



Bridgestone Corporation

Environmental Planning and Promotion Department
3-1-1, Ogawahigashi-cho, Kodaira-shi, Tokyo, 187-8531, Japan

For more information, please visit our website.

<http://www.bridgestone.com/responsibilities/environment/>



Looking Ahead to the World in 2050

Bridgestone Group Environmental Report 2014

About This Report

Editorial Policy

Bridgestone Corporation produced its first environmental report in 2000, providing information about the company's environmental activities*1. To reach all Bridgestone Group global stakeholders and convey the company's sustainability vision and initiatives in an easy-to-understand way, we have focused on presenting the most essential information in both Japanese and English. The Bridgestone Group communicates to its stakeholders in regions including Japan, the United States, Europe and China through detailed environmental reports and on websites.

*1 In 2004, information about activities was given in a social and environmental report, and was included as part of a Corporate Social Responsibility ("CSR") report in 2009. Since 2010, the company has produced separate CSR reports and environmental reports in order to provide greater detail about specific environmental activities.

Period

In principle, this report covers activities for fiscal 2013 (1 January, 2013 to 31 December, 2013), but some of the information covers activities up to April 2014.

Materiality

Biodiversity, sustainable use of resources and climate change are high priority environmental issues for the Bridgestone Group in its commercial activities. In order for the group to meet the challenge of these issues as one body,

Scope of the Report

This report presents information about Bridgestone Group activities including domestic and international subsidiaries and affiliated companies of the Bridgestone Corporation. To distinguish between the two, "Bridgestone" refers to the Bridgestone Corporation, while the "Bridgestone Group" is the group, including domestic and international subsidiaries and affiliated companies. Data related to manufacturing sites covers all manufacturing sites that have established environmental management systems.

Prepared with Reference to:

- GRI (Global Reporting Initiative) 4
- Environmental Reporting Guideline (Ministry of the Environment of Japan, 2012)

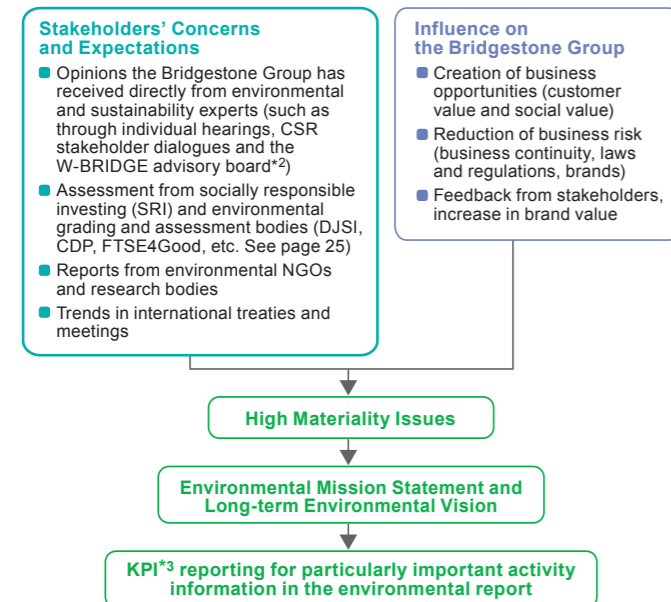
Published

June 2014

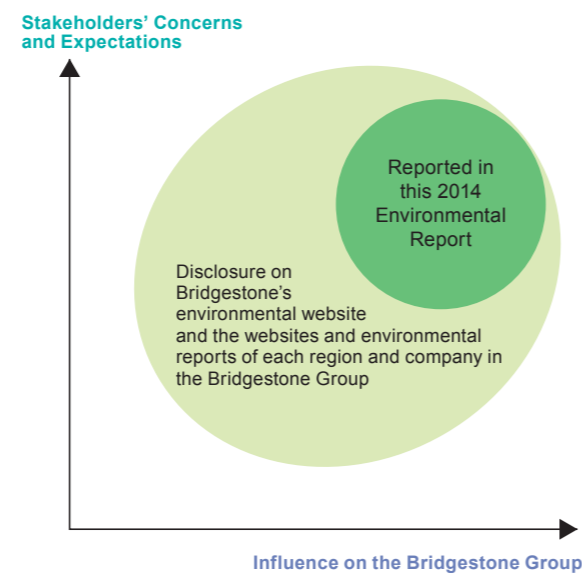
Next Publication

Planned for June 2015

Materiality and the Environmental Report



Focus of the 2014 Environmental Report



in 2011 we refined our Environmental Mission Statement to make the goal of our activities clear. In 2012, we also drew up the company's Long-term Environmental Vision, looking ahead to the year 2050, to promote concrete action.

*2 A joint research project between Bridgestone and Waseda University
*3 Key Performance Indicator

Environmental Mission Statement

The Bridgestone Group has more than 193*1 production and development centers in 25 countries, conducts business activities in more than 150 countries and has more than 145,000 employees globally. The group's shared Environmental Mission Statement serves as a basis to engage employees from a wide range of backgrounds, working together toward established environmental goals. Our unchanging vision from the mission statement is "to help ensure a healthy environment for current and future generations." This ensures that together with our stakeholders, we are committed to continually working toward a sustainable society with integrity. In an effort to make sure everyone in the Bridgestone Group is familiar with the Environmental Mission Statement, it has been translated into 19 languages*2 and is displayed in every Bridgestone Group business. The company also uses various educational opportunities, such as e-learning, training programs and environmental intranets, to support employees in understanding the connection between the Environmental Mission Statement and the work they do each day.

*1 As of April 2013.

*2 Posters are available on Bridgestone's website.
<http://www.bridgestone.com/responsibilities/environment/mission/statement.html>

The Bridgestone Group's Environmental Mission Statement



Looking Ahead to the World in 2050 Bridgestone Group Environmental Report 2014

Table of Contents

- About This Report 1
- Environmental Mission Statement 2
- Top Commitment 3-4
- Looking Ahead to the World in 2050 5-7

In Harmony with Nature 8-14

Value Natural Resources 15-18

Reduce CO2 Emissions 19-22

Environmental Management 23-24

Environmental Communication 25-26

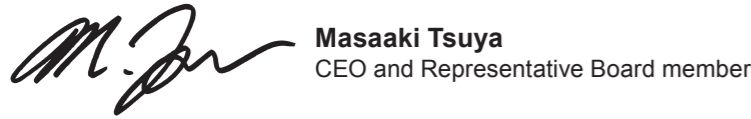
Third-party Reviews 27

Main Performance Indicators 28

Disclosure of Financial and Non-financial Information 29

Top Commitment

Advancing a global Bridgestone Corporation effort to achieve a “Dan-Totsu” position from an environmental perspective



Balancing our business with the environment based on the Environmental Mission Statement

As we reflect upon 2013, it is apparent that we endured natural disasters of an unprecedented scale across the globe. This trend is most likely the culmination of various factors, but we must also consider that it may be the result of changes in our climate accelerated by greenhouse gas emissions and human activities. In fact, this view was detailed in the Fifth Assessment Report: Climate Change 2013, issued by the Intergovernmental Panel on Climate Change (IPCC).

Bridgestone is the world's leading tire and rubber company, and more than 80 percent of our net sales come from tires and other automobile-related products and services. Realizing the large impact our operations may have on the global environment, we are advancing a variety of initiatives to create stronger balance and harmony between our business and the environment. We are

continually working toward building a sustainable society, and we are basing our efforts on Bridgestone's Environmental Mission Statement. Specifically, we are pushing forward with global initiatives focused on three areas: reducing CO₂ emissions, valuing natural resources, and achieving harmony with nature. In each of these areas, we have established a long-term environmental vision for the year 2050 and beyond, and we are currently in the process of considering and establishing mid-term targets. We have used the “back casting”^{*1} method to formulate our mid-term targets with regard to our long-term vision, and these mid-term goals are set to be accomplished by 2020.

Added water intake reduction target to specific mid-term targets

Bridgestone has established the long-term environmental vision for 2050 of being “in balance with nature”^{*2}, which relates to biodiversity. In pursuing this goal, we are taking

steps to minimize the impact of our operations on ecosystems while also simultaneously working to preserve and restore ecosystems. In 2014, we set a goal to reduce our average water intake rate by 35 percent by the year 2020^{*3}, using 2005 levels as a base-line. We believe this mid-term target will help ensure we minimize the environmental impact of our operations, and with this target in mind, we will work to reduce the extent to which water usage in our business impacts ecosystems.

As for reducing CO₂ emissions, we have set the long-term environmental target of reducing CO₂ emissions by 50% or more^{*4} by 2050. This goal was set to guide us in our quest to contribute to the realization of a low-carbon society. In order to give further direction to our efforts in this area, we have established mid-term targets for 2020 detailing specific numeric goals for cutting CO₂ emissions from the Company's total operations and from tire usage, with tire usage reductions to be achieved by lowering rolling resistance (see page 20).

In 2013, our global carbon management initiatives resulted in the Group realizing about 27 percent reduction in CO₂ emissions from operations and about 10 percent reduction in tire rolling resistance. In this manner, our efforts to contribute to the creation of a low-carbon society are progressing smoothly.

In regard to valuing natural resources, we have established the long-term environmental target of working “towards 100% sustainable materials”^{*5}, and we are pursuing this goal by advancing technological developments while defining and passing mid-term milestones.

Advancing technical and business model innovation to accomplish goals

To achieve our long-term environmental vision for 2050 and beyond, we must do more than simply continue our current activities. We must tackle issues from new perspectives. The Company's operations extend from the upstream region of the supply chain, which includes in-house raw material production bases, to downstream, where we operate retail sales networks and service based operations.

We will continue to develop a vertical and horizontal approach to our business, which is one of the Company's strengths, while advancing technical and business model innovation. We also will continue to create innovative new technologies, products, and services to help us further realize a balance between our business and the environment.

A prime example of activities in this area is our second generation Air Free Concept (Non-Pneumatic) Tire, which was announced at the 43rd Tokyo Motor Show 2013. A

revolutionary departure from the standard approach of supporting a vehicle's weight with the internal air pressure of tires, the Air Free Concept Tire uses a unique structure of spokes stretching along the inner sides of the tires to support the weight of the vehicle. This structure eliminates the fear of punctures. Moreover, the resin used in this technical innovation is recyclable.

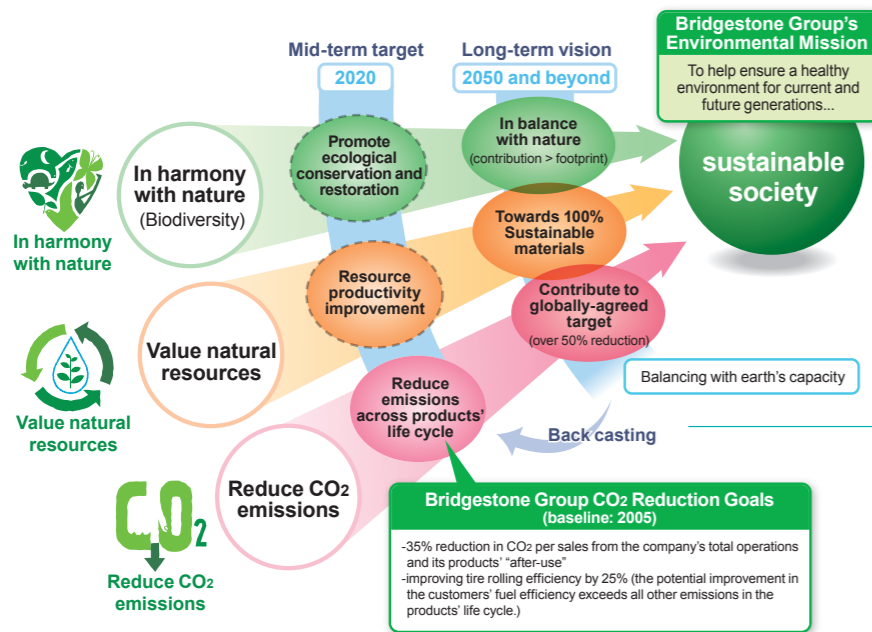
Another technical innovation is Bridgestone's ologic technology that we succeeded in developing in 2013. This new technology features an unprecedented tire design that delivers substantial reductions in rolling resistance. Bridgestone is extremely proud to have been chosen by the BMW Group to develop a range of tires for its revolutionary i3 electric vehicle. Bridgestone has put all its technological and engineering knowhow, and above all passion into developing the Ecopia EP500 ologic tire that translates BMW's vision for a future sustainable mobility. As for Bridgestone's business model innovation, it is evident in the solution-based business we launched to help customers reduce their CO₂ emissions while simultaneously realizing more efficient resource usage by combining new tires, retread tires, and maintenance services.

Advancing initiatives that span the supply chain

In order to be successful in achieving our long-term environmental targets, it is essential that our initiatives span the entire supply chain. It is important that Bridgestone leads the way, encouraging and challenging our business partners and customers to join with us in these important environmental activities. For this reason, in upstream areas of the supply chain, we will develop technologies for improving the productivity of natural rubber and gain the support of small-scale rubber farmers to accomplish our goal of being “in balance with nature.” Also upstream, we are exploring new raw materials for use in our products to move “towards 100% sustainable materials.” Meanwhile, in downstream areas of the supply chain, we are pursuing reductions in CO₂ emissions by encouraging as many customers as possible to use our fuel-efficient tires.

If we are to expand the range of these activities while adding a new dimension of depth, it will be absolutely essential for the global Bridgestone team, consisting of more than 145,000 employees, to share the same conviction. By working together as One Team, One Planet, we will continue to advance Company-wide activities that span the supply chain and progress toward accomplishing our mid-term targets for 2020 and the long-term environmental vision that lies beyond.

Bridgestone Group Long-term Environmental vision



^{*1} A planning method whereby the desired state at a future time is defined, and the actions needed to meet the future targets are planned and executed by working backwards from that future time to the present.

^{*2} “In balance with nature” is our commitment to contribute to biodiversity through habitat enhancement, and through environmental education and research. Our business operations will take into account impacts on the ecosystem as a whole.

^{*3} Water intake volume per production volume and sales are managed by businesses and weighted average of their reduction rates is used as a group index.

^{*4} At the G8 Hokkaido Toyako Summit (held in July 2008) the G8 leaders agreed on a reduction of at least 50% in greenhouse gas emissions worldwide by 2050. The same year, at the Major Economies Meeting on Energy Security and Climate Change, the developed countries plus certain emerging nations such as China, India, etc., adopted this target as a shared global objective.

^{*5} We define “sustainable materials” as materials which are derived from resources with a continual supply, can be used as part of Bridgestone Group's business over the long-term, and have a low environmental and social impact across the whole life cycle.

Looking Ahead to the World in 2050

It is expected that in 2050, the world population will surpass 9 billion*1 and the number of automobiles will increase to 2.4 billion*2. With the increased demand of automobiles, population increase and improved living standards, the world is expected to face significant problems in climate change, resource shortages and biodiversity loss. As a global company, Bridgestone Group is aware of its responsibilities for meeting various needs in the world and assuring the stable supply of high-quality products. While working to fulfill these responsibilities, we aim to contribute to building a sustainable society by balancing our operations with the earth's capacity, in harmony with society and with nature. Based on this philosophy, we have prepared a long-term environmental vision to carry out our activities.

Present

Population: 7 billion*1 (2011)

Total number of automobiles: 900 million*2 (2010)

CO2 emissions: 29 billion tonnes*3 (2000)

Resource consumption: 49 billion tonnes*4 (2000)

The world in 2050

Population: 9.6 billion*1

Total number of automobiles: 2.4 billion*2

CO2 emissions: 75 billion tonnes*3

Resource consumption: 141 billion tonnes*4

Exceeds the earth's capacity

Population increase, economic development

In the case of no action

Resource consumption and environmental footprint will increase

Reduction of resource consumption and environmental footprint

Sustainable society

Decoupling population increase and economic development from environmental footprint (Decoupling)

The importance of decoupling in working toward building a sustainable society

The total number of automobiles worldwide is expected to increase with the global population and economic development in emerging nations. As a result, resource consumption is expected to increase and the global environmental footprint will likely become greater. There is a possibility of exceeding the earth's capacity, through climate change, resource depletion and biodiversity loss. To work toward building a sustainable society, an increased resource consumption and environmental footprint shouldn't be accepted as natural consequences of population increase and economic development, but should be separated. The United Nations Environment Programme (UNEP) refers to this separation as "decoupling."

Striving to create a balance between operations and the environment through technical innovation and business model innovation

The world's leading tire and rubber company

Operations in more than **150 countries**

Bridgestone Group

More than **145,000** employees

More than **3.5 trillion yen** sales

Mission of Bridgestone Group

Serving Society with Superior Quality

The Bridgestone Group's Environmental Mission Statement

Working toward a sustainable society

To help ensure a healthy environment for current and future generations...

Long-term Environmental Vision (for 2050 and beyond)

In balance with nature*5
(Contribution > Footprint)

Towards 100% sustainable materials*6

Contribute to globally-agreed target*7
(Over 50% reduction of CO2 emissions)

*1 World Population Prospects: The 2012 Revision (UN, 2013)
 *2 Projection of World Energy and Transport Demands Mainly in the Automobile Sector (The Institute of Energy Economics, Japan, 2012)
 *3 Based on the scenarios of RCP8.5 of the CLIMATE CHANGE 2013 – The Physical Science Basis – Working Group I Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC (WG1), 2013)
 *4 Decoupling Natural Resource Use and Environmental Impacts from Economic Growth (UNEP, 2011)

*5 "In balance with nature" is the commitment of the Bridgestone Group to contribute to biodiversity through habitat enhancement, environmental education and research. Our business operations will take into account impacts on the ecosystem as a whole.
 *6 The Bridgestone Group defines sustainable materials as materials that
 • are derived from resources with a continual supply
 • can be used as part of the Group's business over the long-term
 • have a low environmental and social impact across the whole life cycle from procurement to disposal.
 *7 At the G8 Hokkaido Toyako Summit (held in July 2008) the G8 leaders agreed on a reduction of at least 50% in greenhouse gas emissions worldwide by 2050. The same year, at the Major Economies Meeting on Energy Security and Climate Change, developed countries and certain emerging nations such as China, India and others, adopted this target as a shared global objective.

Progress of Activities toward Long-term Environmental Vision

Working toward a sustainable society

The Bridgestone Group's Environmental Mission Statement

To help ensure a healthy environment for current and future generations...

Long-term Environmental Vision for 2050 and beyond

In balance with nature*1
(Contribution > Footprint)

Towards 100% sustainable materials*3

Contribute to globally-agreed target*4
(Over 50% reduction of CO2 emissions)

Mid-term Environmental Targets for 2020 (Base year: 2005)

Promote ecological conservation & restoration

Resource productivity improvement

- Reduce CO2 emissions per unit of sales from all lifecycle stages by 35%
- Reduce rolling resistance of tires by 25% and help achieve CO2 reductions (exceeding all other emissions in the product's life cycle)

Major achievements in 2013

- Research into and support for improving natural rubber productivity
- Reduced water intake per unit*2 by 10.7% (compared with 2005)
- Local ecosystem preservation and restoration activities

- Reduced waste production at plants by 2.3% (compared with 2012)
- Development of second-generation "Air-free Concept Tire"
- Groundbreaking of the Biorubber Process Research Center for a new natural rubber resource guayule

- Reduced CO2 emissions per unit sales from lifecycle stages by 27.4% (compared with 2005)
- Reduced rolling resistance of tires by 9.9% (compared with 2005)
- Put into use the new ologic technology that achieves superior levels of fuel efficiency and safety



▶ pages 8-14



▶ pages 15-18



▶ pages 19-22

*1 "In balance with nature" is the commitment of Bridgestone Group to contribute to biodiversity through habitat enhancement, environmental education and research. Our business operations will take into account the Group's impact on the ecosystem as a whole.

*2 Bridgestone manages water intake per production volume and sales for each business unit. A weighted average efficiency of the reduction rate is used as an index.

*3 The Bridgestone Group defines sustainable materials as materials that

- are derived from resources with a continual supply
- can be used as part of the Group's business over the long-term
- have a low environmental and social impact across the whole life cycle from procurement to disposal.

*4 At the G8 Hokkaido Toyako Summit (held in July 2008) the G8 leaders agreed on a reduction of at least 50% in greenhouse gas emissions worldwide by 2050. The same year, at the Major Economies Meeting on Energy Security and Climate Change, the developed countries and certain emerging nations such as China, India and others, adopted this target as a shared global objective.

In Harmony with Nature

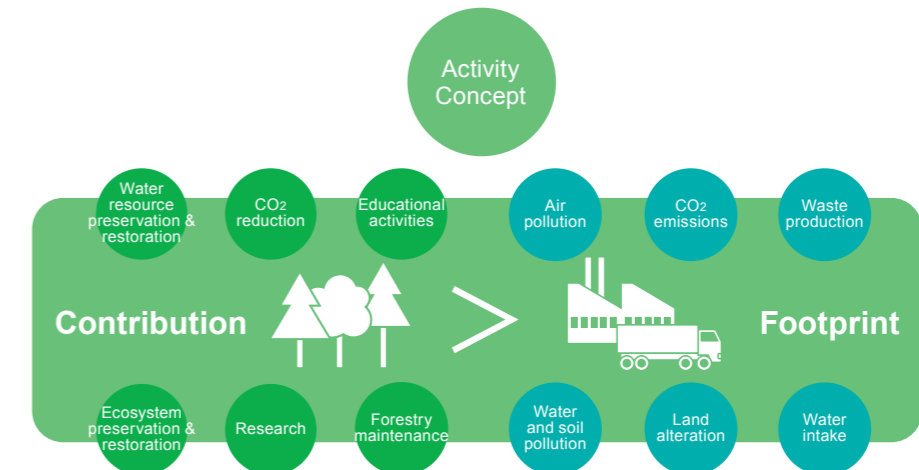
Bridgestone Group's natural rubber farm in Indonesia



In harmony with nature

Long-term Vision (for 2050 and beyond)

In balance with nature
(Contribution > Footprint)



The Bridgestone Group is committed to being "in harmony with nature" in accordance with the long-term vision formulated at the tenth meeting of the Conference of the Parties (COP 10) held in 2010. To accomplish this, we will maintain a constant understanding of the relationship between our business and biodiversity, based on which we will define the priority issues that we must address.

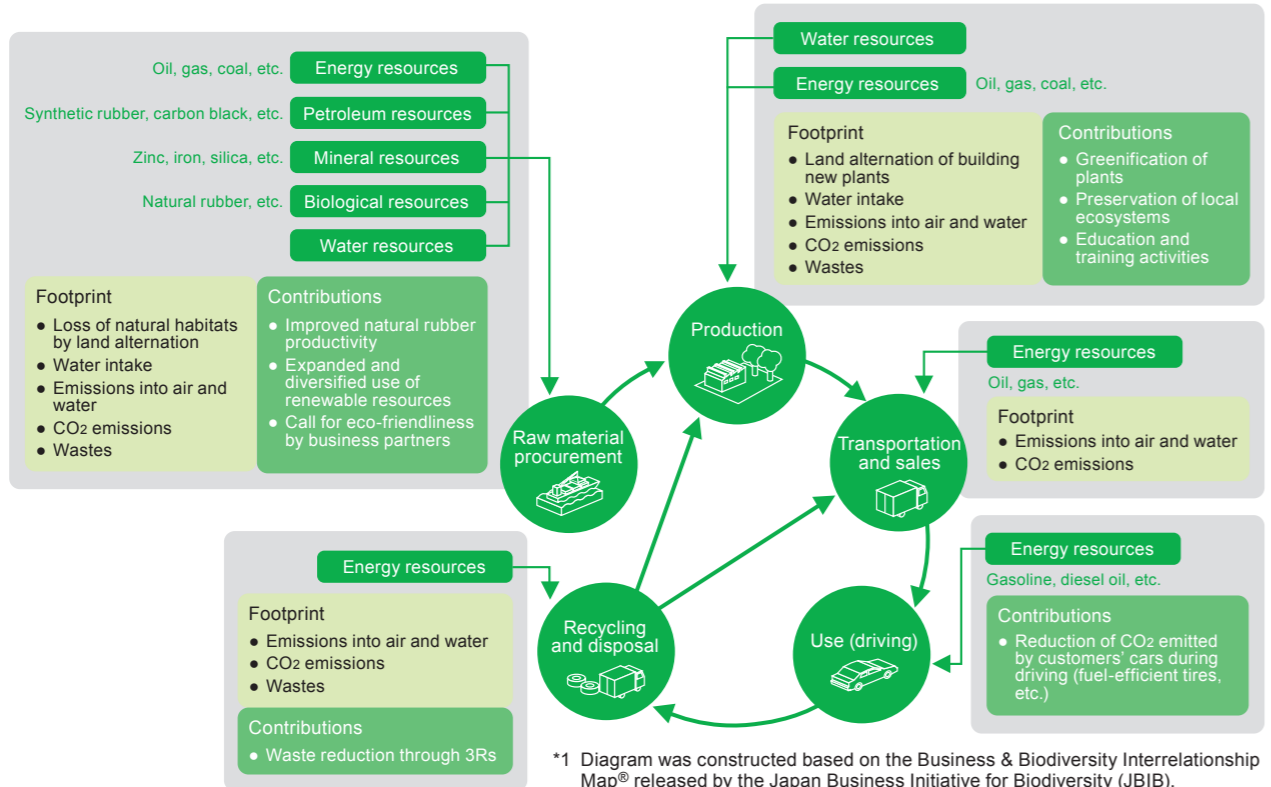
"In balance with nature," the Group's long-term environ-

mental vision for the above-mentioned goal, is our commitment to contribute to biodiversity through habitat enhancement, environmental education and research. Our business operations will take into account the impact on the ecosystem as a whole. The Bridgestone Group is conducting activities targeting "in balance with nature" throughout all business areas.



Framework of Activities

Relationship Between the Bridgestone Group's Tire Operations and Biodiversity*1



Since 2013, the Bridgestone Group has conducted a materiality analysis on the footprint on and contributions to biodiversity made by the Group's operations. This is based on the above interrelationship map in order to define priority

issues. We will improve our activities by taking key actions in relation to these issues in the future, while reviewing the priority issues to meet the changes in social needs.

Priority Issues and Key Actions

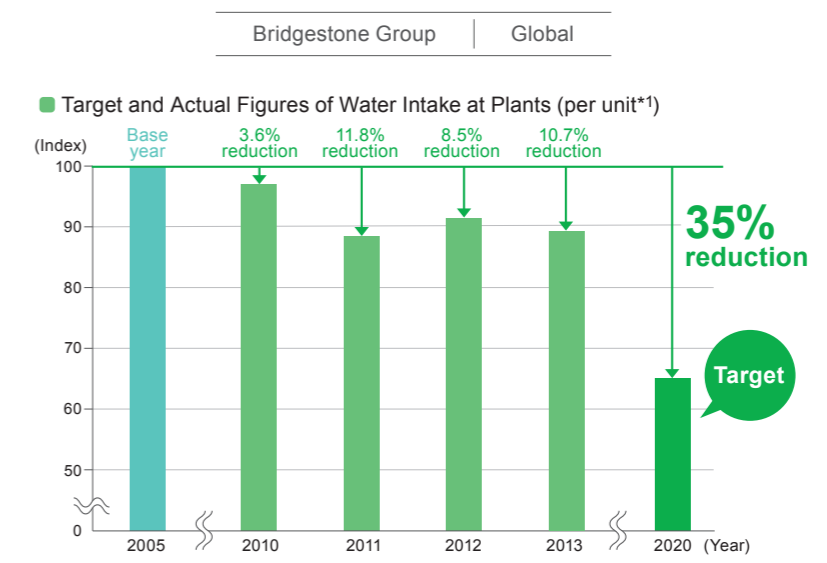
Minimizing footprint

- Reduce impact on land utilization**
 - Consider biodiversity at the time of new factory construction
 - Request that suppliers give consideration to biodiversity
- Reduce impact on water intake**
 - Reduce the amount of water intake in the procurement and production process
- Reduce air and water emissions**
 - Strengthen management of environmental activities at plants
 - Manage the use of chemicals to ensure environmental protection and reduce the amount of volatile organic compounds (VOC)
 - Request that suppliers establish an environmental management system
- Reduce CO₂ emissions from lifecycle stages**
 - Reduce CO₂ emissions from lifecycle stages from procurement to production, distribution and product disposal
- Reduce waste production**
 - Reduce waste production

Enhancing contributions

- Preservation and restoration of habitat areas for wild plants and animals**
 - Local preservation or restoration of ecosystem and water resources throughout the world
 - Education and research activities
- Improvement of natural rubber farm productivity**
 - Contribution to the control of new forest exploitation by developing and promoting technologies to improve the productivity of natural rubber
- Water resource preservation or restoration**
 - Water resource preservation or restoration activities around company sites and through support of water resource-based public organizations
- Reduction of CO₂ emissions (customer use)**
 - Development and sales of fuel-efficient tires
 - Improvement of vehicle fuel efficiency by reducing cars' weight through use of run-flat tires which eliminate spare wheels, and through lighter tires.

Formulation of 2020 Target for Water Intake and Implementation of Reduction Activities



*1 Bridgestone manages water intake per production volume and sales for each business unit. A weighted average efficiency of the reduction rate is used as an index.

As one of the key actions toward minimizing our footprint on biodiversity, the Bridgestone Group is committed to reducing the impact of water intake. Continuous use of water resources is an important issue for the continuing operation of our business. In our production processes, the Group uses water resources as cooling water and steam. We have been working to enhance the efficiency of water use through the cyclic use of cooling water, improvement of production processes and the recycling of water. In an effort to accelerate these activities, we have developed our 2020 targets for the reduction of water intake

at plants in 2014. Individual targets for each business were set by taking into account local situations and characteristics of each business. We have set the target of reducing water intake at 35% (per unit of production) by 2020 throughout the Group, based on 2005 levels.

The Group has implemented water management and promoted efficient use and recycling of water in our locations worldwide. As a result, we reduced water intake by 10.7% per unit in 2013 as compared with 2005. We will continue to contribute to the efficient use of water.

Examples of Initiatives

Introducing closed drainage at plant

The Kitakyushu Plant recycles discharged water from manufacturing process by building a closed drainage system. Also the plant introduces a real-time water monitoring system to manage water intake and recycle volume.



Water recycling system at Kitakyushu Plant

Utilizing Rainwater

Rainwater is utilized in some plants of the Bridgestone Group. At these plants, rainwater is collected and used for operations or watering plants within the site.



Rainwater collection pond at Bridgestone Carbon Black (Thailand) Co., Ltd. (BSCB)

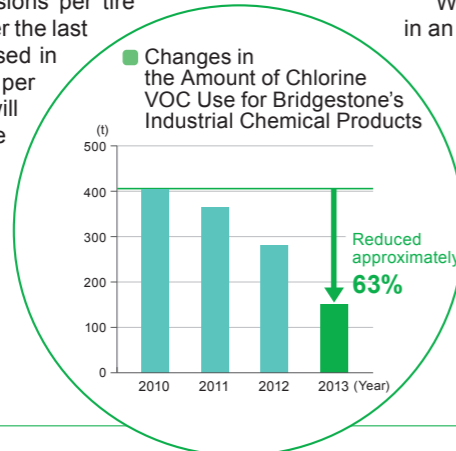
Examples of Initiatives

Minimizing footprint ②
Improved Reduction of VOC in Manufacturing Processes

Bridgestone Group | Global

Regarding the environmental footprint of volatile organic compounds (VOC), the Bridgestone Group is working to replace VOCs with alternative materials and continuing to reduce the amount of VOC use.

For example, between 2010 and 2013, we achieved a significant reduction of approximately 63% in the chemical and industrial manufacturing operations of Bridgestone Corporation. The Group also is conducting VOC reduction activities in Europe to meet or exceed the laws and regulations of each country. Bridgestone Europe NV/SA (BSEU) has reduced VOC emissions per tire weight by nearly 25% over the last 10 years. The amount used in 2013 was less than 2 kg per 1 tonne of tires. We will continue to reduce the amount of VOC use on a global basis.



Minimizing footprint ③
Reduced SOx and NOx Emissions into the Air through Fuel Conversion

Bridgestone | Japan

Bridgestone is working to reduce emissions of sulfur oxides (SOx) and nitrogen oxides (NOx) at our plants by converting heavy fuel oil to natural gas. In 2013, we reduced the total SOx emissions by 59% and the total NOx emissions by 81% as compared to 2005. Fuel conversion is proactively promoted in the Group companies. Heavy fuel oil was replaced by natural gas in 2013 in the Chitose Plant of Bridgestone BRM Corporation, which manufactures retread tires, as well as in the Cuernavaca plant in Mexico which makes passenger tires.

We will continue to proactively promote fuel conversion in an effort to reduce the Group's environmental impact.



Natural gas tank in Bridgestone Iwata Plant

Examples of Initiatives

Enhancing contributions ②
Biodiversity Preservation Activities through the W-BRIDGE Project

W-BRIDGE | Tanzania

One of the projects supported by W-BRIDGE*1 is Sustainable Measure against Crop Damage by African Elephants, which is conducted by Waseda University (Japan), SEDEREC (Tanzanian NGO)*2, and Ecommunity-Tanzania project (WAVOC)*3.

In recent years, crop damage by African elephants has been a problem throughout Africa. Generally, prevention efforts include use of electric fences or driving elephants away by car. However, local residents are struggling with the high costs of controlling damage. This research project aims to establish a sustainable measure that is low in cost and environmental impact. Specifically, based on a survey of the situation, beehives are placed around Serengeti National Park in Tanzania to drive African elephants away. From this project, honey was produced as a byproduct, and it is expected that local residents can continue these activities.

The project will monitor the effect of placing beehives and improve the system in a continuous manner. Bridgestone contributes to biodiversity preservation through support for these research activities.

*1 Waseda-Bridgestone Initiative for Development of Global Environment: A joint industry-academia project of Bridgestone with Waseda University designed to contribute to environmental conservation

*2 Serengeti Development, Research and Environmental Conservation Centre

*3 The Hirayama Ikuo Volunteer Center, Waseda University



Sustainable measure against crop damage by African elephants in Tanzania

Enhancing contributions ①
Expanded ECOPIA's Forest Project Activities to Protect Forests in Japan Together with Customers

Bridgestone | Japan

As one of the activities to preserve and restore the environment in Japan, Bridgestone implements the ECOPIA's Forest project in areas near our plants, contributing to forest improvement by thinning, etc. Together with our customers, part of the sales of fuel-efficient ECOPIA tires are used to fund forest improvement to protect forests in Japan.



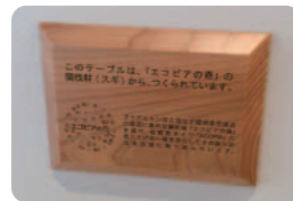
Opening ceremony of ECOPIA's Forest Seki

Specifically, Bridgestone makes contributions to forest improvement activities conducted by experts from local forest owners' cooperatives, and Bridgestone employees participate in these activities as volunteers. Additionally, we hold events in which our employees, local residents and customers can be in close contact with nature.

In 2013, the 9th ECOPIA's Forest, ECOPIA's Forest Seki, opened in Seki City, Gifu Prefecture. Lumber from managing ECOPIA's Forest Kumamoto in Yamaga is used for parts of tables and ceilings in the canteen of the Bridgestone Headquarters that relocated in December 2013.



Items made of lumber from managing ECOPIA's Forest in the Bridgestone Headquarters canteen



Enhancing contributions ③
Social Forestry Support Activities around Natural Rubber Farm

BSKP/W-BRIDGE | Indonesia

There are devastated national forests caused by forest fire, etc. around the rubber farms of the P.T. Bridgestone Kalimantan Plantation (BSKP) in South Kalimantan, Indonesia. Support activities by W-BRIDGE, Waseda University and Japan International Forestry Promotion and Cooperation Center (JIFPRO) have included conducting a joint project using the residents' forestry system since 2012 in cooperation with BSKP, Lambung Mangkurat University and the Forestry Department of Tanah Laut Regency. In this project, local residents develop land for Para rubber trees and plant durian and local species of trees in the surrounding forests in order to reforest these areas with biodiversity preservation in mind. It is anticipated that developing forests that have significant economic value for local communities will encourage members of the communities to continue caring for them over the long term.

BSKP aims to conduct activities that provide advantages to the Indonesian government and area communities by supporting this project through technical assistance for the cultivation of Para rubber trees, providing training, and contribution of healthy young trees.



Plantation of Para rubber trees

Enhancing contributions ④
Implementation of Biodiversity Preservation Project with Environmental NGO

BSCN | China

"Qinghai Jiuzhi Biodiversity Conservation Project" commenced in 2011 by Bridgestone (China) Investment Co., Ltd. (BSCN) and an environmental NGO in China with the view to biodiversity preservation. The project aims to preserve biodiversity and develop sustainable communities in ecological areas in Jiuzhi, Qinghai Province through the following three activities: 1) "protection of endangered faunas," 2) "development of science and research practice base" and 3) "construction of village photo shooting training station."



Qinghai Jiuzhi Biodiversity Conservation Project

Interview

Enhancing Contributions to Biodiversity

Work toward being “In balance with nature*1” through the improvement of natural rubber productivity

We pursue a net positive state that fosters the sustainable growth of our business while being in balance with nature.

Dr. Adachi: Natural rubber is an indispensable biological resource for Bridgestone’s business. How do you see the resource in terms of biodiversity?

Nakashima: Natural rubber is a renewable resource that can be produced from a plant called the Para rubber tree. Unlike synthetic rubber from petroleum, rubber from a Para rubber tree can be a sustainable resource. However, indiscriminate expansion of Para rubber tree farms is undesirable as tire demand is expected to rise. Bridgestone Group is conducting activities with the aim of controlling the expansion of land use that affects biodiversity and keeping a balance between measures for the growing demand for tires and being in balance with nature through the improvement of productivity in rubber farms – yields per unit area (production volumes of natural rubber).

Specifically, we conduct activities to prevent declines and encourage increases in production volumes of natural rubber. First, activities to prevent declines in production volumes involve the protection of the Para rubber tree from diseases. In Southeast Asia, the Para rubber tree currently is suffering from the spread of white root disease. This is affecting the production volumes of natural rubber. In Indonesia, damage accounts for multi-billion yen per year, and it is said that the damage as a percentage of production volumes is approximately 6%.

Dr. Adachi: If the disease spreads, new Para rubber farms need to be developed. This requires forest development and thus affects biodiversity.

Watanabe: Between fiscal 2010 and 2011, as a research collaboration project with the New Energy and Industrial Technology Development Organization (NEDO), Bridgestone has developed a technology to diagnose diseases at an early stage. As a result, we have developed four diagnosis technologies, which include the following:

- diagnosis by satellite image analysis developed from remote sensing technology
- diagnosis by measuring optical spectrum and temperature of leaf surface
- diagnosis by component analysis of latex*2
- detection of pathogens at a DNA level

Optimizing the four developed technologies and putting them into use will enable us to detect disease of Para rubber trees at an early stage and grasp the expansion state of diseases. These research results have been publicized in several international conferences.

Dr. Adachi: So you are first trying to prevent falls in natural rubber productivity throughout Indonesia by developing technologies to diagnose white root disease that is highly urgent. I think this is a great project, which only became successful because Bridgestone connected Japan and Indonesia. What are the activities to encourage increases?

Watanabe: We are working on a project that increases production volumes of natural rubber. Finding good cultivars that produce a large volume of natural rubber and selectively grow them would make it possible. In June 2012, we conducted genomic analysis of the Para rubber tree and successfully decoded complete genome base sequences in the chromosomes of good cultivars. In the future, if cultivars that are strong against dryness or disease are found, we will selectively breed them so that they can be cultivated in a land that was previously inappropriate for cultivation.

Dr. Adachi: Improving productivity of natural rubber is important, and decoding complete genome sequences of the Para rubber tree will equally contribute to biology to a great extent. I think this project will significantly contribute to the whole of natural science and mankind.

Workshop for small-scale natural rubber farmers



Improving productivity in the whole region and making progress together with local communities

Nakashima: Throughout Indonesia, natural rubber is produced mostly by small-scale farmers, and there are many concerns in terms of productivity. For example, domestic yield per unit area is said to be about half that from all farms of the Bridgestone Group. With increased yields, the area of development necessary for rubber planting can be reduced, thus reducing the associated ecological impacts.

One of the factors causing stagnant productivity is a problem in the tapping process that incises the trunk of Para rubber trees to collect sap. Because small-scale farmers can’t afford to buy adequate tools and have little technical knowledge and know-how, it is difficult to collect latex in an efficient manner.

Dr. Adachi: Not only the productivity of the Para rubber tree itself, but technical know-how for rubber tapping affects the productivity and quality of natural rubber. Does Bridgestone provide any specific support for these small-scale farmers?

Watanabe: We provide young trees with high productivity which are cultivated in our farms, and also tools for tapping. We also support them by holding tapping workshops.

Dr. Adachi: Bridgestone is trying to improve productivity in the whole region and maximize contributions to biodiversity. You have a strong sense of responsibility in order to preserve biodiversity while demands for natural rubber are rising. I was deeply impressed by your proactive activities in various fields and sharing of the achievements in the region based on the responsibility. These activities are vital for Bridgestone as part of CSR activities and for the growth and sustainability of the business. I hope your future activities will be of great success.

*1 “In balance with nature” is our commitment to contribute to biodiversity through habitat enhancement, through environmental education and research. Our business operations will take into account the impact on the ecosystem as a whole.

*2 White milky sap taken from Para rubber trees, etc. (raw material of natural rubber).

Departments and position titles written in this article are those as of April 2014.

Dr. Naoki Adachi

CEO, Response Ability, Inc.
Executive Director, Japan Business Initiative for Biodiversity (JBIB)

Norie Watanabe

Manager, Research Department IV, Central Research Division, Bridgestone Corporation

Yusuke Nakashima

Strategic Environmental Planning Unit, Environmental Planning and Promotion Department, Bridgestone Corporation



(Above) Scions of Para rubber tree in Bridgestone farms in Indonesia
(Bottom) Diagnosing white root disease of Para rubber tree

Value Natural Resources



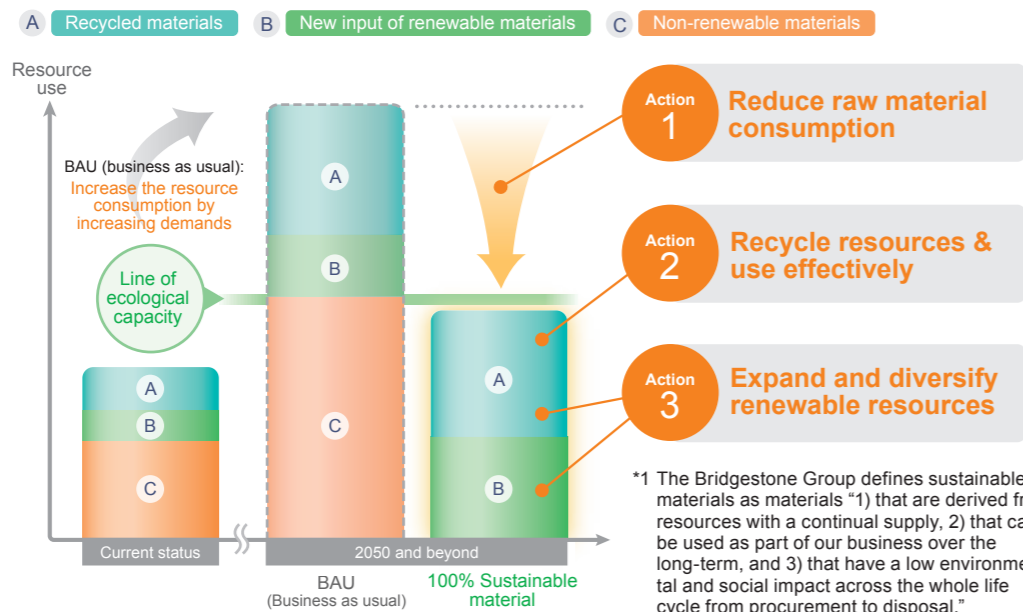
Value natural resources

"Guayule" research farm of the Bridgestone Americas Tire Operations, LLC, Arizona, USA

Long-term Vision (for 2050 and beyond)

Towards 100% sustainable materials*1

Activity Concept



It is expected that an increase in population and the number of automobiles will boost tire demand in the future. The Bridgestone Group's goal is to implement business operations in balance with the planet's ecological capacity. As

necessary activities to achieve this, we are committed to take the following three actions: 1) reducing raw material consumption, 2) recycling resources and using effectively, and 3) shifting to renewable input resources.

Main Technologies and Products Towards 100% Sustainable Materials

Half weight technology
Technology to reduce the volume of raw material use by half, keeping original durability and safety.

Run-flat Technology
Spare tires are unnecessary with this technology as tires can operate at a set speed over a determined distance even after a puncture.

Longer operating life with improved durability
Truck and bus tires "M800" series are designed to maintain a high durability in casing and can be retread twice.

Retread technology
Recycle used tires by retreading, or applying new rubber to replace the worn tread part of used tires.

Recycled rubber
Use recycled rubber for rubber products such as tires, while ensuring safety and quality.

Cutting-edge RRR*1 structure for aircraft tires
New belt structure using fibers with high elasticity and strength offers higher safety compared to the existing structure. It also contributed to a reduction in the weight of tires by 7 to 10%.

Research and development of guayule, a new natural rubber resource
Bridgestone is performing research that explores extracting natural rubber from the guayule shrub, which is grown in arid regions, to use as a raw material of tires. Bridgestone Americas Tire Operations, LLC (BATO) holds 114 hectares (280 acres) of farmland in Eloy, Arizona, USA. On that land, a research farm for cultivation research of guayule was established and put into operation in September 2013. A groundbreaking ceremony for the Biorubber Process Research Center was held in May 2013 in Mesa City, Arizona. The construction of the processing research center is expected to be completed by the end of 2014. A test production of natural rubber for use in passenger tires is scheduled to start in 2015.

Development of a new kind of cellulose fiber
This fiber can be produced from general-grade pulps and the production volume is expected to increase significantly.

Improve productivity of Para rubber tree
Prevent a decline in productivity by developing a disease diagnosis technology for the Para rubber tree and provide small-scale farmers with technical support to increase productivity.

Towards 100% sustainable materials

Action 1
Reduce raw material consumption

Action 2
Recycle resources and use effectively

Action 3
Increase and diversify renewable resources

Concept Tire of 100% Sustainable Materials

Bridgestone is diversifying the regions where it produces natural rubber and also expanding the range of reinforced plant fibers it uses in order to secure renewable resources used in raw materials. Synthetic rubber and carbon black generally made from finite resources were instead synthesized from renewable materials. The concept tire is being developed from these sustainable raw materials.

"Air free Concept (Non-Pneumatic) Tire"
With a unique structure of spokes stretching along the inner sides of the tires supporting the weight of the vehicle, there is no need to periodically refill the tires with air, meaning that the tires require less maintenance. At the same time the worry of punctures is eliminated. In addition, the spoke structure is made from thermoplastic resin*2 and, along with the rubber in the tread portion, the materials used in the tires are recyclable, contributing to the efficient use of resources. Further, by pursuing extremely low rolling resistance and contributing to reductions in CO2 emissions through use of proprietary technologies, Bridgestone believes it is possible to achieve even higher levels of environmental friendliness and safety. In 2013, we released the second-generation "Air free Concept Tire" with higher functionality*3.

*2 A synthetic resin that becomes flexible when heated, can be processed into a variety of shapes, and becomes hard when cooled.
*3 The tire can be installed on ultralight vehicles with about four times more weight and ten times maximum speed, compared to electric cart wearing the first-generation "Air Free Concept Tire."

Concept of Sustainable Materials

The Bridgestone Group believes that sustainable materials are not simply renewable resources. In order to continue our operations in a sustainable manner, we define raw materials that meet the following viewpoints as "sustainable materials."

- Derived from resources with a continual supply
- Can be used as part of the Group's business over the long-term
- Have a low environmental and social impact across the whole life cycle from procurement to disposal

Promotion of Activities in Our Operations

The Bridgestone Group is committed to “value natural resources” through the efficient use of resources on the planet throughout the whole life cycle of products, from raw material procurement to disposal and recycling. In particu-

lar, important activities include reducing waste production, promotion of zero waste to landfill status and the 3Rs (reduce, reuse, recycle). The Group is working toward the development of a society that actively recycles.

■ Bridgestone's activities to “Value natural resources”



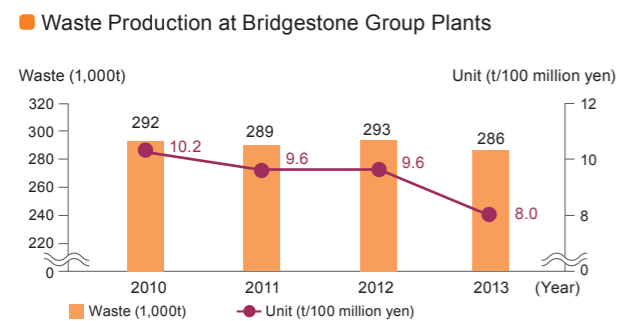
Examples of Initiatives

Reducing Waste

Reduced Waste Production at Plants by 2.3%

Bridgestone Group | Global

At its various plants, the Bridgestone Group is working to reduce the volume of waste produced during manufacturing processes and lower the amount of defective products created through comprehensive quality management. It also is committed to recycling waste, either within the Company or at other organizations. As a result of these efforts, we were able to reduce the volume of waste produced in 2013 by 286,000 tonnes, representing a year-on-year reduction of 2.3% and of 16.8% per sales from 2012. The 87.3 % rate of recycling reflects an increase of 0.3% from 2012. Going forward, we will continue to reduce waste production volumes and recycling rates to contribute to the development of a society that actively recycles.



Reducing Waste

A Tire Plant in the U.S.A Has Acquired a Third-party Certificate

BSAM | U.S.

The Bridgestone Americas Inc. (BSAM), Wilson, North Carolina, USA passenger and light truck tire manufacturing plant achieved Underwriters Laboratories' (UL) claim validation for Zero Waste to Landfill in December 2013. Zero Waste to Landfill is the highest claim validation UL gives for landfill waste diversion, and the Bridgestone Americas Wilson tire plant is the first facility of any kind to receive this prestigious designation. Since increasing the focus on recycling in 2006, recycling by the Bridgestone Americas tire plants has progressed from nearly half of all waste going to landfills to less than 15 percent overall today. The Bridgestone Americas Aiken passenger tire plant also achieved zero waste to landfill, reaching that milestone in December 2012.

Plants of all Bridgestone Group companies in Japan and four tire plants in China also have achieved zero waste to landfill status. We will continue to encourage all of our Group companies to recycle and reduce waste production volumes.

Staff of Wilson Plant which acquired a certificate for zero waste to landfill status



Examples of Initiatives

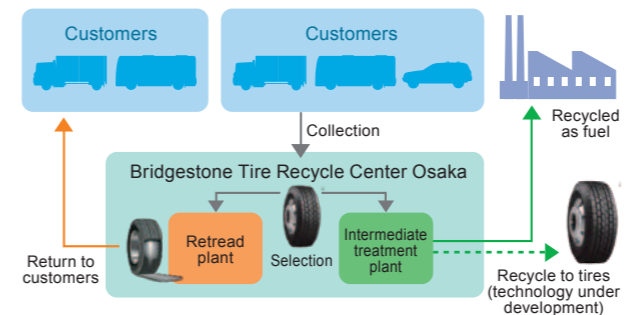
Recycling Used Tires

“Bridgestone Tire Recycle Center Osaka” Was Established with the Aim of Reusing and Recycling All Used Tires

BTJ | Japan

In July 2013, Bridgestone Tire Japan Co., LTD. (BTJ) established Bridgestone Tire Recycle Center Osaka, which integrates a retread tire*1 manufacturing plant and an intermediate used tire treatment*2 plant. The center combines functions of a retread tire manufacturing plant and an intermediate used tire treatment plant, and it enables collection*3 of customers' used tires, and reusing and recycling of all the collected tires. We will work to use resources in a more efficient way.

*1 Tires that are reused by replacing tread rubber
 *2 Crushing of waste tires that cannot be re-tread
 *3 Collection areas are: whole of Osaka Prefecture and parts of Kyoto, Hyogo and Wakayama Prefectures



Recycling Used Tires

Initiative to Recycle 100% of Used Products

BSAM | U.S.

Bridgestone Americas, Inc. (BSAM) launched the Tires4ward program, which is an initiative founded on the vision of creating a waste-free tire industry. Tires4ward aims to ensure that for every tire Bridgestone America sells in the U.S., one spent tire, a tire that has been taken out of use, goes to another valuable purpose. At the end of 2012, Bridgestone Americas set a new standard, repurposing 100% of all spent tires collected at its company-owned retail stores and keeping 10 million tires out of landfills annually. Valuable next uses for spent tires include use as materials in rubberized asphalt, rubberized playground equipment, construction materials, landscaping mulch or as tire-derived fuel for valuable energy. Through the Tires4ward program, Bridgestone Americas also supports volunteer organizations to help ensure that tires collected in organized community clean-up events of public spaces, rivers and waterways are sent to a valuable next use.

Supporting activities to collect dumped tires



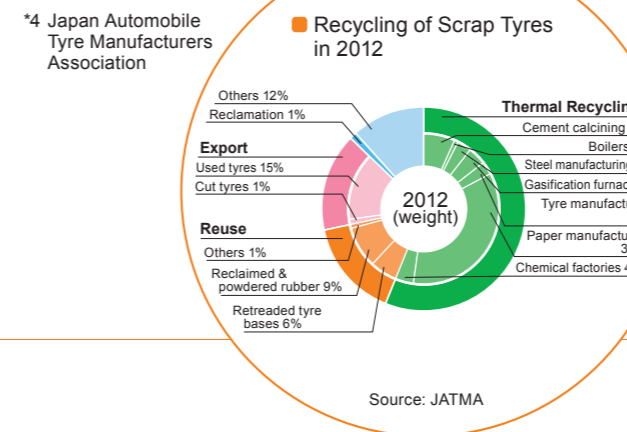
Recycling Used Tires

Recycling of Used Tires in Japan

Bridgestone | Japan

JATMA*4 and many others in the tire industry are working toward reducing (controlling the emergence of used tires) and recycling used tires, which is vital for the development of a society that recycles. More specifically, they implement monitoring of reduction factors focusing on making tires lighter and lasting longer, monitoring of tire recycling status and measures against illegal accumulation and dumping of waste tires. According to a JATMA survey, the 2012 recycling rate of used tires in Japan was 87%. Bridgestone contributes to reducing the environmental impact of used tires in Japan through joint activities with JATMA.

*4 Japan Automobile Tyre Manufacturers Association



Recycling Used Tires

Activities to Reduce Environmental Impact of Used Tires through WBCSD

Bridgestone Group | Global

It is projected*5 that approximately one billion used tires emerge worldwide each year. Reducing the environmental impact of used tires is a common issue of the tire industry. Bridgestone has been involved in the Tyre Industry Project of the World Business Council for Sustainable Development (WBCSD), which was established in 2006. As a leading tire and rubber company, Bridgestone has worked toward building a sustainable society in cooperation with other companies in the industry. This project aims to develop an effective management system for used tires by encouraging governments and related industries in various countries to appropriately manage used tires and reduce environmental impact through the publication of “End-of-Life Tires: A Framework for Effective ELT Management Systems” and disclosure of survey results.

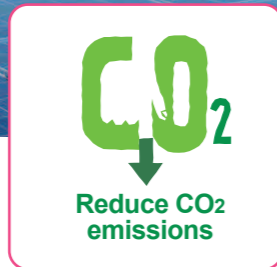
*5 WBCSD Tyre Industry Project

Report on WBCSD's project



Reduce CO2 Emissions

Solar power generation panels installed on the roof of Bridgestone Saga Plant



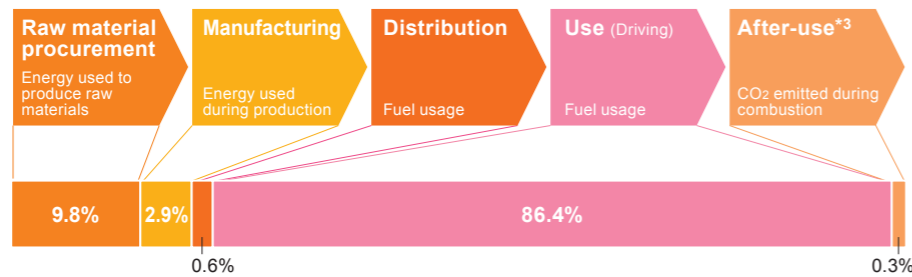
Reduce CO2 emissions

Long-term Vision
(for 2050 and beyond)

Contribute to the globally-agreed target*1
(over 50% reduction of CO2 emissions)

Activity Concept

Greenhouse Gas Emissions by Tire Lifecycle Stage (Converted to CO2 Base)*2



As a supplier to the automotive industry, the Bridgestone Group is paying close attention to the impact of CO2 emissions. Based on the projections of IPCC*4 and other internationally recognized agencies, the Group has established a goal to reduce CO2 emissions in our business operations.

The lifecycle stage of tires that accounts for the largest volume of CO2 emissions is during usage, from automobile

exhaust emissions. A key way to reduce CO2 emissions from automobile exhaust is by increasing fuel efficiency. Based on this assessment, we recognize that reducing tire rolling resistance can enable significant reductions in CO2 emissions from automobile exhaust worldwide.

We are working to reduce CO2 emissions in every lifecycle stage of tires, including usage.

*1 At the G8 Hokkaido Toyako Summit (held in July 2008) the G8 leaders agreed on a reduction of at least 50% in greenhouse gas emissions worldwide by 2050. The same year, at the Major Economies Meeting On Energy Security and Climate Change, the developed countries, along with emerging nations including China, India and others, adopted this target as a shared global objective.

*2 Greenhouse gas emissions throughout the lifecycle of 1 fuel-efficient passenger car tire (195/65R15): 243.9kgCO2e

*3 Greenhouse gas emissions from after-use stage: 13.1kgCO2e (emissions reductions: 12.5kgCO2e)

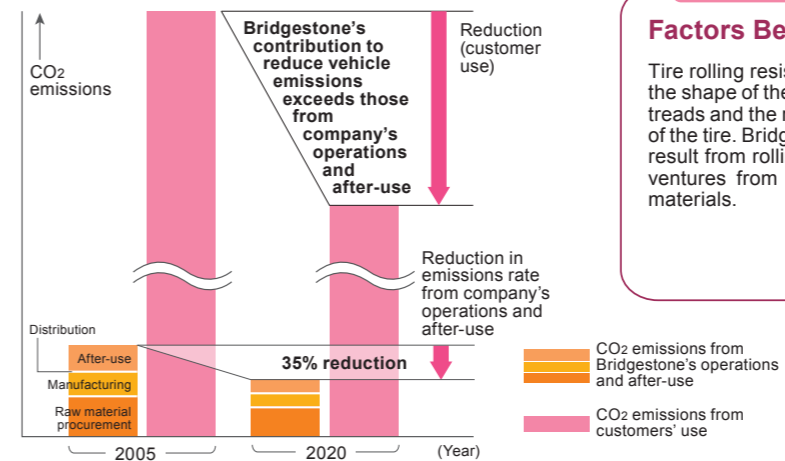
(Source: Tire LCCO2 Calculation Guidelines Ver. 2.0, 2012, Japan Automobile Tyre Manufacturers Association)

*4 Intergovernmental Panel on Climate Change

Mid-Term Target
(2020)

- 35% reduction in CO2 per sales from the company's total operations (raw material and component procurement, manufacturing and logistics) and also its products' "after-use." (Compared to 2005)
- Improve tire rolling efficiency by 25%, and the potential reduction in CO2 emissions from helping improve the customers' fuel efficiency exceeds the emissions related to Bridgestone's operations and its products' after-use. (Compared to 2005)

Mid-Term Target for Reducing CO2 Emissions



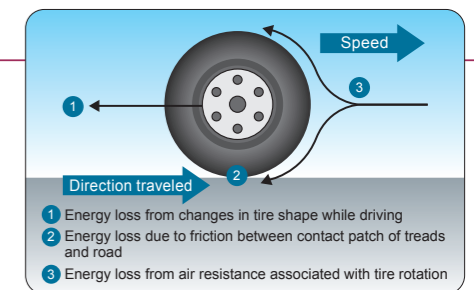
* Calculation methods can be found on the Company's homepage.
* The Company's ability to control CO2 emissions from disposal is limited, but we are working to reduce emissions by making products lighter and promoting usage of retread tires.

Column

Factors Behind Rolling Resistance

Tire rolling resistance is primarily caused by three factors: changes in the shape of the tire while driving, friction between the contact patch of treads and the road, and the air resistance associated with the rotation of the tire. Bridgestone is committed to reducing the energy losses that result from rolling resistance. To this end, we are advancing tire R&D ventures from the perspectives of structure and shape as well as materials.

Composing Elements of Rolling Resistance



2013 Performance

- CO2 Emissions from Lifecycle Stages: 27.4% Reduction (Compared to 2005, Per Unit of Sales)
- Fuel Efficiency-Influencing Tire Rolling Efficiency: 9.9% Improvement (Compared to 2005)

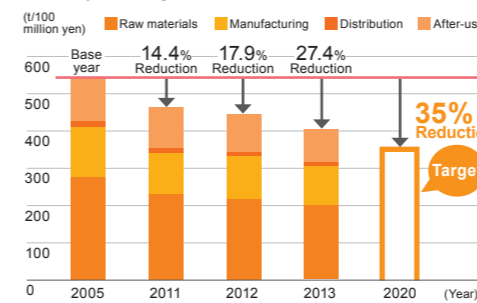
The Bridgestone Group has set the goal of reducing CO2 emissions per unit of sales from tire lifecycle stages other than use by 35% of 2005 levels before 2020. As of 2013, Bridgestone Group achieved a reduction of 27.4%. Our CO2 emission reduction efforts undergo review by third-party organizations, which issue statements based on these reviews, thereby ensuring the transparency of discloses. (see page 27)

Likewise, the Bridgestone Group is targeting a 25% improvement in tire rolling efficiency based on 2005 levels,

and this goal is set to be accomplished by 2020. As of 2013, we achieved a improvement of 9.9%. Improving rolling efficiency while maintaining safety is a difficult task that requires sophisticated technologies. Bridgestone's proprietary "NanoPro-Tech"*1 technology enables such improvements, and we are helping reduce the volume of CO2 emitted by customers when they drive by selling fuel-efficient tires that use this technology around the world.

*1 The NanoPro-Tech is an ultrafine technology that allows engineers to analyze and control the molecular structure of rubber at the nano-scale level.

CO2 Emissions Per Unit of Sales from Lifecycle Stages Other Than Use*2



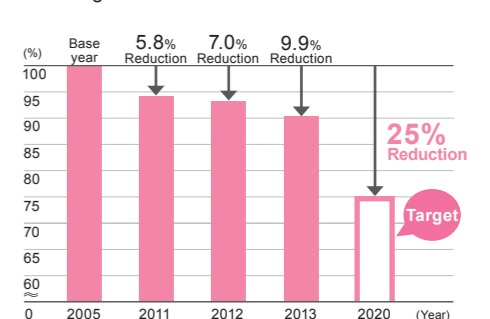
*2 Includes CO2 emissions reduction activities and exchange rate fluctuations of sales.

CO2 Emission Reduction Rates by Lifecycle Stage (2013)

After-use	reduced by around 25%
Distribution	reduced by around 24%
Manufacturing	reduced by around 25%
Raw materials	reduced by around 30%

* Rates of reductions in CO2 emissions per unit of sales in comparison to 2005

Rolling Resistance of Tires



1 CO2 Reductions in Lifecycle Stages

Manufacturing

Conducting Energy Surveys to Make Wasted Energy Transparent and Improved

Bridgestone | Global

In order to reduce CO2 emissions while manufacturing to the volume that meets expanding demands, it is necessary to reduce energy usage by a greater amount year over year. Since 2009, Bridgestone's technical centers have been taking the lead to conduct Energy Surveys, to quantify wasted energy at plant facilities, expand awareness and identify areas for improvement. The Energy Surveys were conducted in 22 locations in 6 countries over a period of 5 years. We continually develop the capacity and competence of our personnel to recognize energy-saving opportunities and undertake activities to continually improve. Those who demonstrate proficiency in such criteria may earn the distinctive role of "energy diagnosis technician." We have assigned an "energy diagnosis technician" in every Bridgestone tire plant in Japan and will continue to increase their numbers throughout Asia, the Americas and Europe.



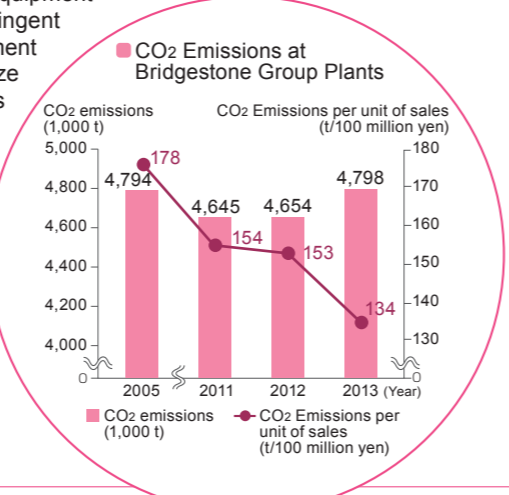
Energy Surveys in a tire plant in Thailand

Manufacturing

Reduced CO2 Emissions at Plants by 25% (Compared with 2005, per unit of sales)

Bridgestone | Global

The Bridgestone Group is working to reduce CO2 emissions from its facilities by using energy more efficiently, and switching to alternate forms of energy that result in lower emissions. As a result of these efforts, CO2 emissions in 2013 per unit of sales were 25% lower than in 2005. Going forward, we are working to introduce more energy-efficient equipment and implement stringent energy management measures to realize further reductions in CO2 emissions.



General

Bridgestone China Receives the China Low Carbon Model Award for FY2013

BSCN | China

Bridgestone (China) Investment Co., Ltd. (BSCN) has been awarded the China Low Carbon Model for FY2013*1 for its continued environmental efforts. BSCN is proactively conducting activities toward building a low-carbon society, including CO2 emissions reduction (reduced 16% per production volume in 2012 compared with 2005) in four tire plants and contribution to automobile fuel efficiency through the expansion of sales of fuel-efficient ECOPIA tires within China. BSCN received this award for the second consecutive year, and this achievement is considered to be the result of its continuous efforts.

*1 Hosted by Economy Observation Report, an influential magazine in China which features excellent companies based on their achievements and abilities in low-carbon area and environmental preservation.



Awarding ceremony of the China Low Carbon Model Award for FY2013

Logistics

CO2 Emission Reduction in Logistics Receives the Lean and Green Award 2013

BSLE | Belgium

Bridgestone Logistics Europe NV (BSLE), located in Belgium, reduced 20% of CO2 emissions in the three years from 2010 by shifting transport modes (from truck to rail or ship for example), establishment of strategic logistics centers and revising of transport routes. These activities have earned recognition and were given the Lean and Green Award 2013 by the Flanders Institute for Logistics (Vlaams Instituut voor de Logistiek). BSLE is planning to install wind-power generation facilities to reduce more CO2 emissions in the future.



Awards ceremony of the Lean and Green Award 2013

2 CO2 Reductions through Improving Tire Rolling Efficiency

Technology Development

New Technology "ologic" that Achieves Both Fuel Efficiency and Safety at a High Level Has Received "Tire Technology of the Year"*

Bridgestone | Global

The "ologic" technology capitalizes on the synergies of a large diameter coupled with a narrow tread design. While the tread on smaller diameter tires is typically inclined to excessive movement or "deformation" during driving, the larger diameter and higher belt tension significantly reduce tire deformation and therefore conserve energy that is otherwise lost through internal friction which helps to reduce rolling resistance. By the same token, the narrow tread concept improves aerodynamics. The most spectacular achievement, however is that these improvements do not involve a trade-off in terms of safety.

Bridgestone "ologic" technology has been voted "Tire Technology of the Year" in the Tire Technology International Awards for Innovation and Excellence 2014. Bridgestone has developed its ologic technology for BMW's revolutionary i3 electric vehicle, aiming for a future with sustainable mobility.

*1 Tire Technology International Awards for Innovation and Excellence is organized in association with Tire Technology International magazine, one of the world's most well-known publications dedicated to tire technology, design and manufacturing. Awards are given in five categories, with the winners selected by a panel of independent judges comprising internationally-renowned industry experts.



New Technology "ologic" that Achieves Both Fuel Efficiency and Safety at a High Level Has Received "Tire Technology of the Year"

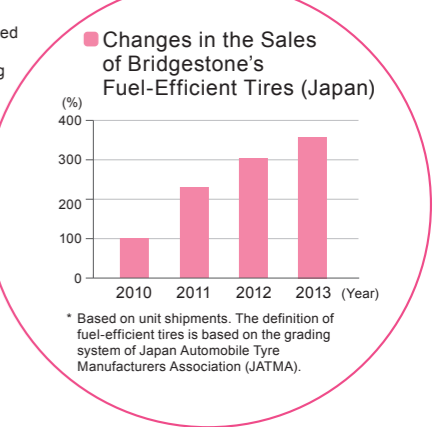
Product Sales

Fuel-efficient ECOPIA Tires Increased Sales and Acquired No.1 Installation Rate in Japan

Bridgestone | Japan

A survey in 2013 revealed that Bridgestone's ECOPIA tires are "fuel-efficient tires selected by the largest number of people in Japan*2." ECOPIA tires contribute to the improvement of automobile fuel efficiency through reduced tire rolling resistance. More people are using the tires since common voluntary standards in the industry were formulated in 2010. As a leading company in the industry, Bridgestone has worked on the development of reduced rolling resistance tire technology for decades, following the principles that we improve fuel efficiency without sacrificing safety and tread life performance. As a result, shipments of fuel-efficient tires in Japan increased by 3.5 times between 2010 and 2013. We will continue to contribute to the reduction of CO2 emissions by working to further increase sales of ECOPIA tires.

*2 An Internet survey was conducted between August 28, 2013 and September 5, 2013, by selecting drivers of passenger automobiles by gender and making the composition ratio of area and vehicle type consistent with the current situation. Bridgestone Tire Japan Co., Ltd. engaged a third-party research firm, which conducted the survey using a random sampling method. The number of automobile samples that installed fuel-efficient tires was 3,320.



* Based on unit shipments. The definition of fuel-efficient tires is based on the grading system of Japan Automobile Tyre Manufacturers Association (JATMA).

Environmental Management

The Bridgestone Group has developed the Total Environmental Advanced Management System, or TEAMS, which is, a proprietary environmental management system (EMS) that serves as a foundation for environmental activities.

The values and practices learned through certifying all Bridgestone's production sites to the ISO 14001 international standard enabled implementation of non-certified EMS systems which adhere to the standard. TEAMS was developed by adding the concepts of Total (denoting the participation of all business units, facility functions and employees throughout the Group) and Advanced (denoting the Group's commitment to active disclosure and the consistent pursuit of advanced, world-class activities).

Total Environmental Advanced Management System (TEAMS)

Following the TEAMS concept, each strategic business unit (SBU) and each facility in Bridgestone Group prepare and adopt an EMS using methodologies employed by ISO 14001. Then, environmental activities are improved through the use of the plan-do-check-act cycle (PDCA) at three levels: individual facilities, SBUs and globally or Group-wide.

As of December 2013, 163 (99.4%) of the Group's production sites*1 have obtained the ISO 14001 certification. We plan to strengthen our activity even further by getting ISO 14001 certification for all target sites. We also are preparing EMS for new production sites according to the Bridgestone Group's proprietary factory production certification system and plan to successively gain ISO 14001 certification for these sites.

We have an EMS for all Bridgestone operations in Japan—including all factories, the headquarters office and technical centers—and have received a single multi-sites ISO 14001 certification. In this way we are working to be eco-friendly in every area of our operations, from product development and design, through production, distribution and manufacturing, to sales and service.

As a basis for supporting TEAMS, we also are striving to provide and consolidate shared global information systems, working toward improvement by analyzing each SBU's environmental activities and data through the Group's PDCA cycle.

*1 Sites defined by Bridgestone as needing ISO 14001 certification.

ISO 14001 Certification in the Bridgestone Group

Certified sites	Percentage
163	99.4%

Global Environmental Management

The Global Head Office (GHO), Global Management Platform (GMP) and SBUs work together to pursue TEAMS activities to help achieve the objectives of the Mid-Term Management Plan (MTP). The GHO draws up overall strategy and basic policy, communicating this to the GMP, which directs the SBUs, provides support and assistance.

For top management review purposes, there is a Group Environmental Committee where the CEO and corporate officers make strategic decisions about environmental activities in the Group as a whole. We also continually strive to improve our environmental approaches by sharing issues and activities at regular liaison meetings between SBUs and facilities. This is in addition to holding annual Global Environmental Meetings.

Global Environmental Management



Environmental Management at SBU and Business Facilities

The Bridgestone Group is taking various measures from the viewpoints of system development and human resources development in order to improve environmental management at SBUs and business facilities.

For the system development, we have conducted environmental assessments since 2010 and evaluated the environmental management constitution (structure and functionality) at three levels (Level I, Level II and Level III). Level I needs improvement, Level II demonstrates systematic competence, and Level III demonstrates sustainable proficiency. We conducted the assessment in all of our plants*1 in 2013 and use the PDCA process based on the results to improve our constitution.

The Bridgestone Group holds regular training programs to advance development of environmental personnel and enhance the environmental education system in the entire Group. In 2013, the program was held in Japan, China, Asia, North America and EU countries, with more than 100 participants engaged in environmental improvement activities and projects. The environmental training program included on-site training and discussions among participants, aiming to further enhance the abilities of environmental personnel and foster greater coordination within the regions. We are planning to hold the program in 2014 and beyond.



*1 Sites defined by Bridgestone as needing ISO 14001 certification

Environmental training program in an overseas plant

Eco-Products

The Bridgestone Group is working together with its customers to reduce its environmental footprint by providing products and services that have been developed considering the environment throughout the entire life cycle, from the procurement of raw materials to after the use of products. This is in line with the goals set in the Group's Environmental Mission Statement: to achieve harmony with nature, value natural resources and reduce CO2 emissions. The Bridgestone Group has developed Standards for Eco-Products for all of its products and services based on the three above identified environmental goals, as well as comfort and safety. We also are striving to develop new products and services which contribute to a reduction in environmental impact.

Criteria for Eco-Products

Assessment area	Assessment criteria (examples)
In harmony with nature	Harmony with nature Consideration of sustainability in use of resources Reduction of chemicals used
Value natural resources	Minimization of resources used Weight reduction, water-saving functionality, increased lifespan, waste reduction Recycling Use of recycled resources, reusability, possibility and ease of dismantlement
Reduce CO2 emissions	Prevention of global warming CO2 emissions, low fuel consumption / power saving
Comfort	Low road noise
Safety	Wet grip, ice traction

Factory Production Certification System

The Bridgestone Group has adopted a proprietary factory production certification system based on ISO 14001 to rapidly identify and minimize environmental risks at new factories and production lines.

To be specific, it is a four-stage system for checking and certifying the environmental management systems at new factories, such as the establishment of an environmental plan, the implementation of a preliminary environmental review at the time of construction, the preparation of environmental policies, legal compliance and environmental training. In 2013, five facilities in four countries proceeded certification.

Promotion of Environmental Activities throughout the Supply Chain

The Bridgestone Group developed the CSR Procurement Guidelines in order to promote environmental activities throughout the supply chain, working together with suppliers. The guidelines stipulate suppliers' efforts toward the management of chemical products, minimization of environmental impacts from discharged water and emissions, management and reduction of wastes, reduction of greenhouse gases, consideration to biodiversity and others. Based on the guidelines' independent chemical list, we are improving our chemical product management system. We also request that our suppliers cooperate in environmental improvement by holding an annual procurement policy meeting to gain understanding of Bridgestone's policy on procurement.

As a tool to assist suppliers with enhancing environmental commitment, we use a CSR Self-Check Sheet, hold CSR workshops and provide on-site support, with many suppliers responding that they were able to deepen their understanding of environmental management. We will continue to support suppliers' environmental improvement in this way.

Award for Environmental Activities of Suppliers

In 2013, Bridgestone established the Green Partner Award which recognizes suppliers who achieve outstanding environmental performance. This award recognizes achievements for reduction of environmental impacts and environmental contributions in the areas of "In Harmony with Nature," "Value Natural Resources" and "Reduce CO2 Emissions," based on the Bridgestone Group's Environmental Mission Statement. The first winners of the Green Partner Award in 2013 were Kao Corporation, Sanyo Chemical Industries, Ltd. and Pyramid, Inc.

Environmental Communication

Company Environmental Awards

Each year, the Bridgestone Group holds the Bridgestone Group Awards, including the Bridgestone Group Award for Environmental Excellence, to recognize achievements by organizations and employees within the Group. These awards have been presented since 2008, with the goal of increasing interest in and motivation toward environmental activities among all our employees.

In FY2013, Bridgestone Group Awards for Environment Excellence were presented to Bridgestone and Bridgestone Technical Center Europe S.p.A. (TCE) for "ologic" technology, which included the advantageous deployment of this technology ahead of other companies utilizing global OE deployment and public relations activities, and Bridgestone APM Company (BAPM) for the "Solvent Glue Elimination." We also are working to expand and improve local, internal environmental award systems in many countries and regions. Currently, internal environmental awards are presented in Japan, the United States and Europe.



Award ceremony

External Assessment

Major Environmental Ranking and Rating Systems (2013)

Ranking/Rating System	Assessment
CDP (Carbon Disclosure Project) disclosure score	93
DJSI (Dow Jones Sustainability Index) Asia Pacific	selected
The 17th Nikkei Environmental Management Survey	29th (manufacturing) / 429 companies in Japan
The 14th Nikkei Environmental Brand Survey	18th / 560 companies in Japan
The 26th Nikkei Corporate Image Survey Assessment	3rd (business person), 10th (individual) / 576 companies in Japan
The 8th Toyo Keizai CSR Ranking (Environment)	1st / 1,210 companies in Japan

Measures against Global Issues in the Tire Industry

The Bridgestone Group is involved in the Tyre Industry Project and the Sustainable Mobility Project 2.0 that are established under the World Business Council for

Activities of the Tyre Industry Project

As one of the chair companies of the Tyre Industry Project, Bridgestone is a leader in addressing environmental- and public health- related issues associated with tires and the tire industry.

1 Examining the environmental and ecological impacts of Tire and Road Wear Particles

Tire and Road Wear Particles are generated as tires wear down during use. While analysis shows no significant toxicity in water or soil/sediment, project members continue pursuing additional levels of analysis to understand potential associated environmental, health, and ecological effects.

2 Examining effective end-of-life tire (ELT) management systems and publishing ELT management manual

There is variation in ELT management systems among different countries and regions, both in the methods and in the level at which they are implemented. Following a review of how ELTs were being managed, the Tyre Industry Project published a manual titled "End-of-Life Tires: A Framework for Effective ELT Management Systems," in an effort to propose an effective system for managing ELTs worldwide.

Sustainable Development (WBCSD). The WBCSD is headquartered in Geneva, Switzerland.

3 Compiling guidelines on the use of nano-materials

Bridgestone is involved in a project dedicated to compiling guidelines on the research, development and industrialization of nano-materials, particularly in tire development and manufacturing, in partnership with the Organization for Economic Co-operation and Development (OECD).

Sustainable Mobility Project 2.0

Companies that are engaged in the transportation industry, such as automobiles, rail, tires, etc., participate in the Sustainable Mobility Project 2.0. The project members discuss concrete measures for cross-sector activities including urban projects.



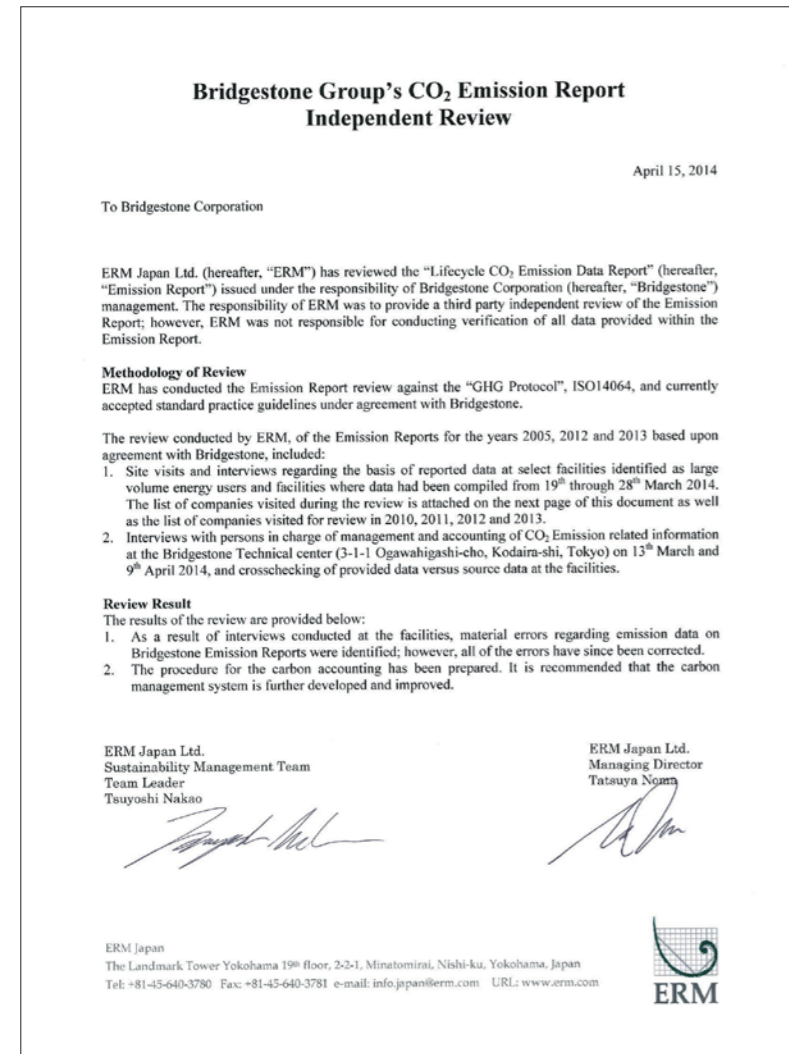
Major External Environmental Awards and Certifications (2013)

Award / Certification	Activity	Recipient of award / certification
Operations		
Tire Technology International Awards for Innovation and Excellence 2013 "Environmental Achievement of the Year"	Consideration of environmental factors in one of the North American technical centers	Bridgestone Americas, Inc.
FY2012 Cogeneration Prize (Industrial Category) (distinction)	Efficient use of energy through adoption of a cogeneration system	ENERGY ADVANCE CO., LTD. Bridgestone Corporation Nasu Plant
Bureau Chief's Eco-Friendly Workplace Award	Environmental activities as a whole	Kyotanabe Tire shop, Nagaokakyo Tire shop (Bridgestone Retail Japan Co., Ltd.)
Lean and Green Award	Consideration of environmental factors in logistics	Bridgestone Logistics Europe NV/SA
China Low Carbon Model Award for FY2013	Reduction of CO2 emissions in manufacturing	Bridgestone (China) Investment Co., Ltd.
Environmental Protection Business Awards (Furusato Ishikawa Governor's Prize for Environmental Protection)	Environmental activities including waste reduction	Bridgestone EMK Co., Ltd., Hokuriku Office
CSR-DIW for Beginner Award 2013	CSR activities including environmental activities	Thai Bridgestone Co., Ltd.
Yamaguchi Prefecture Governor's Prize (Excellent Company in Global Warming Countermeasures)	Forest development in ECOPIA's Forest Shimonoseki, a cogeneration system	Bridgestone Corporation Shimonoseki Plant
Yamaguchi Prefecture FY2013 Green Curtain Contest (top prize)	"Green Curtain"*	Bridgestone Corporation Shimonoseki Plant
Ohio EPA Bronze Level E3 Award	Environmental activities as a whole	Bridgestone Americas, Inc.
North Carolina Environmental Stewardship Initiative's Environmental Steward Award	Environmental activities as a whole	Bridgestone Americas, Inc. Kings Mountain Plant
FY2013 3Rs (Reduce, Reuse, and Recycle) Awards 3Rs Promotion Council President's Award	Waste reduction activities including 100% reuse policy of "cardboard cart for packaging materials for imported products"	Bridgestone Flowtech Corporation Hyogo Plant
Green Star Certification for Environmental Performance	Environmental activities at outlets	Bridgestone Commercial Solutions
Yokohama Environmental Action Awards for Promoters of "Yokohama 3Rs Dream" Excellent Company in 3Rs Action	Waste reduction activities	Bridgestone Corporation Yokohama Plant
Wisconsin DNR Awards	Activities related to resource recycling	Bridgestone Retail Operations, LLC.
Ohio Stormwater Association Award	Management and use of rainwater at one of the North American technical centers	Bridgestone Americas, Inc.
Wuxi New Area Management Committee (Excellent Company)	General corporate activities including environment-related activities	Bridgestone (China) Investment Co., Ltd. Wuxi Plant
Winner of the FY2012 Wuxi New Area Environmental Action Open GREEN Company	Environmental activities as a whole	Bridgestone (China) Investment Co., Ltd. Wuxi Plant
Guangdong Province Clean Manufacturing Certification	Environmental activities as a whole	Bridgestone (China) Investment Co., Ltd. Huizhou Plant
City of Wilson Pretreatment Compliance Award	Activities related to the environment, hygiene and safety	Bridgestone Americas, Inc. Wilson Plant
Waste water management Award	Waste water treatment and management	Thai Bridgestone Co., Ltd. Nong Khai Plant
Community Activities		
Environmental Conservation Association of Shiga Prefecture President's Award Environmental Partnership Category (Environmental Conservation Excellent Company Award)	Bridgestone Lake Biwa "Water of Life Project"	Bridgestone Corporation Hikone Plant
Winner of the Hikone City Green Curtain Contest	"Green Curtain"*	Bridgestone Corporation Hikone Plant
Keep Houston Beautiful Proud Partner Award	Cleanup activity	Bridgestone Retail Operations, LLC.
Keep Gastonia Beautiful certificate of appreciation	Environmental activities for social contributions	Bridgestone Americas, Inc. Kings Mountain Plant
Communication		
The 16th Environmental Communication Awards, Environmental Reporting Category, Global Warming Countermeasures Reporting Award (Minister of the Environment's Award)	Bridgestone Group Environmental Report 2012	Bridgestone Corporation
The 16th Environmental Communication Awards, TV Environmental Commercial Category, (distinction) (Global Environmental Forum President's Award)	TAIYA CAFE Retread Episode	Bridgestone Corporation
Eco Test Award 2012 (Eco-Unit Category) (distinction)	Bridgestone Group's power-saving project, and Bridgestone Group employees' "Green Curtain Project"	Bridgestone Corporation

*1 Growth of climbing plants over building windows for energy saving

Third-Party Reviews

Since 2010, the Bridgestone Group has engaged third-party organizations to review reporting related to its progress toward meeting its 2020 mid-term target for CO₂ emissions reductions. In this way, we aim to ensure that such reporting is transparent, complete and accurate.



These reviews are conducted by third-party organizations that evaluate CO₂ emissions monitoring measures and related reports based on the standards described in ISO 14064. As of April 2014, a total of 35 plants and other operating sites located in 13 different countries have been reviewed. Based on these reviews, we are identifying issues at operating sites so that we may formulate concrete response measures and pursue greater reductions in CO₂ emissions.



A third-party review with local staff at Stargard Plant, Poland

Locations where third-party reviews were conducted in 2014

Country	Facility	Main product	Roles in reporting CO ₂ emissions	Year of review
Japan	eco-Activities Promotion Division	—	Compiling data from facilities and reporting total CO ₂ emissions	2005, 2012, 2013
China	Bridgestone (Huizhou) Tire Co., Ltd.	Tire manufacturing	Aggregation of site data and issuance of the Emission Data Report	2012, 2013*1
China	Bridgestone (Huizhou) Synthetic Rubber Co., Ltd.	Synthetic rubber manufacturing	Aggregation of site data and issuance of the Emission Data Report	2012, 2013*2
Thailand	Bridgestone Tire Manufacturing (Thailand) Co., Ltd. Chonburi Plant	Tire manufacturing	Aggregation of site data and issuance of the Emission Data Report	2005, 2012, 2013
Thailand	Bridgestone Metalpha (Thailand) Co., Ltd.	Steel cord manufacturing	Aggregation of site data and issuance of the Emission Data Report	2005, 2012, 2013
Poland	Bridgestone Stargard Sp. zo.o.	Tire manufacturing	Aggregation of site data and issuance of the Emission Data Report	2012, 2013*3
USA	Firestone Fibers & Textiles Kings Mountain Plant	Tire cord and industrial fabric manufacturing	Aggregation of site data and issuance of the Emission Data Report	2005, 2012, 2013

*1 There is no data for 2005 as the plant was established in 2007.

*2 There is no data for 2005 as the plant was established in 2008.

*3 There is no data for 2005 as the plant was established in 2009.

Main Performance Indicators

GRI-listed items for each data are disclosed here based on the standard disclosure of the GRI Guideline*1.

Management-Related Data

Data items	Results in 2012	Results in 2013	GRI
Sales of the group	3,039.7 billion yen	3,568.0 billion yen	G4-9
Rubber production volume	1,760,000 tonnes	1,820,000 tonnes	G4-9
Number of employees	143,448	145,029	G4-9
Number of plants*2	178	178	G4-9

*1 Global Reporting Initiative Sustainability Reporting Guidelines (Fourth Edition (G4))

*2 Number of plants as of April 1 each year (as of the end of December each year for other data).

Environment-Related Data

Data items	Results in 2012	Results in 2013	GRI
Amount of raw materials used	3,969,000 tonnes	4,152,000 tonnes	G4-EN1
Total consumption of primary energy	80,150,000 GJ	83,955,000 GJ	G4-EN3
Energy consumption (fuel)*1	875,000 kl	950,000 kl	G4-EN3
Energy consumption (electricity)	4,523,000 MWh	4,636,000 MWh	G4-EN3
Energy consumption (steam)	2,062,000 GJ	1,860,000 GJ	G4-EN3
Energy consumption per unit of sales	26,367 GJ/billion yen	23,529 GJ/billion yen	G4-EN5
Reduction volume of energy consumption	4,574,000 GJ	-3,804,000 GJ	G4-EN6
Total water intake	85,019,000 m ³	83,203,000 m ³	G4-EN8
Water intake (surface water)	—	3,279,000 m ³	G4-EN8
Water intake (groundwater)	—	21,428,000 m ³	G4-EN8
Water intake (water supply, industrial water)	—	20,236,000 m ³	G4-EN8
Water intake (seawater)	—	38,258,000 m ³	G4-EN8
Volume of recycled water	511,830,000 m ³	419,291,000 m ³	G4-EN10
Greenhouse gas emissions (SCOPE 1)	2,031,000 t-CO ₂	2,042,000 t-CO ₂	G4-EN15
Greenhouse gas emissions (SCOPE 2)	2,400,000 t-CO ₂	2,531,000 t-CO ₂	G4-EN16
Greenhouse gas emissions (SCOPE 3)*2	110,036,000 t-CO ₂	120,994,000 t-CO ₂	G4-EN17
CO ₂ emissions per unit in lifecycle stages*3	458 tonnes/100 million yen	406 tonnes/100 million yen	G4-EN18
CO ₂ emission reduction rate in lifecycle stages (compared with 2005)	17.9%	27.4%	G4-EN19
NO _x emissions (from Bridgestone Corporation)	846 tonnes	600 tonnes	G4-EN21
SO _x emissions (from Bridgestone Corporation)	499 tonnes	456 tonnes	G4-EN21
Total water discharge	66,977,000 m ³	72,047,000 m ³	G4-EN22
Waste discharge	293,000 tonnes	286,000 tonnes	G4-EN23
Volume of recycled waste	254,000 tonnes	249,000 tonnes	G4-EN23
Volume of waste landfill	38,000 tonnes	36,000 tonnes	G4-EN23
Investment in environmental preservation*4 (of Bridgestone Corporation)	2.6 billion yen	2.5 billion yen	G4-EN31
Expenses for environmental preservation*4 (of Bridgestone Corporation)	13.1 billion yen	13.8 billion yen	G4-EN31
Environmental preservation effective amount*4 (of Bridgestone Corporation)	2.1 billion yen	2.1 billion yen	G4-EN31

Environment-related data represents Bridgestone Group all plants for the period between January 1, 2012 and December 31, 2012 for 2012 results, and between January 1, 2013 and December 31, 2013 for 2013 results. Part of the data includes estimated figures.

*1 Includes fuels used for in-house power generation.

*2 Category 8 and 15 are excluded of the 15 categories in SCOPE 3 of the GHG protocol.

*3 CO₂ emissions per unit of sales produced from lifecycle stages from procurement to manufacturing, distribution and disposal

*4 Calculated based on the Environmental Accounting Guidelines 2005 (Ministry of the Environment, Japan).

Disclosure of Financial and Non-Financial Information

The Bridgestone Group is following developments of the disclosure of non-financial information taking place around the world and working to provide information that meets all of our stakeholders' needs. Apart from environmental information, which includes this environmental report, we report corporate social responsibility (CSR) information through CSR reports and on our website as part of our

non-financial information disclosure. Financial information is available on the sections of the Group's website aimed at investors through various reports as well as articles with the latest information. Also, our global website includes environmental and CSR information for the Group as a whole that is available in English, and also environmental or sustainability reports in each of the regions where we operate.

■ [Non-Financial Information] Environmental Information

Environmental Report (This Report)

Web <http://www.bridgestone.com/corporate/library/index.html>



Bridgestone Homepage (Environment) Japanese

Web <http://www.bridgestone.co.jp/csr/eco/index.html>



Special Environmental Site (READY for 2050) Japanese

Web <http://www.bridgestone.co.jp/sc/readyfor2050/>



■ [Financial Information]

Investor Relations

Web <http://www.bridgestone.com/ir/index.html>



CSR Report

Web <http://www.bridgestone.com/responsibilities/csr/report/download/index.html>



Bridgestone Homepage (CSR)

Web <http://www.bridgestone.com/responsibilities/csr/index.html>



Global Site (Environment)

Web <http://www.bridgestone.com/responsibilities/environment/index.html>



Annual Report

Web http://www.bridgestone.com/corporate/library/annual_report/index.html



Overview of Bridgestone Group

■ Overview

Company name	Bridgestone Corporation
Headquarters	1-1, Kyobashi 3-chome, Chuo-ku, Tokyo 104-8340, Japan
Representative Director	Masaaki TSUYA, CEO and Representative Board Member, Concurrently Chairman of the Board
Paid-in capital	JPY 126,354 million (As of December 31, 2013)
Net sales	Consolidated: JPY 3,568.0 billion Non-consolidated: JPY 1,006.6 billion
Employees	Consolidated 145,029 (As of December 31, 2013) Non-consolidated 14,919 (As of December 31, 2013)
Summary of Bridgestone's manufacturing plants	170 plants in 25 nations (Bridgestone Group total as of April 1, 2014)

■ Products and Operations

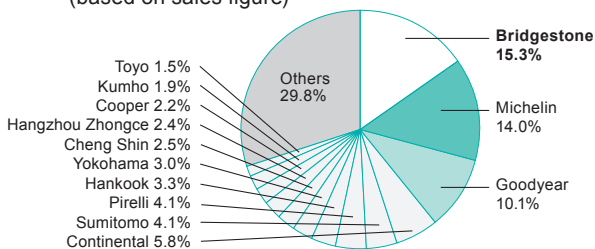
Tires

Tires and tubes for passenger cars, trucks and buses, construction and mining vehicles, industrial machinery, agricultural machinery, aircraft, motorcycles and scooters and others automotive parts, retreading materials and services, automotive maintenance and repair services, raw materials for tires and other products and services

Diversified Products

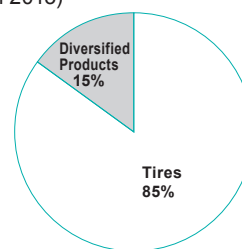
<Chemical and industrial products> Antivibration and noise-insulating materials, Polyurethane foam products, Electro-materials, Industrial rubber products, Building materials, Belts, Hoses, and other products
<Sporting goods> Golf balls, Golf clubs, Golf wear, Tennis goods and other products
<Bicycles> Bicycles, Other bicycle goods and other products

■ Global Tire Market Share in 2012 (based on sales figure)



Source: Tire Business—2013 Global Tire Company Rankings

■ Sales by Business Segment (in 2013)



■ Sales by Market (in 2013)

