TOYODA GOSEI REPORT

# 2015

Report on Activities in FY2014





#### Boundless Creativity and Social Contribution Company Creed



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Letter from the President

## Through our business activities we strive to grow sustainably and develop together with society

Over a history of more half a century, the Toyoda Gosei Group has grown as a leading global supplier of rubber and plastic automotive parts and LEDs with a network of 66 group companies in 18 countries/ regions. During that time, we have been striving to improve our quality and technology as a manufacturing company and contribute to better societies. Meeting the expectations from all stakeholders, including customers, employees, shareholders, and communities, has been a crucial aspect of our work. For this, we make a wide range of efforts, especially in the areas of environmental preservation, building pleasant workplaces, and contributing to livable communities, all based on compliance in our business practices. Environmental preservation is a particular focus. The world's population has been growing dramatically since the Industrial Revolution in the mid-eighteenth century, and has been placing an increasing burden on the environment. Problems such as climate change from air pollution and global warming are becoming evident on a global scale. We believe that all stakeholders expect us to contribute to the resolution of these problems through our actions as a company so that we leave a livable planet for future generations. In our automotive parts business, for example, we are contributing to reduced fossil fuel consumption and carbon emissions through improved fuel efficiency, mainly through weight reduction of our products and more efficient production and transport operations. Our recent development includes plastic water pipes that are about 40% lighter than previous metal pipes. These lightweight pipes are now being used by customers. For effective use of limited resources and reductions in waste, we are actively developing recycling technologies for rubber and plastic raw materials. In our LED business, we develop and produce environmentally-friendly LEDs that combine energy efficiency and high brightness. These efforts have been recognized by external organizations, including a third place ranking in the transport sector in Japan on the WWF Japan ranking for corporate measures to combat global warming.\* This is a huge honor and at the same time shows the expectations placed on Toyoda Gosei by society. Continuing to meet these expectations is an important part of our mission. Building pleasant workplaces and livable communities are also important activities to meet the expectations from our employees and the communities where we do businesses. We are working to create healthy and safe workplaces for all employees and atmospheres that respect diversity, in which each employee can display his/her individuality. Through volunteer activities and other efforts to give back to our communities that are matched to their respective characteristics, we work to put down roots in our communities and to grow together with them.

The foundation for all of our CSR efforts is compliance. To continue earning the trust of society, we conduct training activities for the entire Toyoda Gosei Group based on the thinking that it is important not only to comply with laws but to instill a strong sense of ethics in each employee. Through these business activities, we will endeavor to continue growing sustainably and progressing together with society.

President N. Miyazaki



<sup>\*</sup>Last year we also ranked 19th in the manufacturing sector in the Nikkei Environmental Management Survey, and received the Special Award at the 2015 Environmental Awards sponsored by Aichi Prefecture



0

2011/3

2012/3

2013/3

2014/3

2015/3

2011/3

2012/3

2013/3

2014/3

2015/3

0

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(Unit: million yen rounded down)

Item	FY2014 end	FY2013 end
Liabilities	269,697	241,598
Current liabilities	180,795	168,136
Long-term liabilities	88,902	73,462
Net assets	338,474	300,279
Shareholders' equity	289,321	275,840
Accumulated other comprehensive income	24,498	3,949
Subscription rights to shares	_	128
Minority interests in consolidated subsidiaries	24,654	20,359
Total liabilities and net assets	608,172	541,877

#### **Consolidated Statement of Cash Flow**

	(Unit: millior	n yen rounded down)
Item	FY2014	FY2013
Net cash provided by operating income	51,283	55,448
Net cash used in investing activities	△62,432	△45,680
Net cash provided by (used in) financing activities	△238	△732
Effect of exchange rate changes on cash and cash equivalents	4,433	879
Increase or decrease in cash and cash equivalents	△6,953	9,915
Cash and cash equivalents at beginning of fiscal year	92,020	78,92 <sup>4</sup>
Increase or decrease in beginning cash and cash equivalents with changes in consolidated subsidiaries' accounting terms	10	3,063
Increase or decrease in beginning cash and cash equivalents with change in scope of consolidation	_	117
Cash and cash equivalents at end of period	85,078	92,020

287

33

953

## **Business Portfolio**

Superior rubber and plastic automotive parts and world-class LEDs



#### Sales for each product category in FY2014



#### **Functional Components**

These rubber and plastic components support the basic vehicle functions of running, turning, and stopping. Toyoda Gosei technology ensures quality for these key safety-related parts.



#### Safety Systems

Toyoda Gosei airbags provide full 360° coverage to protect passengers from impacts from every side. Driver-side airbags are housed in our stylish steering wheels.







#### **Automotive Sealing Products**

Weatherstrips and glass runs on door and window frames serve to keep out rain, wind and noise and for smooth opening and closing of doors and windows. We manufacture these parts in an integrated process from materials development to forming that assures top quality.



#### Interiors and Exteriors

Our interior and exterior parts help to create aesthetically appealing and comfortable vehicle cabins and exteriors, combining stylishness and functionality.



#### LEDs / General Industry Products

Toyoda Gosei's white LEDs have luminosity and energy efficiency among the highest in the world. We also apply our automotive part and LED technology to develop and produce products in various other fields.

## LEDs



Top-view package



Global Milestones in 2014

#### Consolidating our global business foundation to meet the needs of customers worldwide

#### Enhanced production organization in Mexico

We are enhancing our production organization and competitiveness in the growing automobile production market in the Americas with the establishment of a new company for interior and exterior products, Toyoda Gosei Irapuato Mexico, in August 2014, and the start of operations at Toyoda Gosei Rubber Mexico for the production of functional components in January 2015.





Toyoda Gosei Irapuato Mexico, S.A. de C.V. (rendering)

## Enhanced production organization in

2015, making automotive

sealing and safety system

products for customers in

northeast Japan.

northeast Japan Toyoda Gosei East Japan decided in May 2014 to build its new Miyagi Plant. Operations began in June

In November 2014, Minda TG Japan / China / India Rubber was established in India as a joint venture with India's Minda Group and Toyota Tsusho. It is scheduled to begin production of mainly brake hoses in September 2015 for the local procurement needs of customers.





Toyoda Gosei East Japan Co., Ltd. Miyagi Plant

#### **6** Stronger weatherstrip business in Europe

Toyoda Gosei acquired the assets of German rubber parts manufacturer Meteor Gummiwerke in April 2014. Toyoda Gosei Meteor was then established to produce weatherstrip products to increase business with European automakers and enhance TG's European presence.





#### **2** Start of production at first South American company

Production operations started in January 2015 at TG's first company in Brazil to supply the growing South American automobile production market. The company makes automotive sealing, interior and exterior, and safety system products.



GDBR Industria e Comercio de Componentes Quimicos e de Borracha Ltda.

#### **4** New production site for automobile hoses in India



MindaTG Rubber Pvt. Ltd. (rendering)

#### **5** Upgraded technical development capacity in China

Shanghai TG relocated to a larger plant equipped with material and product testing and evaluation facilities in January 2015. These new facilities and an increase in local engineering staff will enable them to carry out design, development and evaluation operations more quickly than when they were done in Japan.





#### Environmentally-friendly light source

LEDs have three features that make them environmentallyfriendly. The first is outstanding energy efficiency. Incandescent bulbs emit light with heat, similar to a flame, and more than 90% of the energy they consume produces heat. The remaining less than 10% is used for light. In contrast, LEDs convert electricity directly to light and boast high energy efficiency, consuming only one-fifth the energy of incandescent bulbs. Lighting accounts for about 15% of general household electricity, and so the spread of LED lighting will greatly reduce the amount of carbon emitted in generating electricity.

The second feature is long life. LEDs have a lifetime\*1 of 40,000 hours. This is about four times longer than fluorescent lights and more than ten times longer than incandescent bulbs. As a result, resources can be saved.

The third feature is that, unlike fluorescent lights and mercury lamps, they do not include toxic mercury. Mercury is harmful both to the environment and the human body, and its use is decreasing in most developed countries. In some developing countries, however, mercury pollution is a problem. In 2013 the Minamata Convention restricting the manufacture, export and

# World-leading development of LEDs through industry, academia, government collaboration

Red and green LEDs had been developed by the 1980s, but blue LEDs had yet to be achieved. At that time Isamu Akasaki\*2 was a Professor and Hiroshi Amano<sup>\*3</sup> was a graduate student at Nagoya University, where they were pursuing research on gallium nitride (GaN) semiconductors that could theoretically emit blue light. During that same period, Toyoda Gosei was searching for a second major field of business after automobile parts. We were trying to develop products that used light emitting applications to increase the added value of our automotive parts. These products were centered on electronics technology, but they were still far from a major business. The turning point came when Toyoda Gosei engineers heard Prof. Akasaki give a talk on blue LED research. The company's president at that time, Masao Nemoto, proposed joint research with Toyoda Gosei engineers to Prof. Akasaki. The Research Development Corporation of Japan (JRDC)\*4 had also learned of the Akasaki group's research in an academic

## eature

# Exploring the Possibilities of LEDs for More Energy-Efficient Societies

Light-emitting diodes (LEDs) are seen as an effective means of reducing carbon emissions to prevent global climate change. Toyoda Gosei is pursuing the possibilities of LEDs with technology cultivated as a pioneer in this field to contribute to low-energy societies.

Today LEDs are being applied to an expanding range of fields as an environmentally-friendly light source. From smart phone, tablet and notebook computer displays to home and industrial lighting, traffic lights, and street lighting, they have become an essential part of our lives.

Today's LED products were made possible by the development of blue LEDs in the 1990s. Red and green LEDs already existed at the time, and with the development of blue LEDs all three primary colors of light (red, green, blue) became available. This made it possible to express all colors with LEDs. Methods of producing white light with high luminous efficiency also

Red beg Blue Green

began appearing, such as combining blue LEDs and yellow phosphor. This was the beginning of LEDs as a light source for next-generation lighting to replace incandescent light bulbs and fluorescent lights. From large commercial facilities and public facilities to individual homes, the use of

Primary colors of light

LED lighting is accelerating worldwide.

In 2014, Isamu Akasaki, Hiroshi Amano, and Shuji Nakamura were awarded the Nobel Prize in Physics for the invention of blue LEDs. Toyoda Gosei was a pioneer in the development of blue LEDs under the guidance of Professors Akasaki

and Amano, and will continue developing LEDs for lowenergy societies.



Nobel Prize recipients are allowed to make up to three replicas of the Nobel Prize medal. In March 2015, Professors Akasaki and Amano presented replica medals to Toyoda Gosei.

(Left photo: At the presentation ceremony; Prof. Akasaki (left) and TG President (current Chairman) Tadashi Arashima. Right photo: Prof. Amano offering remarks.)



#### Features of LEDs



import of mercury was adopted by the United Nations. With the reduced use of mercury, LED lights are a promising alternative to fluorescent and mercury lamps worldwide.

LEDs are looked to increasingly as an environmentally-friendly light source, and through our LED business we will contribute to lowering environmental impacts.

\*1 Time until brightness drops to about 70% of the initial level

journal, and were encouraging him to undertake joint research with a company for the commercialization of blue LEDs. Prof. Akasaki mentioned that Toyoda Gosei had shown interest, and the JRDC offered 500 million yen in funding for joint research.

- \*2 Currently, Lifetime Professor, Meijo University; Professor Emeritus, Nagoya
- University
- \*3 Currently, Professor, Nagoya University
- \*4 Japan Science and Technology Center



This was how we started in an industry-academia-government project for the development and commercialization of blue LEDs in 1986. GaN semiconductors are a difficult material, though—major electronics manufacturers had already given up on them—and we struggled to raise the luminance even after we first observed emitted light. Some in the company said we should abandon the research. President Nemoto, however, told researchers not expect results too quickly since they were working on something that had never been achieved before, and encouraged them to continue believing that ultimately they would succeed.

In 1991, five years after the start of the joint research, Toyoda Gosei's success in developing blue LEDs was certified by the Research Development Corporation of Japan.\*1 By 1995 we had achieved a practical level of brightness and began production and sales, taking our first step in this new business.



\*1 As of FY2014, Japan Science and Technology Center \*2 Semiconductor with positive property \*3 Semiconductor with negative property

#### Small, high performance Toyoda Gosei LEDs

Toyoda Gosei's LED business has grown steadily as our second business area. After we reached the stage of being able to mass produce blue LEDs, we began producing and selling the LED products used in full color giant displays and traffic lights. After achieving white light, we introduced various products to the market, including light sources for mobile phone and computer



In producing LEDs, gases such as nitrium or gallium are sprayed in several layers on sapphire substrates with a high temperature of more than 1,000 degrees. This "crystal growth" is an important process that determines 70 percent of LED quality. Toyoda Gosei has superior technology for high precision in applying each of the different types of crystal layer. displays, home, office and factory lighting, and street lights, as well as cabin lights for automobiles.

In recent years there is growing demand for products that can be used as light sources for smart phones and tablet computers. On displays for smart phones and other devices, the brightness needed for high image quality must be produced in a limited space. Battery capacity is also limited, making energy efficiency essential. Toyoda Gosei produces small, high-performance LED products based on the liquid crystal growth technology\* and other knowhow we have accumulated over more than 30 years. High energyefficiency and luminance with a small number of compact LEDs are crucial for mobile products that are thin and can be used comfortably for many hours.

Smart phones and tablet computers are expected to become even thinner and to have increasingly high image quality. We will continue our research and development to provide LED products with ever higher performance and reliability.

## Expanding the possibilities of LEDs, meeting the needs of the age

Applied LED technologies are used in various fields, and the possibilities are growing. In medicine, they are used in lights for tablet-type endoscopes that are swallowed by patients. In agriculture, applications are being achieved for producing light with the best wavelength for plant growth to efficiently raise highly nutritious vegetables. They have also begun to be used in visible light communication, in which data is sent at high speed with flashing, digitized signals. Research is also progressing on next-generation devices that use blue LED semiconductor technology. Early commercialization is expected for the smaller, more efficient parts forecast for hybrid vehicles and server power sources.

Global energy savings are also expected from the replacement of general lighting with LEDs. The US Department of Energy, for example, predicts that 74% of lighting in the United States will use LEDs by 2030, for an energy savings of about 300 terawatt-hours. This is equivalent to the power of the 48 nuclear reactors currently shut down in Japan. LED lighting is expected to exceed 70% in Japan as well by 2020, which is calculated to be a national energy





## Differentiating our products with technology cultivated over many years

In the nearly 30 years since we started researching LEDs, we have accumulated knowledge and improved our technical strengths while weathering intense price and development competition. Starting with light sources for huge full-color displays using blue LEDs, demand for light sources for lighting products using white LEDs is increasing today. We provide small, energy-efficient and highly reliable LEDs as light sources for smart phone and tablet computer displays. Our superior quality has earned us an outstanding reputation from many customers. We are now working to differentiate ourselves from competitors by actively promoting all-LED automobiles, taking advantage of our knowledge of automobile parts. LEDs have huge potential, and with the pioneering spirit that led to the development of blue LEDs we will continue to refine our technology to meet the expectations of customers and society.

savings of 7%.

- At Toyoda Gosei we are developing businesses to promote greater use of LEDs. One area is all-LED lighting for automobiles. We are already producing LED
- products for automobile cabin lights, and now we are enhancing development and production of LEDs for headlights. Light sources for headlights need to be small, reliable and have high luminance, for which Toyoda Gosei technology gives us an advantage. LED headlights will raise fuel efficiency and be longer lasting than current headlights. They will also give greater design freedom for vehicle fronts and offer other advantages for which the market is expected to grow.
- While the LED market has grown, competition has also become more intense with the entry of Taiwanese, Korean, and Chinese manufacturers. To grow in this field, we will continue our approach of making the LEDs that customers want as we contribute to the creation of low-energy societies through the spread of LEDs.

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#### Toshihiro Yokoi

Managing Officer, General Manager, Optoelectronic Business Unit

# **Global Environmental Protection Activities**

All member companies of the Toyoda Group worldwide, including affiliates and suppliers, take environmental protection measures to mitigate global environmental problems.

We conduct a variety of activities to reduce environmental impacts over the entire lifestyle of vehicles, based on our basic environmental policy. Together with consideration of environmental impacts at every stage, from development, production, and sales activities to disposal, we respond quickly to changing laws and regulations and societal needs. We also work to raise the environmental awareness of each employee so that these efforts will be made sustainably.

While continuing activities based on our Fifth Environmental Action Plan, which set forth our efforts for the years FY2011 to FY2015, we are also formulating our Sixth Environmental Action Plan. This Plan will cover our activities and goals from FY2016 onward as we work toward achieving higher goals.

#### **Environmental Policy**

#### • Environmentally-friendly corporate activities

We are aware that all stages of our business, from development, production, and sales activities to end-oflife disposal, are deeply related to the environment. The Toyoda Gosei Group, including all internal departments, domestic and international affiliates, and suppliers, conducts all business activities with concern for the environment in cooperation and coordination with customers, government authorities, and others.

#### Ocod corporate citizenship

As a good corporate citizen, we participate in, support, and cooperate with environmental activities by many groups while also working on environmental activities in the community and broader society. We also provide education for all employees to support them in becoming involved in environmental activities as members of the community and society, and support social contributions and volunteerism.

3 We listen to the opinions of people at all levels of society while spreading information on these activities and working to improve them.

#### Environmental enhancement organization

Environmental policy and key action items are discussed and decided by an Environmental Committee headed by the President. The Environmental Committee consists of three subcommittees for products, production, and quality. Liaison commit-



Aiming higher

\*1 HFCs (hydrofluorocarbons), PFCs (perfluorocarbons), SF<sub>6</sub> (sulfur hexafluoride)

- CH4 (methane), N2O (nitrous oxide) \*2 Registration, Evaluation, Authorization and Restriction of Chemicals
- \*3 Substances of Concern \*4 Volatile Organic Compounds
- \*5 Pollutant Release and Transfer Registe

tees and working groups from these subcommittees act in coordination to promote environmental protection and management from an expert perspective.

#### Environmental organization chart

Chairperson: Company president Environmental	Products and Technology	Products and Technology Environment Subcommittee Promotes and manages development of environmentally-friendly products and technologies	Liaison Committee for Environmental Communication with Domestic Affilia Manages, guides, and supports coordinated en
Committee	Production	Production Environment Subcommittee	efforts by affiliates and suppliers in Japan
	Quality	Promotes and manages technical development measures for reduced emissions from production processes	Liaison Committee for Environmental Communication with Overseas Affilia
	Assurance	Subcommittee on Systems for SOC Regulations and Quality Assurance Develops systems for compliance with SOC regulations and for quality control	Manages, guides, and supports coordinated er efforts by affiliates in other countries
		Deployment from the Environmental Committee and subcommittees t	o plants and other operations is done with the esta

blishment of expert committees in accordance with the ISO 14001 system at each plant.

# Fifth Environmental Action Plan Activities and Results

We are in the final year of our Fifth Environmental Action Plan, based on which we conduct various activities with the aim of contributing through the supply of products to a low carbon, recycling-oriented, and environmentally-friendly society.

Theme	Measures Implemented		Results of Activities in FY2014			Page		
		<ul> <li>Reduction of [Production]</li> <li>Replace inefficient</li> <li>Expand use of LEE</li> <li>Greater use of ren</li> <li>Greater use of ins</li> </ul>	f CO2 emissions equipment; improve existing equipment ) lighting for high ceilings newable energy (solar power generation) ulating paint		<ul> <li>Production-related efforts</li> <li>Compact wheel cover coating facilities</li> <li>More efficient die/mold machining</li> <li>Reduced carbon output with upgrade to absorption heating and cooling systems</li> </ul>			P16
			Item	2015 target	2014 Achie	evements	Rating <sup>[2]</sup>	
io		Global, consolidated	CO <sub>2</sub> emissions per sales unit	33% reduction from 2003 level	71 [1]	Reduced 29% from 2003 level	X	
ent		Japan, consolidated	CO2 emissions per sales unit	28% reduction from 2003 level	77 [1]	Reduced 23% from 2003 level	×	
Lev		Toyoda	CO2 emissions per sales unit	26% reduction from 2003 level	78 [1]	Reduced 22% from 2003 level	×	
D D	-	Gosei	CO <sub>2</sub> emissions	13% reduction from 2003 level	116,000 tons of CO2	Reduced 3% from 2003 level	×	
limate chang	D	Distribution (Scope procurement distrib • Improved transpo • Shorter distributio • Vehicle deployme	e: Delivery distribution, in-production) rtation efficiency · Improv n routes by production closent int matched to production v	ocess distribution, ed loading efficiency se to customers volumes	<ul> <li>Efforts in logistics</li> <li>Direct delivery</li> </ul>			P17
U			Item	2015 target	2014 Achi	evements	Rating <sup>[2]</sup>	
		Toyoda Gosei	Distribution CO <sub>2</sub> emissions per sales unit	37% reduction from 2003 level	63 [1]	Reduced 37% from 2003 level	0	
iental impacts		<ul> <li>[Products]</li> <li>Product design, materials development for weight reduction</li> <li>Development of products and materials in new areas correspotonew energy trends</li> </ul>		eight reduction w areas corresponding	<ul> <li>Product-related efforts</li> <li>Lightweight constant velocity joint boots</li> <li>Development of lightweight (independent) passenger- side airbags for mini vehicles</li> <li>Lightweight high-pressure hydrogen tank liners</li> <li>Lightweight bright film outer weatherstrips</li> </ul>		issenger- s	P17
Reductions in 5 gases*     Substitutes for gases (HFC, PFC, SF6) used in magnesium casting and LED manufacture		to substitute gases …		P18				
en			Item	2015 target	2014 Achi	evements	Rating <sup>[2]</sup>	
ō		Toyoda Gosei	Emissions of 5 gases	75% reduction from 2003 levels	5,000 tons of CO2	Reduced 74% from 2003 level	0	
Reductio		<ul> <li>3 Reduced emissions</li> <li>[Production]</li> <li>Reduced waste at source through better yields</li> <li>In-house recycling of rubber, plastics, and metals</li> <li>Continue to have zero landfill waste</li> </ul>		<ul> <li>Production-related effor</li> <li>Reduced waste with torque plate materia</li> <li>2014 Ashi</li> </ul>	orts development of fuel fille Il	r cap	P19	
v.		lanan consolidatod	Maste volume per cales unit	2015 target	2014 ACHI	Peduced 49% from 2002 lovel	Rating	
ILCE		Toyoda Cossi	Waste volume per sales unit	4070 reduction from 2002 level	52 <sup>m</sup>	Reduced 40% from 2002 level		
SOL SOL		Overseas affiliates	Waste volume per sales unit	38% reduction from 2003 level	62 [1]	Reduced 38% from 2003 level		
ive use of re		Distribution (Scope: Delivery distribution, in-process distribution) • Slimmer packing specifications • Greater use of returnable containers		pcess distribution,	<ul> <li>Efforts in logistics</li> <li>Cleaner returnable containers</li> <li>Reduction in packing materials through more efficient packing</li> </ul>		efficient	P20
Poti			Item	2015 target	2014 Achi	evements	Rating <sup>[2]</sup>	
ΕĦ	i	Toyoda Gosei	Packing material used per sales unit	70% reduction from 2003 level	30 [1]	Reduced 70% from 2003 level	0	
		<pre>[Products] • Product design an</pre>	d materials development fo	or easy recycling	Product-related efforts			P20
		4 Reduction in	n water use		Reduced water use an	d effective use of water		P20
			Item	2015 target	2014 Achi	evements	Rating <sup>[2]</sup>	
		Toyoda Gosei	Water used per sales unit	30% reduction from 2003 level	63 [1]	Reduced 37% from 2003 level	0	

\*5 gases; Eluorocarbons, etc. [HECs (hydrofluorocarbons), PECs (perfluorocarbons), SE6 (sulfur hexafluoride)], methane (CH4), nitrogen gases (N2O; nitrous oxide) This value takes the figure in the base year as 100. [2]  $\bigcirc$ : Goal for fiscal year achieved,  $\times$ : Goal for fiscal year not achieved

The	me	Measures Implemented		Results of Activities in FY2014			Page	
nental impacts	tances of concern	<ul> <li>Reduction in V</li> <li>Reduce VOC use to use of fewer solve and use in optimized</li> </ul>	<ul> <li>Reduction in VOC<sup>*1</sup> emissions</li> <li>Reduce VOC use through switch to water-based paints, use of fewer solvents and substitute washing thinners, and use in optimized amounts</li> </ul>		emissions		P21	
	f subs		Item	2015 target	2014 achiever	ments	Rating <sup>[2]</sup>	
on of env eduction of		Toyoda Gosei	VOC emissions per sales unit	65% reduction from 2003 level	31 [1]	69% reduction from 2003 level	0	
Reducti	Control/	6 Stricter management of chemicals in products <ul> <li>Global management of chemical substances in products</li> </ul>		Compliance with Europe laws/regulations in China	an REACH regulation a and other countrie	s and s ·····	P21	
	peration	<ul> <li>Planting nativ</li> <li>Our goal is to plan worldwide over 1</li> <li>Wider use of rene</li> </ul>	e tree species on factory nt 600,000 trees at about 60 0 years (starting from 2009) evable energy (solar energy)	grounds locations	<ul> <li>Tree-planting activities</li> <li>Native trees were plan (bringing total to about 18 locations worldwide</li> <li>Installation of solar power</li> </ul>	at manufacturing p ted at 2 locations glu 249,000 trees plant e) wer equipment	lants obally ed at	P25 P15
nity cool		Social contribution activities		<ul> <li>Installation at 2 locatio (total of 6 locations)</li> <li>Community efforts</li> </ul>	ns in Japan			
	ommu			Community cleanup ac     Concerted global socia	tivities I contribution activit	ies	P39 P40	
Environmental management nvironmental awareness, management (	0				Participated in environmental policies of the Japan Auto Parts Industries Association, Japan Rubber Manufacturers Association and other organizations			-
		I Greater environmental awareness			Greater environmental awareness Systematic environmental education Environment Month and other educational activities		P22 P23	
	ness, management	Stricter conso	Stricter consolidated environmental management		<ul> <li>Stricter consolidated en</li> <li>Acquired ISO 14001 at audited current status</li> <li>Environmental audits (i</li> <li>Global consolidated en</li> <li>Initiatives of domestic ad</li> <li>Initiatives of overseas a (Tianjin Star Light Rubbe</li> </ul>	nvironmental manages sites worldwide; internal and external wironmental manage filiates (TG Opseed C affiliates er and Plastic Co., Lto	audits)	P22 P22 P24 P26 P26
	environmental aware				External environmental audi	<ul> <li>On-site environmental a</li> </ul>	udits in all countries	
	Greater (	Environmenta business partr	Environmental activities in conjunction with our business partners		<ul> <li>Thoroughgoing procurement strategy</li> <li>Held Procurement Strategy Meeting</li> <li>Spread system to control substances of concern globally</li> </ul>		P38	
		Disclosure of environmental information		<ul> <li>Environmental information disclosure</li> <li>Issued Toyoda Gosei Report 2014</li> </ul>				
		Environmental impact assessments (LCA*2) in product development		Visualization of status of CO <sub>2</sub> reduction and product recycling efforts			-	
Image: Second system       Image: Second system         Image: Second system       Image: Second system         Image: Second system       Second system		company ighting with LEDs at lighting to LEDs	t business	P27				
• Switched high-ceiling lighting to LEDs • Expansion of LED business • Expanded the LED business for lightin • Expanded the LED business for lighting the				ess siness for lighting Akarinight 2014 lightin	g ceremony	P27		

\*1 VOC: Volatile organic compounds

\*2 LCA: Life Cycle Assessment (assessment of the environmental impact [CO2 emissions, etc.] over the entire life cycle of a product from production and use to disposal) [1] This value takes the figure in the base year as 100. [2] : Goal for fiscal year achieved, X: Goal for fiscal year not achieved

# **Prevention of Climate Change**

To reduce CO<sub>2</sub> emissions, TG is working to raise productivity and increase distribution efficiency, while also making vehicles lighter and improving our ability to use diverse energy sources.

## **Production** Cutting energy waste and reducing CO<sub>2</sub> emissions

We contribute to the prevention of climate change by improving productivity and reducing energy use. Energy-saving measures aimed at limiting peak power and decreasing energy use have become firmly established, and we continue to try to uncover waste in ways such as installing monitors to "visualize" and analyze energy use in some processes. We are also exploring ways to save energy with genchi-genbutsu (go and see) inspections at Toyoda Gosei plants worldwide, and conducting activities that will lead to specific ideas for improvement.

In FY2014, we implemented measures to visualize the amount of energy used in new plastic injection processes. We installed automatic controllers to shut off the power to all equipment not being used in production. And we switched from electric heaters to heat pump systems for equipment to preheat molds, reducing energy use 60%.

We are expanding the use of renewable energy with the goal of using renewable energy equivalent to 1% of actual total pur-

\*1 Scope 1: Volume of greenhouse gases directly emitted by corporations themselves (fossil fuel, natural gas, etc.) \*2 Scope 2: Volume of greenhouse gases indirectly emitted (electric power, etc.) \*3 Scope 3: Volume of greenhouse gases indirectly emitted by corporations in their supply chains (production, transportation, business trips, commuting, etc.)

#### ■ CO<sub>2</sub> emissions, CO<sub>2</sub> emissions per sales unit (index)\*4 (global, consolidated)



■ CO<sub>2</sub> emissions, CO<sub>2</sub> emissions per sales unit (index)\*4 (Toyoda Gosei)



\*4 CO<sub>2</sub> emissions per sales unit (index) is a figure obtained with the 2003 level as 100

#### CO<sub>2</sub> conversion factor

The CO<sub>2</sub> conversion factor used in Japan\*5 is the 1990 Japan Federation of Economic Organizations (Keidanren) factor. In the conversions in this report, the  $\mathsf{CO}_2$  reduction effect of co-generation calculated with the thermal power mean is reflected in  $\ensuremath{\mathsf{CO}_2}$ emissions. The  $CO_2$  conversion factor used for countries other than Japan is that in

chase of peak power by 2017, for which solar panels were installed at our Morimachi and Heiwacho Plants in FY2014. We are also taking appropriate measures for Scope 1\*1 and Scope 2,\*2 which require environmental management such as set forth in the Energy Saving Law in Japan, and understanding and disclosing relevant data for Scope 3.\*3 We will continue efforts to improve the accuracy for each category in the future.





Solar panels/Morimachi Plan

Power monitor/Heiwacho Plant



#### ■ CO<sub>2</sub> emissions, CO<sub>2</sub> emissions per sales unit (index)\*4 (Japan, consolidated)

the GHF protocol (2001).

\*5 Electricity : 0.3707 t CO<sub>2</sub>/MWh; heavy oil A : 2.69577 t CO<sub>2</sub>/kL; LPG : 3.00397 t CO2/t; city gas : 2.1570 t CO2/1,000 Nm3; kerosene : 2.53155 t CO2/kL; LNG : 2.68682 t CO<sub>2</sub>/t; gasoline: 2.36063 t CO<sub>2</sub>/kL

## **Example** Production

#### Compact facilities for the wheel cover painting process

Reducing the area for our wheel cover painting facilities has decreased carbon emissions by 31%. The wheel cover process is divided into forming, painting and drying, and the floor space including that for forming materials and storage was large. We attempted to create an integrated process for forming to painting by improving the painting formulation and developing improved painting technology. Drying time was shortened to one thirtieth with the development of UV metallic painting, eliminating the need for storage. We also developed technology to maintain the outer appearance while using a smaller amount of air in the painting spray and limit the scattering of spray painting. This has resulted in a reduction of floor space to one-tenth that of before and reduction in the time from forming to completion to one thirtieth.

#### More efficient die/mold machining

We have reduced machining time 33% by developing a die/ mold cutting tool that can cut large amounts of material at once. When the amount of material cut was increased with

without tool breakage.



previous tools, the discharge of chips worsened and there was concern about tool breakage. By increasing the rake angle, we have made chips thinner and curled. As a result, chip discharge is improved and the amount of material cut can be increased

Tool fo cutting molds

#### Reduced carbon output with upgrade to absorption heating and cooling systems

Carbon emissions in coating processes have been reduced 60% by upgrading the absorption heating and cooling systems that provide air conditioning with equipment that has a smaller environmental impact. Specifically, air conditioning equipment that uses A-type heavy fuel was changed to heat pump systems (electric air cooling systems) that use thermal energy in the air. This reduced the energy used in heating and cooling to one-third that with the previous system. By switching from water cooling systems to electric air cooling systems the amount of water used was also reduced.



Painting

drying

process

Painting/drying process

Improved chip Increased chip discharge

amount is possible

Rake angle

Inspection

Materials

storage

Inspection

duced to one tenth

. discharge

Molding

process

Molding

process

Chips are

thinner

Interference

amount

Chips

curl

#### Logistics Efforts to reduce transportation loss

To reduce carbon emissions during transportation, we focused on improving load efficiency, shortening distribution routes, and improving allocation of vehicles based on actual circumstances. Two years ago we surveyed our transportation activities to improve efficiency, and introduced a direct delivery system for high volume customers without going through our distribution centers. In FY2014 we looked at changes in the order volumes of

#### Three key activities in reducing CO<sub>2</sub> emissions in distribution

- 1 Increase load efficiency and reduce the number of vehicle trips
- 2 Change routes and shorten routes with production near customers
- **3** Explore means of transport with low CO<sub>2</sub> emissions

#### **Products** Reduced CO<sub>2</sub> emissions with lighter vehicles

Efforts to reduce weight are being made in product and technology development.

With plastic turbo ducts with an emphasis on weigh reduction and other major projects, including the use of plastic for molding that was previously stainless steel and mass

Example Products

#### Lightweight constant velocity joint (CVJ) boots\*

By changing from rubber to plastic material we were able to reduce the weight of our CVJ boots 52%. Constant velocity joints move in various directions in response to road surface irregularities, and CVJ boots have a bellows shape to respond to these movements. With previous methods, we were unable to accurately make plastic boots with a bellows shape, but the development of molds with a modified structure has made it possible to achieve plastic CVJ boots using an injection process. The resulting boots are thinner and stronger than previous ones, and are recyclable. We will continue this shift from rubber to plastic materials for various vehicle models. \*CVJ boot: A part that covers the constant velocity joints (connective parts) that are attached to both sides of the rotating shafts that rotate the tires.

existing products and shipping volumes of new products, and increased these direct deliveries. Transportation losses will be decreased even further with the start of a new plant in northeast Japan this year. We are also exploring ways to increase container efficiency for our large plastic products. We will continue these activities while searching for new ideas to incorporate in further reducing transportation loss.



#### CO<sub>2</sub> emissions and CO<sub>2</sub> emissions per sales unit (index)\* in distribution (Toyoda Gosei)

\*Emissions per sales unit (index) is a figure obtained with the 2003 level as 100

production of lightweight sponge rubber weatherstrips, we have achieved weight reductions of at least 20%. As customers face rising needs to produce lightweight vehicles, we started a weight reduction working group in the latter half of FY2014 to intensify our efforts.



#### Example Products

## Development of lightweight (independent) passenger-side airbags for mini vehicles

We have reduced the weight of mini vehicle passenger-side airbags 13% by modifying their shape. Previous passenger-side airbags were held between the instrument panel and windshield, and adopted a mechanism that constrains passengers by suppressing vertical pitching.

By modifying the airbag to suppress backlash when coming in contact with the instrument panel, we prevented upward rising and made it possible to suppress vertical pitch and constrain passengers with the bag only. As the part that contacts the windshield is no longer needed, the airbags (including the inflator and storage case) have become smaller and lighter.

#### Lightweight high-pressure hydrogen tank liners

Material for use in high-pressure hydrogen tank liners was developed in-house with a goal of reducing weight 25%. These liners prevent leakage of hydrogen gas\* from the tank, so the material should have low hydrogen permeability. However, the stretch properties of this raw material at low temperatures was an issue, and a plastic liner material was developed with new ingredients, successfully balancing low hydrogen permeability and low temperature stretch properties. We are working to decrease the weight even more by combining a high-strength fiber-reinforced plastic (FRP) layer.

#### Lightweight bright film outer weatherstrips\*

We have succeeded in reducing the weight of stainless steel (SUS) molding 20% by using a plastic film. Previously we used SUS on metallic design outer weatherstrips to give a feeling of elegance to the vehicle exterior. We have now established technology for the uniform application of metal-like plastic film to plastic outer weatherstrips, and successfully made bright film outer weatherstrips that maintain their rigidity without the use of SUS while also not compromising exterior appearance quality. \*Outer weatherstrips are attached to both sides of a vehicle to protect the cabin interior from rain and dirt.



Windshield

Case

Instrument panel

Inflato

Part that is no

Airbag

longer necessar

#### Reduction in greenhouse gases (5 gases)

Of the five greenhouse gases other than  $CO_2$ , three are used at Toyoda Gosei and we are working to reduce their use. A switch to a substitute cleaning gas in LED chip production was completed in fiscal 2013. We are also due to complete a plan to switch to a substitute for the shield gas used in the production of metal cores for steering wheels by the end of fiscal 2015. These efforts have resulted in a 74% reduction in greenhouse gases compared with 2003.





# **Effective Use of Resources**

Toyoda Gosei contributes to resource recycling in society through effective use of resources based on reduction of waste materials and recycling plans.

#### Production Reduction in waste materials

We pursue reductions in all types of waste through recycling and measures to prevent waste at its source.

In FY2014 we introduced actual examples of waste reduction activities at each of our plants to further stimulate these efforts. Study sessions were held at overseas subsidiaries to identify potential reductions in waste with the aim of enhancing waste reduction efforts at all of our sites. Participants included people

#### Trends in waste volume and waste volume per sales unit (index)\* (Japan, consolidated)



Trends in waste volume and waste volume per sales unit (index)\* (international affiliates)



\*Waste volume per sales unit (index) is a figure obtained with the 2003 level as 100

## Example Production

## Reduction in waste with materials development for fuel filler cap torque plates\*

A large reduction in waste was achieved with a change of torque plate material to a material that is compatible with hot runner molds. We previously used cold runner molds for torque plates, as the material used had low heat resistance. With cold runners, the plastic remaining in the runner portion when material was injected into the mold had to be discarded. The development of material with high thermal stability means we can now use hot runner mold systems in which the plastic remaining in the runner can still be used and no longer has to be discarded.

\*Fuel filler cap: The cover for the fuel filler pipe. It serves to prevent damage to the fuel tank. Torque plate: The part that controls the torque when the fuel filler cap is being tightened or loosened (using sliding material).

working on this in Japan and local environmental staff. Through these practical efforts we achieved our 2014 targets at Toyoda Gosei, consolidated affiliates in Japan, and all of our overseas affiliates. This year, 2015, is the year we need to reach the targets in our 5th Environmental Action Plan, and we are all working together to achieve this and further strengthen our activities.



#### Trends in waste volume and waste volume per sales unit (index)\* (Toyoda Gosei)



#### Logistics Reduction in product packaging materials

Each year we set targets for reductions in the amounts of packaging materials used in returnable containers during product transport, making steady improvements with the ultimate goal of "zero disposable packaging materials."

We have already incorporated reusable covers and dividers (protective material) in our reusable containers. Now we have introduced washing and cleaning machines to maintain the cleanliness of the boxes and begin reducing the packaging material that protects products from dirt. We have also set cleanliness standards for our suppliers to use in establishing their own activities. In FY 2014 we raised the packing efficiency for product packaging, and started activities to reduce packaging materials. We will continue our efforts for cleaner returnable containers, prevention of contamination, and reduction of packaging materials.

#### Product Recycling technology

We continue to develop recycling technology, developing and designing easily recyclable products with consideration of the entire life cycle of vehicles. We have established technologies for the reuse of polymer materials and recycling of composite products composed of several types of rubber and non-rubber materials. In 2014 we continued our efforts from the previous year to use more recycled rubber for effective use of resources. Together with affiliates in Japan we are continuing efforts for a stable supply of recycled rubber.

#### Reduced water use

Water is an important resource and we are trying to use less through optimum use, discovery of waste, and improvements. In 2014 we introduced a system for visualization of clean and industrial water piping routes and end users at our Inazawa Plant, surveying amount of use and purpose of use in each area and discovering waste. With appropriate water-saving measures, the annual water use at the plant has been reduced 2%. Similar efforts to improve water use efficiency are being made at other plants. We will continue doing everything we can to save water and use it effectively, introducing "visualization" of water use at each plant to discover waste and make improvements.

Amount of packaging materials used and amount used per sales unit (index)\* (Toyoda Gosei)

(Activities covered: Delivery distribution, in-process distribution, procurement distribution)



\*Amount used per sales unit (index) is a figure obtained with the 2003 level as 100

#### Development of technology for end-of-life vehicle parts recycling

Key items	Measures implemented
New recycling  Composite material separation technology New recycling technology (high quality material rec	
Use of recycled  • End-of-life vehicle recycling technology • Development of applications for recycled	
Product design for easy recycling	Product design for easy dismantling     Materials and composition changes for easy recycling

#### ■ Water use and water use per sales unit (index)\* (Toyoda Gosei)



\*Water use per sales unit (index) is a figure obtained with the 2003 level as 100

# Control and Reduction of Substances that Impact the Environment

Stricter regulations on substances that impact the environment are being put in place worldwide. We are working to comply appropriately with these regulations, reviewing the materials we use and our manufacturing processes.

#### Reduced use in production processes of substances that impact the environment

With the aim of reducing Pollutant Release and Transfer Register (PRTR) substances and volatile organic compounds (VOCs) in our production processes, we are expanding our efforts to use water-based paint and mold release agents and develop products that can be used with paint-less glass runs. We have a company-wide commitment to reducing substances that

#### VOC emissions/emissions per sales unit (index) (Toyoda Gosei)



## Strict management of chemicals contained in products

Regulations on substances of concern are growing increasingly strict in many countries, a good example of which is the European REACH (Registration, Evaluation, Authorization and Restriction of Chemicals) regulations. An increasing number of countries and regions are also establishing new regulations. In addition to this, automakers have their own voluntary regulations. As a globally active supplier, we at Toyoda Gosei need to closely control chemical substances.

We manage some 5,000 chemical substances in line with regulated substances in each country, automakers' voluntarily regulated substances, and our own substance regulations. With a close eye on stricter regulations in the future, we are working together with affiliates in all countries to gather information that will enable us to comply quickly whenever regulations are revised.

To respond to demands from each automaker, we have organized an expert team for the control of chemical substances and developed a system for integrated control of chemical substances, which we have introduced in Japan, China and Thailand. From 2015 we will systematically introduce similar systems in Vietnam, South Africa and other regions.

Compliance with strict national and regional regulations is essential for a company like Toyoda Gosei that supplies its products to global automakers, and we will continue to work with our overseas affiliates to enhance and strengthen our control of chemical substances.

affect the environment. Activities include exchanging information and sharing good examples among business units, with a central role played by the VOC Reduction Working Group, a sub-unit of the Production Environmental Subcommittee. We will continue to reduce the use of paint, mold release agents and washing solvents.



Regulations on chemical substances contained in products



\*SVHC: Substance of very high concern

# **Environmental Management**

The Toyoda Gosei Group is committed to thorough environmental management and reduced environmental impacts, through collaborative efforts by all group companies.



Japanese affiliates since 2001 and from international affiliates

since 2003. In 2014 we strengthened collaborations among

group companies and carried out activities to achieve the goals set forth in the Fifth Environmental Action Plan started in 2011.



Internal environmental audit/ Hinode Gomu Kogyo Co., Ltd.

## Environmental activities

Toyoda Gosei actively pursues measures for environmental management and reduction of environmental impacts. Goals and practices are established based on environmental data (CO<sub>2</sub> emissions, waste volumes) we have been collecting from

#### Production sites targeted for environmental activities



• Acquired ISO 14001 certification. New companies and main plants aim to acquire ISO 14001 within three years of starting operation

#### Environmental audits

Internal environmental audits at Toyoda Gosei are carried out by audit teams composed of members from business areas outside those being audited. We also commission external reviews by the Japan Quality Assurance Organization (JQA) to assess whether our environmental management systems are run properly in accordance with ISO14001 (2004 version). In 2014 these external environmental audits again uncovered no issues at Toyoda Gosei or affiliate companies. We are currently preparing to restructure our system to comply with ISO 14001 revisions (2015 version), and an ISO 14001 transfer review is planned at the Seto Plant in FY2015.

#### Environmental education

We educate employees about environmental issues, such as the destruction of nature, environmental pollution, the impact of production activities on the environment, as well as observance of environmental laws. Each year the educational materials used are revised to deepen understanding by including case examples that emphasize understanding of problems and implementation of practices based on trends in laws and regulations.

#### Environmental Education System

Desisiente	Tavada Casai	Affiliate Companies		Desisiente	
Recipients	Toyoda Gosei	Japan	Overseas	Recipients	
	Education for new managers		9 9 9 9 9 9 9 9 9 9 9 9 9		
	Education for those posted overseas				
Companywide	Education for environmenta	l key perso	ons	ISO 14001	
Companywide	Acquisition of environmental ec	lucation qua	lifications	-related	
	Education for new employe	es			
	Environment Month educational activities				

Desisients	Toursda Casai	Affiliate C	ompanies		
Recipients	Toyoda Gosei	Japan	Overseas		
	Education for environmental staff				
	Education to improve internal aud				
ISO 14001	Education to register internal auditors				
-related	Education for supervising ma				
	Education for key environmental faci				
	Education for general worke	ers			



Environmental presentation/ Kitajima Technical Center



## Environmental education activities

Toyoda Gosei conducts participation-based environmental activities to help employees develop a solid environmental awareness that can be translated into action.

#### Educational programs for Environment Month

During Environment Month in June 2014, we shared information through posters and articles in company publications to raise environmental awareness. Employees also made "Eco Declarations" of things they would do for the environment and then evaluated their efforts in putting them into practice. We also sought "Eco Slogans" and selected 8 people for Outstanding Eco Slogan Awards. On July 17, we invited environmental journalist Shuichi Tominaga to give a talk on environmental issues, and the audience of 132 people from Toyoda Gosei and domestic affiliates reaffirmed the importance of reducing environmental impacts. On-site "environmental management inspections" were also held at Toyoda Gosei and affiliates during the year.

#### Environmental Contribution Award System

Our new "Environmental Contribution Award" system promotes environmental awareness and activities, awarding prizes for the most significant results in three divisions: Toyoda Gosei plants/offices, production preparation departments, and domestic affiliates. In 2014, the award in the plant/office division was given to the Heiwacho Plant, which reduced environmental impacts in all areas with coordinated activities between employees and the community. The award in the production preparation category was given to the IE Production Preparation Division, which reduced power use by in-house production of

#### Green curtains ...

Goya (bitter gourd) vines are grown to create "green curtains" that cover building windows and reduce indoor temperature with the purpose of raising employees' environmental awareness and reducing energy use in summer. In FY2014, the Heiwacho

#### Efforts at the Inazawa Plant

In FY2014 the Inazawa Plant began regularly issuing the Gendo Kawaraban, a single sheet publication to raise the environmental awareness of employees. Using photos and illustrations, it explains in a simple manner the importance of saving energy while giving examples of activities that employees can undertake in their own areas. English and Chinese versions are made for our international locations. Mondo grass was also planted in open ground around the painting plant to increase plant greenery and effectively use space together with a reorganization of the plant layout. We will continue to share information that motivates individual employees to undertake activities.



compact vacuum forming equipment and decreased water usage with reduced pressure dehydration equipment. The domestic affiliate award was given to Kaiyo Gomu Co., Ltd for its plant woodland restoration and waste reduction activities.



Environmental Contribution Awards

Plant and domestic affiliates grew such curtains. There was also a contest to see who could make the best green curtain, and awards were given in various categories. In August the gourds from the curtains were cooked for employees to enjoy.





Expanded green areas

English version

#### Environmental Reports



Removal of transformers containing PCBs/Inazawa Plant

#### Environment management systems and environmental audits at overseas affiliates

We have formulated and are implementing the Toyoda Gosei Global Environmental Management System to strengthen administrative structures, share information and unify and improve compliance management at the environmental level. In China, where environmental laws and regulations are becom-

ing stricter, we have begun efforts to strengthen our management system with a central role played by regional environmental headquarters, organized in FY2014 for the Asian region. To confirm the functioning of the Environmental Management System and step up our environmental efforts, we conducted on-site environmental audits at one location in North America. six locations in Asia and two locations in Europe. We plan to conduct environmental audits at all of our international locations by September 2015.

In FY2015 we are setting up a regional environmental headguarters for the Americas, conducting environmental audits, and continuing to promote environmental activities in all countries where we do business.

facilities at our plants and offices and exchanged information.

We also identified equipment that had caused wastewater

problems in the past, discussed key control points and

prepared priority management criteria to prevent problems

and complaints. In joint meetings with affiliates, revised chlo-

rofluorocarbon methods were explained so that we can all

respond properly to legal changes.

#### Activities to eliminate compliance and environmental violations and complaints

For full compliance in our activities we aim to achieve "zero legal and environmental violations and complaints."

In FY2014 we analyzed examples of problems that occurred at other companies and inspected similar facilities and took preventive measures to make sure that similar problems do not occur at Toyoda Gosei companies. Environmental Working Groups conducted mutual checks of wastewater treatment

#### Proper disposal and storage of equipment containing PCBs

By law, toxic and persistent polychlorinated biphenyls (PCBs) must be treated by March 2027. Toyoda Gosei began outsourcing this treatment in FY2006, and by FY2014 PCB waste from 109 transformers and capacitors had been treated. We will continue these efforts to systematically treat all remaining PCB waste as early as possible.

## Soil and ground water conservation

We carefully monitor and treat soil and groundwater contamination from toxic substances such as trichloroethylene, which was formerly used as a cleaning agent. Levels at the Inazawa Plant were below the standard for the past two years, and a report to the government was completed in FY2012. We have established observation wells at each plant, and regularly confirm that there is no soil or groundwater pollution from toxic substances and oils. We also conducted soil surveys at Toyoda Gosei Group offices and completed surveys for Toyoda Gosei and our domestic affiliates, and will continue these monitoring activities.

Category	Туре	No. of units treated	Treated weight
High concentration PCB waste material	Capacitors	70 units	5.2 tons
Minute amount PCB waste material	Transformers, capacitors, etc.	39 units	60.1 tons

Location	Target	Status of corrective measures
Haruhi Plant	Haruhi Plant Groundwater Purification in progress (proactive contamination from off-site source	
Inazawa Plant	Groundwater	Because of detection of substances we have no history of using, regular reports to the government contain results of measurements only. *Results below reference values since 2010 (administrative report completed)

## **Protection of Biodiversity**

Toyoda Gosei helps to protect the environment and biodiversity through nature conservation activities

#### Restoration of wooded areas on factory sites worldwide

Launched with the 60th anniversary of the company's foundation in 2009. Toyoda Gosei's Woodland Restoration Project has continued to expand and grow. Beyond the broader goals of protecting ecosystems and preventing climate change, the program revolves around activities to make factory grounds greener, raise employees' environmental awareness, and build community ties. To create naturally sustainable environments together with communities, our woodland restoration project involves planting of varied, mixed native species with a high density that is suited to the natural environment in each location. These trees and shrubs then grow through interspecies competition to become woodlands resistant to natural disasters.



May 2015

#### Creating an onsite biotope of a local ecosystem

Based on the idea of raising environmental awareness through activities to protect nearby nature and creatures in the local environment, the Miwa Technical Center established a biotope pond in one corner of the plant grounds in FY2014.

The project started with a survey of the Oe River that runs to the west of the Center. Based on the results, three main activities were adopted: preserving endangered medaka, or Japanese rice fish; restoring Japanese fireflies that are thought to have inhabited the region; and expanding the habitat of the damselfly. About 20 species of shrubs, trees and aquatic plants were planted around the pond so that flowers could be seen throughout the year. In April 2015 the biotope was opened to the public in conjunction

Plant woodland restoration Kaivo Gomu Co. Ltd

Plant woodland restoration/ Morimoto Plant

Our tree-planting events are designed for participation by employees, their families and other community members to foster a sense of togetherness among participants through the act of planting trees. After each event, employees at that plant continue to manage the area, weeding as needed and monitoring and observing growth. Trees and shrubs are grown from seeds within the company, and these seedlings are used in the tree-planting events at each location.

In FY2014 events were held at the Morimachi Plant and business partner Kaiyo Gomu in Japan. A total of 249,000 seedlings were planted over areas covering about 54,100 square meters. More than 29,000 people participated.



with a tree-planting event, during which children released firefly larvae and medaka. We will continue to maintain this biotope at the Miwa Technical Center, while also looking into adopting similar activities at other sites.



Releasing medaka fish





Tianjin Star Light Rubber and Plastic Co., Ltd.

## Environmental Efforts at Affiliated Companies

## TG Opseed Co., Ltd.

#### All employees work together for continuing growth as a company that contributes to the environment and society

TG Opseed Co., Ltd., a manufacturer of automobile exterior and interior products using LEDs and other products applying optoelectronics, conducts activities to protect the environment and contribute to the local community.

To save energy, shades were placed over windows and the outdoor units of air conditioners, which account for about 12% of annual energy use. This resulted in reduced power consumption of about 5% compared with the previous year. To reduce emissions, they improved their scarf plate manufacturing process with input from the production floor, and all employees worked together to improve quality and raise energy efficiency. As a result, waste was reduced about 44% from the previous year.

During Environmental Month, presentation meetings on LEDs and energy conservation were held to raise employees' environmental awareness. Social contribution activities include a monthly cleanup around



Shading of air conditioner outdoor units

the plant and a traffic watch that calls on drivers to practice safe driving. Aware of their mission as a manufacturer of environmentallyfriendly LEDs, they will continue to grow as a company while contributing significantly to the environment and society.





#### DATA

- Location: Sakuradai, Nishi-ku, Hamamatsu, Shizuoka
- Established: August 2000
- Capital: ¥480 million
- Business: Manufacture of electronic components and automobile interior/exterior products using LEDs
   ISO 14001 certification: April 2005
- ISO 9001 certification: December 2007

## Tianjin Star Light Rubber and Plastic Co., Ltd.

#### Training personnel, working with the community to protect the environment as a top-class enterprise in China

Tianjin Star Light Rubber and Plastic, located in the Xiqing District of Tianjin about 25 km from the Tianjin airport, produces opening trim, door glass runs and other automotive sealing products. With strong awareness of environmental protection as tenet of the company philosophy, environmental preservation efforts are an important part of the company's activities.

In FY2013 the company switched from coal to natural gas to fuel heating and cooling boilers when they moved to a new location, at the same time adopting LED lighting in their office buildings. In FY2014 they installed LED fluorescent lights on their production lines and LED high ceiling lights in distribution areas. With these efforts they achieved their goal of reducing carbon emissions per sales unit by 4%. With a new power monitoring system, they are working to further cut power consumption in the coming fiscal year.

To reduce waste, they have surveyed the causes of defects, improved dies and molds, and recycled rubber to achieve waste reduction of 15% year on year. To reduce water usage they are managing daily use, conducting inspections for leaks and upgrading related facilities. To prevent human error, all employees are thoroughly trained in standard work.

Activities for a better society include volunteer programs for cleanup around the plant, visits to care facilities for the elderly, and donations of athletic equipment to elementary schools. They have also been recognized for their good management-labor relations with strong employee benefits and a turnover rate of less than 1%. As a company with outstanding union activities, they have received the "Workers' Vanguard" award from the Tianjin Trade Union.





Power monitoring system Worker's Vanguard award

#### DATA

- Location: Zhongbei Town, Xiqing District Tianjin
- Established: (Date of capital participation) November 2000
   Capital: \$7.9 million
- Capital. \$7.9 million
- Business: Manufacture of automotive sealing products
- ISO 14001 certification: December 2003
- OHSAS18001 certification: October 2004
- ISO/TS16949 certification: October 2003

# Environmentally-Friendly LEDs

Toyoda Gosei conducts integrated development and production of environmentally efficient LED products. Greater use will contribute to the prevention of global warming.

## Wide use of LEDs within the company

We have been increasing the use of LED lighting within the company since 2011. By FY2012 we had finished switching about 70,000 lights from fluorescent type to LED. Now we are moving to replace high ceiling lighting at all business locations in Japan with LED lighting by 2017. In FY2014 we changed to LED lighting at four plants and one center (Heiwacho, Nishimizoguchi, Fukuoka, Saga Plants and Kitajima Technical Center), completing the switch for a total of about 1,600 lights.\* As a manufacturer

## Growing our LED business

We carry out every step in the development and production environmentally efficient LED products, from elements to LED packages.

LEDs have the superior characteristics of energy efficiency and long service life, and are used as the light source for liquid

#### Actively promoting the advantages of LEDs at events and exhibitions

In FY2014 we continued to participate in various exhibitions and events to show the attractiveness of our LED technology and products.

Our exhibit at Messe Nagoya was centered on automobile parts that are in high demand by society and high profile LEDs under the theme of contributing to safe, environmentally-friendly and comfortable living. We also showcased lighting products for general use and group companies.

At the Lighting Fair our theme was again that "LEDs contribute to environmentally-friendly and comfortable living." We exhibited LEDs for liquid crystal backlights, automobiles, and general lighting. Together with examples of these uses, we emphasized the performance and low energy consumption of these products.

We also participated in Nagoya Akarinight, a light display held over several winter months in the heart of Nagoya. We presented a 7 m design object that used about 15,000 LEDs. Nobel Prize laureate Professor Hiroshi Amano was on hand for the light-up ceremony. of LEDs, we will continue our educational activities and efforts for wider use of LEDs, contributing to environmental preservation and broad energy efficiency.



\*Excluding certain special lighting and processes

High-ceiling LED lighting

crystal display backlights for notebook and tablet computers, smart phones, automobile meters and other devices. Together with efforts for LED light sources for lighting products, we are developing LEDs of world-class quality for automobile headlights.



Messe Nagoya 2014



Akarinight 2014



Lighting Fair 2015



Akarinight 2014 light-up ceremony (Nov 14, 2014)

#### LEDs in offices and gymnasiums

To spread the use of LEDs, we have been actively converting to LED lighting at Toyoda Gosei. We have also been promoting the use of LED lighting at various facilities of the Toyota Group. Previously, we focused on greater use of LEDs mainly in plants, but in FY2014 we developed LED lighting suitable for offices. These lights have been installed at Toyota Industry Corporation. We have also developed LED lighting for official indoor athletic competitions, and installed them in the company's health and athletics center.



Toyota Industry Corporation

LED high-ceiling lighting for official indoor athletic competitio

#### Development of LED lighting fixtures for medical facilities and other uses

While evaluating and researching LED products, we are also researching plant cultivation and color temperature. In FY2014 we developed new lighting equipment for medical

facilities together with Sanken Electric Co. and Yamada Shomei Lighting Co., based on light and color modulating base lights developed in FY2013. Brightness and color temperature can be adjusted with a single dial on these lighting fixtures,



Light quality can be changed with a single dial

making them suitable for use in hospitals and care facilities where different lighting colors are needed for activities such as medical examinations and rehabilitation.



Incandescent light for relaxing and before bedtime



rehabilitation

## Example

#### Vehicle interior and exterior illumination

Use of various types of interior and exterior LED illumination gives automobiles a stylish presence. A change has been made from electric bulbs to LEDs as a light source for cabin lamps, and elegant cabin spaces are presented by adjusting lighting color with LED color control technology for purposes such as indirect lighting for instrument panels, foot lighting, door panel lighting and scuff plate illumination.

On vehicle exteriors, the combination of front grille and LED technology has made grille decoration that uses lighting possible. These various technologies take advantage of the compact size and low heat generation of LEDs, and contribute to improved vehicle brand value.



**Environmental Protection Costs** 

We do our utmost to properly understand the costs incurred for environmental protection in our business activities, and undertake appropriate environmental preservation activities.

In 2014 our focus in environmental protection costs was on research and development, business operation sites (converting high-ceiling lighting to LEDs, recycling, reducing greenhouse gas emissions), and social activities (woodland restoration at

Environmental protect	Unit: ¥100 million	
Type of cost	Toyoda Gosei	Affiliates in Japan, total
Research and development costs <sup>*1</sup>	9.3	-
Costs within business areas <sup>*2</sup>	29.2	1.4
Management activity costs*3	1.2	0.2
Social activity costs <sup>*4</sup>	2.1	0.1
Costs for environmental measures <sup>*5</sup>	0	0
Total	41.8	1.7

\*1 Costs for research and development of products that reduce environmental impact.

\*2 Costs to reduce environmental impacts from production, including pollution control, reduced energy consumption and waste disposa

\*3 Costs for management, including education, maintenance of the environmental management system, and measurements. \*4 Costs for such measures as tree-planting and beautification.
\*5 Costs for dealing with environmental impacts from business operations.





#### Please visit our website for environmental data. An independent review was commissioned for CO2 emissions. http://www.toyoda-gosei.com/csr/





Hiromitsu Kumetan President and CEO

Nord Institute for Society and Environment Director Junkan Workers

Club (NPO)

I was privileged to write the Independent Opinion for the Toyoda Gosei Report in 2008 and 2009. Writing the Independent Opinion again after five years, I would like to focus my comments on the Feature and Environmental Report sections. Toyoda Gosei has thoroughly implemented the Japanese "Nicely" concepts and practices of not making (using), not throwing away, and not leaving to others things that have an environmental impact. This has earned the company high marks from external organizations, such as a high ranking for anti-warming measures by WWF Japan and the Aichi Environmental Award, given by Aichi Prefecture. In FY2013, as sales overseas surpassed sales in Japan, the company strengthened its efforts for environmental activities worldwide, formulating and implementing the Toyoda Gosei Global Environmental Management System. I was deeply impressed to see that the Woodland Restoration Project that was begun in 2009 on the occasion of the company's 60th anniversary has been expanded in Japan and spread to other countries. This report's Feature section adopts the theme of LEDs in conjunction with the Nobel Prize awarded to Professors Akasaki and Amano. Toyoda Gosei's contribution to the development of blue LEDs with these two men is an achievement to be proud of. LEDs will serve an immeasurable future role in saving energy and helping to prevent global warming. Toyoda Gosei LEDs are characterized by high brightness and low power consumption and are used increasingly in smart phones and tablet computers. The company has switched to LEDs from fluorescent lights in its offices and is currently installing highceiling LED lighting in its manufacturing plants. Together with the movement toward all-LED automobiles, this is a technology with promising areas of growth for Toyoda Gosei, such as housing and infrastructure. Toyoda Gosei's 5th Environmental Action Plan ends in FY2015, and the 6th Environmental Action Plan will begin in 2016. The increased environmental costs in FY2014 probably reflect the company's enhanced efforts. From the Report we see that they are aiming to reduce carbon emissions by reducing environmental impacts from their production lines and contributing to lighter vehicles with lightweight parts. They have been able to achieve their annual targets for reductions in fluorocarbons and the other 5 major greenhouse gases, waste material, and water use. They did not reach their targeted reduction for carbon emissions, however, and emissions from Group companies worldwide are increasing. By Scope category, Scope 3 carbon emissions account for twice those of Scope 1 and 2. Reducing carbon emissions, especially at overseas plants, as well as supply and value chain efforts, remain issues for Toyoda Gosei.

factory sites). The economic effects from these activities included lower waste disposal expenses as a result of measures to combat waste where it is generated and recycling, and reduced electricity expenses from more efficient facilities.



## **Customer Relations**

With highest priorities on customers and product quality, we constantly seek ways to raise our level as a company for better products and service.

#### Sales activities aligned with customer needs

Our sales departments work to respond to demands of customer around the world and carry out activities to grow sales while building good customer relationships. We collect and analyze the needs of our customers and issues they are facing. We then work with engineering and other relevant departments in the company to present original development plans to meet customers' specific needs and provide products that will satisfy them.

#### Integrated quality assurance, from development to production

Toyoda Gosei conducts all business activities, from development to production, with an integrated quality assurance system. Every one of our plants has obtained certification in the ISO 9001 (JQA-QM7318/QMA11826/QMA12841) and ISO/ TS16949 (JQA-AU124) international standards for quality management systems. Each plant also sets its own quality control goals based on the principles of Total Quality Management, or TQM—activities that are designed to enhance the quality of products, work, and management through constant improvement and the participation of all, based on the "Customer First" principle. Since FY2010 we have been issuing Quality System Global Standards with rules and expert advice for quality improvement. These Standards are distributed to all TG locations worldwide as a "quality bible" for international staff to follow in ensuring consistent product quality.

#### **Basic Quality Policy**

Every employee shall bear in mind the concepts of "Quality First" and "The Next Process is the Customer," engaging in mutual cooperation to provide outstanding products and services that ensure customer trust and satisfaction.

#### Fundamental principles of TQM



TQM—Total Quality Management involves activities aimed at constant improvement and participation by all, based on the customer-first principle for better-quality products and work, and to energize individuals and the organization.

#### Monitoring and responding to manufacturing processes and market quality

Defect-free process completion is crucial in the manufacture of safety-related parts that affect basic automotive functions. We adopt two core approaches to prevent major quality defects in our products at all times: development of processes using automation to prevent production or passage of any defective parts; and development of personnel to enhance quality awareness and eliminate mistakes. Improvement activities are carried out at Toyoda Gosei operations worldwide under the guidance of site managers. We also have full-time auditors who audit and improve processes at all our production sites globally. Our goal is for the Toyoda Gosei name to equal quality in the minds of customers worldwide.

We have a system in place so that whenever a quality problem

occurs in the market, we can quickly share information from automakers with the relevant in-house departments, examine causes, take actions and swiftly adopt prevention measures. When it is difficult to pinpoint the cause of a problem and



Activities for improving trust in the market

develop solutions internally, we team up with automakers and conduct tests using test vehicles, cooperating on faster and surer ways to prevent recurrence of such problems.

#### TQM for a stronger, better company

In keeping with the "Customer First" concept, we carry out TQM programs at every level of the company, from top executives to general staff and line workers. All employees make constant improvements from their respective positions to ensure higher-quality products and work and to increase personal and organizational vitality.

Since FY2013 we have invited exceptional groups from



International participants in our Small Group (QC Circle) Conference

## VOICE Keiko Asano, TQM Promotion Division

More than thirty members from TG operations in China, Thailand, Vietnam and India participated in the QC Circle Case Presentation Conference in Japan in the fall of 2014. Representative groups from three locations also gave presentations on their activities. This was the first time the conference had so many participants, and while considerable effort was required to prepare for them all and to run the conference, meeting colleagues we work with from many countries was great motivation and stimulation for our future activities. We will try to make even greater efforts in the future with the aim of developing activities that will lead to happiness and job satisfaction for all TG family members worldwide.

our international locations to give presentations on their activities at a small group activity (quality control (QC) circle) conference in Japan. In FY2014, we established a TQM Global Mid-Range Plan and worked to advance TQM activities globally based on our small group activities. We will continue to strengthen the corporate structure and culture of the entire Toyoda Gosei Group.

#### TQM activities at Toyoda Gosei

Level	Activities	
Managerial	Improving workplace management	
Staff	Small group activities Improving statistical quality control (SQC) and quality engineering (QE) capabilities SQC: Statistical Quality Control QE: Quality Engineering	
Line	Small group activities (QC Circles)	



# **Employee Relations**

With policies based on respect for the humanity of employees and a priority on safety, we strive to create secure and inspiring workplaces for all employees

#### A global workforce of employees who think and act independently

Toyoda Gosei strives to develop our workforce globally and display our strengths as a combined whole. To achieve this we aim to enhance the workplace and spur employee initiative through mutual respect and skills improvement. Young employees are enrolled in foreign language training and sent on one-year overseas internships and other work with national staff at overseas sites to develop human resources for international business.

#### Key HR Concepts

- Train highly specialized professionals with a broad perspective
- Recruit a diverse global workforce to respond better to local issues
- Have employees show mutual support and teamwork across regional, work boundaries

#### Human resource development with solid education programs

Toyoda Gosei is committed to education programs to develop workers capable of responding effectively to globalizationworkers who can find and resolve problems. In 2014 we began basic problem-solving education for young employees from their second year in the company to develop these essential skills early. They learn things previously taught in the third year, preparing them to employ more practical problem-solving methods from their third year. The system allows employees to interact with superiors in practical problem-solving situations encountered in work as on-the-job training.

We also stress language education for new and younger employees, striving to develop workers for a global age. In the period between informal acceptance and official employment, new employees use e-learning for personal development. After

joining the company, they gain motivation to learn English through intensive training with native English-speaking instructors. From FY2015, we plan to prepare more language skills cultivation programs for all employees.

In-house lecturers from our Human Resources Development Division have been in charge of training since 2009 for continuous stimulation of human resources development. Conveying knowledge and skills accumulated on the job, experienced employees help others acquire practical knowledge and skills. Since 2013 we have sought senior trainers from within the company and conducted on-the-job training activities. Going forward, we will continue honing these programs to cultivate skilled personnel.

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Position	Div. leaders & assist. div. leaders Group leaders		Team leaders	General employees		New employees		
Type of training	Division leader & assistant	Management training for group leaders	Management	Level 4 problem resolution follow- up training	Training for 3rd year employees	Training for new employees		
	division leader training	Newly appointed GL policy development training	leaders	Mid-career leader training program	Training for 2nd year employees	English training for new employees		
Basic technical	Training system for engineers							
training	Training system for skills							
Overseas-related training	Training for transferred/local employees							
	Language training							



#### Global human resources development

As "locally-based Toyoda Gosei," our business throughout the world requires us to contribute to the economic and social well-being of each country and community we work in and to localize through our overseas affiliates. With the aim of localizing administration, we develop our global human resources through integration with international staff. We have continued an intra-company transferee (ICT) program since 2013, and plan to expand this program in the coming years. Other ongoing efforts include accepting local employees from Thailand and Vietnam via the Overseas Human Resources and Industry Development Association (HIDA) in practical on-the-job training. Since 2013 we have conducted a Global Executives

#### VOICE Hiroaki Abe, Personnel Development Dept., Human Resources Development Division

I am in charge of overseeing the stays in Japan of employees from other countries. I meet them regularly to offer advice for smooth work and life in Japan, and on days off we visit places where they can taste Japanese culture. Last year we went to see the snowy landscape of Shiragawa-go, and the employees from Thailand and parts of India where snow is rare were quite impressed. For the global development of TG, and to foster the One Team, One TG spirit, we will continue to provide opportunities for TG members from other countries to receive such training.

#### Employment

We promote fair and impartial hiring and training with respect for diversity to ensure stable employment, with strong systems and pleasant working environments.

#### Workforce composition (non-consolidated)

		FY2013			FY2014
	Male	Female	Total	Male	Female
No. of employees	5,975	688	*6,663	5,905	670
Average age	42.0yo	37.1yo	41.5yo	41.7yo	37.8yo
Average length of employment	18.0yr	12.7yr	17.5yr	17.9yr	13.8yr

\* Total no. of employees does not include 433 employees dispatched overseas

#### Workplace Management Survey

We conduct an annual Workplace Management Survey to gain understanding of employees' motivation to work and their attitudes towards management and the workplace. Our aim is to understand workplace problems, improve the work climate, and utilize the findings in human resources development. Based



Seminar for executive trainees from North America, Europe, Asia and Oceania, and Middle Management Training for division leader candidates from China. In 2014 we expanded this Middle Management Training to North America and Thailand.

#### Training for global human resource development (FY2014)

Workshop name	Number of countries participating	Number of attendees
Global Executives Seminar	14	18
Middle Management Training	8	57
ICT	6	7
HIDA	1	8





on the results, we implement planned measures to improve each division's weaknesses. Good measures found both within and outside the company are incorporated and individual support is provided to those dealing with many problems.







Holiday day-care





#### Support for a stable work-life balance

We strive to create a constantly improving system that places priority on work-life balance, encouraging independence and enabling all employees to choose their own way of working. We also provide support for our employees so they can work with greater motivation and peace of mind. In addition to Child-Rearing Day, TG Family Day, and a Holiday In-House Childcare, in 2014 we held a Family-Career Seminar for mid-term career support of employees who are balancing child-rearing and work. Eighteen people who were on or planned to take childcare leave gathered to consider their careers after returning to work through presentations on employee models of workchildcare balance and group discussions. For employees helping elderly family members, we offer a nursing care support workshop and guidebook and a care support consultation service, and have added new pages dedicated to nursing

support on the company intranet.

In 2012 we were recognized a second time by the Ministry of Health, Labor and Welfare for our support for the development of the next generation. We will provide continuing support and enhanced programs together with educational activities to create workplaces with easy-to-use child and nursing care systems.

Childcare leave ... 45 people Reduced working hours ... 47 people (childcare 46, nursing care 1)

1 March, 2015



#### Diversity

Toyoda Gosei is committed to fostering a corporate culture that utilizes the diversity of our employees and enables them to make full use of their individual capabilities, without regard to race, nationality, gender, or age. We have also established a system to enable workers of retirement age or with disabilities to maintain stable employment.

#### Developing diverse human resources

In 2010, we set up a special organization to promote workplace diversity, with a particular focus on creating workplaces with the full participation of women. We hold workshops to raise awareness and change attitudes about women in the workplace with the aim of making management more conscious of company policies and the significance of diversity. We also provide venues for women themselves to consider and cultivate their work style and future direction.

In a survey of female employees and their supervisors, we examined women's perceptions of their jobs, how supervisors cultivate and promote female subordinates, performance evaluations, and the pace of pay raises and promotions. Based on issues identified, we formulated a three-year development plan for utilizing women employees. Since 2013 we also have held a Career Design Forum for TG Women.

#### Workplaces that welcome people with disabilities

Toyoda Gosei actively employs persons with disabilities. The Committee for Employment of People with Disabilities plays a central role in hiring, assignments, education, establishing stable positions, and awareness. We place particular focus on helping persons with disabilities establish stable positions, improving the work environment based on periodic interviews. We are pioneers in matching disabled persons with work suited to their abilities, with systems to guide them systematically through the hiring to assignment stages. In 2014 we hired for the first time a graduate with a disability for office work. In 2014, aiming to exceed the legally mandated rate of 2.0%, we hired 111 persons with disabilities (as of February 1, 2015)

to achieve this target with a rate of 2.1%. With our special subsidiary TG Welfare, the Toyoda Gosei Group is taking further steps to promote employment of people with disabilities.

#### Changes in employment rate for people with disabilities



#### System for stable work after retirement

Established in April 2006, our Retiree Re-Employment System enables employees who want to continue working after retirement to do so with a sense of security. Since 2013, postretirement employees have been allowed to return to work with reduced days or hours worked per week for a better work-life balance and greater diversity in working styles.

#### Maintaining and improving mental and physical health

Our employee health programs include various measures to maintain and improve employee health, focusing mainly on both mental and physical health.

Health education system

lant managers	General	Div. leaders &	Group leaders	Supervisor	ſS	General
tant managers	managers	assist. div. leaders	Group leaders	Team leaders	Section leaders	employees
		Physical h	ealth manager education			
		Good life	seminar 35 (physical health edu	cation at 35 years) $ earrow$ He	ealth education a	at 45 years
Mental health	leader educatic	n Mental he	alth education for management	directors		
		Mental he	alth (follow-up) education			
		Self-care e	ducation			

#### Mental health education for management directors

To promote efficient workplace operations and smooth communication, we offer regular mental health education sessions for employees at every level, from newly appointed management directors to group leaders. Certified clinical nurses provide

#### Raising awareness of health management

Toyoda Gosei provides health management education for lifestyle-related diseases and other aspects of daily life. This includes a Good Life Seminar 35 for employees aged 35, a smoking cessation program to support employees trying to guit, and health management guidance on diet and ways to incorporate exercise in daily life for employees aged 45. To prevent the spread of seasonal and new strains of influenza



Working together with hearing-disabled people

Trend in cumulative number of re-employed retirees No. of people re-employed 329 (Persons) 292 225 200 2010 2011 2012 2013 2014 (Fiscal vear

comprehensive counseling services at each location. That fewer individuals are coming in for consultations is taken as evidence of the program's effectiveness.

and other infectious diseases, employees are also urged to wash their hands and gargle. In 2014 we began activities to prevent locomotive syndrome by promoting measures to maintain muscle, bone and motor function so that employees, including those re-employed after retirement, can work and live in good health.

#### Social Reports



#### Aiming for "Zero Accidents"

Under the leadership of the company president, who also acts as the company's general health and safety manager, we conduct Safe Personnel and Safe Workplace programs and other activities aimed at total accident prevention. In 2014 we made advance efforts for the prevention of accidents and fires with "corner to corner checks" and awareness activities in each workplace to develop workers with a strong safety awareness. Individual workers in each plant (section) understand that they

are responsible for safety, and make efforts specific to their area. Real-life risk prediction training and recurrence prevention activities are also conducted. Activities to create safe workplaces include checks and instruction in safety measure compliance targeting machine tools, robots and forklifts to eliminate serious accidents. We also conduct activities to teach or remind employees of past accidents so that the lessons learned are not forgotten.

#### Trends in rate of work accidents (rate of injuries resulting in lost work time)



#### Safety KY Dojo/Hazard Awareness Academy

The "Safety KY Dojo" (K is *kiken*, or "risk," and Y is *yochi*, or "prediction" in Japanese) was started in 2013 with the aim of raising employees' safety awareness and abilities by fostering sensitivity to risk and problem resolution skills. This helps employees to detect risks in advance and take measures to prevent Main activities in 2014 Informing employees of past accidents to prevent reoccurrence · Creating safety awareness through comprehensive

Safety- onscious ersonnel	safety education (1) Safety education for management (2) "Safety KY Dojo" (3) Safety awareness activities for individual workplaces
	<ul> <li>Application of OSHMS in safety activities and improving management</li> </ul>
orkplace Safety	<ul> <li>Ensuring safety around molds and cranes, where serious accidents occur</li> </ul>
	Complete plant/site inspections, with no area omitted
	<ul> <li>Inspection and correction of visibly aging equipment/ facilities</li> </ul>
	Strengthening measures to ensure safety in outside projects

injuries. Currently, Safety KY Dojos have been set up at four production sites and two technical centers. Past accidents and unsafe practices that may be anticipated in daily operations are reproduced at these sites. Participants learn laws and company safety rules through training to discover risks and safety problems.

#### VOICE Tsukasa Hosoya, Safety & Health Promotion Dept., Safety & Health Promotion Div.

Co

We conduct a range of safety, hygiene, fire prevention and health activities to ensure all TG Group employees avoid injury and leave for home after work in the same good condition as when they came. We are also working to accelerate efforts for health and hygiene, as regulations on chemical and other substances are frequently amended. We will continue to promote safety, hygiene, fire prevention and health activities globally.



#### Partnering with labor unions for a better workplace

Based upon our fundamental philosophy of mutual trust and shared responsibility in labor-management relations, we hold discussions with the labor union on wages, work environment and hours, and other working conditions at regularly held meetings of the Central Labor-Management Council, Divisional

Labor-Management Council, and other groups. At the Divisional Labor-Management Council in particular, division chiefs discuss key workplace issues directly with union members with the aim of creating more pleasant working environments.

# Shareholder Relations

proactive disclosure.

#### Business results and profits

Our automotive parts business for the current term enjoyed increased revenues thanks to increased vehicle production in North America and growing sales to non-Japanese automakers, as well as the effect of the weak yen. Overall sales reached a record high of 727.8 billion yen, a 5.6% increase over the previous year. Despite a drive by the entire Group to reduce cost prices, profits were down as a result of decreased vehicle sales in Japan and

#### Change in dividends



#### Disclosure

Toyoda Gosei properly discloses information, issuing regular reports via our website and with our IR tools (earnings summary, data for financial briefings, etc.), holding financial briefings, and participating in IR events.

Specific steps include biannual earnings presentations for institutional investors and securities analysts. Materials from these meetings and other relevant financial information are published

Main IR activities				
Targeted persons	IR ac	tivities		
Domestic institutional investors, securities analysts	Individual discussions, financial briefings, plant tours			
Overseas institutional investors	Individual discussions, participation in IR events	Issuance of "Toyoda Gosei Report"		
Individual	Plant tours after annual shareholders' meeting	Dissemination of financial and IR information on website		
investors	Issuance of "Report on Business Results"			

#### We strive to raise corporate value and help shareholders understand Toyoda Gosei's performance through

some developing countries, a worsening product mix, and upfront investment for future business expansion. Operating income decreased 5.0% to 41.6 billion yen, ordinary income decreased 4.5% to 43.7 billion yen, and net income decreased 19.3% to 21.1 billion ven.

We distributed an annual dividend from surplus of 56 yen per share.



#### Distribution to various shareholders

on our website. We also provide information in individual investor meetings and to all of our many investors in Japan and other countries. As an open and transparent corporation, we strive to ensure correct evaluation of our corporate value by arranging individual plant tours for institutional investors and security analysts, publicizing our technical strengths, and participating in investor relations events.







Report on business results

# **Supplier Relations**

We aim to grow and develop while deepening our partnership with suppliers.



#### **Basic Procurement Policy**

We aim to achieve an optimal global procurement system with a procurement framework that benefits Toyoda Gosei, by swiftly and accurately gauging changes in procurement conditions and customer and competitor attitudes, ensuring compliance, and conducting business in a fair and open manner.

#### Collaboration with suppliers

We hold a procurement policy briefing every April that is attended by 170 suppliers of products, machining processes, materials, facilities, and molds. The purpose is to inform suppliers of upcoming issues and efforts, including Toyoda Gosei's business environment and the direction we intend to move. At these meetings we share information on safety, quality, quantities, costs, technology, global expansion, CSR and other topics as our procurement policy for the coming fiscal year. We also give awards each year to show our appreciation to suppliers for achievements in their fields, while encouraging all suppliers to

#### Support for suppliers

Based on the idea that it is our suppliers who support our company, we employ the principle of "genchi, genbutsu, genjitsu" (go-and-see; activities based on the actual situation) to strengthen the foundations of our business with suppliers. We conduct programs to eliminate all major quality problems through standardized procedures and prevent shipment of defective product, and improve competitiveness by lowering cost price. We also urge supplier participation in the design of metal molds and products so that we may grow and develop

#### Green procurement

We do our utmost for environmentally-friendly procurement based on our Green Procurement Guidelines (3rd Edition), which consist of three components: establishing environmental management systems; improving regulatory compliance and environmental performance; and managing harmful substances.

We strive to enhance suppliers' internal organization and systems and raise the level of their production activities to reduce environmental impacts. Positive results have continue making progress.

Four times a year, we hold a procurement liaison meeting with the participation of about 100 suppliers. Presentations on human resources development and a range of other topics are offered while we deepen participants' understanding of matters including production information dissemination, quality efforts, compliance and safety activities, anti-earthquake measures, confidentiality, and chemical substance control. Our aim is to build relationships with suppliers and promote smooth business activities

#### together

We hold regular quality liaison meetings to share quality improvement information with suppliers. Through practices such as risk assessment for fire and disaster prevention and safety, as well as reciprocal inspections of compliance with Japan's Industrial Safety and Health Act, we seek to create safe workplaces based on recognition of actual sites and conditions. We also discuss management issues and actively work to reduce costs.

been achieved in acquiring ISO 14001 certification and reducing energy consumption and waste. We ask suppliers to report the chemicals contained in products or materials they supply so that we may comply with increasingly strict chemical substance regulations around the world. We also coordinate with suppliers in complying with European ELV (end-of-life vehicle) and REACH (Registration, Evaluation, Authorization and Restriction of Chemicals) regulations, and the management of volatile organic compounds.

# Involvement with Local Communities

Toyoda Gosei Group companies are rooted in their communities, and the people in these communities are important to us. We undertake a wide range of activities to contribute to the communities we call home.

#### Volunteer activities that contribute to the creation of better communities

Toyoda Gosei contributes to local communities through volunteer activities in four main areas: support for the vulnerable, youth development, environmental protection, and community crime prevention. As an automotive parts manufacturer, we are also involved in traffic safety education.

To raise employee awareness and motivation in Japan, we have introduced an awards system and provide social contribution education and other support to new employees, growing our circle of volunteer activities with active involvement of individual TG members. Worldwide, TG Group companies strive to create close relationships with local communities through

#### Social Welfare





Charity meals

Cafeterias at eight business locations introduced "charity meals" that raise 10 yen per meal for charity. Using the collected funds, wheelchairs and rehabilitation aids were purchased and donated to three local welfare facilities

# Wheelchair doctors

This volunteer group of employees visits welfare facilities for the elderly and hospitals in the community every month to repair, adjust or clean more than 500 wheelchairs a year. This program has continued since 1996.

#### Social Welfare



Toys for disadvantaged children TG Automotive Sealing Mexico donated 450 toys to disadvantaged children in three areas near the company. Plastic bottles and cans were collected in the company and sold for money to buy the toys.



Presents to a nursing home TG Missouri Corporation in the USA collected daily use articles (body soap, perfumes, etc.) from employees for donation to a local nursing home for the elderly.

- volunteer and other community-oriented activities.
- In FY2014, about 20,000 people in Japan participated in volunteer activities matching the characteristics of the com-
- munity and the local TG operation, strengthening ties with our communities. We also offered our LED technology, donating security lights for well-lit towns to support reconstruction after the Great East Japan Earthquake.





#### Sales of goods produced by vocational training facilities

To support the independence of people who use vocational facilities for the disabled, we provide places to sell hand-made bread and cookies at seven of our facilities every month. Revenue earned is used to help finance the operation of vocational facilities.

Environmental Preservation



#### Advanced "green factory"

With the Heiwacho Plant as a model, we have been conducting river ecosystem surveys, cleanup activities, eco-learning and other activities with local communities since 2011 to preserve our environment.

#### Environmental Preservation



#### Community cleanups In addition to routine cleaning at each facility, we conduct community cleanups twice a year with participation of more than 2,500 people including employees, their families, and local students.

#### Youth Development



Invention Club With the aim of providing a place for children to enjoy making things and to grow creatively, we have fully supported this club

since its establishment. In 2014, 98 children

participated in the club's activities



Sports support activities

Athletes from our volleyball, handball and basketball clubs provide instruction to local elementary and junior high school children for their healthy growth and development. Many of these activities include people with disabilities.

#### Community Safety



#### Neighborhood safety patrols

We have launched a program of neighborhood safety patrols in which employees volunteer to patrol key crime-prevention areas, such as around elementary and junior high schools and train stations.

Volunteer support/systems

Social contribution training for

We hold exchanges between new employees

and people with disabilities to help our

employees understand disabilities through

interaction, learn ways to support people

with disabilities, cultivate a considerate spirit,

improve their social and cooperative skills and



#### Traffic safety patrols

We are involved in educational traffic safety activities aimed at reducing traffic accidents and protecting vulnerable road users. On the 10th, 20th and 30th days of each month, employee volunteers stand along roads near each facility to call for traffic safety in the community.



Traffic safety education

About 50 employees visit 14 nurseries and kindergartens around our facilities to teach children the importance of traffic safety using picture-card shows and videos. In 2014 we marked the 29th anniversary of this activity.

#### East Japan Reconstruction Support



Donations of LED streetlights

We donated LED security lamps and lights using TG's high efficiency LED light sources to affected areas, based on their needs, for well-lit and safe streets.



Sales of Tohoku products

To help employees understand that they could support reconstruction even without going to the affected areas, we held Tohoku product exhibitions of confectionaries and foods popular in the Tohoku region at 13 company cafeterias in Japan.

# Management

We strive to be a socially responsible, trusted company based on corporate ethics and legal compliance.

#### Corporate Governance

Toyoda Gosei strives to grow steadily as a global company, contributing to social development with the values of creativity and service to society embedded in our corporate philosophy. One of our most important management tasks in achieving this growth is to enhance and strengthen corporate governance and steadily grow shareholder value. To meet the expectations of all stakeholders, we are building and maintaining organizational systems that can respond rapidly and properly to environmental changes and a sound management system that is both fair and transparent.

Specifically, we have made directors' terms one year and separated

#### Corporate governance system



Toyoda Gosei selects five auditors, including three from outside the company, to serve on its auditing system board. This Board of Auditors oversees and audits management status including the execution of directors' duties. Our Audit Division was established as an internal audit department, developing internal auditing plans with the auditors and meeting regularly to maintain close coordination and share information. An Audit & Supervisory Board Department under the direct control of the Board of Auditors has also been established to maximize the efficacy and independence of audits and ensure that auditing work is executed smoothly.

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new employees

expand their perspectives.

our business execution and management supervision functions by introducing a corporate officer system, in order to establish a management system that responds flexibly to changes in the business environment and to clarify our management responsibilities. In June of 2015 we are bringing in external directors with the aim of improving management transparency and health while also strengthening our directors' oversight and supervisory functions. We have also set up deliberative bodies and committees in a system to oversee discussions and decisions on important matters and business execution.

As part of our efforts to maintain a healthy internal control environment, we have established and sent to all Group companies a common Group Charter for Business Ethics together with our shared management philosophy. While respecting the management autonomy of our subsidiaries, we receive regular business reports and confirm the appropriateness and legality of our subsidiaries' business activities though advance reports and an approval system. We also send nonexecutive directors and auditors to key subsidiaries to observe and check their business operations.

#### Social Reports



Corporate activities

oyoda Gose

oup Charter fo

**Business Ethics** 

Toyoda Gosei

Guidelines for Business Ethics

Ensuring compliance

Support for

compliance

system

Support for

compliance

system

TG

)versea

Affiliates

Company-wid

Compliance

Advocates' Meeting

Compliance

advocates from

each division

externa

#### Compliance

Toyoda Gosei has strengthened and more thoroughly implemented compliance activities to ensure that employees obey all laws and regulations and instill in all employees a keen sense of corporate ethics. The Toyoda Gosei Group Charter for Business Ethics sets forth our shared values and behavioral standards, and serves as behavioral guidelines. All group companies worldwide incorporate this charter in their activities. We have also prepared the Toyoda Gosei Guidelines for Business Ethics and distribute them together with the Group Charter to all employees.

To promote compliance activities, we established a Corporate Ethics Committee in 1997 with the President serving as chairman and all company executives as members. In 2009, we assigned a Compliance Advocate in each division to lead its activities for thorough compliance with a unified approach by management and worksites. We have also set up a compliance consultation office for early resolution of compliance problems.

#### Educational activities for compliance awareness

We conduct a range of ongoing educational activities to instill in all employees the importance of compliance. In addition to regular compliance training that targets employees at different levels in the company and different risks, we present simple compliance lessons in cartoon format in company newsletters and post fuller descriptions of legal compliance cases on company message boards. Through effective use of such tools we aim to raise employees' awareness of compliance. Regular, autonomous compliance activities are offered so that people in each department recognize the risks inherent to their work and prevent infractions from occurring. We also conduct a compliance adherence survey for all employees every year to check their level of understanding of compliance, and based on the results implement activities for improvements where needed.

In FY2014 we focused on bribery prevention and prepared new Toyoda Gosei Group Global Anti-bribery Guidelines. Training by outside lawyers is provided to directors and employees to familiarize them with this important issue.

#### Strengthening compliance systems of affiliates worldwide

We actively support our global affiliates, as members of the Toyoda Gosei Group, in conducting independent compliance activities based on the corporate policy of Toyoda Gosei. We hold annual compliance liaison conferences for Japanese subsidiaries to share information, and support companies in independent compliance activities through task solution activities in which each company uncovers the latent risks inherent to its business and devises measures to prevent infractions

from occurring. We also support systematic compliance at affiliates outside Japan in line with country and company risks. In FY2014 we shared the Toyoda Gosei Group Global Antibribery Guidelines with all our affiliate companies worldwide. We are working to raise awareness of potential problems globally, such as through the planning of local training in countries where there is a particularly high risk.

## Risk Management

Risk management at Toyoda Gosei is not limited to employee training and quality assurance activities for products, but also extends to information security measures to protect corporate information assets and measures for dealing with large-scale disasters.

#### Crisis Management Project in anticipation of large-scale earthquake disasters

Japan is a land of earthquakes, and we have put into place a crisis management system for the event of a massive earthguake that includes anti-earthquake measures for buildings and facilities based on the principles of human life first, community support, and early recovery.

Our Crisis Management Project is intended to strengthen our ability to deal with disasters, focusing on the two areas of upgrading and enhancing first responses and clarifying recovery procedures for quick restoration of production. In FY2013 we introduced resilience training based on the idea that in addition to infrastructure and system measures, improving skills was

#### Efforts to date

eq

acility and lipment easures	<ul> <li>Earthquake resistance measures for buildings and facilities</li> <li>Establishment of a disaster prevention center to serve as an operations base for anti-disaster department operations</li> <li>Equipping all locations with a multi-channel access radio system (which is used in Japan for various purposes, from daily work to emergency and disaster situations) and satellite phones</li> <li>Installment of a crisis management server (earthquake-resistant structure) and emergency power generators</li> <li>Operation of disaster recovery and restoration of damaged systems and data center systems (special facilities equipped with and operating computers, data communications, and other devices)</li> </ul>
ystem easures	<ul> <li>Introduction of site and building safety decisions</li> <li>Maintenance of supply chain information</li> <li>Teleconference system for multiple locations using tablet computers</li> <li>Earthquake bulletin and employee safety information system training</li> <li>Employee safety follow-up system incorporating arrival and departure times at company and business trip data</li> <li>Preparation of a business continuation plan</li> </ul>

## Strengthening information security measures and raising awareness

Toyoda Gosei maintains strict information security measures for the management of confidential information. In FY2014 we continued to conduct annual checks of the compliance status of each division based on company confidentiality management regulations, while also conducting on-site audits of certain divisions. Self-inspections are also done at affiliates in Japan, major affiliates in other countries, and all locations in China.

Together with efforts to familiarize employees with information system security operating standards, we have prepared a confidentiality protection manual that adopts information security rules from various standards. Using this manual, we provide confidentiality management training to all employees and new employee training through confidentiality officers in each division. In FY 2014 we implemented hacking prevention measures to deal with cyber attacks, working to strengthen security and raise employee awareness.



Tovoda Gosei Group Global Anti-bribery Guidelines

#### Major workshops

Compliance

ΤG

Omest

Affiliates

Legal affairs/

compliance

workshops

Corporate Ethics Committe

All company executives

Workshop name	Times held	Participants
New employee workshop	2 times	63
New manager workshop	2 times	57
Designated legal affairs workshop (for mid-career employees)	6 times	277
Training for familiarization with compliance consultations	1 time	102
Anti-bribery training for directors	1 time	60

essential. This training was conducted 22 times in FY2014 for directors and members of anti-disaster departments across TG companies to improve practical skills. We are also establishing concrete steps and procedures for alternative production and recovery of affected processes, including recovery training for drawings and other data for continuity of design functions.

We were fortunate not to have suffered any human loss or major production or quality impacts in the Great East Japan Earthquake of 2011, but with recognition of the importance of crisis management we will continue to strengthen coordination between locations and departments and develop our systems.



#### Enhanced measures

	Classification	Measures
Prevention of leaks	Hard	<ul> <li>Prevention of uncontrolled printing or removal through employee ID authentication of employees at digital copiers/printers and technical drawing printers</li> </ul>
negligence	Soft	<ul> <li>Data encryption of all PCs</li> <li>E-mail security reinforcement (mandatory supervisor CC)</li> </ul>
Prevention of malicious unauthorized leaks Soft		<ul> <li>Inspection of removed materials (twice monthly)</li> <li>Increased surveillance cameras</li> <li>Wired PCs</li> <li>Notebook PCs</li> <li>Desktop PCs</li> <li>External HDDs</li> </ul>
		<ul> <li>Stricter access privileges to file servers</li> <li>Restrictions on items taken out / stronger check function</li> <li>Acquisition and monitoring of system usage records and access records</li> <li>Prevention of unauthorized access (main building/IS Center, Technical Center)</li> <li>Strengthened hacking prevention measures (Internet)</li> </ul>
Ethics		<ul> <li>Review of security management rules</li> <li>In-house security management education</li> <li>On-site inspections of each division</li> </ul>

#### About TOYODA GOSEI REPORT 2015 [Report on Activities in FY2014]

#### Editorial policy

This report was compiled with the aim of giving all stakeholders in the Toyoda Gosei Group a better understanding of its CSR activities and earning their greater trust. We tried to make the activities easily comprehensible by prioritizing those things that we most want to communicate to stakeholders.

#### Period covered by report

April 1, 2014 to March 31, 2015 This report principally covers the period above, but content related to other periods may be included as needed.

#### Scope

In principle, the companies covered are those consolidated in the Toyoda Gosei Group. The scope is outlined individually for some items.

#### **Reference Guidelines**

- The Global Reporting Initiative (GRI)
   "Sustainability Reporting Guidelines Version 3.0 (G3.1)"\*
- Ministry of the Environment
   "Environmental Reporting Guidelines, 2012 Edition" \*
   "Environmental Accounting Guidelines, 2005 Edition"
  - \*A comparative table of these guidelines can be found on our website.

http://www.toyoda-gosei.com/csr/dl/

#### Date of Issue

July 2015 (Next publication scheduled for summer 2016. Previous publication July 2014.)



#### TOYODA GOSEI CO., LTD.

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Environment Administration Dept., Plant Engineering & Environment Division (Kitajima Technical Center) Phone: +81-587-34-3291 Fax: +81-587-34-3309

Please respond to a questionnaire on our website. http://www.toyoda-gosei.com/

- [ P e r i o d ] April, 2014 to March, 2015 [ A i r ] Units are as follows: NOx = ppm, PM (particulate matter) = mg/Nm ND: below the minimum determination limit (not detected)
- If A if i i i onits are as follows: NOX = ppin, PM (particular match = mg/Nm \* ND: below the minimum determination time (not detected) values shown in the results column are averages of the results of the measurements.
   If W a t e r i Units are all in mg/L except for pH + pH: hydrogen ion concentration BOD: Biochemical Oxygen Demand SS: concentration of suspended solids in water ND: below the minimum determination limit (not detected) Values shown in the results column are averages of the results of the measurements.
   If Original of the minimum determination limit (not detected) Values shown in the results column are averages of the results of the measurements.
   If Original of the minimum determination limit (not detected).
   If PRTR\*Data]
   Units are in kg \*Values less than 1kg are rounded up if ≥0.5 and down if 0.5. There are some cases in which values for total volume and volume handled are not in agreement.
- [Data for use of resources] · Units are: t/year for waste, t-CO2/year for greenhouse gas and 10,000m/year for water.

Pollutant Release and Transfer Register (the registration system monitoring emissions of substances that pollute the environment and moves/transfers of them)

#### Data on Main Domestic Plants

A := (A : D

Plant
1 Haruhinagaha

Harubi

Aichi, Japar 452-8564

Functional Parts

All (All Pollution Control Law, prefectural regulations, etc.)				
1	tem measured	Regulation value	Result	
Dust	Boilers(City gas)	0.1	ND	
	Co-generation(City gas)	0.05	ND	
NOx	Boilers(City gas)	150	47	
	Co-generation(City gas)	600	140	

#### Groundwater Trichloroethylene

Cis-1,2-Dichloroethy

	Environmental Standand	Result			
	0.03	ND~0.02			
lene	0.04	ND~0.038			
	*Refer to Toyoda Gosei Report P.2				

#### ■No violations of laws, etc. ■No complaints

#### PRTR Data

PRTR Data

Ethylbenzene

Phthalic anhydride

Methylnaphthalene

Methylenebis (4,1-phenylene) = diisocyanate

**Xylene** 

Disulfiram

Thiuram

Toluene

Ziram

Antimony and its compounds

2-imidazolidin thionate

Substance name	Substance Amou		Volume emitted		Volume moved		Volume	Total	Total	
Substance name	(item number)	handled	nandled Into the air		Into the ground	Volume moved via sewers	lume moved Volume moved via sewers as waste		(processed)	(products)
2-imidazolidin thionate	42	3,840	0	0	0	0	575	0	0	3,265
Toluene	300	1,301	1,077	0	0	0	221	3	0	0

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#### Data for use of resources / volume emitted

Ca	Result	
Waste	Volume generated	1,466
	Volume emitted	1,461
	Final volume disposed	0
Greenhouse gas	CO <sub>2</sub> emissions	7,700
Water	Volume used	31.6

#### Morimachi Plant

1310-128 Mutsumi, Mori, Shuchi, Shizuoka, Japan 437-0213

 Automotive Sealing Products Functional Parts

Air (Air Pollution Control	Air (Air Pollution Control Law, prefectural regulations, etc.)					
Itom measured	Degulation value	Desult				

		tem measured	Regulation value	Result
	Dust	Boilers(heavy oil)	0.3	0.01
	NOx	Boilers(heavy oil)	260	92

ubstanc numbei

31

42

53

80

259

268

300

328

413

438

448

Amount handled

4.495

4.577

12.012

13.879

1,663

11.217

52,421

5,623

1,103

19,079

3,279

nto the air

8.072

9.347

26,675

0

0

0

0

0

0

0

0

95

0

0

0

0

0

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0

0

0

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0

0

■No violations of laws, etc. ■No complaints

#### Water (Water Pollution Control Law, prefectural regulations, etc.)

Item measured	Regulation value	Result
рН	5.8~8.5	7.5
BOD (Biochemical Oxygen Demand)	25	4.9
SS	50	5.2
Oil content	5	ND
Thiram	0.06	0.0025
Zinc	0.5	0.21

Volume recyclec

225

183

1.489

1.741

90

606

225

51

0

328

1,978

9,276

45

183

1.874

2.155

15,039

225

10

0

0

0

0

0

Total onsume

4.226

4.211

577

636

1,573

1,430

5,173

1,042

2,951

34,652

0

10.611

0

0

0

0

0

0

0

0

0

0

0

18,984

2-Mercaptobenzothiazole	452	36,630
Data for use of resour	coc /volum	o omittod

Ca	Result			
Waste	Volume generated	4,405		
	Volume emitted	3,484		
	Final volume disposed	0		
Greenhouse gas	CO <sub>2</sub> emissions	25,100		
Water	Volume used	17.2		

## Water (Water Pollution Control Law, prefectural regulations, etc.)

iterit incubated		ricourte
рН	5.8~8.6	7.4
BOD (Biochemical Oxygen Demand)	25	4.9
SS	30	1.8
Oil content	5	ND
Total nitrogen	120	1.7
Total phosphorus	16	0.47
Thiram	0.06	ND
Fluorine	8	_

#### Heiwacho Plant

710 Origuchi, Shimomiyake, Heiwa, Inazawa, Aichi, Japan 490-1312

Automotive Sealing

- Products
  Functional Parts
  Safety System Products
  Optoelectronic Products

#### Air (Air Pollution Control Law, prefectural regulations, etc.)

	tem measured	Regulation value	Result		
Dust	Boilers(heavy oil)	0.15	ND		
	Boilers(City gas)	0.05	ND		
	Co-generation(City gas)	0.05	ND		
NOx	Boilers(heavy oil)	140	77		
	Boilers(City gas)	120	34		
	Co-generation(City gas)	200	92		

■No violations of laws, etc. ■No complaints

#### PRTR Data

Culture and an and	Substance	Amount	V	olume emitte	ed	Volume	moved	Volume	Total	Total
Substance name	(item number)	handled	Into the air	Into bodies of water	Into the ground	Volume moved via sewers	Volume moved as waste	recycled	(processed)	(products)
2-aminoethanol	20	59,400	6	0	0	119	59,275	0	0	0
Methylnaphthalene	438	2,603	13	0	0	0	0	0	2,590	0

#### Data for use of resources / volume emitted

Ca	Result	
Waste	Volume generated	1,656
	Volume emitted	1,628
	Final volume disposed	0
Greenhouse gas	CO <sub>2</sub> emissions	20,300
	PFC emissions	2,100
	HFC emissions	300
Water	Volume used	26.0

#### Inazawa Plant

1 Komeyasakai, Kitajima, Inazawa, Aichi, Japan 492-8542

Interior and Exterior Parts
 Functional Parts

#### Air (Air Pollution Control Law prefectural regulations etc.)

	em measured	Regulation value	Result	
NOx E	Boilers(City gas)	150	59	
(	Co-generation(City gas)	600	195	

Environmental Standand

#### Groundwater Item measured

Trichloroethylene\*1 0.03 ND Cis-1.2-Dichloroethylene\*1 0.04  $ND\!\sim\!0.013$ \*1 Substances that have no record of being used. \* Refer to Toyoda Gosei Report P.24

■No violations of laws, etc. ■No complaints

#### PRTR Data

Substance name	Substance	Amount	Amount Volume emitted			Volume moved		Volume	Total	Total
Jubstance name	(item number)	handled	Into the air	Into bodies of water	Into the ground	Volume moved via sewers	Volume moved as waste	recycled	(processed)	(products)
Ethylbenzene	53	2,500	1,500	0	0	0	518	127	0	356
Xylene	80	9,100	5,460	0	0	0	1,871	465	0	1,304
Chromium and trivalent chromium compounds	87	2,644	0	21	0	0	2,094	0	0	529
Hexavalent chromium compounds	88	2,644	0	0	0	0	0	0	2,644	0
Copper water-soluble salts (excluding complex salts)	272	3,202	0	32	0	0	0	0	3,170	0
Toluene	300	36,100	20,376	0	0	0	10,247	2,070	0	3,408
Nickel	308	96,107	0	0	0	0	0	0	96,107	0
Nickel compounds	309	112,757	0	23	0	0	14,636	0	0	98,099
Bis (2-ethylhexyl) phthalate	355	3,292	0	0	0	0	230	0	0	3,062
Water-soluble salts of peroxodisulfuric acid	395	5,600	0	0	0	0	0	0	5,600	0
Boron compound	405	2,149	0	21	0	0	0	0	2,128	0

Result

#### Data for use of resources/volume emitted

Ca	Result	
Waste	Volume generated	3,008
	Volume emitted	1,761
	Final volume disposed	0
Greenhouse gas	CO <sub>2</sub> emissions	10,300
Water	Volume used	45.9

#### Water (Sewerage Law, prefectural regulations, etc.)

Item measured	Regulation value	Result
рН	5~9	7.3
BOD (Biochemical Oxygen Demand)	600	119.6
SS	600	24.3
Oil content	30	2.6
Total nitrogen	240	15
Total phosphorus	32	1.03
Fluorine	8	0.38

Water (Water Pollution Control Law, prefectural regul	ations, etc
---	-------------

Item measured	Regulation value	Result
рН	5.8~8.6	7.3
BOD (Biochemical Oxygen Demand)	25	7.4
SS	30	2.7
Oil content	5	ND
Total nitrogen	120	16.7
Total phosphorus	16	0.64
Hexavalent chromium	0.5	ND
Total chromium	2	0.17
Copper	1	0.16
Fluorine	8	0.08
Boron	10	5.6

#### Bisai Plant

#### 40 Higashishimoshiro, Meichi, Ichinomiya, Aichi, Japan 494-8502

#### Main Products

Interior and Exterior Parts
Safety System Products

Air (Air Pollution Control	Law, prefectural	regulations,	etc.)
----------------------------	------------------	--------------	-------

	tem measured	Regulation value	Result
Dust	Boilers(heavy oil)	0.3	-
	Boilers(City gas)	0.05	ND
	Co-generation(City gas)	0.05	ND
NOx	Boilers(heavy oil)	180	-
	Boilers(City gas)	150	62
	Co-generation(City gas)	600	91

■No violations of laws, etc. ■No complaints

#### Parts PRTR Data

Substance name	Substance	Amount handled	Volume emitted			Volume moved		Volume	Total	Total
Substance name	(item number)		Into the air	Into bodies of water	Into the ground	Volume moved via sewers	Volume moved as waste	recycled	(processed)	(products)
Ethylbenzene	53	14,919	8,952	0	0	0	3,127	748	0	2,093
Xylene	80	17,878	10,727	0	0	0	3,781	887	0	2,483
1,3,5-trimethylbenzene	297	1,685	1,011	0	0	0	348	86	0	241
Toluene	300	29,031	17,558	0	0	0	6,209	1,387	0	3,877
Methylenebis (4,1-phenylene) = diisocyanate	448	13,475	0	0	0	0	1,347	0	0	12,127

#### Data for use of resources/volume emitted

Ca	Result	
Waste	Volume generated	2,859
	Volume emitted	1,217
	Final volume disposed	0
Greenhouse gas	CO <sub>2</sub> emissions	11,500
	SF6 emissions	3,000
Water	Volume used	12.5

#### Seto Plant

# Main Air (Air Pollution Control Law, prefectural regulations, etc.) Item measured Regulation value Result Dust Boilers (kerosene) 0.2 ND NOx Boilers (kerosene) 150 62

#### ■No violations of laws, etc. ■No complaints

Water (Water Pollution Control Law, prefectural regulations, etc.)							
Item measured	Regulation value	Result					
рН	5.8~8.6	7.4					
BOD (Biochemical Oxygen Demand)	20	1.6					
SS	20	0.58					
Total nitrogen	10	0.6					
Total phosphorus	4	0.08					

#### IS PRTR Data

Substance name	Substance	Amount	V	olume emitte		Volume	moved	Volume	Total	Total
Substance name	(item number)	handled	Into the air	Into bodies of water	Into the ground	Volume moved via sewers	Volume moved as waste	recycled	(processed)	(products)
Xylene	80	8,221	161	0	0	0	43	10	7,980	28
1,2,4- trimethylbenzene	296	9,254	46	0	0	0	0	0	9,208	0
Methylenebis (4,1-phenylene) = diisocyanate	448	60,849	0	0	0	0	6,085	0	0	54,764

#### Data for use of resources/volume emitted

Cat	Result	
Waste	Volume generated	759
	Volume emitted	759
	Final volume disposed	0
Greenhouse gas	CO <sub>2</sub> emissions	5,600
Water	Volume used	2.5

#### Kanagawa Plant

19-5 Suzukawa, Isehara, Kanagaw Japan 259-1146

Interior and Exterior Parts
 Functional Parts

#### ■No violations of laws, etc. ■No complaints

#### PRTR Data

	Substance n	Substance name Substance		Amount	hount Volume emitted		Volume moved		Volume Tota		Total	
	Jubstance In	(it	tem number)	handled	Into the air	Into bodies of water	Into the ground	Volume moved via sewers	Volume moved as waste	recycled	(processed)	(products)
а.	Toluene		300	1,929	1,182	0	0	0	233	432	0	81
	Data for use o	of resource	es/volum	e emitted								
	Cat	tegory		Result								
	Waste	Volume ger	nerated	88								
		Volume em	nitted	88								
		Final volume	e disposed	0								
	Greenhouse gas	CO <sub>2</sub> emissi	ions	800								
	Water	Volume use	ed	0.3								

#### Water (Sewerage Law, prefectural regulations, etc.)

Item measured	Regulation value	Result
рН	5.7~8.7	7
BOD (Biochemical Oxygen Demand)	300	61.8
SS	300	32.8
Oil content	30	3.3

141 Sosaku, Seto, Aichi, Japan 489-0843

Main Products

Interior and Exterior Parts

#### Kitakyushu Plant

1-2 Kitahoraoka Maeda, Yahata-higashi, Kitakyush Fukuoka,

Japan 805-0058

#### ■No violations of laws, etc. ■No complaints

#### PRTR Data

	Substance name	Substance	Amount	V	Volume emitted			Volume moved		Total	Total
	Substance frame	(item number)	handled	Into the air	Into bodies of water	Into the ground	Volume moved via sewers	Volume moved as waste	recycled	(processed)	(products)
	Ethylbenzene	53	2,040	1,167	0	0	0	404	197	0	272
iu,	Xylene	80	1,177	526	0	0	0	139	368	0	145
	Chromium and trivalent chromium compounds	87	3,032	0	0	0	0	2,425	0	0	606
	Hexavalent chromium compounds	88	3,032	0	0	0	0	0	0	3,032	0
	Toluene	300	29,712	9,481	0	0	0	3,872	15,132	0	1,228
	Nickel	308	38,042	0	0	0	0	0	0	38,042	0
	Nickel compounds	309	38,042	0	0	0	0	4,946	0	0	33,096

# Interior and Exterior Parts Automotive Sealing Products Functional Parts Safety System Products

#### Data for use of resources / volume emitted

Ca	Result	
Waste	Volume generated	1,099
	Volume emitted	1,009
	Final volume disposed	0
Greenhouse gas	CO <sub>2</sub> emissions	7,700
Water	Volume used	2.4

## Fukuoka Plant

# 2223-1 Kurahisa, Miyawaka, Fukuoka, Japan 823-0017

Interior and Exterior Parts
Functional Parts
Safety System Products

#### ■No violations of laws, etc. ■No complaints

#### Water (Water Pollution Control Law, prefectural regulations, etc.)

Item measured	Regulation value	Result
рН	5.8~8.6	7.3
BOD (Biochemical Oxygen Demand)	10	1.15
SS	25	0.66
Oil content	2	ND

#### PRTR Data

<b>C</b> 1 1	Substance	Amount	V	olume emitte	ed	Volume	moved	Volume	Total	Total
Substance name	(item number)	handled	Into the air	Into bodies of water	Into the ground	Volume moved via sewers	Volume moved as waste	recycled	(processed)	(products)
Ethylbenzene	53	1,643	939	0	0	0	289	169	0	246
Xylene	80	1,990	1,147	0	0	0	361	187	0	295
Toluene	300	17,095	6,787	0	0	0	2,552	6,515	0	1,242

#### Data for use of resources/volume emitted

Ca	Result	
Waste	Volume generated	1,030
	Volume emitted	712
	Final volume disposed	0
Greenhouse gas	CO <sub>2</sub> emissions	3,600
Water	Volume used	1.8

# Saga Plant

9966-9 Kawako, Wakaki, Takeo, Saga, Japan 843-0151

#### Optoelectronic Products

Air (Air Pollution Control Law, prefectural regulations, etc.)									
lten	n measured	Regulation value	Result						
Dust	Boilers(City gas)	0.1	ND						
NOx	Boilers(City gas)	150	41						

■No violations of laws, etc. ■No complaints

#### PRTR Data

Substance name	Substance Amount		Volume emitted			Volume moved		Volume	Total	Total
Substance name	(item number)	handled	Into the air	Into bodies of water	Into the ground	Volume moved via sewers	Volume moved as waste	recycled	(processed)	(products)
2-aminoethanol	20	25,767	3	0	0	52	25,713	0	0	0

#### Data for use of resources/volume emitted

	Result	
Waste	Volume generated	370
	Volume emitted	370
	Final volume disposed	0
Greenhouse gas	CO <sub>2</sub> emissions	6,800
	PFC emissions	0
Water	Volume used	10.7

Water (Water Pollution Control Law, prefectural regulations, etc.)				
Item measured	Regulation value	Result		
рН	5.8~8.6	7.2		
BOD (Biochemical Oxygen Demand)	20	4.4		
SS	50	1.3		
Oil content	5	0.5		

pH         5.8~8.6         7.2           BOD (Biochemical Oxygen Demand)         20         4.4           SS         50         1.3	item measured	Regulation value	Result
BOD (Biochemical Oxygen Demand)         20         4.4           SS         50         1.3	рН	5.8~8.6	7.2
SS 50 1.3	BOD (Biochemical Oxygen Demand)	20	4.4
	SS	50	1.3
Oil content 5 0.5	Oil content	5	0.5

#### Resource Input and Output to the Environment in Business Activities in fiscal 2014

INPUT				
Total Material input 42,733t				
Plastic 23,527t Rubber (rubber sheet) 19,206t Excluding purchased parts, metal and liquid				
Purchased electricity 1,660,000GJ City gas 1,450,000GJ LPG 130,000GJ Heavy oil 80,000GJ Kerosene 30,000GJ LNG 900GJ Gasoline 800GJ				
Water resource input 1,440,000m				
Industrial water 830,000m Clean water 210,000m Underground water 400,000m				
PRTR*2 substances usage 828t				



#### OUTPUT **Products** Interior and Exterior Parts Automotive Sealing Products Functional Parts Safety System Products Optoelectronic Products Home Appliance Parts and others Emitted into the atmosphere CO<sub>2</sub> 11,600t-CO<sub>2</sub> 5 gases 5,300t-CO<sub>2</sub> SOx\*4 4† NOx\*5 6.3t Dust 2t Volume of substances subject to PRTR 132t VOC emissions 401t Waste discharge Landfill waste 0t Incinerated waste 10t Industrial waste 7.993t General waste 11t For-profit disposal by sale 4,489t Volume of substances subject to PRTR 168t Waste water Total waste water 1,120,000m Volume of substances subject to PRTR 0.10t 6.9t Nitrogen emissions\*6 Phosphorus emissions\*6 0.5t COD emissions\*6 2.1t \*1 Gigajoule (1,000,000,000 joules) \*2 Pollutant Release and Transfer Register

\*3 Volatile Organic Compounds

\*4 Sulfur Oxide

\*5 Nitrogen Oxide

\*6 Range of target: 4 plants of Haruhi, Inazawa, Heiwacho and Seto, Kitajima Technical Center, Miwa Technical Center and Sun-Court Inoguchi



#### Data on Greenhouse Gases, Emissions Volumes and Water Resource Usage

These data may differ in parts from the data in the Toyoda Gosei Report, as they include data from a larger number of companies



#### Greenhouse gas (CO2) emission volume/basic unit trends (attributable to energy)

 $\cdot$  CO\_2 conversion calculation: International locations  $\,$  GHG Protocol (2001)  $\,$ Locations in Japan 1990 Keidanren factor fixed value • 2020 basic unit target: 8% decrease from FY2012



#### Emissions volume/basic unit trends











• Affiliates in Japan: FY2003 data estimates

• Efforts to reduce water resource usage began in FY2011 (5th Environmental Action Plan)

2015 global consolidated basic unit target: 3% reduction from FY2012

# Chemical Substance Handling and Emissions Volumes (Japanese and overseas affiliates)

The Toyoda Gosei Goup manages chemical substance handling volumes, emissions volumes, movement volumes, and VOC emissions volumes based on the laws of each country at our affiliates worldwide.

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#### Affiliates in Japan

#### Japan, 2 companies

Applicable regulations: Laws related to improved monitoring and management of the amounts of specified chemical substances released into the environment

							(Unit : t/year)
Name of Substance number Amount			Volume emitted	Volume moved			
chemical substance	(item number)	handled	Into air	Into water	Into ground	Volume moved via sewers	Volume moved as waste
Thiram	268	1.7	0	0	0	0	0.1
1,2,4-trimethylbenzene	296	1.1	1.1	0	0	0	0
1,3,5-trimethylbenzene	297	1.1	1.1	0	0	0	0

#### International affiliates

USA, 1 company Applicable regulation: Toxic Release Inventory

(	(Unit : t/year)		
Name of chemical substance	Volume moved		
Styrene	0		
Manganese	0.001		
Nickel	22.9		
Chrome	13.8		
Copper	0.7		
Nitric acid	0.8		

Canada, 1 company Applicable regulations: National Pollutants Release Inventory			
(1	Unit : t/year)		
VOC emissions	17		
UK, 1 company Applicable regulations: Pollution Prevention & Contr ((	ol Act 1999 Unit : t/year)		

VOC emissions

#### Taiwan, 1 company Applicable regulations: Air Pollution Control Act



## CO<sub>2</sub> Emissions by Scope Level



## GRI Guidelines and the corresponding cross referenced pages

Gui	deline items	Main corresponding pages
1. Str	ategy and Analysis	
1.1	Statement from the most senior decisionmaker of the organization (e.g., CEO, chair, or equiva- lent senior position) about the relevance of sus- tainability to the organization and its strategy.	Р3
1.2	Description of key impacts, risks, and opportunities	P3,43
2. Or	ganizational Profile	
2.1	Name of the organization.	Back cover
2.2	Primary brands, products, and/or services.	P6
2.3	Operational structure of the organization, includ- ing main divisions, operating companies, subsid- iaries, and joint ventures.	P4
2.4	Location of organization's headquarters.	Back cover
2.5	Number of countries where the organization op- erates, and names of countries with either major operations or that are specifically relevant to the sustainability issues covered in the report.	Back cover
2.7	Markets served (including geographic breakdown, sectors served, and types of customers/beneficiaries).	P4,6
2.8	<ul> <li>Scale of the reporting organization, including:</li> <li>Number of employees;</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 organiza- tions); and</li> <li>Quantity of products or services provided.</li> </ul>	P4-6
2.10	Awards received in the reporting period.	P3
3. Rep	oort Parameters	
Rei	oort Profile	
3.1	Reporting period (e.g., fiscal/calendar year) for information provided.	Back cover
3.2	Date of most recent previous report (if any).	Back cover
3.3	Reporting cycle (annual, biennial, etc.)	Back cover
3.4	Contact point for questions regarding the	Back cover
	report or its contents.	Dack Cover
Rep	oort Scope and Boundary	
3.5	Process for defining report content, including: • Determining materiality; • Prioritizing topics within the report; and • Identifying stakeholders the organization expects to use the report.	Back cover
3.6	Boundary of the report (e.g., countries, divisions, sub- sidiaries, leased facilities, joint ventures, suppliers).	P2
3.7	State any specific limitations on the scope or boundary of the report.	
3.9	Data measurement techniques and the bases of cal- culations, including assumptions and techniques underlying estimations applied to the compilation of the Indicators and other information in the report.	Back cover
3.11	Significant changes from previous reporting pe- riods in the scope, boundary, or measurement methods applied in the report.	_
GR	Content Index	
3.12	Table identifying the location of the Standard Dis- closures in the report. Identify the page numbers or web links where the following can be found.	Back cover
4.Go	vernance, Commitments, and Engagemen	nt
Gov	vernance	
4.1	Governance structure of the organization, including committees under the highest gover- nance body responsible for specific tasks, such as setting strategy or organizational oversight.	P41
4.2	Indicate whether the Chair of the highest gover- nance body is also an executive officer (and, if so, their function within the organization's man- agement and the reasons for this arrangement).	P41
4.6	Processes in place for the highest governance body to ensure conflicts of interest are avoided.	P41
4.8	Internally developed statements of mission or values, codes of conduct, and principles relevant to economic, environmental, and social perfor- mance and the status of their implementation.	P2
4.9	Procedures of the highest governance body for over- seeing the organization's identification and manage- ment of economic, environmental, and social perfor- mance, including relevant risks and opportunities, and adherence or compliance with internationally agreed standards, codes of conduct, and principles.	P41

Gui	deline items	Main corresponding pages	
4.10	Processes for evaluating the highest governance body's own performance, particularly with respect to economic, environmental, and social performance.	P13-14	
Co	mmitments to External Initiatives		
4.11	Explanation of whether and how the precau- tionary approach or principle is addressed by the organization.	P43	
Sta	keholder Engagement		
4.14	List of stakeholder groups engaged by the organization.	P2	
4.16	Approaches to stakeholder engagement, includ- ing frequency of engagement by type and by stakeholder group.	P30-40	
4.17	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.	P30-40	
5.Ma	nagement Approach and Performance Ind	licators	
Ecc	nomic Performance		
EC1	Direct economic value generated and distributed, including revenues, operating costs, employee compensation, donations and other community investments, retained earnings, and payments to capital providers and governments	P5	
EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change.	P29	
Ma	Rel Presence		
EC6	on locally-based suppliers at significant loca- tions of operation.	P38	
Ind	irect Economic Impacts		
EC8	Development and impact of infrastructure in- vestments and services provided primarily for public benefit through commercial, inkind, or pro bono engagement.	P39-40	
Env	ironmental Performance Indicators		
Ma	terials		
EN1	Materials used by weight or volume.	website	
EN2	input materials.	P19, website	
Ene	rgy		
EN3	Direct energy consumption by primary energy source.	website	
EN4	Indirect energy consumption by primary source.	website	
EN5	Energy saved due to conservation and effi- ciency improvements.	P15-18	
EN6	Initiatives to provide energy-efficient or renew- able energy based products and services, and reductions in energy requirements as a result of these initiatives.	P15-18, 27-28	
EN7	Initiatives to reduce indirect energy consump- tion and reductions achieved.	P15	
Wa	ter		
EN8	Total water withdrawal by source.	P20, website	
EN9	Water sources significantly affected by with- drawal of water.	website	
EN10	Percentage and total volume of water recycled and reused.	P20, webサイト	
Bio	diversity		
EN12	Description of significant impacts of activities, products, and services on biodiversity in pro- tected areas and areas of high biodiversity value outside protected areas.	P25	
EN14	Strategies, current actions, and future plans for managing impacts on biodiversity.	P25	
Em	issions, Effluents, and Waste		
EN16	Total direct and indirect greenhouse gas emissions by weight.	P13, 15, 19, website	
EN17	Other relevant indirect greenhouse gas emissions by weight.	P13, 17-18	
EN18	Initiatives to reduce greenhouse gas emissions and reductions achieved.	P13, 15-18	
EN19	Emissions of ozone-depleting substances by weight.	website	
EN20	NO, SO, and other significant air emissions by type and weight.	website	
EN21	Total water discharge by quality and destination.	website	
EN22	Total weight of waste by type and disposal method.	P19, website	
EN23	Total number and volume of significant spills.	website	

Guio	deline items	Main corresponding pages
Pro	ducts and Services	
EN26	Initiatives to mitigate environmental impacts of prod- ucts and services, and extent of impact mitigation.	P27-28
EN27	Percentage of products sold and their packag- ing materials that are reclaimed by category.	P20
Coi	npliance	
EN28	Monetary value of significant fines and total num- ber of non-monetary sanctions for noncompli- ance with environmental laws and regulations.	website
Tra	nsport	
EN29	Significant environmental impacts of transport- ing products and other goods and materials used for the organization's operations, and transporting members of the workforce.	P17
Ove	erall	
EN30	Total environmental protection expenditures and investments by type.	P29
Lab Per	or Practices and Decent Work formance Indicators	
Oc	cupational Health and Safety	
LA8	Education, training, counseling, prevention, and risk-control programs in place to assist work-force members, their families, or community members regarding serious diseases.	P35
LA9	Health and safety topics covered in formal agreements with trade unions.	P36
Tra	ining and Education	
LA11	Programs for skills management and lifelong learning that support the continued employability of employ- ees and assist them in managing career endings.	P32-33

Gui	deline items	Main corresponding pages
Div	ersity and Equal Opportunity	
LA13	Composition of governance bodies and break- down of employees per category according to gender, age group, minority group member- ship, and other indicators of diversity.	P34
Hu	man Rights Performance Indicators	
Inv	estment and Procurement Practices	
HR2	Percentage of significant suppliers, contractors and other business partners that have under- gone screening on human rights and actions taken	P38
Soc	ciety Performance Indicators	
Co	rruption	
SO3	Percentage of employees trained in organiza- tion's anti-corruption policies and procedures.	P42
SO4	Actions taken in response to incidents of corruption.	-
Pub	olic Policy	
SO5	Public policy positions and participation in pub- lic policy development and lobbying.	Back cover
Pro	duct Responsibility Performance Indicators	
Cus	stomer Health and Safety	
PR1	Life cycle stages in which health and safety im- pacts of products and services are assessed for improvement, and percentage of significant products and services categories subject to such procedures.	P30-31
Pro	duct and Service Labeling	
PR5	Practices related to customer satisfaction, including results of surveys measuring customer satisfaction.	P31

# Environmental Reporting Guidelines (Fiscal 2012 Version) and the corresponding cross referenced pages

Guideline items	Main corresponding pages
Basic items of the environmental report	
1. Basic items of the environmental report	
Target range of organizations for reporting and target periods	Back cover
Supplementary rates in the target range and differences in target periods	Back cover
Reporting policy	Back cover
Policy etc. for public media	Back cover
2.Message from the President	РЗ
3. General overview of the environmental report	
General overview of environment-friendly management	P12
List of KPI time sequences	P13-14
General responses to individual environmental issues	P13-14
4.Material balance	website
Current situation of environmental administration i.e. environmental management	
1.Policies for environmental consideration, visions, and business strategies, etc.	
Policy for environmental consideration	P12
Important issues, visions, and business strategies	Р3
2. Organizational framework and governance situation	
Organizational framework etc. for environment-friendly management	P12
Environmental risk management system	P24
Adherence situation regarding environment-related	P24
rules and regulations	
3.Situation of responses to stakeholders	
Response to stakeholders	P30-40
Social contribution activities related to the environment	P39-40
4. Initiative policies and strategies etc. for environmental considerations in the value chain	
Initiative policies and services etc. for environmental considerations in the value chain	P38
Green purchase/procurement	P38

Guideline items	Main corresponding pages
Products and services etc. that contribute to reducing environmental load	P21
Environment-related new technologies, research and development	P27-28
Environment-friendly transportation	P17
Environment-friendly resource/real-estate development/investment etc.	P20
Environment-friendly waste disposal/recycling	P19-20
Environmental load associated with business activities and situations related to initiatives in environmental considerations	
1. Resource and energy input situation	
Total energy input and measures for its reduction	P15-18,website
Total material input and measures for its reduction	P19-20, website
Water resource input and measures for its reduction	P20,website
$\label{eq:2.5} 2. \\ \text{Situation of cyclic utilization of resources etc. (within business areas)}$	P19-20,website
3. Situation of products production and environmental load emission	
Gross production amount or gross product sales	website
Emission of greenhouse gases and measures for their reduction	P18,website
Total drainage water quantity and measures for its reduction	website
Air pollution and life environment loads and measures for their reduction	website
Emission and transference of chemical substances and measures for their reduction	P21,website
Total waste discharge and total final waste disposal, and measures for their reduction	P19-20, website
Leakage of hazardous material etc. and measures for its prevention	P24
4. Situations of biodiversity conservation and sustainable utilization of biological resources	P25
Situations related to economic and social aspects in environment-friendly management	
1. Situation related to the economic aspect in environment-friendly management	
Situation of the economic aspect in business operators	P29
Situation of the economic aspect in society	P29
2.Situation related to the social aspect in	P3

environment-friendly management