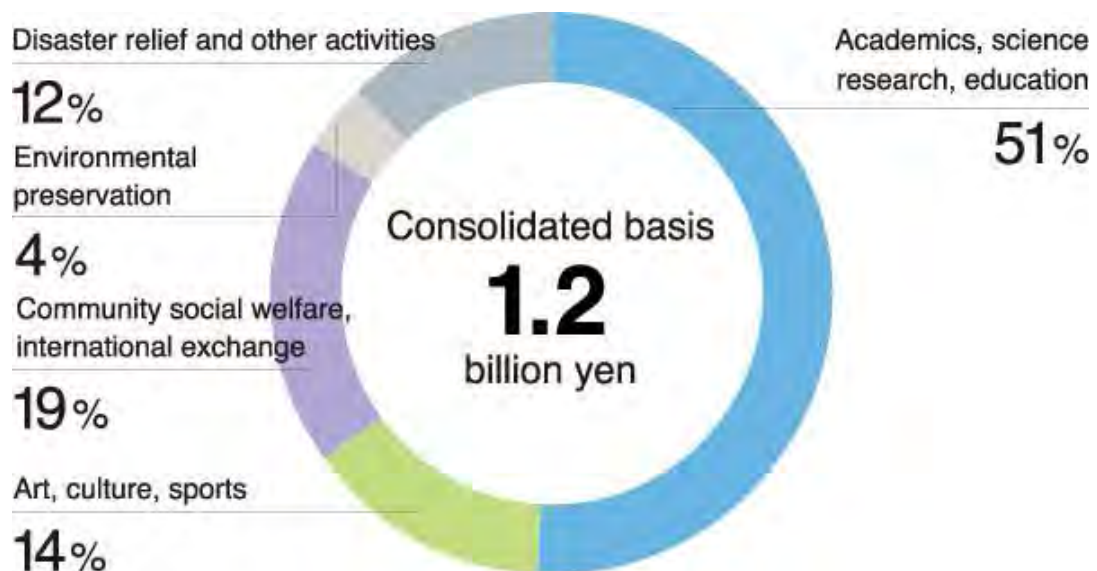
## Fiscal 2014 Result



As a member of the 1% Club, an organization founded in 1990 by Nippon Keidanren (Japan Business Federation), Toray has pledged to invest about 1% of its consolidated ordinary income into social contribution activities. In fiscal 2014, the Group invested some 1.2 billion yen on a consolidated basis (0.9% of consolidated ordinary income) and some 0.8 billion yen on a non-consolidated basis (1.7% of non-consolidated ordinary income), to achieve the one percent target. The main beneficiaries were the Toray Science Foundation in Japan and three ASEAN countries (Malaysia, Thailand, and Indonesia).

Toray Group has established three key performance indicators (KPIs) in the area of social contribution. The social contribution expenditure, measured as a percentage compared with the average from fiscal 2011 to 2013, was 107% in fiscal 2014 and met the target. The number of locations implementing social initiatives was 132 including 20 Toray business sites, 53 group companies in Japan, and 59 group companies outside of Japan. The Group also met or exceeded the following KPI targets: Number of persons reached through educational initiatives (12,600 persons versus a target of 10,000 persons or more), satisfaction rate of participants (96% versus a target of 90% or above), and satisfaction rate of employees involved in educational projects (90% versus a target of 90% or above).

Breakdown of Expenditure in Fiscal 2014



## Education

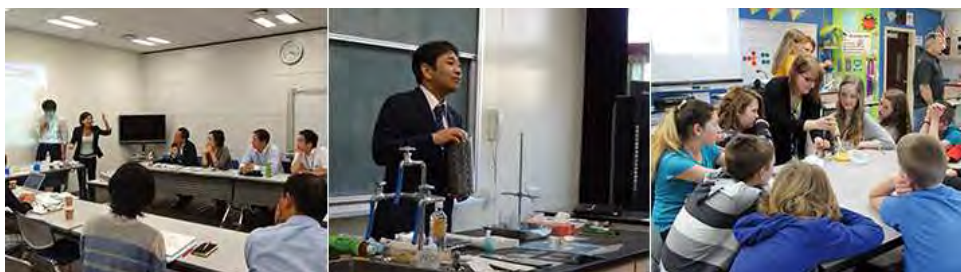
For many years, as part of its efforts to promote science and technology, Toray Group has been carrying out various educational programs for people pursuing science and engineering. The Group has broadened these activities to include elementary and junior high school students in recent years. Incorporating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

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

#### Supporting Science in the Classroom

In October 2014, Toray conducted a training session for Group employees who visit elementary and junior high school classrooms to lead science workshops. Science workshops were then conducted at 30 schools including in Fukushima and Ibaraki prefectures in addition to schools in Tokyo, Osaka, Aichi and other prefectures.

In February 2015, Toray Composites (America), Inc. sent four of its employees to Frontier Middle School to conduct science workshops for about 120 local 7th graders, including science experiments using carbon fiber. Toray also responded to 23 requests from schools in Aomori, Shizuoka, Gifu, and Kyoto prefectures as well as other areas, to supply educational materials it has developed.



Training session for Group employees who lead classroom science workshops

Additionally, Toray conducted training sessions for educators at professional development seminars in Hino City and Inagi City, Tokyo. The training sessions elicited positive feedback from educators including comments like this: "I hope to apply what I learned today in the classroom, to motivate my students and trigger their interest in science."



Science experiment using water treatment membranes made by Toray

#### Sponsoring the Japan Biology Olympiad

Toray has sponsored the Japan Biology Olympiad (JBO) since 2007. Four winning high-school students from Japan represented their country at the 25th International Biology Olympiad that was held in July 2014 in Bali, Indonesia. Each student won a medal, as they brought home one gold medal and three silver medals—a remarkable accomplishment in a field of 239 competitors from 61 countries.



Students from Japan celebrate after the closing ceremony of the 25th International Biology Olympiad (photo courtesy of JBO).

#### Monozukuri Workshops

In August 2014, Toray Group participated in the Monozukuri Taikan Stadium, an educational event for children that is sponsored by the Monozukuri Japan Conference and Nikkan Kogyo Shimbun, Ltd. Toray Group conducted a science workshop exploring the wonder of fibers, for some 180 children.



Forming water drops on fabric

### Promoting Science and Technology

Toray established the Toray Science Foundation in 1960 to fund basic research in science and technology, and to contribute to scientific, technological, and cultural progress. The foundation, which is noted as one of the first private-sector research assistance organizations in Japan, held the 55th presentation ceremony of the Toray Science Foundation in March 2015. In addition to awarding the Toray Science and Technology Prize and Toray Science Education Prize, 11 persons received a Toray Science and Technology Grant.

From 1993 to 1994, Toray established foundations in Malaysia, Thailand, and Indonesia that work to facilitate science and technology progress in their respective countries.



Toray Science Foundation's 55th presentation ceremony

### Related Information

- › [Development of Science Technology \(website\)](#)

## The Environment

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

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

#### Environment and Communities

Toray Group is engaged in a number of environmental initiatives in the Tokyo area. In September 2014 and May 2015, employees participated in the 1st and 2nd Arakawa Clean Aid events, helping to clean up the banks of the Arakawa River. The volunteer participants listened to a presentation from the non-profit Arakawa Clean Aid Forum regarding the river debris, before proceeding to pick up trash, which was tracked for data collection purposes.

Toray Group offices and plants conduct regular clean-up efforts to help keep their communities attractive and raise environmental awareness among employees.



Employees from 10 Toray Group companies were involved in the 2nd Arakawa Clean Aid event.

#### WWF Hong Kong Walk for Nature

Twenty employees of Toray Group companies in Hong Kong participated in the Walk for Nature sponsored by World Wildlife Federation (WWF) Hong Kong. The annual fundraising event is dedicated to the conservation of the Mai Po Nature Reserve on the northwest edge of Hong Kong. The event helped to reinforce the importance of nature conservation projects.



Toray Group employees at the starting line

### Raising Environmental Awareness through Community Exchange

#### Plant Tour for Teachers

In January 2015, staff of Thai Toray Synthetics Co., Ltd. invited 19 teachers from local elementary schools to see the plant's wastewater and waste treatment facilities as well as boiler facilities that run on biofuel (coconut shells) to reduce CO<sub>2</sub> emissions. The initiative also helped to raise awareness about the plant's business activities.



Elementary school teachers visit the Technical Center.

#### Seminar for Government Personnel

In April 2014, P.T. Indonesia Toray Synthetics received a group of 50 environmental management personnel for a seminar on wastewater treatment organized by the Indonesian Ministry of Environment. The participants learned about the plant's wastewater treatment system, which uses activated sludge treatment.



Government personnel learn about wastewater treatment systems.

## Helping to Build a More Sustainable World

### Conserving Water

Toray's Mishima Plant supplies clean water to the Genbei River, which runs through the city of Mishima and supplies water to local rice paddies. The river has been named one of Japan's 100 exquisite, well-conserved waters by the Ministry of the Environment. The clean water is used just once as cooling water for temperature control, and is helping to conserve local nature and waterside environments.



Clean cooling water from the Mishima Plant is released into the Genbei River.

### Collaborating with an NGO to Improve Water and Sanitation Conditions

Since fiscal 2011, Toray has partnered with the non-governmental organization, Japan Water Forum, to support projects aimed at enhancing water and sanitation conditions for elementary schools in Lombok Island, Indonesia.



Teaching children about the importance of water and sanitation



## Local Communities

Toray and its group companies pursue growth in balance with community development, striving for good corporate citizenship by honoring community ties and responsibilities.

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

#### Supporting Career Choices

Toray Group supports initiatives that give students broader career choices. In fiscal 2014, the Group conducted career education activities around Japan, to help students understand the different career options available to them and the skills they need.



Students attend a career workshop after touring facilities of Toray's Composite Materials Research Laboratory.



Q&A session with students at Toray's Fibers & Textile Research Laboratories

#### Students Visit Textile Mill in Indonesia

In November 2014, P.T. Indonesia Synthetic Textile Mills received middle grade students from a Japanese school in Jakarta so they could learn about clothing fibers and textiles through demonstrations on spinning and weaving processes.



Students learned weaving using packing belts employed at plants.

#### Supporting Human Resources Development in Malaysia

In October 2014, Toray Plastics (Malaysia) Sdn. Berhad organized a plant tour for instructors and trainees from the Advanced Technology Training Center (ADTEC), which conducts worker training for the Malaysian Ministry of Human Resources, as well as labor bureau personnel.



Trainees tour the facilities.

#### Hospital Volunteers

Since fiscal 2011, employees of the Gumi Plant of Toray Advanced Materials Korea Inc. have volunteered their time to help bathe severely ill patients in hospital care, in partnership with local hospitals. Employees draw motivation from providing a much-needed service to the community.



Toray Advanced Materials Korea employee (right) helps care for a patient.

## Participating in an Event to Support Cancer Research

Employees of Toray International U.K. Ltd. participated in a bake-off event organized by Europe's largest charity, whose mission is to reduce breast cancer. Employees baked homemade treats such as cakes and cupcakes and sold them to other employees as well as people from other companies in their office building. All proceeds were donated to the event organizer.



Employees baked treats to raise funds.

## Reaching Communities through Sports

### Sports Lessons

Toray Group employees involved in corporate judo, kendo, and rowing clubs conduct sports clinics and help coach youth in the community. The rowing club of Seta-kita Junior High School, coached by employees of the Toray Shiga Rowing Club, took the national title in the junior high school rowing championship held in July 2014.

Players from the Toray Arrows professional men's and women's volleyball teams conducted 26 volleyball clinics across Japan in fiscal 2014. In July 2014, player from the men's Toray Arrows team took part in an enjoyable exchange with 50 students from the Numazu School for Students with Special Needs in Shizuoka Prefecture.



Students are coached by an employee, who previously represented Japan in international competition.



Exchange involving students from the Numazu Special Needs School and Toray Arrows volleyball players

## Communities and Disaster Relief

Toray Group is actively engaged in disaster relief efforts around the world, striving to assist communities by leveraging the special characteristics of each group company.

### Supporting Reconstruction after Disaster

#### Assisting Disaster Victims

Toray donated funds to the Central Community Chest of Japan in support of victims affected by torrential rains that impacted Hiroshima Prefecture and other parts of western Japan in August 2014. Toray also extended financial aid to the non-governmental organization, Japan Platform, to assist victims of the August 3, 2014 earthquake that caused major damage to areas of Yunnan Province, China, and victims of the Nepal earthquake on April 25, 2015.



Aid efforts for earthquake victims in the Dhading District of Nepal (Photo courtesy of Association for Aid and Relief, Japan)

### Supporting Recovery after the Great East Japan Earthquake

#### Donating to UNESCO Japan's Children Support Fund

Since fiscal 2012, Toray has raised funds to assist children affected by the Great East Japan Earthquake, donating a portion of proceeds from the sale of Toraysee™ microfiber cleaning cloths with seasonal designs. Proceeds are donated to a children's fund operated by the National Federation of UNESCO Associations in Japan.



Toraysee™ microfiber cleaning cloths in seasonal designs

#### Hand-Dying Workshop

In August 2014, Chori Co., Ltd. organized a children's workshop involving hand dying of reusable shopping bags using proprietary natural dyes developed by Chori. The ongoing workshops have produced plenty of smiles for participants, who learn hand dying using the company's natural dyes.



Hand-dying bags using natural plant dyes

#### Volleyball Clinics for Earthquake Recovery

In June 2015, players from the Toray Arrows professional women's volleyball team conducted volleyball clinics in support of recovery efforts from the Great East Japan Earthquake. More than 200 students from local junior high schools and high schools attended the clinics, which were held in four locations in Iwate Prefecture including Takata High School in the city of Rikuzentakata, an area that was heavily damaged in the earthquake. The youth were earnest in practice and thoroughly enjoyed the instruction from the professional athletes.



Toray Arrows player instructs a young player.



At the start of the clinic

### Educational Initiatives for Junior High School Students in Disaster Areas

In October 2014 and February 2015, Toray's Tohoku Branch conducted classroom workshops for students of Okuma Junior High School, which was relocated from Okuma Town, Fukushima Prefecture to the city of Aizuwakamatsu because of the earthquake.

In January 2015, Toray employees took part in the Third Career Challenge Day organized by the school board of the City of Ofunato, Iwate Prefecture for all second-year junior high school students in the municipality. Toray employees talked to the students about their experience as researchers and about R&D work at a manufacturer, while describing the skills, attitude, and responsibility needed to be successful in their jobs.



Demonstration of science experiment for students at Okuma Junior High School



Toray researcher fields questions from junior high students in the city of Ofunato.



# Environment

Safety, accident prevention, and environmental preservation are highest management priorities for Toray Group. The Group endeavors to secure the safety and health of society and employees, and carefully considers environment factors in each stage of the product life cycle, from materials procurement and the manufacturing and distribution of products through disposal.

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## Safety, Accident Prevention, and Environmental Preservation

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

### Fifth CSR Road Map goals

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

## 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. The table below summarizes the 13 main activities that were implemented in fiscal 2014.

**Safety, Health, Accident Prevention, and Environment Activity Policy of Toray Group in 2014**

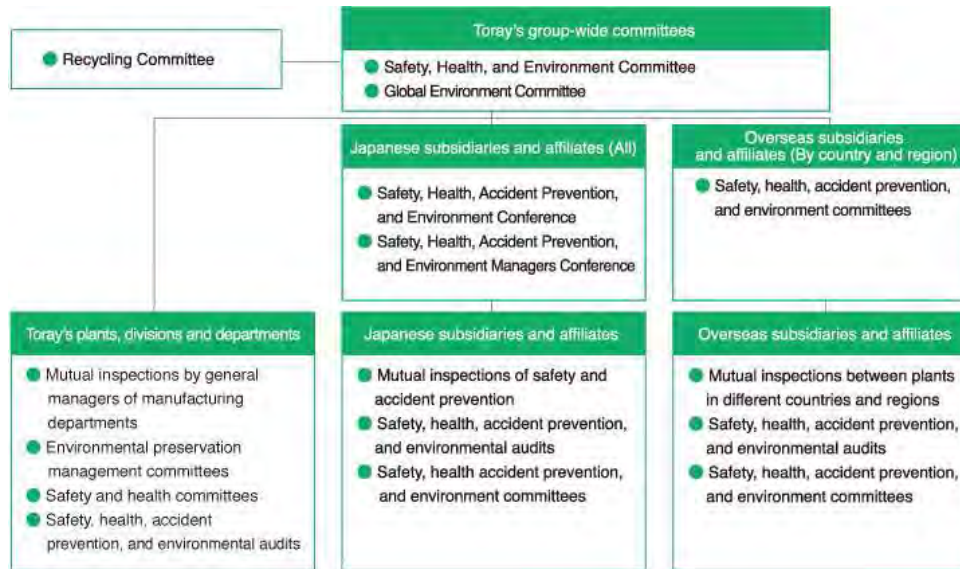
Action policy		Main activities
Common	Accomplish risk management	<ul style="list-style-type: none"> <li>• Undertake measures to reduce risks</li> </ul>
Safety	3Z activities <sup>1</sup> for zero accidents	<ul style="list-style-type: none"> <li>• Encourage employees to think carefully before taking action</li> <li>• Improve safety among onsite subcontractors of Toray Group</li> </ul>
Health	Rigorous chemical substance management	<ul style="list-style-type: none"> <li>• Expand and strengthen management of hazardous chemical substances and toxic chemicals</li> </ul>
	Emphasize occupational health management	<ul style="list-style-type: none"> <li>• Take countermeasures against pandemic influenza</li> <li>• Enhance mental health management</li> </ul>
Accident prevention	Achieve zero fire accidents	<ul style="list-style-type: none"> <li>• Accomplish Fire Prevention Project's second phase</li> </ul>
	Improve large-scale earthquake response	<ul style="list-style-type: none"> <li>• Execute large-scale earthquake and tsunami response drills</li> <li>• Develop business continuity plans at group companies</li> </ul>
Environment	Implement the Fourth Medium-Term Environmental Plan	<ul style="list-style-type: none"> <li>• Reduce greenhouse gases</li> <li>• Reduce atmospheric emissions of chemical substances</li> <li>• Achieve waste reduction targets</li> </ul>
	Achieve zero environmental accidents	<ul style="list-style-type: none"> <li>• Implement strict measures to prevent environmental accidents</li> </ul>

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

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

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

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



### Audits and Follow-Up Measures

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 2014, audits were conducted for all 12 plants and one research laboratory at Toray, 47 plants operated by 25 group companies in Japan, and 57 plants operated by 42 group companies outside of Japan. The audits focused on three areas: ensuring that employees think carefully before acting, conducting general duct inspections, and ensuring prevention of environmental accidents. The audits helped to secure systematic improvements by identifying and addressing facility issues and issues relating to management.



Audit at Toray Advanced Materials Korea Inc.



Audit at So-Wa Textile Co., Ltd.

### 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 had completed accreditation for all 12 of its plants by the end of 2000. By fiscal 2014, 36 plants at 22 group companies in Japan and 50 plants at 37 group companies outside Japan were certified.

In fiscal 2014, two plants at two companies (Toray Carbon Fibers Europe S.A. of France and Toray Plastics (Chengdu) Co., Ltd. of China) newly acquired ISO 14001 certification.

**Related Information**

- > [Sites with ISO 14001 Certification \(as of March 2014\)](#)

### 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. For priority issues in fiscal 2014, Toray implemented its Fourth Medium-Term Environmental Plan and strengthened accident-prevention countermeasures via the second phase of its Fire Prevention Project.

In October 2014, Toray became a signatory to the Responsible Care Global Charter that was recently revised by the International Council of Chemical Associations. Toray will tackle the responsibilities outlined in the updated charter.



Responsible Care Global Charter (updated)

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

All of Toray's operational divisions and its group companies both in and outside Japan have implemented their respective projects and systems to comply with Europe's regulations on the Registration, Evaluation, Authorization and Restriction of Chemical Substances (REACH). All substances subject to these

regulations were registered before the deadline of May 31, 2013, and Toray Group is now working to register designated substances with deadlines of May 31, 2018.

In addition, Toray Group is collecting information on regulations governing chemical substances in Asian and other countries, and making it widely available throughout the Group. In this regard, Toray and some of its group companies in Japan use the List of Lists (LOLI) Database,<sup>2</sup> a comprehensive database of chemical hazard and toxicity information and regulations in countries around the world, to ensure that they handle chemical substances safely and in compliance with relevant laws and regulations worldwide.

<sup>2</sup> Provided by the U.S. company, ChemADVISOR, Inc., LOLI is a search tool and database of regulatory lists from many countries around the world.

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

With the revision of Japan's Chemical Substances Control Law<sup>3</sup> in April 2011, companies have been required to report on the manufacture, import, and utilization of general chemical substances. Toray and its group companies in Japan systematically responded to the revision and completed their report covering fiscal 2013 in June 2014.

<sup>3</sup> Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.



## Occupational Safety and Accident Prevention Activities

Toray Group encourages all employees to pursue their work with the highest emphasis on safety. 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.

Every year, Toray Group creates a group-wide safety slogan. In fiscal 2014, the Group urged employees worldwide to always think carefully before acting in conducting their work, through the unique keyword of "Anzen Koh-Doh" ("thoughtful safety action"). Toray Group is working hard to ensure that the message reaches all of its employees including those at group companies outside of Japan.

### 2014 Safety Slogan

AP-G 2016

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

~ "Seriousness" "Motivation" "Awareness" ~

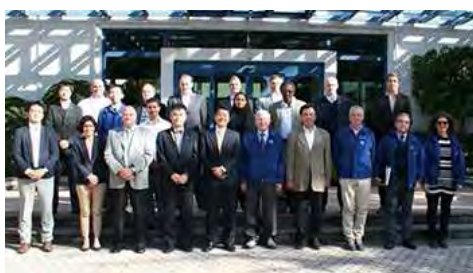


2014 Toray Group Safety Meeting in Toray Human Resources Development Center

Every year, company presidents, directors, and worksite and plant managers from Toray and its group companies around the world meet at the Toray Group Safety Meeting. Safety action policies and main activities are presented at the meeting, affirming the importance of safety among participants and facilitating the implementation of activities group-wide. Thus, 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.

Safety Summits are organized on a national and regional basis, to guide the direction of safety activities. In fiscal 2014, Safety Summits were held in Europe and South Korea in addition to the U.S.

Furthermore, safety meetings are held and safety and health committees set up at each group company and plant of the Group. This promotes a common awareness of the Toray Group safety slogan, policies, and main activities, enabling centralized management of safety activities across the Group.

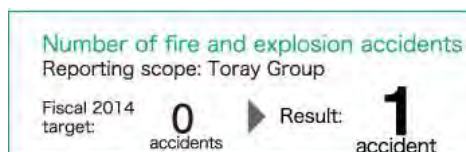
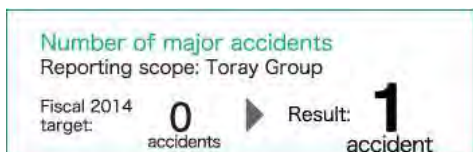


European Safety Summit



South Korean Safety Summit

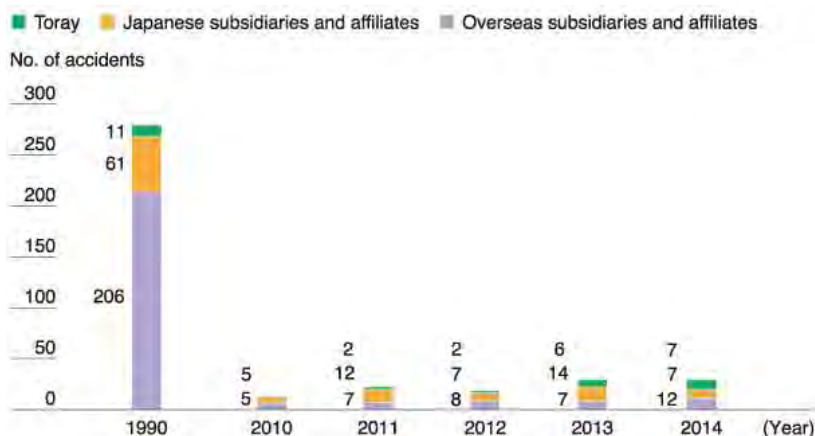
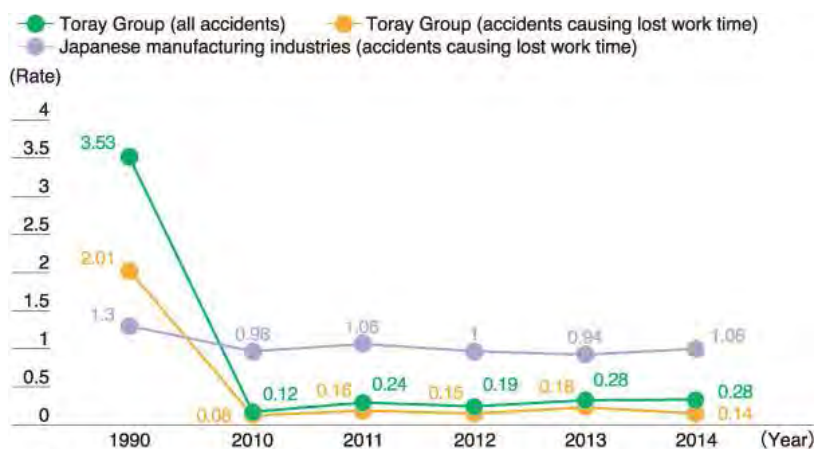
### Toray Group Safety Record



In fiscal 2014, the Group recorded one accident in which a worker was caught in rotating machinery, and one fire in a waste collection area, both at group companies outside of Japan. To prevent these accidents from occurring again, the Group ordered inspections for all work involving rotating machinery at plants, and changed its waste handling procedures.

Toray Group will continue working to ensure that safety is given the highest priority, with the continued goal of zero accidents.

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

Occupational Accident Frequency Rate<sup>1</sup>: Toray Group

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

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

Meanwhile, the frequency rate for occupational accidents resulting in lost work time for Toray Group overall in 2014 was 0.14 in 2014, up 0.04 points compared to the previous fiscal year. Although this is a positive result compared with that of Japan's manufacturing industry (1.06), the target of 0.05 or lower was not achieved. Therefore, Toray Group will seek to scrutinize the essential causes of individual accidents to comprehensively prevent the occurrence of similar accidents in addition to encouraging employees to think carefully before taking action and promoting risk reduction measures at each worksite. The Group will pursue a wide variety of activities to improve safety levels further, aiming to achieve the goal of zero accidents.

## 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 and dollies, and hazards involving flying objects or falling, electrocution, and residual pressure. Since around 1975, group companies and plants have used demonstrations so that employees can experience the dangers of fires and explosions first-hand.



Simulator at Toray Coatex Co., Ltd. shows the hazards of getting caught up in machinery.



Demonstrating the danger of fires and explosions at Soda Aromatic Co., Ltd.

In addition, a broad array of information concerning safety and accident-prevention is featured in Toray Group's in-house newsletter, People. In 2014, informative articles covering fires and explosions appeared in the newsletter, reflecting the growing number of such accidents in Japan's chemical industry in recent years.

## Implementing Safety Management Together with Subcontractors

Toray Group carries out its operations with many subcontractors working together onsite. Recognizing its duty to ensure the safety of these subcontractors, the Group undertakes safety activities in collaboration with them. For example, representatives from subcontractors are invited to participate in monthly meetings of Toray's Safety and Health Committee. Safety meetings are also held regularly as a means to ensure that subcontractors are fully aware of Toray Group's policies, plans, and measures related to safety. In addition, Toray encourages its subcontractors to actively participate in general safety activities, such as by submitting ideas for safety posters and entering slogan contests. In fiscal 2014, presidents of 10 Toray affiliates that provide ancillary services for plant operations cooperated to conduct mutual safety inspections of their facilities. The inspections served to verify the progress of safety initiatives, by monitoring hazardous work including forklift and packaging operations. Personnel advised each other on areas needing improvement and monitored the progress of improvements. With these safety inspections and other initiatives, all 10 companies recorded zero accidents in 2014.



Safety meeting at Toray's Tsuchiura Plant



Mutual safety inspection at Gifu Shokusan Inc. in cooperation with other Toray affiliates

## 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. The drills involved spraying water as well as simulated rescue of injured persons and response to a chemical leak.



First-aid fire-fighting drill at Toray's Okazaki Plant



Chemical leak response drill at Toray's Okazaki Plant

## Initiatives for Improving Fire-Prevention Capabilities

In recent years, a spate of fires and explosions has occurred at major chemical companies in Japan. Since July 2012, Toray Group has been implementing the second phase of its Fire Prevention Project to step up its fire-prevention capabilities.

In fiscal 2014, the Group continued to focus on: (1) systematic inspection of all ductwork and promotion of countermeasures, (2) horizontal deployment of five tasks based on issues identified in 2012 across Toray Group companies and plants, and (3) deployment and penetration of four key measures identified by an expert committee the previous year across the Group.

### Four Key Measures Identified by Expert Committee and Activity Results

Key measures	Details/objectives	Results of 2014 activities
Utilize fire-prevention checklist	Enhance and effectively utilize fire-prevention checklist	<ol style="list-style-type: none"> <li>1. Based on knowledge acquired from expert committee, adopted content of Japan Chemical Industry Association's Safety and Accident Prevention Guidelines to improve fire-prevention checklist and issued the third version of the checklist.</li> <li>2. Issued checklist utilization handbook</li> <li>3. Appointed key person for departments operating the checklist and conducted training (about 300 persons)</li> </ol>
Enhance management of manufacturing process change	Standardize manufacturing conditions, work and equipment change procedures	<ol style="list-style-type: none"> <li>1. Completed draft corporate standards (changed management procedures) for manufacturing conditions, work methods/workers, and facilities.</li> </ol>
Strengthen work security	Standardize hot work rules and procedures	<ol style="list-style-type: none"> <li>1. Issued Hot Work Safety Guidelines based on results of fact-finding studies at each plant</li> <li>2. Deployed rules and procedures company-wide via engineering department meetings</li> <li>3. Experts verified the status of deployment across the company and provided guidance</li> </ol>

<p>Enhance employee training</p>	<p>Review and issue fire-prevention textbook; prepare and implement company-wide fire-prevention training system</p>	<ol style="list-style-type: none"> <li>1. Issued a fully revised version of the fire-prevention manual originally issued in 1987 (with technical standards for fire prevention and other updated content)</li> <li>2. Developed systematic training for fire prevention (including introductory and secondary training for engineers) and implemented the training</li> <li>3. Implemented operator training using the training plant</li> <li>4. Developed demonstration showing ignition of substances handled at plants (instructor training)</li> </ol>
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Training plant at Toray's Tokai Plant



Remote operation training at Toray's Tokai Plant

### Distribution Safety Initiatives

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

#### VOICE

##### Mental and Physical Health: The Foundation of Vibrant Workplaces and Key to Zero Accidents

Toray Opelontex manufactures LYCRA® fiber, which offers superior stretch properties, making it ideal for a broad range of applications from clothing to hygiene products.

I am responsible for safety, health, accident prevention, and environmental initiatives at our plant. We implement these initiatives to ensure safe and secure working conditions for everyone in the plant.

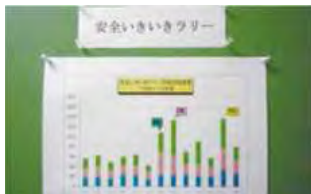
One of the safety initiatives that we implement is a safety competition in which employees submit their own ideas. Departments compete to see whose employees collect the most points, vying for the top three standings every three months. Points are awarded to individuals who submit ideas or training proposals related to safety, health, accident prevention or the environment, and for reporting cases of near-misses at work, during commuting or at home. The points system is modified each year to keep the competition from becoming too repetitive. In fiscal 2014, we started awarding points for health-promoting activities, after learning about our employees' health conditions in the past. Points are awarded for such activities as daily exercise or blood pressure monitoring, in order to encourage employees to think more about health.

Mental and physical health is at the foundation of a vibrant workplace, and we will continue implementing initiatives like these to maintain our zero accident record.

Note: LYCRA® fiber is a trademark of INVISTA.



**Hiroyoshi Shirasaka**  
Safety, Health & Environment Group, Planning Control Department, Shiga Plant, Toray Opelontex Co., Ltd.



Status of employee safety competition



Employee blood pressure monitoring

### 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, 2015 are described below.

Certified occupational accidents arising from handling asbestos (Toray Group): 74 (48)

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

Medical examination recipients involving asbestos (Toray Group): 3,936

Note: Figures in parentheses refer to fatalities.

## Implementing the Fourth Medium-Term Environmental Plan

Toray Group is currently implementing the Fourth Medium-Term Environmental Plan, which covers fiscal 2011–fiscal 2015. In fiscal 2014, the Group made progress on three fronts: (1) reducing Toray's greenhouse gas emissions, (2) reducing atmospheric emissions of chemical substances at group companies outside of Japan, and (3) securing zero waste emissions.

The Group is committed to systematically implementing corporate initiatives, in order to ensure that it achieves the plan's targets by fiscal 2015.

### Implementing the Fourth Medium-Term Environmental Plan

Area	Toray Group fiscal 2015 target	Fiscal 2014 results
Curb global warming	Toray: Maintain greenhouse gas emissions at least 10% below the fiscal 1990 level <sup>1</sup>	16% reduction
	Toray Group (Japan): 15% or greater reduction in greenhouse gas emissions per unit of sales compared to fiscal 1990 <sup>1</sup>	16% reduction
Management of chemical substances	Atmospheric emissions of PRTR Law-specified substances: 70% reduction compared to fiscal 2000	69% reduction
	Atmospheric emissions of volatile organic compounds (VOCs): 70% reduction compared to fiscal 2000	74% reduction
Waste reduction	Zero emissions goal: Achieved at 30 Toray Group plants	Achieved at 37 plants of 22 companies
	Simply disposed waste rate: 25% or lower	22.4%
	Maintenance of a recycling rate of 85% or more	88.2%
	Landfill waste rate, Toray Group (Japan): 2% or lower	1.1%

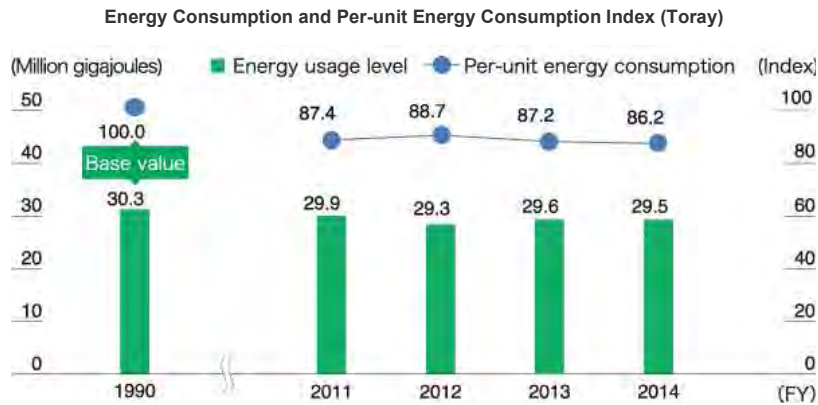
<sup>1</sup> Target will be revised if there is an increase in the CO<sub>2</sub> emissions coefficient for purchased electricity in the aftermath of the nuclear power plant accident in Fukushima

## Initiatives to Fight Global Warming

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

### Toray Energy Conservation Activities

Toray has set a goal of reducing its per-unit energy consumption by 2% annually. In fiscal 2014, Toray reduced its per-unit energy consumption by 1.1% year-on-year (13.8% below the base year of fiscal 1990) despite an increase in production volume. The reduction was achieved due to productivity improvements combined with steady implementation of energy conservation initiatives at plants, as well as efforts by energy efficiency specialists at the Company.



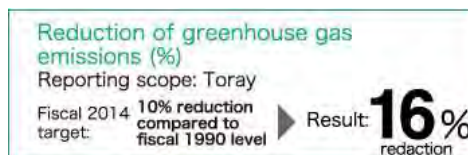
### Promoting Energy Conservation Diagnostics

Toray Group organizes energy conservation teams to help carry out annual energy conservation diagnostic activities at plants around the world. In fiscal 2014, these activities were conducted at four of Toray's plants, along with six group company plants at in Japan and three outside Japan. The energy saved during the year was equivalent to about 11,000 tons of CO<sub>2</sub>.



Items inspected during energy conservation diagnostic activities at the Ehime Plant of Toray ACE Co., Ltd.

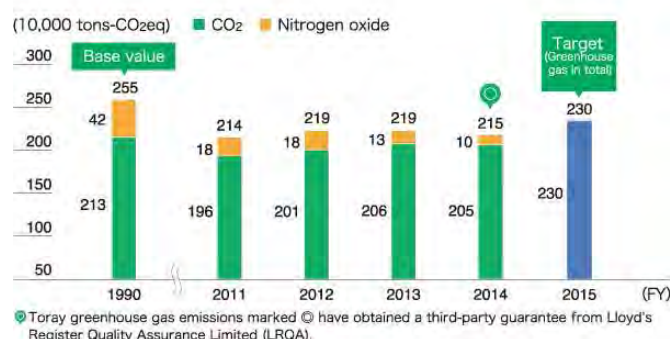
### Toray's Efforts to Fight Global Warming



Toray is systematically reducing greenhouse gas emissions, with a goal of maintaining greenhouse gas emissions at 10% below 1990 levels through fiscal 2015. In fiscal 2014, Toray reduced its CO<sub>2</sub> emissions by 10,000 tons year-on-year. Greenhouse gas emissions were down 1.8% year-on-year at 2.15 million tons, which was 16% below the 1990 level and continued to surpass the reduction target.

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

### Greenhouse Gas Emissions (Toray)



## Gas Cogeneration and Small-Scale Binary Power Generation Systems

Toray Group is systematically switching to natural gas and installing cogeneration systems to conserve energy. In fiscal 2014, Toray's Mishima Plant began constructing a cogeneration system.

Toray's Tokai Plant installed a small-scale binary power generation system that delivers high output by efficiently capturing the small amount of thermal energy in waste hot water that was previously disposed. These measures are projected to reduce approximately 30,000 tons of CO<sub>2</sub> emissions annually in fiscal 2015.



Cogeneration facilities at Toray's Mishima Plant



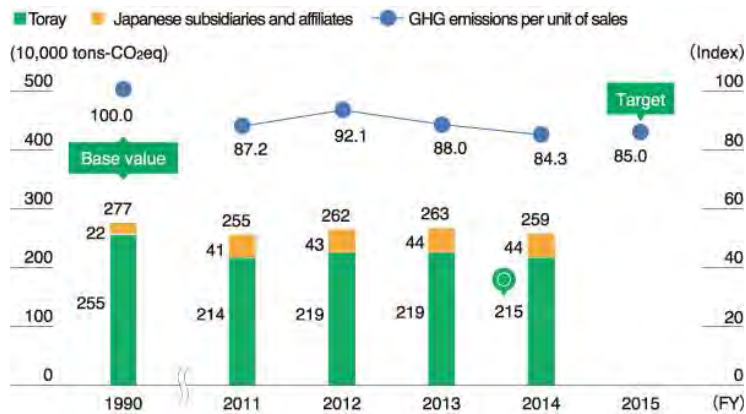
Small-scale binary power generation system installed at Toray's Tokai Plant

## Greenhouse Gas Emissions (Toray Group in Japan)

Toray and its group companies in Japan are working to curb global warming with the goal of reducing emissions by 15% on a per-unit-of-sales basis by fiscal 2015 compared to the fiscal 1990 level.

Greenhouse gas emissions were down 1.5% in fiscal 2014 compared to the previous fiscal year. Greenhouse gas emissions per unit of sales improved by 3.7 points compared to the previous fiscal year and were 15.7% below the base year.

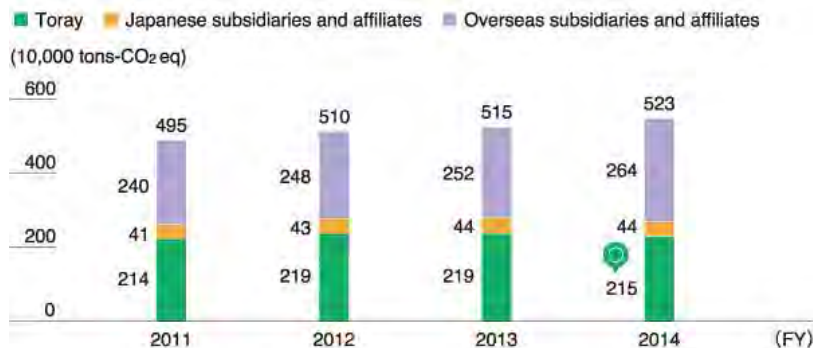
Greenhouse Gas Emissions and Greenhouse Gas Emissions Per Unit of Sales (Toray Group in Japan)



## Greenhouse Gas Emissions (Toray Group)

Fiscal 2014 greenhouse gas emissions for Toray Group worldwide were 5.23 million tons-CO<sub>2</sub> equivalent, an increase of 1.6% compared to the previous year. All Toray Group manufacturing companies and plants will continue to work to achieve the Group's goal of reducing the per-unit energy consumption rate by 2% each fiscal year.

Greenhouse Gas Emissions (Toray Group)



**Related Information**

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

## Initiatives to Protect the Ozone Layer

Toray successfully ceased using chlorofluorocarbons (CFCs) in all manufacturing processes in 1994. The Company has also stopped purchasing CFCs for use in refrigeration equipment and has been working to replace existing CFCs with alternative compounds.



## Voluntary Initiatives to Reduce Atmospheric Emissions of Chemical Substances

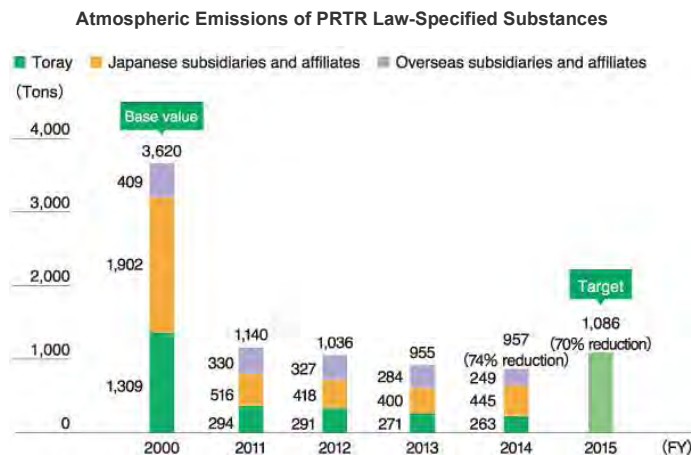
One of the most important tasks for decreasing Toray Group's environmental impact is reducing atmospheric emissions of chemical substances. Toray Group works steadily to reduce emissions of volatile organic compounds (VOCs) as well as substances specified under Japan's Pollutant Release and Transfer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

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

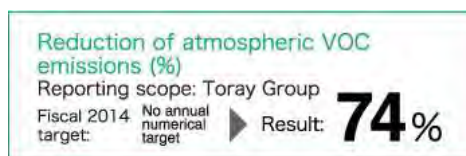
The main improvement in fiscal 2014 came from enhancements to absorption and recovery equipment for exhaust gas at Toray's Ehime Plant, resulting in a reduction of two tons of atmospheric emissions of PRTR Law-specified substances. Meanwhile, Toray Plastics (Malaysia) Sdn. Berhad has been implementing annual measures to recover a higher amount of organic exhaust gas emissions. Measures carried out at the end of fiscal 2013 achieved their full effect in a reduction of atmospheric emissions of 20 tons.

In fiscal 2014, Toray Group's atmospheric emissions of PRTR Law-specified substances increased by 4% year-on-year, due to significantly higher production volumes among Japanese subsidiaries and affiliates. The emissions were 69% below the base year of fiscal 2000, approaching the target of a 70% reduction compared with the base year that was set for fiscal 2015 under the Fourth Medium-Term Environmental Plan.

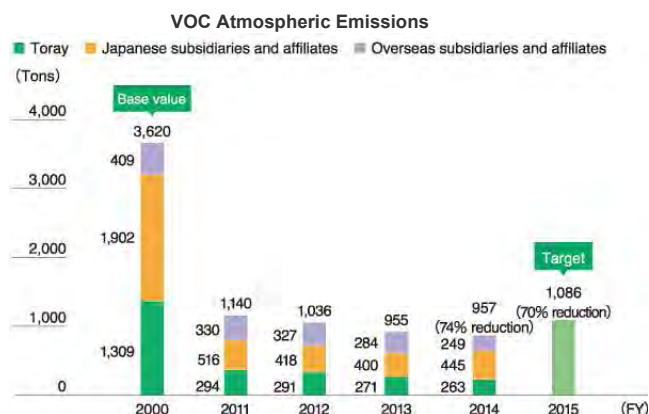
Toray Group will continue to systematically implement reduction measures in fiscal 2015 to achieve the 70% reduction target. These measures will include the installation of absorption and recovery systems and enhancements to exhaust gas recovery equipment throughout the Group.



### Reducing Atmospheric Emissions of VOCs



In fiscal 2014, the Toray Group's atmospheric emissions of VOCs were flat compared to the previous fiscal year, at 957 tons, which represented a 74% reduction compared to the base year of fiscal 2000, achieving the fiscal 2015 target of a 70% reduction compared to the base year one year ahead of schedule. Toray Group will continue working to further reduce atmospheric emissions of VOCs through systematic reduction measures and optimum operation of recovery equipment.



## Initiatives to Prevent Air and Water Pollution

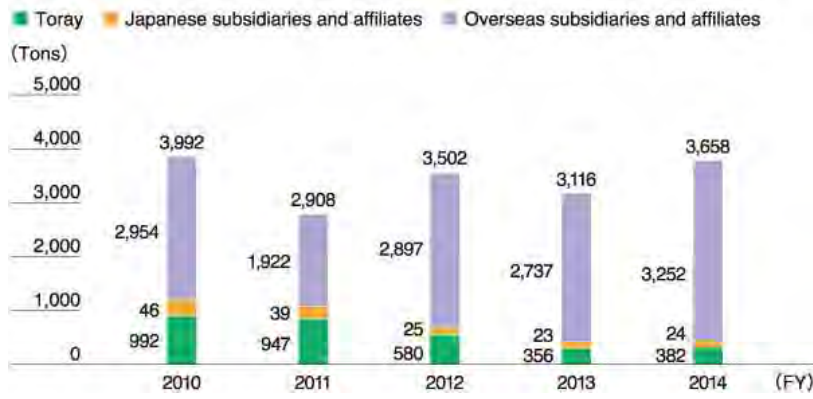
Toray Group has ongoing environmental protection initiatives in place for the prevention of air and water pollution at its manufacturing facilities. In recent years, the Group's production plants around the world have been cutting sulfur oxide (SOx) emissions by installing desulfurization equipment and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

### Air Quality Management

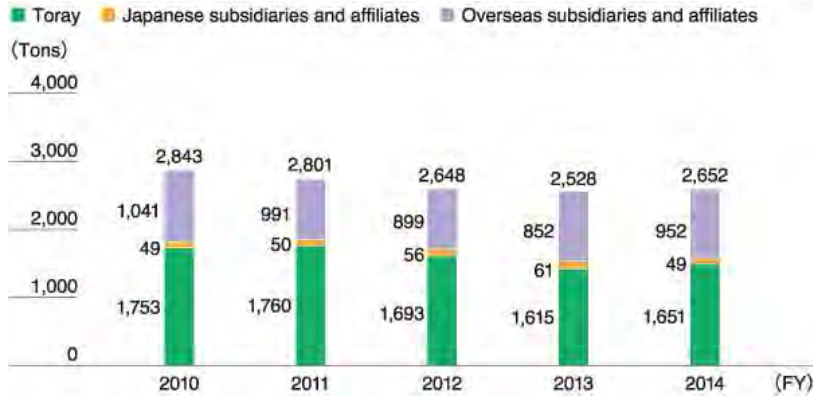
In fiscal 2014, Toray Group's emissions of SOx were at 3,658 tons (up 17% year-on-year), NOx emissions were at 2,652 tons (up 5% year-on-year), and particulate emissions were at 294 tons (down 6% year-on-year). Factors included higher operating rates for boilers and enhancements to particulate removal systems.

Toray's SOx emissions were at 382 tons (up 7% year-on-year) and NOx emissions were at 1,651 tons (up 4% year-on-year). Factors include higher operating rates for boilers at the Ehime and Mishima Plants. Toray's particulate emissions were at 102 tons (down 7% year-on-year), due to factors such as enhancements to particulate removal systems.

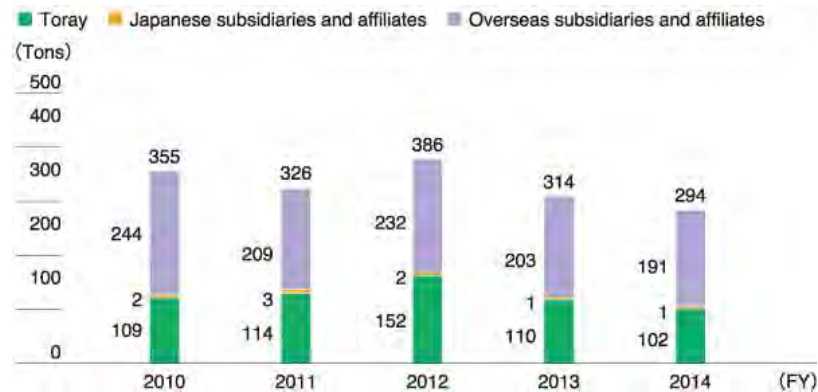
Atmospheric Emissions (SOx)



Atmospheric Emissions (NOx)

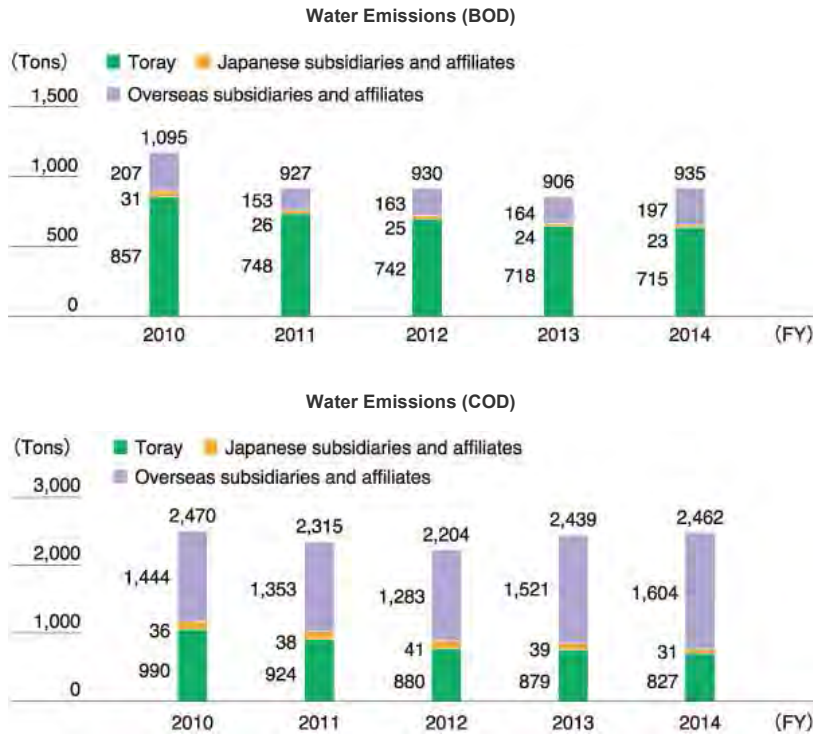


Atmospheric Emissions (Dust)



## Water Quality Management

In fiscal 2014, Toray Group BOD and COD emissions were 935 tons, up 3% compared to the previous fiscal year, and 2,462 tons, up 1%, respectively, due to an increase in production volumes despite stepped up treatment of wastewater.



Toray Group worked to stabilize wastewater treatment operations by taking measures to prevent the outflow of abnormal wastewater and increase wastewater treatment capabilities at its Ehime Plant and Chiba Plant in Japan, as well as by expanding wastewater facilities at overseas group company Toray Sakai Weaving & Dyeing (Nantong) Co., Ltd. Seeking to further improve its wastewater facility management, Toray brought 25 key personnel responsible for wastewater at 9 plants and 10 personnel from 5 group companies in Japan together to share ideas and information on their management efforts and study regulatory updates.



Wastewater facility at Toray Sakai Weaving & Dyeing (Nantong) Co., Ltd.



Toray experts responsible for wastewater meet to share best practices

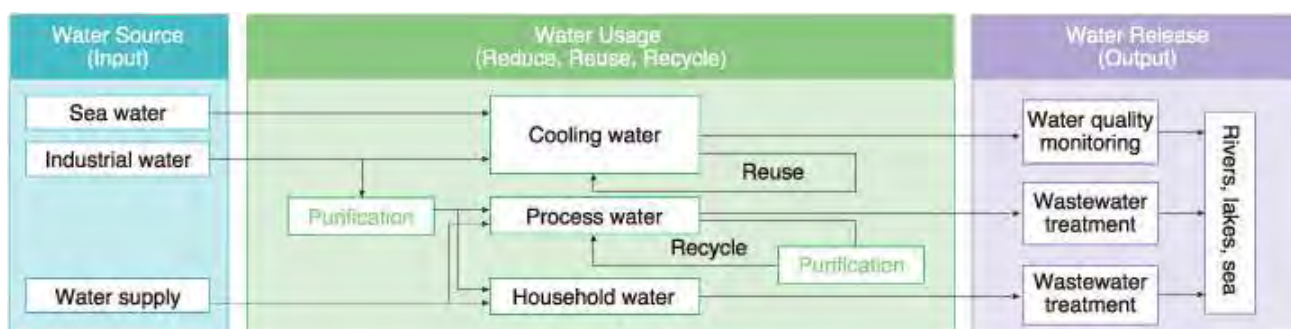
## Initiatives for Managing Water Resources

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.

Water Resource Management by Toray Group



### Water Usage

Toray Group used 234 million tons of water in fiscal 2014, a decrease of 5% from 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 2014 stood at 59.7 points, down 7.0 points from the previous fiscal year.

**Related Information**

> [Environmental Data](#)

Comparative Water Usage Per Unit of Sales (Toray)

(FY)	2001	2010	2011	2012	2013	2014
Comparative water usage per unit of sales	100.0	79.6	76.7	75.6	66.7 <sup>1</sup>	59.7

<sup>1</sup> Figure revised due to a previous calculation error applying to some companies and plants.

## Initiatives to Reduce Waste



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

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

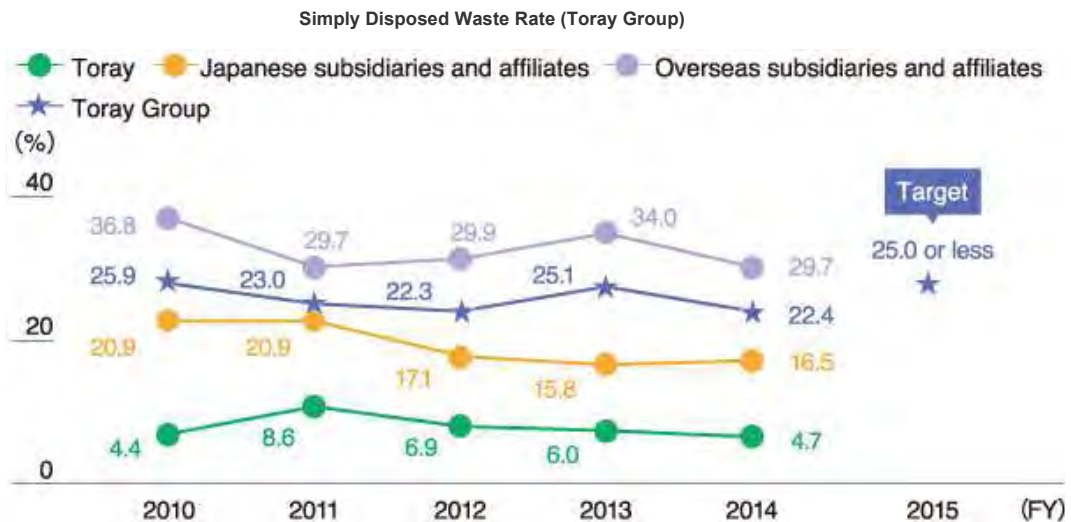
2 Landfill waste rate = landfill waste / total waste

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

### Fiscal 2014 Result

#### Simply Disposed Waste Rate

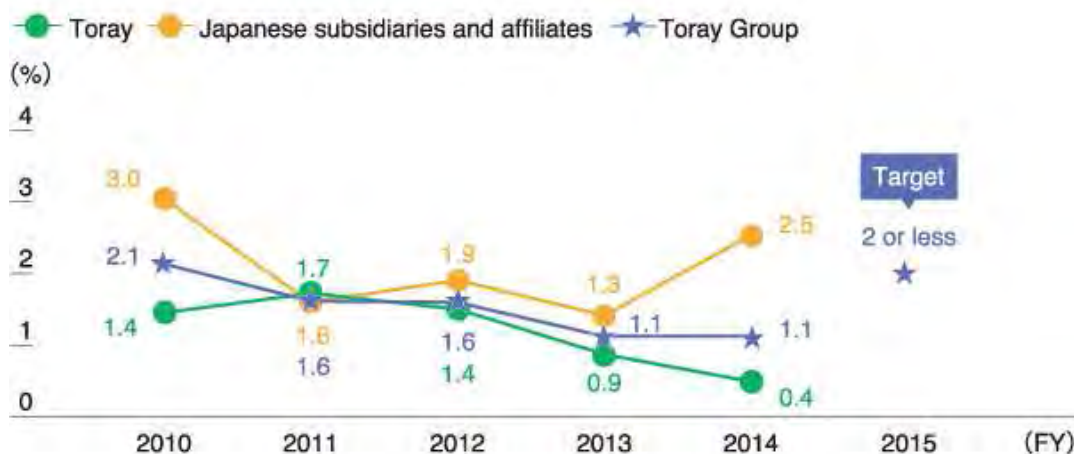
General waste disposed of by incineration or in landfills increased at subsidiaries and affiliates in Japan, but this was more than offset by a decrease at Toray and overseas subsidiaries and affiliates. As a result, the simply disposed waste rate for Toray Group as a whole decreased by 2.7 percentage points year-on-year to 22.4% in fiscal 2014.



#### Landfill Waste Rate

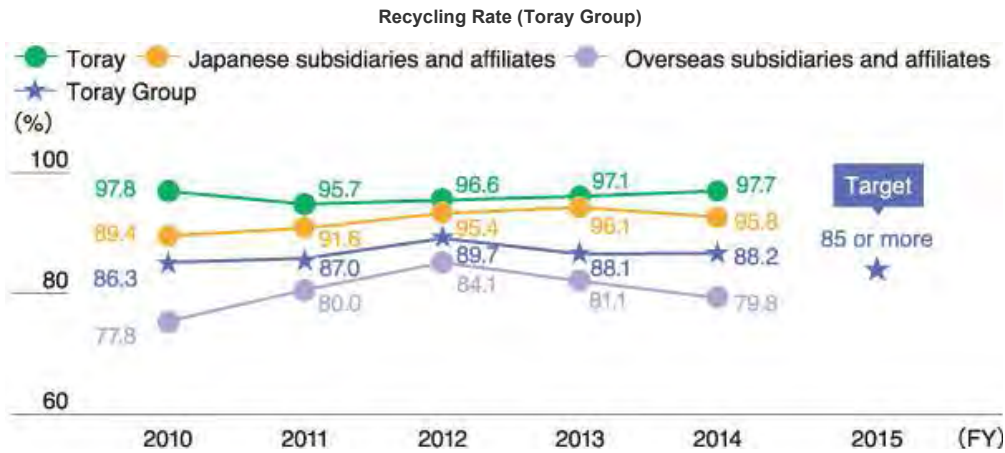
The rate of landfill waste for Toray Group remained level from the previous fiscal year at 1.1%. The rate increased at Japanese subsidiaries and affiliates due to an increase in general waste, but was down for Toray due to recycling of landfill waste.

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



## Recycling Rate

Despite an increase at Toray, the recycling rate for Toray Group fell by 0.1 percentage points compared to the previous fiscal year to 88.2% as a result of a decline at Japanese and overseas subsidiaries and affiliates.



## Zero Emissions Initiatives at Companies and Plants

Toray Group is aiming to achieve zero emissions at 30 or more plants by fiscal 2015. A plant is considered to have achieved zero emissions when the amount of simply disposed waste accounts for 1% or less of its total waste generated. Five more plants achieved zero emissions status in fiscal 2014, bringing the total to 37 plants at 22 companies.

**Companies and Plants with Zero Emissions Status in Fiscal 2014**

Toray	Shiga Plant, Seta Plant, Ehime Plant, Aichi Plant, Okazaki Plant, Mishima Plant, Chiba Plant, Tsuchiura Plant, Gifu Plant, Ishikawa Plant
Japanese subsidiaries and affiliates	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., Toray Opelontex Co., Ltd., Du Pont-Toray Co., Ltd., Soda Aromatic Co., Ltd. [Koriyama], <b>Suido Kiko Kaisha, Ltd.</b> , Toyo Plastic Seiko Co., Ltd. [Mishima, Okazaki], Toray Advanced Film Co., Ltd. [Nakatsugawa, Mishima, Takatsuki, Fukushima], Toray Fine Chemicals Co., Ltd. [Moriyama], <b>Toray Medical Co., Ltd.</b>
Overseas subsidiaries and affiliates	Toray Plastics (America), Inc. [Virginia, <b>Rhode Island</b> ], Toray Jifa (Qingdao) Textile Co., Ltd., Toray Plastics (Shenzhen) Ltd., Toray Advanced Film Kaohsiung Co., Ltd., <b>Toray Sakai Weaving &amp; Dyeing (Nantong) Co., Ltd.</b> , <b>Toray Chemical Korea Inc. [Anseong]</b>

\* Names in green indicate companies and plants that achieved zero emissions in fiscal 2014 for the first time.

\* Information in brackets refers to the names of plants.

### VOICE

#### Receiving Indonesia Green Industry Award for Corporate Energy Conservation Efforts

P.T. Indonesia Synthetic Textile Mills was established in 1970 in Tangerang Regency, just west of Jakarta in Indonesia. We are a textile manufacturer that engages in spinning, weaving, and dyeing of polyester and rayon fabric.

We managed to cut our utilities costs by approximately 18% in three years, through various initiatives that included concentrated efforts by our production departments to revise operating methods and through comprehensive maintenance. We also increased our energy efficiency performance and replaced older equipment with updated machinery. In recognition of these efforts, we were awarded a Level 5 (highest rank) Green Industry Award 2014 by the Indonesian Minister of Industry, and a First Prize of Green Industry Award 2014 from the government of Tangerang Regency.

We will continue our steady, ongoing efforts to make improvements, aiming to have a positive social impact and be a company that is held in high esteem by employees and members of the community.



Maintenance staff inspect machinery in an effort to achieve trouble-free operation.



**Agus Suherman**  
Maintenance Section  
Manager, Engineering  
Department, P.T.  
Indonesia Synthetic  
Textile Mills

## Environmental Risk Management



### Incidents Involving Environmental Disasters, Legal Compliance, and Worksite Accidents in Fiscal 2014

Toray Group companies and plants recorded no regulatory violations in fiscal 2014. However, the Group recorded one accident involving a fire (see "Toray Group Safety Record") and two cases in which environmental baseline values were temporarily exceeded by a small margin. These incidents were immediately reported to the supervising authorities and measures implemented to prevent their recurrence. In addition, Toray Group received and addressed seven cases of complaints or requests from residents living near production plants regarding odors, noise, or other matters. These cases were taken seriously and improvements made as necessary.

Environmental Incidents in Fiscal 2014 (Toray Group)

Administrative disposition due to violations of laws or ordinances <sup>1</sup>	0
Accidents (fires, explosions, environmental accidents, etc.)	1
Slight but temporary exceeding of standard values <sup>2</sup>	2
Complaints/requests (noise, odor, etc.)	7

<sup>1</sup> Includes improvement orders and fines. Improvement guidance and recommendations are included in accident figures.

<sup>2</sup> 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 2014, remediation using wells to clean up groundwater pollution continued at Toray Monofilament Co., Ltd., and remediation to address soil pollution continued at Toray's Nagoya Plant. In addition to these ongoing remediation efforts, Toray Group voluntarily implements regular surveys to monitor soil and groundwater pollution. Should any pollution be identified through these surveys, rules are in place to ensure that immediate action is taken to remediate the pollution.

## Environmental Accounting

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

### Fiscal 2014 Environmental Accounting Report (Toray)

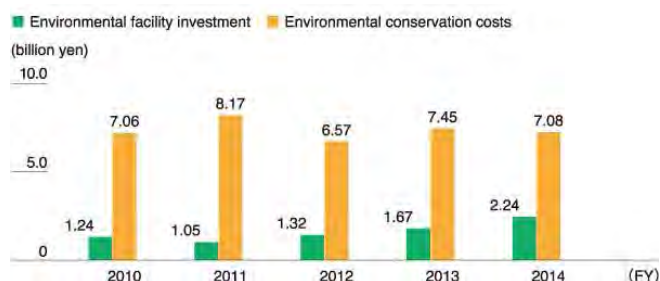
In fiscal 2014, Toray's environment-related investment amounted to 2.24 billion yen, a 0.57 billion yen increase compared to the previous year. Cost totaled 7.08 billion yen, a decrease of 0.36 billion yen compared to the previous year.

#### Fiscal 2014 Environmental Accounting Report (Toray)

Expenses				
Item		Subcategory and description	Investment (million yen)	Cost (million yen)
Business area costs	Pollution prevention costs	Air (including CFC countermeasures)	646	2,219
		Water quality	945	2,396
		Noise and vibration	0	7
		Greening	5	284
		Odors and other	218	204
	Global environment conservation costs	Energy conservation and combating global warming	315	-
	Resource recycling costs	Industrial waste reduction, recycling, disposal, and PCB waste disposal services	45	1,316
Upstream and downstream costs		Product recycling	61	2
		Container and package recycling	0	1
Management activity costs		Indirect labor costs, ISO certification and maintenance, environmental communications, and education	0	375
Social initiative costs		Regional initiatives, support for organizations, etc.	0	63
Environmental remediation costs		SOx fines, soil purification, etc.	0	215
Total			2,235	7,082

Effectiveness		
Item		Amount (million yen)
Financial effects	Reduction in energy costs	113
	Reduction in industrial waste disposal costs	32
	Sale of valuable recycled resources with monetary value	544
Quantitative environmental effects	Reduction of greenhouse gas emissions	3,000 tons-CO <sub>2</sub> eq

#### Environmental Facility Investment and Environmental Conservation Costs (Toray)

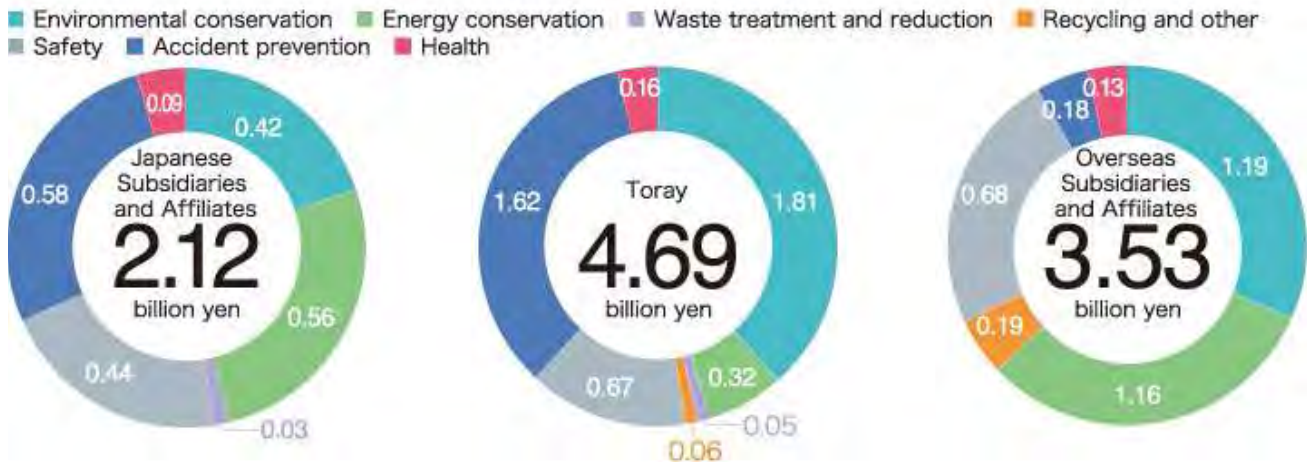




## Facility Investment in Safety, Health, Accident Prevention, and Environmental Preservation Projects (Toray Group)

Toray Group reports on its investments relating to safety, accident prevention, and health. In the area of safety, Toray continued to make investments including equipment security upgrades and disaster prevention projects such as seismic reinforcement of buildings. Investment in environmental conservation projects included upgrades of wastewater treatment facilities at Toray Fine Chemicals Co., Ltd. in Japan and Toray Sakai Weaving & Dyeing (Nantong) Co., Ltd. in China.

### Fiscal 2014 Facility Investment in Safety, Health, Accident Prevention, and Environmental Preservation Projects (Toray Group)



#### Toray Environmental Accounting Standards

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

## Biodiversity Initiatives

Toray Group views conservation of biodiversity as a critical global environmental issue that is of equal importance to reducing greenhouse gas emissions.

### Working Group Considers Initiatives for Biodiversity

Since classifying Toray Group's activities under the Biodiversity Initiatives formulated in fiscal 2010, Toray Group has been formulating three-year road maps and implementing measures in order of priority.

In fiscal 2014, Toray Group systematically launched new initiatives outlined in the second roadmap covering fiscal 2013–2015.

#### Biodiversity Initiatives (Adopted December 2010)

##### Basic Concept

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

##### Action Guidelines

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

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

### Main Initiatives in Fiscal 2014

#### 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 also studied approaches to confirming impacts on biodiversity.

#### Employee Education

Employees of Toray and Japanese subsidiaries and affiliates receive online education on biodiversity. The course is aimed at raising employee awareness regarding biodiversity conservation as a global-scale environmental issue and educating employees on biodiversity conservation initiatives pursued by Toray Group.

#### Increasing Green Areas



Toray plants operate greenery policies and plans through 2020, guided by the Toray Group Basic Policy for Increasing Green Areas.<sup>1</sup> The plans encompass initiatives to conserve green areas, including natural forests<sup>2</sup> that have been protected since the plants began operating. Sustainable greenery conservation initiatives also help to conserve the environment for communities.

In fiscal 2014, the initiative was expanded to Japanese subsidiaries and affiliates, under which plants will formulate greenery policies and plans according to their respective future business plans and based on community factors.

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

<sup>2</sup> Natural groves or forestation by species based on potential native vegetation

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

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



Trees bordering the sea around Toray's Ehime Plant



Natural forest around the Fukushima Plant of Toray ACE Co., Ltd.

## VOICE

### Working to Conserve Biodiversity at Our Plant

The Spotless Grass Yellow butterfly, a cousin to the sulphur butterfly, was once seen in numbers near rivers throughout Japan. It is now designated as an endangered species due to the dwindling habitat of the cassia mimosoides plant that the butterfly feeds on, which is caused by encroaching residential development and river improvements. The Spotless Grass Yellow butterfly is rarely seen today in the city of Okazaki, Aichi Prefecture, where the Okazaki Plant is located.

Our plant is legally obligated to maintain a certain percentage of greenery in the plant grounds. In addition to maintaining the greenery, the plant has created a biotope to provide a habitat for attracting the Spotless Grass Yellow butterfly and conserve the area's traditional environment. We have also planted a cousin to the cassia mimosoides plant for the butterflies to feed on. The biotope draws water from the Yahagi River, and in it we have released freshwater snails and created a habitat that is also hospitable to fireflies.



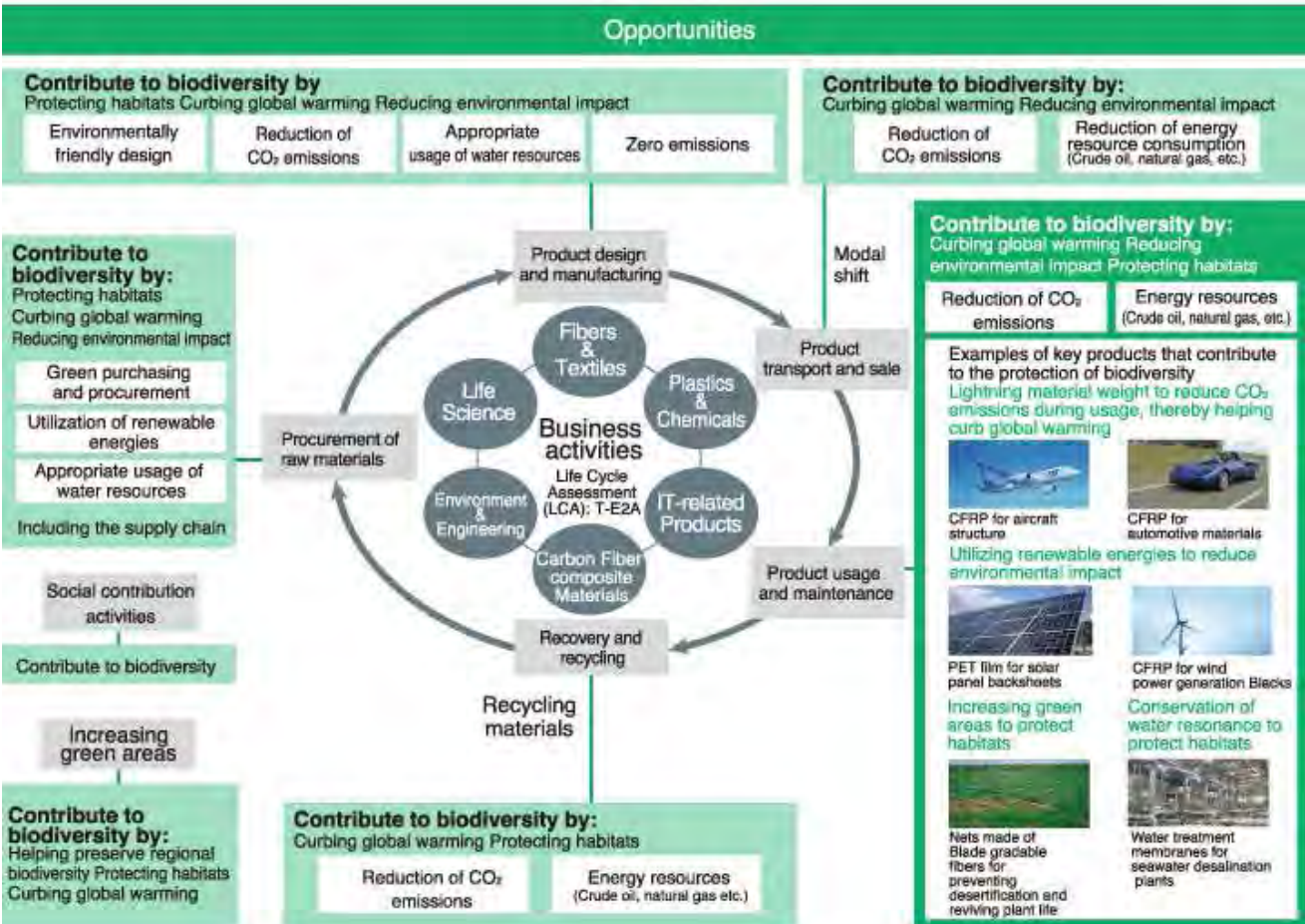
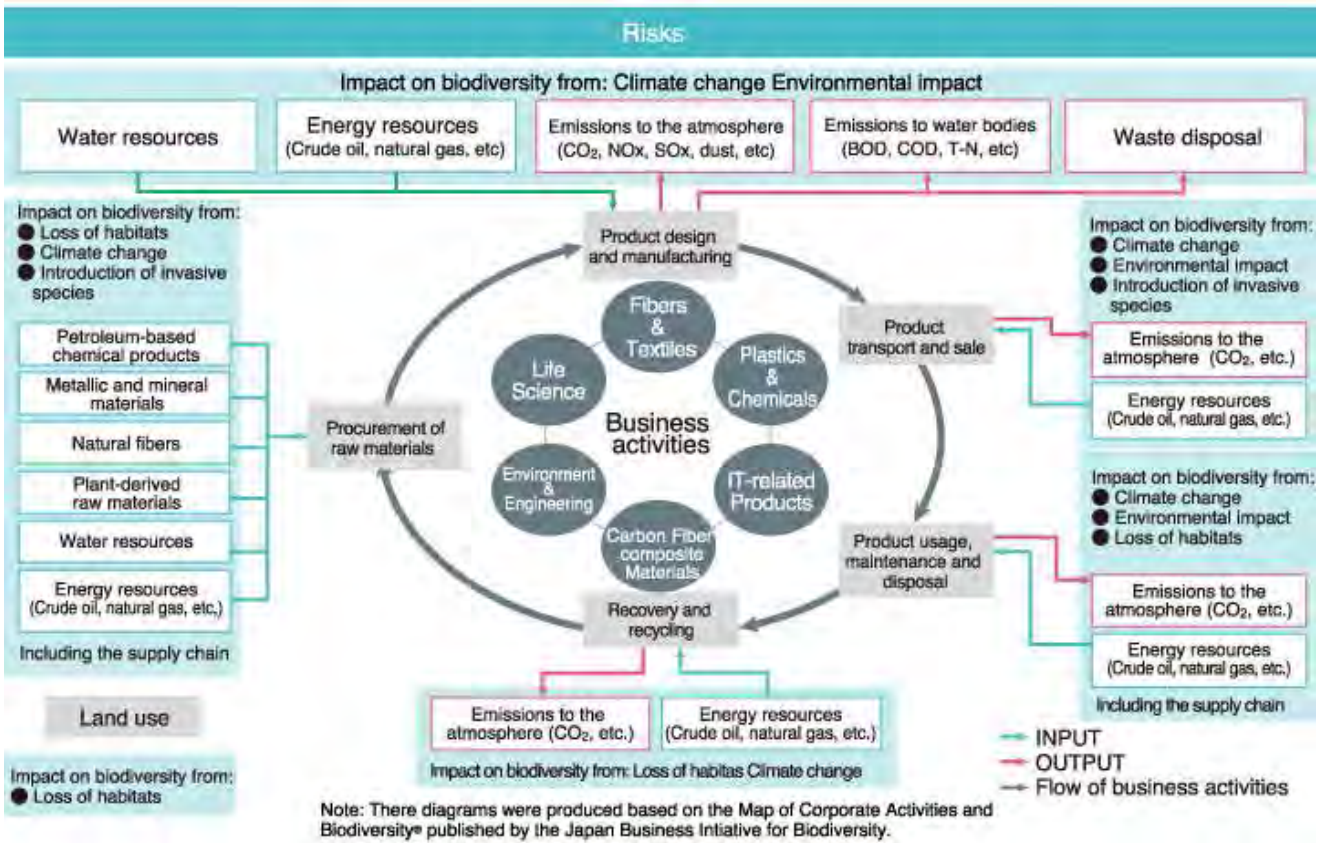
Biotope at Toray's Okazaki Plant



**Kazuhiko Yamazaki**  
General Manager (as of May 2015), Okazaki Plant, Toray Industries, Inc.

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

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



## Environmental Data

### Environmental Impact Overview Fiscal 2014

	Toray			Japanese Subsidiaries and Affiliates			Overseas Subsidiaries and Affiliates		
	FY2013	FY2014	Compared to previous year (%)	FY2013	FY2014	Compared to previous year (%)	FY2013	FY2014	Compared to previous year (%)
<b>INPUT</b>									
Energy (1,000,000 gigajoules)	29.6	29.5	-0.3	6.9	6.9	0.0	40.6	43.3	6.7
Water (1,000,000 tons)	184	179	-2.7	14	14	0.0	35	41	17.1
<b>OUTPUT</b>									
<b>GHG (10,000 tons CO<sub>2</sub>eq)</b>									
6 gases including CO <sub>2</sub>	219	215	-1.8	44	44	0.0	252	264	4.8
<b>PRTR Law-specified substances (tons)</b>									
Atmospheric emissions	215	202	-6.0	265	336	26.8	186	157	-15.6
Water emissions	30	25	-16.7	0	0	0.0	0	0	0.0
Waste transfers	898	906	0.9	1,249	1,356	8.6	918	1,384	50.8
<b>Air pollutants (tons)</b>									
SOx	356	382	7.3	23	24	4.3	2,737	3,252	18.8
NOx	1,615	1,651	2.2	61	49	-19.7	852	952	11.7
Dust	110	102	-7.3	1	1	0.0	203	191	-5.9
<b>Industrial wastewater (1,000,000 tons)</b>									
	180	176	-2.2	10	10	0.0	22	23	4.5
<b>Water pollutants (tons)</b>									
BOD	718	715	-0.4	24	23	-4.2	164	197	20.1
COD	879	827	-5.9	39	31	-20.5	1,521	1,604	5.5
Nitrogen	440	460	4.5	18	14	-22.2	-	-	-
Phosphorus	30	27	-10.0	1	1	0.0	-	-	-
<b>Waste (1,000 tons)</b>									
Recycled	28.9	29.3	1.4	12.2	13.5	10.7	53.6	61.2	14.2
Incinerated and other	1.6	1.3	-18.8	2.1	2.3	9.5	12.8	10.4	-18.8
Direct landfill disposal	0.3	0.1	-66.7	0.2	0.4	100.0	14.8	15.5	4.7
<b>Coal ash (1,000 tons)</b>									
Recycled	68.9	62.8	-8.9	-	-	-	87.8	27.6	-68.6
Direct landfill disposal	3.4	3.7	8.8	-	-	-	0.4	0.5	25.0

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

1 Figures for fiscal 2013 revised due to a previous calculation error applying to some companies and plants.

### Index of Environmental Impact Per Unit of Sales

	Toray and its group companies in Japan			Toray Group companies outside Japan			Total		
	FY2013	FY2014	Year-on-year comparison (points)	FY2013	FY2014	Year-on-year comparison (points)	FY2013	FY2014	Year-on-year comparison (points)
GHG emissions	71.5	68.4	-3.0	70.2	57.8	-12.5	76.4	69.2	-7.2
PRTR atmospheric emissions	32.3	35.1	2.9	18.9	12.5	-6.3	27.3	25.4	-1.8
SOx emissions	6.3	6.6	0.3	18.9	17.7	-1.3	19.1	20.1	0.9
Water usage volume	79.5	75.3	-4.3	50.2	46.1	-4.1	66.7	59.7	-7.0
BOD emissions	45.9	44.4	-1.5	17.7	16.8	-0.9	35.4	32.6	-2.8
Landfilled waste volume	10.2	9.9	-0.3	42.1	34.7	-7.4	54.9	51.2	-3.6

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

### Aggregate Environmental Impact Data by Company Type and Location

	Toray	Japanese Subsidiaries and Affiliates	Overseas Subsidiaries and Affiliates
GHG	All 12 plants and 1 research laboratory	51 plants at 26 companies	54 plants at 42 companies
PRTR Law-specified substances	All 12 plants and 1 research laboratory	50 plants at 26 companies	54 plants at 42 companies
SOx, NOx, dust	All 12 plants and 1 research laboratory	39 plants at 22 companies	54 plants at 42 companies
BOD	All 12 plants and 1 research laboratory	39 plants at 22 companies	26 plants at 18 companies
COD <sup>2</sup>	10 plants and 1 research laboratory (including 6 plants subject to Total Water Pollutant Load Control)	39 plants at 22 companies (including 7 plants at 7 companies subject to Total Water Pollutant Load Control)	26 plants at 18 companies
Nitrogen and phosphorus	All 12 plants and 1 research laboratory	39 plants at 22 companies	-
Waste	All 12 plants and 1 research laboratory	50 plants at 26 companies	54 plants at 42 companies

2 COD figures for Toray, Japanese subsidiaries and affiliates, and facilities in Korea are given in COD<sub>m</sub> (using the potassium permanganate method).

COD figures for other overseas subsidiaries and affiliates are given in COD<sub>c</sub> (using the potassium dichromate method).

## Chemical Substance Emissions and Transfer Data

### Chemical Substance Emissions and Transfer Data

PRTR Law-specified substance<sup>1</sup> Emissions and Transfer Data for Fiscal 2014

<sup>1</sup> Chemical substances were designated as type 1 according to the PRTR Law revision in April 2010

Toray Substance name	Tons (dioxins: mg-TEQ)			
	Atmospheric emissions	Water emissions	Soil emissions /company landfill	Waste transfers
Methyl acrylate	0.3	0.3	0.0	0.0
Acrylonitrile	32.1	4.5	0.0	0.8
Acetaldehyde	2.5	0.0	0.0	0.0
Acetonitrile	0.0	0.0	0.0	2.3
Antimony and cobalt	0.0	0.0	0.0	0.5
Ethylbenzene	2.4	0.0	0.0	0.0
Ethylene glycol monoethyl ether	0.1	0.0	0.0	0.1
Ferric chloride	0.0	0.0	0.0	1.2
ε-Caprolactam	0.2	13.8	0.0	0.0
Xylene	9.9	0.0	0.0	0.0
Chlorobenzene	1.0	0.0	0.0	18.6
Chloroform	2.0	0.0	0.0	15.3
Cobalt and cobalt compounds	0.0	1.2	0.0	5.9
4,4'-diaminodiphenyl ether	0.0	0.0	0.0	0.1
Inorganic cyanide	45.6	0.0	0.0	0.0
1,4-Dioxane	0.1	1.9	0.0	0.0
P-Dichlorobenzene	5.9	0.0	0.0	2.2
Dichloromethane	2.5	0.0	0.0	5.7
2,4-Dichlorotoluene	0.8	0.0	0.0	0.0
N, N-dimethylacetamide	1.5	0.0	0.0	384.4
N, N-dimethylformamide	16.1	0.8	0.0	242.7
Styrene	13.0	0.0	0.0	1.1
Terephthalic acid	0.0	0.0	0.0	46.8
Trichloroethylene	0.4	0.1	0.0	0.6
Toluene	8.9	0.0	0.0	49.4
Nitrobenzene	0.0	0.0	0.0	51.7
Biphenyl	0.0	0.0	0.0	1.6
Phenol	0.0	2.5	0.0	0.0
Bromomethane	48.0	0.0	0.0	0.0
n-hexane	0.0	0.0	0.0	6.0
Benzene	2.8	0.0	0.0	0.0
1,2,4-Benzenetricarboxylic 1,2-Anhydride	0.0	0.0	0.0	0.3
Poly (oxyethylene) alkyl ether	0.5	0.0	0.0	13.0
Formaldehyde	0.0	0.0	0.0	1.1
Manganese and manganese compounds	0.0	0.2	0.0	1.6
Methacrylic acid 2,3-Epoxypropyl	0.0	0.0	0.0	3.1
Methyl methacrylate	5.5	0.0	0.0	11.1
Methylenebis (4,1-phenylene) diisocyanate	0.0	0.0	0.0	3.9
Dioxins	3.3	17.0	0.0	64.3
<b>Total</b>	<b>202</b>	<b>25</b>	<b>0</b>	<b>871</b>

Note: The list shows emissions and transfers of 38 substances (out of Toray's 69 PRTR Law-specified substances) exceeding 50 kg and dioxins.

Japanese Subsidiaries and Affiliates	Tons (dioxins: mg-TEQ)			
	Atmospheric emissions	Water emissions	Soil emissions /company landfill	Waste transfers
n-butyl acrylate	0.1	0.0	0.0	0.2
Acetonitrile	0.0	0.0	0.0	2.4
1-Allyloxy-2,3-epoxy propane	0.0	0.0	0.0	5.0
Ethylbenzene	7.9	0.0	0.0	40.5
Ethylene oxide	1.5	0.0	0.0	0.0
Ethylene glycol monoethyl ether	0.4	0.0	0.0	0.4
Epichlorohydrin	0.1	0.0	0.0	6.4
Xylene	6.2	0.0	0.0	29.5
Dichloromethane	235.0	0.0	0.0	23.6
1-chloro-2,4-dinitrobenzene	0.0	0.0	0.0	0.4
N, N-dimethylacetamide	20.0	0.0	0.0	322.4
N, N-dimethylformamide	20.4	0.0	0.0	162.6
Styrene	0.0	0.0	0.0	0.3
Decabromodiphenyl ether	0.0	0.0	0.0	0.1
Toluene	40.9	0.0	0.0	648.3
Carbon disulfide	0.3	0.1	0.0	0.0
Hydroquinone	0.0	0.0	0.0	0.8
n-hexane	1.9	0.0	0.0	24.0
Poly (oxyethylene) alkyl ether	0.0	0.0	0.0	41.8
Formaldehyde	0.1	0.0	0.0	0.1
Maleic anhydride	0.0	0.0	0.0	4.7
n-butyl methacrylate	0.1	0.0	0.0	0.0
3-Methylpyridine	1.1	0.0	0.0	41.9
α-Methylstyrene	0.0	0.0	0.0	0.6
Molybdenum and molybdenum compounds	0.0	0.0	0.0	0.4
Dioxins	0.1	0.4	0.0	13.5
<b>Total</b>	<b>336</b>	<b>0.1</b>	<b>0</b>	<b>1,356</b>

Note: The list shows emissions and transfers of 25 substances (out of the 62 PRTR Law-specified substances for domestic subsidiaries and affiliates) exceeding 50kg and dioxins.

## Sites with ISO 14001 Certification

Sites with ISO 14001 Certification (as of March 2015)

<b>Toray: All 12 plants</b>
Shiga, Seta, Ehime, Nagoya, Tokai, Aichi, Okazaki, Mishima, Chiba, Tsuchiura, Gifu, Ishikawa

<b>Japanese subsidiaries and affiliates: 36 plants at 22 companies<sup>1</sup></b>
<p>Du Pont-Toray Co., Ltd. [Tokai]          Toray Opelontex Co., Ltd.          Toray Textiles, Inc. [Tokai]          Toray Coatex Co., Ltd. [Kyoto, Chemical Products]          Toray Hybrid Cord, Inc.          Toyo Plastic Seiko Co., Ltd. [Mishima, Koriyama]          Toray PEF Products Inc. [Konan]          Toray Monofilament Co., Ltd.          Toray Advanced Film Co., Ltd. [Mishima, Takatsuki, Fukushima, Nakatsugawa]          Toray KP Films Inc.          Toray Fine Chemicals Co., Ltd. [Moriyama, Matsuyama, Tokai, Chiba]          Toray Engineering Co., Ltd. [Numazu]          Soda Aromatic Co., Ltd. [Noda, Koriyama, Okayama Chemicals]          Toray ACE Co., Ltd. [Ehime, Fukushima]          Dow Corning Toray Co., Ltd. [Chiba, Fukui, Yamakita, Komatsu]          Toray Battery Separator Film Co., Ltd.          Suido Kiko Kaisha, Ltd.          Toray Medical Co., Ltd.          Ichimura Sangyo Co., Ltd.          Toray International, Inc., Ltd.          Chori Co., Ltd.          Toray Carbon Magic Co., Ltd.</p>

<sup>1</sup>:In addition, 12 companies received certification as affiliated companies on Toray sites.

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

Companies or plants that had acquired ISO14001 certification before joining Toray Group are listed as ISO14001-certified organizations, not as organizations which newly acquired ISO14001 certification in fiscal 2014.



Overseas subsidiaries and affiliates: 50 plants at 37 companies	
USA	Toray Plastics (America), Inc. [Rhode Island, Virginia]
	Toray Resin Co.
	Toray Fluorofibers (America), Inc.
	Toray Carbon Fibers America, Inc.
	Toray Composites (America), Inc.
	Toray Membrane USA, Inc.
UK	Toray Textiles Europe Ltd.
France	Toray Films Europe S.A.S.
	Toray Carbon Fibers Europe S.A.
Germany	Euro Advanced Carbon Fiber Composites GmbH
Italy	Alcantara S.p.A.
Czech Republic	Toray Textiles Central Europe s.r.o.
Indonesia	P.T. Century Textile Industry Tbk
	P.T. Easterntex
	P.T. Indonesia Toray Synthetics
	P.T. Acryl Textile Mills
	P.T. Indonesia Synthetic Textile Mills
Thailand	Thai Toray Textile Mills Public Company Limited
	Thai Toray Synthetics Co., Ltd. [Bangkok, Ayutthaya, Nakhonpathom]
	Luckytex (Thailand) Public Company Limited [Mill 1, Mill 2, Mill 3]
Malaysia	Penfibre Sdn. Berhad
	Penfabric Sdn. Berhad [Mill 1, Mill 2, Mill 3, Mill 4]
	Toray Plastics (Malaysia) Sdn. Berhad
China	Toray Fibers (Nantong) Co., Ltd.
	Toray Sakai Weaving & Dyeing (Nantong) Co., Ltd.
	Toray Plastics (Shenzhen) Ltd.
	Toray Film Products (Zhongshan) Ltd.
	Toray Plastics Precision (Zhongshan) Ltd.
	Toray 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 Polytech (Nantong) Co., Ltd.
	Toray Plastics (Chengdu) Co., Ltd.
Republic of Korea	Toray Advanced Materials Korea Inc. [Mill 1, Mill 2, Mill 3]
	STEMCO, Ltd.
	Toray Chemical Korea Inc. [Mill 1, Mill 2, Mill 3, Mill 4]

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

Names in green indicate companies and plants that newly acquired ISO14001 certification in fiscal 2014.

## Environmental Data for 12 Toray Plants and Principal Subsidiaries and Affiliates

Environmental Data for 12 Toray Plants and Principal Subsidiaries and Affiliates

TPY: tons per year	GHG emissions 10,000 tons CO <sub>2</sub> eq/year	Emission volume													Principal manufactured products	
		PRTR				Gas emissions			Water emissions			Waste				
		Emissions		Sox	Nox	Dust	BOD	COD	Water	Re-cycled	Simple incineration	Landfill disposal				
		Air	Water										Sol & solids	Waste		
TPY	TPY	TPY	TPY	TPY	TPY	TPY	TPY	TPY	TPY	TPY	TPY	TPY				
Japan	Shiga Plant	10.1	2	0	0	78	0	30	5	68	66	24.3	2,657	18	0	<ul style="list-style-type: none"> <li>• Base material of ECSAINE™ man-made suede</li> <li>• LUMRROR™ polyester film</li> <li>• OPTICAL™ color filter</li> <li>• TORAYVINO™ home water purifier</li> </ul>
Japan	Seta Plant	0.2	0	0	0	0	0	0	0	0	0	0.1	44	0	0	<ul style="list-style-type: none"> <li>• Medical devices (Inoue Balloon catheters, AMTHRON™ P-U catheters)</li> </ul>
Japan	Ehime Plant	69.3	78	6	0	261	340	773	85	180	143	36.8	8,303	33	0	<ul style="list-style-type: none"> <li>• TORAY TETORON™ polyester staple fiber</li> <li>• TORAYCA™ carbon fiber</li> <li>• ROMEMERA™ reverse osmosis membrane module</li> <li>• TORAYCON™ PBT resin</li> </ul>
Japan	Nagoya Plant	9.9	16	0	0	21	0	47	1	101	164	29.5	2,923	1,229	28	<ul style="list-style-type: none"> <li>• AMILAN™ nylon resin</li> <li>• TORAYCON™ PBT resin</li> <li>• Various fine chemicals</li> </ul>
Japan	Tokai Plant	73.9	55	16	0	54	3	375	4	296	336	19.5	6,902	108	53	<ul style="list-style-type: none"> <li>• Caprolactam</li> <li>• Terephthalic acid</li> <li>• TORAY TETORON™ polyester chips</li> <li>• TORELINA™ PPS resin</li> </ul>
Japan	Aichi Plant	2.7	0	0	0	11	0	1	0	4	2.1	169	1	0	0	<ul style="list-style-type: none"> <li>• Nylon filament yarn</li> <li>• RAYTELA™ plastic optical fiber</li> </ul>
Japan	Okazaki Plant	9.1	11	0	0	423	0	50	3	10	20	4.7	2,638	24	24	<ul style="list-style-type: none"> <li>• Nylon filament yarn</li> <li>• TORAY WATERLESS PLATE™ printing plate</li> <li>• Filtrizer™ hemodialyzers</li> <li>• TORAYVINO™ home water purifier</li> </ul>
Japan	Mishima Plant	18.4	1	0	0	6	24	287	2	26	26	38.7	709	0	0	<ul style="list-style-type: none"> <li>• LUMRROR™ polyester film</li> <li>• TORAY TETORON™ polyester filament yarn</li> <li>• DORNER™ oral administration prostacyclin PGI<sub>2</sub> derivative</li> <li>• FERON™ natural interferon-β preparation</li> </ul>
Japan	Chiba Plant	1.6	34	0	0	1	0	10	0	6	59	4.1	2,161	19	10	<ul style="list-style-type: none"> <li>• TOYOLAC™ ABS resin</li> </ul>
Japan	Tauchiura Plant	3.5	0	0	0	0	0	5	0	1	0.4	181	0	0	0	<ul style="list-style-type: none"> <li>• TORAYFAN™ BC polypropylene film</li> </ul>
Japan	Gifu Plant	7.6	1	0	0	10	0	24	0	7	6	8.6	714	1	1	<ul style="list-style-type: none"> <li>• ECSAINE™ man-made suede</li> <li>• LUMRROR™ polyester film</li> <li>• TORELINA™ PPS film</li> </ul>
Japan	Ishikawa Plant	7.2	4	0	0	1	8	44	1	7	7	9.6	1,678	4	2	<ul style="list-style-type: none"> <li>• TORAY TETORON™ polyester filament yarn</li> <li>• Nylon filament yarn</li> <li>• TORAYCA™ prepreg</li> </ul>
Japan	Toray Hybrid Cord	1.6	2	0	0	1	0	1	0	1	4	0.8	371	0	0	<ul style="list-style-type: none"> <li>• Tire cord</li> <li>• Carpet pile fiber</li> </ul>
Japan	Toray Advanced Film Co., Ltd. (Mishima)	0.9	5	0	0	13	0	1	0	0	0	0.2	619	1	1	<ul style="list-style-type: none"> <li>• CERAFEL™ Release film</li> <li>• LUMSOLAR™ PV-back sheet</li> </ul>
Malaysia	Penfibre Sdn. Berhad (Fibers & Textiles)	7.6	0	0	0	0	1	1	53	1	7	0.2	165	104	60	<ul style="list-style-type: none"> <li>• TORAY TETORON™ polyester staple fiber</li> </ul>
France	Toray Films Europe S.A.S.	2.7	0	0	0	2	0	32	0	0	7	1.4	279	3,286	351	<ul style="list-style-type: none"> <li>• LUMRROR™ polyester film</li> </ul>

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

## Third-Party Assurance

**Lloyd's Register**  
LRQA

**Assurance Statement**

The GHG inventory for the fiscal year 2014 prepared by:

**Toray Industries, Inc.**  
Mitsubishi Mitsui Tower, Nishi-Shinjyuku 2-chome 1-1  
Chuo-ku, Tokyo 103-8666, Japan

has been verified by Lloyd's Register Quality Assurance Limited in accordance with:

ISO 14064-1:2006<sup>1)</sup>

in conformity to the requirements of:

ISO 14064-1:2006<sup>2)</sup>

and taking into consideration the requirements of:

Japan's Act on Promotion of Global Warming Countermeasures (Act No. 117)

The assurance has been formed on the basis of limited audit of documents and at a materiality of the professional judgment of the Verifier.

Scope of GHG Emissions	KTonnes CO <sub>2</sub> e
Direct GHG Emissions (Scope 1)	1,930
Energy Indirect GHG Emissions (Scope 2)	476
<b>Total GHG Emissions</b>	<b>2,406</b> <b>(2,150)<sup>3)</sup></b>

Sign:  Date: 8 June 2015

Tel: 03-5561-2000 (Japan) — Fax: 03-5561-2001 (Japan) — Email: [lrqa@lrqa.com](mailto:lrqa@lrqa.com)

1) ISO 14064-1:2006 (Specification for Greenhouse Gas Reporting) — Part 1: Specification with guidance and the Assessment level for project entities and entities of greenhouse gas emissions and sources.  
2) ISO 14064-1:2006 (Specification for Greenhouse Gas Reporting) — Part 1: Specification with guidance and the Assessment level for project entities and entities of greenhouse gas emissions and sources.  
3) The total GHG emissions after excluding 266.47 tonnes CO<sub>2</sub>e from Scope 1 and 2, which are excluded in the above Scope 1 emissions and reported outside Toray's registration boundary, by taking into consideration Japan's Act on Promotion of Global Warming Countermeasures (Act No. 117).

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**Lloyd's Register**  
LRQA

Report as summarized in Table 1 below was not materially correct and the Report has not been prepared in accordance with ISO 14064-1:2006 or taking into consideration the requirements of Japan's Act on Promotion of Global Warming Countermeasures (Act No. 117).

LRQA's recommendations on the GHG calculation process, some data was collected by measurement equipment which was not calibrated. These data were provisioned that they did not include material error. So, Toray should improve data quality system and amount calibration and other quality system to be applied to the measuring devices if they are deemed to be necessary for monitoring.

Sign:  Date: 5 June 2015

Tel: 03-5561-2000 (Japan) — Fax: 03-5561-2001 (Japan) — Email: [lrqa@lrqa.com](mailto:lrqa@lrqa.com)

LRQA Reference: YK44025142

**Table 1: Summary of Toray's GHG Inventory for the fiscal year 2014**

Scope	KTonnes CO <sub>2</sub> e
Direct GHG Emissions (Scope 1)	1,930
Energy Indirect GHG Emissions (Scope 2)	476
<b>Total GHG Emissions</b>	<b>2,406</b> <b>(2,150)<sup>1)</sup></b>

1) The total GHG emissions after excluding 266.47 tonnes CO<sub>2</sub>e from Scope 1 and 2, which are excluded in the above Scope 1 emissions and reported outside Toray's registration boundary, by taking into consideration Japan's Act on Promotion of Global Warming Countermeasures (Act No. 117).

The assurance statement is subject to the following conditions:

The assurance statement is only valid for the period of time specified in the report and is not a representation of a going concern.

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**Lloyd's Register**  
LRQA

**Assurance Statement related to**  
GHG Inventory 2014  
prepared for Toray Industries, Inc.  
Mitsubishi Mitsui Tower, Nishi-Shinjyuku 2-chome 1-1  
Chuo-ku, Tokyo 103-8666, Japan

**Terms of Engagement**  
This Assurance Statement has been prepared for Toray Industries, Inc.

Lloyd's Register Quality Assurance Ltd (LRQA) was commissioned by Toray Industries, Inc. (hereinafter referred to as Toray) to assure its GHG Inventory for the fiscal year 2014 (31 April 2014 to 31 March 2015) (hereinafter referred to as the Report).

The Report relates to direct GHG emissions (Scope 1) and energy indirect GHG emissions (Scope 2).

Next, please see attached to the Assurance Statement, a Summary Assessment and Finding document.

**Management Responsibility**  
Toray's management was responsible for preparing the Report and for maintaining effective internal controls over the data and information disclosed. LRQA's responsibility was to carry out an assurance engagement on the Report in accordance with our contract with Toray.

Accordingly, the Report has been approved by, and remains the responsibility of Toray.

**LRQA's Approach**  
LRQA's verification has been conducted in accordance with ISO 14064-1:2006. Specification with guidance for verification and validation of greenhouse gas assertions to provide limited assurance that GHG data as presented in the Report have been prepared in accordance with ISO 14064-1:2006 Specification with guidance at the organizational level for quantification and reporting of greenhouse gas emissions and removals while 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:

- Conducted site tours of Oiga Plant and Shimo Plant;
- Interviewed key personnel responsible for managing GHG emissions data and records;
- Reviewed the management system documents for GHG emissions data, information and records covering all the processes up to the preparation of the GHG inventory;
- Assessed the effectiveness of implementation of GHG management system; and
- Verified the GHG emissions data and records at an aggregated level for the fiscal year 2014.

**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 judgement of the verifier.

**LRQA's Opinion**  
Based on LRQA's approach nothing has come to our attention that would cause us to believe that the GHG direct GHG emissions and energy indirect GHG emissions disclosed in the

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## 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
	Management Philosophy and CSR
	Message from the President
	Management Strategies and CSR
	Toray Group's Corporate Social Responsibility
	Fifth CSR Road Map
	Management (Corporate Governance and Management Transparency)
	Implementing CSR Activities and Improving CSR Education
	Promoting Diversity
	Management (Communication)

### Human rights

Issues	Toray's initiatives
1. Due diligence	
2. Human rights risk situations	Green Innovation Business Expansion Project
	Toray Group's CSR Procurement and Purchasing
3. Avoidance of complicity	Toray Group's CSR Procurement and Purchasing
	Committed to Human Rights
4. Resolving grievances	Ensuring Employees Understand the Importance of Ethical Conduct and Legal Compliance
5. Discrimination and vulnerable groups	FOCUS: Empowering Women
	Committed to Human Rights
	Promoting Diversity
	Communication with Stockholders and Investors
6. Civil and political rights	Management (Corporate Ethics and Legal Compliance)
7. Economic, social and cultural rights	Focus: Green Innovation
	Green Innovation Business Expansion Project
	Life Innovation Business Expansion Project
8. Fundamental principles and rights at work	Committed to Human Rights

## Labor practices

Issues	Toray's initiatives
1. Employment and employment relationship	Focus: Empowering Women
	Committed to Human Rights
	Developing and Retaining Human Resources to Create New Value
	Promoting Diversity
2. Conditions of work and social protection	Focus: Empowering Women
	Creating a Positive Workplace for Employees
3. Social dialogue	Management (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	Developing and Retaining Human Resources to Create New Value

## The environment

Issues	Toray's initiatives
1. Prevention of pollution	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 Data
2. Sustainable resource use	Approach to Green Innovation Product Sector
	Promoting Recycling Initiatives
	Toray Group Distribution Initiatives
	Initiatives to Fight Global Warming
	Initiatives for Managing Water Resources
	Initiatives to Reduce Waste
3. Climate change mitigation and adaptation	Focus: Green Innovation
	Green Innovation Business Expansion Project
	Toray Group Distribution Initiatives
	Initiatives to Fight Global Warming
	Environmental Data
4. Protection of the environment, biodiversity and restoration of natural habitats	Biodiversity Initiatives
	Environmental Risk Management

## Fair operating practices

Issues	Toray's initiatives
1. Anti-corruption	Management (Corporate Ethics and Legal Compliance)
	Corporate Ethics, Regulatory Infractions, and Recurrence Prevention
	Ensuring Employees Understand the Importance of Ethical Conduct and Legal Compliance
	Compliance with Antitrust Laws and Anti-Bribery Rules around the World
2. Responsible political involvement	Ensuring Employees Understand the Importance of Ethical Conduct and Legal Compliance
3. Fair competition	Ensuring Employees Understand the Importance of Ethical Conduct and Legal Compliance
	Compliance with Antitrust Laws and Anti-Bribery Rules around the World
4. Promoting social responsibility in the value chain	Toray Group's CSR Procurement and Purchasing
	Toray Group Distribution Initiatives
	Occupational Safety and Accident Prevention Activities
	Communication with Business Partners
5. Respect for property rights	Communication with Stockholders and Investors

## Consumer issues

Issues	Toray's initiatives
1. Fair marketing, factual and unbiased information and fair contractual practices	Communication with Customers
	Communication with the Media
2. Protecting consumers' health and safety	Initiatives for Product Safety and Quality Assurance
3. Sustainable consumption	Focus: Green Innovation
	Green Innovation Business Expansion Project
	Promoting Life Cycle Management
	Approach to Green Innovation Product Sector
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
	Supporting Recovery after the Great East Japan Earthquake
2. Education and culture	Promoting Science and Technology
	Showing Children the Fun of Studying Science and the Appeal of Manufacturing
	Making Local Communities More Livable As a Good Corporate Citizen
	Supporting Recovery after the Great East Japan Earthquake Addressing Environmental Changes (Focus: Green Innovation)
3. Employment creation and skills development	Addressing Environmental Changes (Focus: Green Innovation)
4. Technology development and access	Promoting Science and Technology
5. Wealth and income creation	
6. Health	Reaching Communities through Sports
7. Social investment	Fiscal 2014 Result

## Comparative Table with GRI Guidelines (G4)

### GENERAL STANDARD DISCLOSURES (in accordance with CORE application level)

Strategy and Analysis		References
G4-1	a. Provide a statement from the most senior decision-maker of the organization (such as CEO, chair, or equivalent senior position) about the relevance of sustainability to the organization and the organization's strategy for addressing sustainability.	<a href="#">Message from the President</a>
Organizational Profile		
G4-3	a. Report the name of the organization.	<a href="#">Corporate Outline</a>
G4-4	a. Report the primary brands, products, and services	<a href="#">Our Businesses</a>
G4-5	a. Report the location of the organization's headquarters.	<a href="#">Editorial Policy</a>
G4-6	a. Report the number of countries where the organization operates, and names of countries where either the organization has significant operations or that are specifically relevant to the sustainability topics covered in the report.	<a href="#">Editorial Policy</a> <a href="#">Global Network</a>
G4-7	a. Report the nature of ownership and legal form.	<a href="#">Corporate Outline</a>
G4-8	a. Report the markets served (including geographic breakdown, sectors served, and types of customers and beneficiaries).	<a href="#">Toray's Global Operations</a>
G4-9	a. Report the scale of the organization, including: <ul style="list-style-type: none"> <li>• Total number of employees</li> <li>• Total number of operations</li> <li>• Net sales (for private sector organizations) or net revenues (for public sector organizations)</li> <li>• Total capitalization broken down in terms of debt and equity (for private sector organizations)</li> <li>• Quantity of products or services provided</li> </ul>	<a href="#">Corporate Outline</a>
G4-10	a. Report the total number of employees by employment contract and gender. b. Report the total number of permanent employees by employment type and gender. c. Report the total workforce by employees and supervised workers and by gender. d. Report the total workforce by region and gender. e. Report whether a substantial portion of the organization's work is performed by workers who are legally recognized as self-employed, or by individuals other than employees or supervised workers, including employees and supervised employees of contractors. f. Report any significant variations in employment numbers (such as seasonal variations in employment in the tourism or agricultural industries).	<a href="#">Corporate Outline</a>
G4-11	a. Report the percentage of total employees covered by collective bargaining agreements.	
G4-12	a. Describe the organization's supply chain.	<a href="#">Facilitating CSR Initiatives Throughout the Supply Chain</a> <a href="#">Toray Group's CSR Procurement and Purchasing</a> <a href="#">Toray Group Distribution Initiatives</a>
G4-13	a. Report any significant changes during the reporting period regarding the organization's size, structure, ownership, or its supply chain, including: <ul style="list-style-type: none"> <li>• Changes in the location of, or changes in, operations, including facility openings, closings, and expansions</li> <li>• Changes in the share capital structure and other capital formation, maintenance, and alteration operations (for private sector organizations)</li> <li>• Changes in the location of suppliers, the structure of the supply chain, or in relationships with suppliers, including selection and termination</li> </ul>	N/A
G4-14	a. Report whether and how the precautionary approach or principle is addressed by the organization	<a href="#">Risk Management</a> <a href="#">Risk Management System and Initiatives</a>



G4-15	a. List externally developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes or which it endorses.	Reference Guidelines
G4-16	a. List memberships of associations (such as industry associations) and national or international advocacy organizations in which the organization: <ul style="list-style-type: none"> <li>•Holds a position on the governance body</li> <li>•Participates in projects or committees</li> <li>•Provides substantive funding beyond routine membership dues</li> <li>•Views membership as strategic</li> </ul>	Reference Guidelines <a href="#">International Cooperation in the Textiles and Apparel Industry</a>
Identified Material Aspects and Boundaries		
G4-17	a. List all entities included in the organization's consolidated financial statements or equivalent documents. b. Report whether any entity included in the organization's consolidated financial statements or equivalent documents is not covered by the report.	Editorial Policy <a href="#">Corporate Outline</a>
G4-18	a. Explain the process for defining the report content and the Aspect Boundaries. b. Explain how the organization has implemented the Reporting Principles for Defining Report Content.	<a href="#">Toray Group's Corporate Social Responsibility Fifth CSR Road Map</a>
G4-19	a. List all the material Aspects identified in the process for defining report content.	<a href="#">Toray Group's Corporate Social Responsibility</a>
G4-20	a. For each material Aspect, report the Aspect Boundary within the organization, as follows: <ul style="list-style-type: none"> <li>•Report whether the Aspect is material within the organization</li> <li>•If the Aspect is not material for all entities within the organization (as described in G4-17), select one of the following two approaches and report either:  —The list of entities or groups of entities included in G4-17 for which the Aspect is not material or  —The list of entities or groups of entities included in G4-17 for which the Aspects is material</li> <li>•Report any specific limitation regarding the Aspect Boundary within the organization</li> </ul>	<a href="#">Fifth CSR Road Map</a>
G4-21	a. For each material Aspect, report the Aspect Boundary outside the organization, as follows: <ul style="list-style-type: none"> <li>•Report whether the Aspect is material outside of the organization</li> <li>•If the Aspect is material outside of the organization, identify the entities, groups of entities or elements for which the Aspect is material. In addition, describe the geographical location where the Aspect is material for the entities identified</li> <li>•Report any specific limitation regarding the Aspect Boundary outside the organization</li> </ul>	<a href="#">Facilitating CSR Initiatives Throughout the Supply Chain</a> <a href="#">Toray Group's CSR Procurement and Purchasing</a> <a href="#">Toray Group Distribution Initiatives</a>
G4-22	a. Report the effect of any restatements of information provided in previous reports, and the reasons for such restatements.	N/A
G4-23	a. Report significant changes from previous reporting periods in the Scope and Aspect Boundaries	Editorial Policy
Stakeholder Engagement		
G4-24	a. Provide a list of stakeholder groups engaged by the organization.	<a href="#">Communication</a> <a href="#">Communication via Corporate Websites</a> <a href="#">Communication with Customers</a> <a href="#">Communication with Stockholders and Investors</a> <a href="#">Communication with Business Partners</a> <a href="#">Communication with Employees</a> <a href="#">Communication with the Media</a> <a href="#">Communication with Local Communities</a> <a href="#">Corporate Governance (Investor Relations)</a>
G4-25	a. Report the basis for identification and selection of stakeholders with whom to engage.	<a href="#">Corporate Governance (Investor Relations)</a>
G4-26	a. Report the organization's approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group, and an indication of whether any of the engagement was undertaken specifically as part of the report preparation process.	<a href="#">Corporate Governance (Investor Relations)</a>
G4-27	a. Report key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns, including through its reporting. Report the stakeholder groups that raised each of the key topics and concerns.	<a href="#">Corporate Governance (Investor Relations)</a>
Report Profile		
G4-28	a. Reporting period (such as fiscal or calendar year) for information provided	Editorial Policy
G4-29	a. Date of most recent previous report (if any).	Editorial Policy
G4-30	a. Reporting cycle (such as annual, biennial).	Editorial Policy
G4-31	a. Provide the contact point for questions regarding the report or its contents.	Editorial Policy

G4-32	a. Report the 'in accordance' option the organization has chosen. b. Report the GRI Content Index for the chosen option (see tables below). c. Report the reference to the External Assurance Report, if the report has been externally assured. GRI recommends the use of external assurance but it is not a requirement to be 'in accordance' with the Guidelines.	
G4-33	a. Report the organization's policy and current practice with regard to seeking external assurance for the report. b. If not included in the assurance report accompanying the sustainability report, report the scope and basis of any external assurance provided. c. Report the relationship between the organization and the assurance providers. d. Report whether the highest governance body or senior executives are involved in seeking assurance for the organization's sustainability report.	Third-Party Assurance Third Party Opinions
Governance		
G4-34	a. Report the governance structure of the organization, including committees of the highest governance body. Identify any committees responsible for decision-making on economic, environmental and social impacts.	Corporate Governance and Management Transparency Implementing CSR Activities and Improving CSR Education
Ethics and Integrity		
G4-56	a. Describe the organization's values, principles, standards and norms of behavior such as codes of conduct and codes of ethics.	Management Philosophy and CSR

## SPECIFIC STANDARD DISCLOSURES

Generic Disclosures On Management Approach		
G4-DMA	a. Report why the Aspect is material. Report the impacts that make this Aspect material. b. Report how the organization manages the material Aspect or its impacts. c. Report the evaluation of the management approach, including: •The mechanisms for evaluating the effectiveness of the management approach •The results of the evaluation of the management approach •Any related adjustments to the management approach	Toray Group's Corporate Social Responsibility
ECONOMIC		
Economic Performance		
G4-EC1	Direct economic value generated and distributed	Corporate Outline Investor Relations
G4-EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change	Green Innovation in the Environment and Energy Field 1. Reducing CO <sub>2</sub> emissions 2. Tackling Energy Issues 3. Addressing Environmental Changes
G4-EC3	Coverage of the organization's defined benefit plan obligations	
G4-EC4	Financial assistance received from government	
Market Presence		
G4-EC5	Ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation	
G4-EC6	Proportion of senior management hired from the local community at significant locations of operation	
Indirect Economic Impacts		
G4-EC7	Development and impact of infrastructure investments and services supported	
G4-EC8	Significant indirect economic impacts, including the extent of impacts	
Procurement Practices		
G4-EC9	Proportion of spending on local suppliers at significant locations of operation	
ENVIRONMENTAL		
Materials		
G4-EN1	Materials used by weight or volume	Environmental Impact Overview Fiscal 2014 Chemical Substance Emissions and Transfer Data
G4-EN2	Percentage of materials used that are recycled input materials	Environmental Data for 12 Toray Plants and Principal Subsidiaries and Affiliates
Energy		
G4-EN3	Energy consumption within the organization	Environmental Impact Overview Fiscal 2014 Chemical Substance Emissions and Transfer Data
G4-EN4	Energy consumption outside of the organization	Environmental Data for 12 Toray Plants and Principal Subsidiaries and Affiliates
G4-EN5	Energy intensity	
G4-EN6	Reduction of energy consumption	
G4-EN7	Reductions in energy requirements of products and services	
Water		
G4-EN8	Total water withdrawal by source	Environmental Impact Overview Fiscal 2014 Chemical Substance Emissions and Transfer Data Environmental Data for 12 Toray Plants and Principal Subsidiaries and Affiliates

G4-EN9	Water sources significantly affected by withdrawal of water	N/A
G4-EN10	Percentage and total volume of water recycled and reused	
Biodiversity		
G4-EN11	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	Biodiversity Initiatives
G4-EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas	
G4-EN13	Habitats protected or restored	
G4-EN14	Total number of IUCN red list species and national conservation list species with habitats in areas affected by operations, by level of extinction risk	
Emissions		
G4-EN15	Direct greenhouse gas (GHG) emissions (Scope 1)	Initiatives to Fight Global Warming
G4-EN16	Energy indirect greenhouse gas (GHG) emissions (Scope 2)	
G4-EN17	Other indirect greenhouse gas (GHG) emissions (Scope 3)	
G4-EN18	Greenhouse gas (GHG) emissions intensity	Initiatives to Fight Global Warming
G4-EN19	Reduction of greenhouse gas (GHG) emissions	
G4-EN20	Emissions of ozone-depleting substances (ODS)	Initiatives to Protect the Ozone Layer
G4-EN21	NOx, SOx, and other significant air emissions	Air Quality Management
Effluents and Waste		
G4-EN22	Total water discharge by quality and destination	Initiatives for Managing Water Resources Water Quality Management
G4-EN23	Total weight of waste by type and disposal method	Initiatives to Reduce Waste
G4-EN24	Total number and volume of significant spills	Environmental Risk Management
G4-EN25	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention 2 Annex I, II, III, and VIII, and percentage of transported waste shipped internationally	
G4-EN26	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the organization's discharges of water and runoff	N/A
Products and Services		
G4-EN27	Extent of impact mitigation of environmental impacts of products and services	Green Innovation in the Environment and Energy Field 1. Reducing CO <sub>2</sub> emissions 2. Tackling Energy Issues 3. Addressing Environmental Changes
G4-EN28	Percentage of products sold and their packaging materials that are reclaimed by category	
Compliance		
G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	Environmental Risk Management
Transport		
G4-EN30	Significant environmental impacts of transporting products and other goods and materials for the organization's operations, and transporting members of the workforce	Toray Group Distribution Initiatives
Overall		
G4-EN31	Total environmental protection expenditures and investments by type	Environmental Accounting
Supplier Environmental Assessment		
G4-EN32	Percentage of new suppliers that were screened using environmental criteria	
G4-EN33	Significant actual and potential negative environmental impacts in the supply chain and actions taken	Facilitating CSR Initiatives Throughout the Supply Chain Toray Group's CSR Procurement and Purchasing Toray Group Distribution Initiatives
Environmental Grievance Mechanisms		
G4-EN34	Number of grievances about environmental impacts filed, addressed, and resolved through formal grievance mechanisms	
<b>SOCIAL</b>		
LABOR PRACTICES AND DECENT WORK		
Employment		
G4-LA1	Total number and rates of new employee hires and employee turnover by age group, gender and region	
G4-LA2	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation	

G4-LA3	Return to work and retention rates after parental leave, by gender	
Labor/Management Relations		
G4-LA4	Minimum notice periods regarding operational changes, including whether these are specified in collective agreements	
Occupational Health and Safety		
G4-LA5	Percentage of total workforce represented in formal joint management–worker health and safety committees that help monitor and advise on occupational health and safety programs	
G4-LA6	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender	<a href="#">Toray Group Safety Record</a>
G4-LA7	Workers with high incidence or high risk of diseases related to their occupation	
G4-LA8	Health and safety topics covered in formal agreements with trade unions	<a href="#">Main activities (Safety, Health, Accident Prevention and Environmental Preservation Management)</a>
Training and Education		
G4-LA9	Average hours of training per year per employee by gender, and by employee category	
G4-LA10	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	<a href="#">Reemployment System</a>
G4-LA11	Percentage of employees receiving regular performance and career development reviews, by gender and by employee category	<a href="#">Human Rights Promotion and Human Resources Development</a>
Diversity and Equal Opportunity		
G4-LA12	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity	
Equal Remuneration for Women and Men		
G4-LA13	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation	
Supplier Assessment for Labor Practices		
G4-LA14	Percentage of new suppliers that were screened using labor practices criteria	
G4-LA15	Significant actual and potential negative impacts for labor practices in the supply chain and actions taken	<a href="#">Facilitating CSR Initiatives Throughout the Supply Chain</a> <a href="#">Toray Group's CSR Procurement and Purchasing</a> <a href="#">Toray Group Distribution Initiatives</a>
Labor Practices Grievance Mechanisms		
G4-LA16	Number of grievances about labor practices filed, addressed, and resolved through formal grievance mechanisms	
<b>HUMAN RIGHTS</b>		
Investment		
G4-HR1	Total number and percentage of significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	
G4-HR2	Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained)	<a href="#">Human Rights Training(Number of sessions)</a>
Non-discrimination		
G4-HR3	Total number of incidents of discrimination and corrective actions taken	
Freedom of Association and Collective Bargaining		
G4-HR4	Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights	
Child Labor		
G4-HR5	Operations and suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor	<a href="#">CSR Procurement Guidelines</a>
Forced or Compulsory Labor		
G4-HR6	Operations and suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor	<a href="#">CSR Procurement Guidelines</a>
Security Practices		
G4-HR7	Percentage of security personnel trained in the organization's human rights policies or procedures that are relevant to operations	
Indigenous Rights		
G4-HR8	Total number of incidents of violations involving rights of indigenous peoples and actions taken	

G4-HR9	Total number and percentage of operations that have been subject to human rights reviews or impact assessments	
Supplier Human Rights Assessment		
G4-HR10	Percentage of new suppliers that were screened using human rights criteria	
G4-HR11	Significant actual and potential negative human rights impacts in the supply chain and actions taken	<a href="#">Implementing CSR Procurement</a>
Human Rights Grievance Mechanisms		
G4-HR12	Number of grievances about human rights impacts filed, addressed, and resolved through formal grievance mechanisms	
SOCIETY		
Local Communities		
G4-SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs	
G4-SO2	Operations with significant actual and potential negative impacts on local communities	
Anti-corruption		
G4-SO3	Total number and percentage of operations assessed for risks related to corruption and the significant risks identified	
G4-SO4	Communication and training on anti-corruption policies and procedures	<a href="#">Compliance with Antitrust Laws and Anti-Bribery Rules around the World</a>
G4-SO5	Confirmed incidents of corruption and actions taken	
Public Policy		
G4-SO6	Total value of political contributions by country and recipient/beneficiary	
Anti-competitive Behavior		
G4-SO7	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes	N/A
Compliance		
G4-SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	
Supplier Assessment for Impacts on Society		
G4-SO9	Percentage of new suppliers that were screened using criteria for impacts on society	
G4-SO10	Significant actual and potential negative impacts on society in the supply chain and actions taken	<a href="#">Facilitating CSR Initiatives Throughout the Supply Chain</a> <a href="#">Toray Group's CSR Procurement and Purchasing</a> <a href="#">Toray Group Distribution Initiatives</a>
Grievance Mechanisms for Impacts on Society		
G4-SO11	Number of grievances about impacts on society filed, addressed, and resolved through formal grievance mechanisms	
PRODUCT RESPONSIBILITY		
Customer Health and Safety		
G4-PR1	Percentage of significant product and service categories for which health and safety impacts are assessed for improvement	
G4-PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes	
Product and Service Labeling		
G4-PR3	Type of product and service information required by the organization's procedures for product and service information and labeling, and percentage of significant product and service categories subject to such information requirements	
G4-PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes	
G4-PR5	Results of surveys measuring customer satisfaction	<a href="#">Ratio of complaint costs to net sales</a> <a href="#">Communication with Customers</a>
Marketing Communications		
G4-PR6	Sale of banned or disputed products	
G4-PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship, by type of outcomes	
Customer Privacy		
G4-PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data	
Compliance		
G4-PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	

## Third Party Opinions



Professor **Yoshinao Kozuma**  
Faculty of Economics, Sophia  
University

After having completed the doctoral program's coursework without degree at the Graduate School of Economics of Sophia University, Yoshinao Kozuma obtained a position as research assistant at the Nagoya Institute of Technology, and was then invited to the Limperg Instituut (Inter-University Institute for Accounting and Auditing) in Amsterdam as a visiting researcher under a scholarship from the Dutch Ministry of Education and Science. He became an associate professor at the School of Management and Informatics at the University of Shizuoka, and associate professor at the Faculty of Economics at Sophia University, before assuming his current position. He has chaired and served as a committee member for numerous commissions and study groups on corporate social responsibility and the environment, for organizations such as the Ministry of Environment; Ministry of Economy, Trade and Industry; Ministry of Land, Infrastructure and Transport; Ministry of Agriculture, Forestry and Fisheries; Cabinet Office; and Japanese Institute of Certified Public Accountants.

Guided by a corporate philosophy of contributing to society through the creation of new value with innovative ideas, technologies, and products, Toray Group is pushing ahead with powerful changes to its business model by implementing its long-term corporate vision, AP-Growth TORAY 2020.

The top-priority task facing the global community is to build a more sustainable world, and there is an urgent policy focus on climate change. The market for products and services that help to build a more sustainable world has steadily grown, and corporations will certainly need to change their business models to fit the needs of sustainability in order to secure long-term growth.

The Toray Group CSR Report 2015 coincides with the first year of implementation of the medium-term management program, Project AP-G 2016. Net sales from the Green Innovation business, which is at the center of the Group's new business model, were up 44% from fiscal 2010. This puts the Group on track to achieve its target of one trillion yen in sales from the Green Innovation business by around 2020. The Group's products helped reduce 59 million tons-CO<sub>2</sub> equivalent, which is more than 11 times the volume of the Toray Group's overall greenhouse gas emissions, which are at 5.23 million tons. These results are promising. Also promising is the Group's decision to assess materiality in accordance with the G4 Sustainability Reporting Guidelines, selecting 19 aspects that are material to its CSR guidelines. This will further improve the systematic framework and transparency of its efforts to implement socially responsible management. However, even though the Group has selected "respect for human rights" as a material aspect, the reporting on basic education and training on human rights is limited to coverage of group companies in Japan. Considering that 62% of group employees work outside of Japan, and that the Group's CSR procurement guidelines stipulate that suppliers respect human rights, the Group needs to set an example by reporting on human rights training for the entire Group. Similarly, the reporting on diversity initiatives only covers Toray Industries rather than the entire Group. This need to be improved and the Company should disclose the number of female employees working in the entire Group.

Additionally, Toray Group recorded a number of serious regulatory violations, accidents caused by product defects, and labor accidents in fiscal 2014. Having made it the highest management priority to secure safety, accident prevention, and environmental preservation, together with corporate ethics and legal compliance, the Group should strengthen its efforts to ensure such incidents do not happen again.



**Kaori Kuroda**

Executive Director, CSO Network Japan

Kaori Kuroda worked in the private sector and 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. In 2006, Kuroda became a senior fellow of Social Accountability International, a U.S.-based human rights organization that established the SA8000 standard and acts as an accrediting body. Kuroda was involved in developing the ISO 26000 guidance on social responsibility and was on the committee for incorporating ISO 26000 into the Japanese Industrial Standards (JIS). She also serves as a member of the Japan Inclusive Business Support Center and Japan National Working Group on ISO Social Responsibility, both operated by the Ministry of Economy, Trade and Industry. Kuroda is a member of the American Institute of Certified Public Accountants.

This report describes Toray Group's achievement of key performance indicators (KPIs) under its Fifth CSR Road Map in an itemized manner that is easier to comprehend. Some items that would be difficult to judge by numbers alone are made more accessible by the descriptions included in the report.

The importance of social responsibility across the supply chain has risen sharply in the last few years. Efforts to reduce environmental impact and improve human rights and labor practices are increasingly expected to include the entire value chain, from manufacturing and extraction of raw materials to consumption and disposal. Global-scale issues are growing more problematic and complex, and corporations are being looked upon to create value that helps to address global-scale issues and realize sustainable growth. In both respects, Toray Group fully comprehends its role and opportunities as a manufacturer of materials. This report fully conveys how the Group is practicing social responsibility in a way that is integral to its corporate philosophy and management strategies.

Toray Group's business contributions to addressing social issues are exemplified by its advanced technologies used in the environmental and energy sectors as well as in the medical and healthcare fields. At the same time, the Group has been lauded for supplying innovative applied technologies with broad applications that are needed in developing countries. In South Africa, Toray and Mitsukawa Co., Ltd. are jointly working to deploy a product called Roll Planter™, which is made from plant-based polylactic acid fiber, in arid areas to enable agricultural production and revegetation.

These efforts were spotlighted at the Tokyo International Conference on African Development that took place in Yokohama, Japan in June 2013. In September 2015, a set of sustainable development goals for the international community to achieve by 2030 was adopted at the United Nations General Assembly. Moving forward, I hope that Toray Group will continue to find innovative ways to help address problems facing both developed and developing countries.

Toray Group is successfully working with its logistics partners to reduce the environmental impact of logistics, and practice social responsibility in supply chains. The Group operates guidelines and guiding policies for socially responsible procurement, and is cooperating with suppliers as well as subcontractors and customers to implement socially responsible practices. Dialogue with communities, non-governmental organizations and other stakeholders outside of business dealings is also needed in order to identify, prevent, mitigate, and correct for negative impacts and risks in supply chains. The Group is already generating results from its forward-thinking environmental initiatives. I look forward to Toray Group doing even more to meet its social responsibilities and address social issues including human rights and labor issues.