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# SUMITOMO RUBBER GROUP **CSR Report 2008**



# The Sumitomo Rubber Group is Fulfilling its Responsibility as a Global Corporate Citizen by Contributing to the Realization of a Sustainable Society

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### Feature CSR of a Global Company





contributes to reduced CO<sub>2</sub> emissions during manufacture, product use, and final disposal.





**Reduce Total CO**<sub>2</sub>

The Shirakawa Factory is making a large-scale fuel switchover to natural gas to reduce CO2 nissions.





# Efforts at the **ICLI** Factory

**Activities Spread** 

motivation among employees.

Vitality

### At our booming Thai Factory, we are creating a work environment conducive to rewarding work and ioh motivation

### Disclaimer

This report includes forecasts, expectations, and plans about the Sumitomo Rubber Group. These are assumptions and judgments made based on the information available at the time this report was written and therefore may differ from future business activities and business performance, for which the Sumitomo Rubber Group bears no responsibility

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### **Editorial Policy**

Sumitomo Rubber Industries, Ltd. published its Environmental Report in 2001 and from 2005 its Social and Environmental Report. These publications have reported on the company's efforts to be a socially responsible manufacturer through compliance, product quality and safety, and environmental protection.

In February 2008, with the aim of contributing to a sustainable society and earning the public's trust, the Sumitomo Rubber Group revised and strengthened its previous CSR activities with the establishment of the CSR Activities' Fundamental Philosophy. Accordingly, this year's report is titled the CSR Report and covers a wider range of relevant information.

In order to ensure that this year's report focuses on our most important activities, we gathered opinions from a university professor, NGO leader, and business consultant, and got feedback on last year's report via a questionnaire distributed inside and outside the company, and through impressions from our new employees, all of which were reflected in this year's content. We also tried to make it clear what group CSR activities are all about by putting the most noteworthy activities into feature articles at the beginning of each section of the report. The familiar, friendly tone of the report is enhanced by the inclusion of testimonials and comments from our employees.

### >Information on the Web Site http://www.srigroup.co.jp/ecopedia/

This printed version of the CSR Report covers our most important activities. On our Web site can be found information on our other activities.



### >>Third-Party Independent Review

We have undergone an independent review for two consecutive years for more credible reporting on both the environment and social aspects of our business. The J-SUS symbol on the right is proof that the report



satisfies the J-SUS symbol standards designated by the Japanese Association of Assurance Organizations for Sustainability Information (http://www.j-sus.org/).

### >Referenced Guidelines

• Sustainability Reporting Guidelines, Version 3.0, published by the Global Reporting Initiative (GRI)

• Environmental Reporting Guidelines (2007 Version), published by Japan's Ministry of the Environment

### Companies Covered by this Report

This report covers a portion of group companies in Japan and overseas, with a focus on the six factories operated by Sumitomo Rubber Industries, Ltd., SRI Sports Ltd., and SRI Hybrid Ltd. On page 55 you will find environmental performance data for five domestic affiliates, six overseas production bases, and 12 domestic and overseas non-production bases.

### »Period of the Report

Fiscal 2007 (January 1, 2007 to December 31, 2007; there is also some information from outside of this period)

### **Group Overview**





Operating Income, Ordinary Income, Net Income (consolidated)



### Total Assets, Stockholders' Equity, Stockholders' Equity Ratio (consolidated)









### **DUNLOP** FALKEN GOOD<sup>©</sup>YEAR

Manufacturing factories Japan (Shirakawa, Nagoya, Izumiohtsu, Miyazaki), China (Changshu/Suzhou), Indonesia, Thailand Production companies 8 consolidated subsidiaries, 5 affiliates

Sumitomo Rubber Industries, Ltd. manufactures tires and markets them under its main brands of Dunlop, Falken, and Goodyear.

We have production and sales companies in Indonesia, China, and Thailand that utilize advanced technologies to turn out tires for passenger cars, trucks, buses, and motorcycles



Sales companies 33 consolidated subsidiaries, 35 affiliates Tire test courses Japan (Okayama, Nayoro, Asahikawa)



Manufacturing factories Japan (Ichijima, Kakogawa, Miyazaki), Indonesia, Thailand, United States Production companies 4 consolidated subsidiaries, 2 affiliates

Group company SRI Sports Ltd. manufactures and markets golf clubs and balls, and tennis rackets and balls.

In addition to the core brand of XXIO and the strategic international brand of SRIXON, we can now offer a more complete lineup with the Cleveland brand thanks to our acquisition in December 2007 of Cleveland Golf Co. Inc.



Sales companies 16 consolidated subsidiaries, 2 affiliates Research facilities Golf Science Center



# Gripcoat



Manufacturing factories Japan (Kakogawa, Izumiohtsu), Malaysia, China (Zhongshan), Vietnam



# **Industrial and Other**

Group company SRI Hybrid Ltd. manufacturers and markets precision rubber parts for office machines, vibration control rubber dampers, artificial turf for sports, flooring materials, rubber gloves, blankets for offset printing presses, engineering and marine products, and medical rubber stoppers.

Overseas, we run a natural rubber gloves factory in Malaysia, and factories making precision rubber parts for office machines in China and Vietnam. With materials for everything from daily household use to industrial applications, our products cover the entire spectrum.





Production companies consolidated subsidiaries Sales companies 4 consolidated subsidiaries

# With 100 Years of Experience to Build on, the Sumitomo Rubber Group Looks Ahead to Another Century of Contributing to a Sustainable Society



### Our Duty to Society: Provide the Ultimate Value

In fiscal 2006, we introduced a long-term vision that underscores our commitment to providing all of our stakeholders with value: "Be a company that continues to provide the ultimate value in all areas of business." This vision defines the kind of company we want to be 10 years down the road, a goal we are working towards through improvements in front-line capabilities, development capabilities, technological expertise, and earnings power.

The backbone of this is the Sumitomo business philosophy. It is a philosophy—forged over 400 years as successive generations have inherited our management creed—that represents our duty to society: This duty is to benefit not only our company but also our nation and society. It is this sense of duty that provides the framework for our CSR (corporate social responsibility).

### Fulfilling Our Social Responsibility as a Global Corporate Citizen

The Sumitomo Rubber Group is inextricably tied to automobiles, an industry experiencing remarkable growth worldwide. But increasing automobile manufacture and use contributes to not only economic growth but also to global warming, the exhausting of fossil fuels, and other environmental problems on a worldwide scale.

In response, we have put reduction of environmental impact on the top of our to-do list and are taking action to reduce environmental burden through higher tire performance and through greener manufacturing processes.

To reduce environmental burden through higher tire performance, we are developing tires that contribute to improved gas mileage. We are also reducing to a minimum the amount that the product materials themselves depend on fossil fuels with the introduction in June 2008 of ENASAVE 97, a 97% fossil resource-free passenger car tire (See page 13).

In our efforts to reduce environmental burden through greener manufacturing processes, in December 2006 we announced a medium-to-long-term target of reducing CO<sub>2</sub> emissions at least 20% by fiscal 2010 against fiscal 1990. To reach this goal, we are introducing company-wide energy-saving initiatives, including cogeneration systems at all domestic tire factories, the use of natural gas instead of heavy oil for fuel purposes, and a new production system, dubbed Taiyo, that uses

### **Group Philosophy**

The Sumitomo Rubber Group aims to be a known and trusted global corporate citizen that fulfills its responsibility to society. It aims to achieve this by seeking well-being for employees, by making significant contributions to the betterment of communities and society, and by continuing to offer products that make life comfortable and appealing.

- Meet customer expectations with ever-higher-quality products that are manufactured based on careful observation of what is happening in the market.
- Create new possibilities for the future by adapting to changing times based on a sound business foundation.
- Make the most of proprietary technologies and advanced research and development to create new products and services.
- Be responsible for environmental protection in all business actions and continue to develop environmentally friendly technologies.
- Create an attractive workplace that helps employees achieve their lifestyle needs.

35% less energy than conventional methods. In November 2007 at the Shirakawa Factory, we carried out a large-scale fuel changeover that brought us one step closer to our goal (See page 17).

To keep up with global tire demand, we plan to raise overseas tire production to 60% of our worldwide production total by 2015. Key to this plan is Sumitomo Rubber (Thailand) Co., Ltd., where major capacity increases are in the works and the new Taiyo production system is already in place. More than 60% of employees at the Thai Factory are young women and we customized the already worker-friendly Taiyo system so that the production lines are easier for these employees to work on. We also recognize that higher worker motivation leads to higher quality products: that is why we are aggressively hiring employees locally (See page 21).

### Celebrating 100 Years in Business with the CSR Activities' Fundamental Philosophy

Sumitomo Rubber Industries, Ltd. will celebrate its 100th anniversary in 2009. We want to celebrate this momentous occasion by making it a significant starting point towards the realization of our long-term vision of sustainable growth. Crucial to this is raising the value that the Sumitomo Rubber Group provides to society. To this end, in February 2008 we formulated the Sumitomo Rubber Group CSR Activities' Fundamental Philosophy, a roadmap for revised and strengthened CSR activities (See page 8).

The CSR Activities' Fundamental Philosophy has two parts: our CSR Philosophy, a declaration of our aim to be a corporate group whose CSR activities earn the



continued trust of society; and the CSR Guidelines, which detail how the CSR Philosophy should be put into action. In the CSR Guidelines are described the five guiding principles, represented by the acronym *GENKI* (which also means "lively and energetic" in Japanese), that make up our *GENKI* Activities program (See page 19). The *GENKI* Activities program began in 1989 on the occasion of our 80th anniversary and focuses on the themes of community outreach and social contribution. Over the past 20 years the *GENKI* Activities have become an integral part of the Sumitomo Rubber Group and are aimed at ensuring that employees take a "lively and energetic" role in putting our CSR into action.

With 100 years of experience to build on, the Sumitomo Rubber Group looks ahead to the challenge of another century of trail-blazing business and social contribution activities, like the Future Tires initiative and the Forest for the Future project. Key to the realization of a sustainable society will be ongoing dialog with all of our stakeholders.

In December 2007, there was a recall on motorcycle tires that were manufactured on consignment overseas. Besides offering our sincerest apologies to customers and all others affected, we stepped up our quality control in order to do what a manufacturer must: provide customers with products of the highest level of safety.

All of us at the Sumitomo Rubber Group look forward to your continued support. We would also like to hear any opinions or comments you have on this CSR Report.

Jetsuji Mino

Tetsuji Mino President and Director, Sumitomo Rubber Industries, Ltd.

# Seek the Ultimate Value for All Stakeholders

In its three business groups of tires, sports, and industrial and other products, the Sumitomo Rubber Group contributes to society by giving all stakeholders the ultimate value. It does this by constantly providing new value through the creation of new possibilities for rubber.



### **Action Tag Line for Long-Term Vision**

In 2005, the Sumitomo Rubber Group came up with the tag line "Go for Value." a phrase that represents our ideal 10 years down the road. In the spirit of our determination to raise value for all stakeholders, a concept embodied in our tag line, we seek not only economic value through the sale of our products and services, but also social value through our CSR activities.

### - The Driving Forces of Value

The Sumitomo Rubber Group will provide the ultimate value through four driving forces: front-line operational skills, which enable us to meet customer needs around the world: development capabilities, which allow us to provide cutting-edge products that incorporate our proprietary technologies technological expertise, on which we base delivery of products with the same high quality and performance anywhere in the world; and the ultimate earnings power, which allows us to consistently implement the first three driving forces.

### The Backbone of the Sumitomo Rubber Group

Our business beliefs are based on the Sumitomo business philosophy-firmly entrenched over 400 years of history and representing our commitment to society. Joining this philosophy are the Dunlop spirit of innovation, the source of numerous "firsts' such as the world's first pneumatic tire; and Sumitomo Rubber's freewheeling, energetic spirit, through which flexibility and solidarity foster a unique, capable workforce. These form the backbone of all that we do

# lodics

### **100th Anniversary Just Around the Corner**

Sumitomo Rubber Industries, Ltd. will be 100 years old in 2009. We are currently in the midst of a range of celebratory preparations: besides a commemorative ceremony planned for October 4, the exact day of this anniversary, we are publishing our history and planning other commemorative projects, and we have started building a new research and development wing and a production training facility.

We plan to make this anniversary a significant starting point to another momentous century.

	-	
Artist	s conception of the	

new research and development wing

# Become a Trusted Corporate Citizen by Contributing to a Sustainable Society



**Putting CSR into Action** 

### Our CSR Follows the Activity Guidelines of the Sumitomo Rubber Group CSR Activities' **Fundamental Philosophy**

To make 2009, the year of the Sumitomo Rubber Group's 100th anniversary, a significant starting point towards the achievement of our long-term vision of sustainable growth, we believe we must raise the value that our group provides to society. In order to achieve this through revamped and strengthened CSR activities, we formulated the Sumitomo Rubber Group CSR Activities' Fundamental Philosophy in February 2008. The philosophy was the result of surveys, studies, and debate that was led by the CSR Committee, a cross-organizational body formed in May 2007.

The Sumitomo Rubber Group CSR Activities' Fundamental Philosophy has two parts: the CSR Philosophy, a declaration of our group's CSR activities; and the CSR Guidelines, which detail how the CSR Philosophy should be put into action. In the CSR Guidelines are described the five guiding principles, represented by the acronym GENKI (which

also means "lively and energetic" in Japanese), that make up our GENKI Activities program (See page 19). Using the word GENKI, which is familiar to everyone, the CSR Guidelines aims to boost employee interest in CSR and get them enthusiastically participating in community activities

By providing information to our employees and the general public through our intranet, in-house magazine, Web site, and CSR reports, we hope to make more people aware of our CSR efforts and implement action plans based on our CSR Guidelines.



We provide information on CSR activities through our in-house magazine

# Be a Company Trusted by Stakeholders

lodics

through the necessary

timeline for each control

documentation and

procedure. There are

also links to external

information.

pages that give further

**Internal Control Home Page Opens** 

In January 2007, the Sumitomo Rubber Group opened

the Internal Control Project & Management Office, whose

job is to design and operate an internal control system

as required by Japan's Company Law; and an internal

control system covering financial reporting as required

The duties of this office include promoting

understanding and sharing information among the entire

group. To this end, in February 2007 the office opened

financial reporting and to provide instruction on how to

detailed explanations of the workings and purpose of

internal control, and also takes site users step-by-step

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Internal Control home page

....

....

.....

44.8 44.

the Internal Control home page on the company intranet

by the Financial Instruments and Exchange Law.

in order to explain the internal control system for

fill out all necessary documentation. The site gives

### **Basic Philosophy**

### Strive for Effective, Transparent Management and a Strengthened Internal Control System

The Sumitomo Rubber Group strives to raise corporate value by being a trusted corporate citizen that meets the expectations of shareholders and other stakeholders. Because achieving this requires thorough corporate governance, we continuously strive to boost the effectiveness of all aspects of management, improve business transparency, comply with all laws and regulations, and strengthen our system for internal control.

To allow our employees to execute quickly in the field, in 2003 we introduced the operating officer system. The goal of this system is to ensure that executive decisions accurately reflect the importance of the spot: we strive to make sure that executive decisions are promptly relayed to the front line, and that opinions from people on-site are reflected in company strategy. This ensures that all executive decisions reflect the needs of customers in the field.

To ensure that our operational and management functions are unbiased and effective, three of the five members of the Board of Auditors are outside corporate auditors. As part of their strict audit procedures, auditors hear reports from operating officers and survey work progress, then give their opinions and recommendations at board of directors meetings and management conferences.

In fiscal 2007, according to basic policy related to systems for internal control system, we improved the information security system, revamped the risk management system, and stepped up various internal regulations.

### **Corporate Governance System**



# **Preventative Measures and Prompt, Appropriate Responses**

### **Basic Philosophy**

### Stop Management Risk Before Problems Occur and, If They Do, Minimize the Damage

There are numerous risks-quality issues, legal problems, environmental degradation, credit accidents, natural disasters-that can have a serious impact on business activities. That is why the Sumitomo Rubber Group is stepping up its risk management system to either prevent these problems or, if they do occur, to minimize the damage they cause

Each department at the Sumitomo Rubber Group analyzes the risks involved in its sphere of operations and looks at possible measures to deal with these risks. For risks that affect multiple company divisions, the Human Resources & General Affairs Dept. works with relevant departments in responding. Measures for serious risks are discussed at management conferences. If necessary, we seek the advice and guidance of legal advisors and other experts when analyzing and drawing up measures for risk issues.

If serious risk appears imminent or likely, our company's emergency control regulations dictate that the president set up and head an emergency control headquarters. This headquarters will promptly gather information, formulate response measures, and relay these to the relevant departments for implementation.

### **Emergency Control System**

Fires, accidents, etc.

exports

Anti-trust law violations, illegal



Employee corruption, labor disputes Environmental problems

Company Law violations



### **Intellectual Property Management**

### Protecting Our Rights and the Rights of Other Companies in Japan and Abroad

Measures that the Sumitomo Rubber Group takes to protect intellectual property concern the acquisition of rights for patents, designs, and trademarks, the use of these rights, and the prevention of infringement on other company's riahts

### Improved Intellectual Property Measures in BRICs and ASEAN

As the Sumitomo Rubber Group moves into an increasing number of countries, we are expanding our intellectual property management functions beyond Japan, Europe, and the U.S. to include BRICs and ASEAN. Activity is particularly brisk in China, where the number of patent and design applications rivals that of the U.S. and Europe. We have also begun patent applications in Russia, India, Brazil, and Vietnam. By 2010, the total number of patent applications in these regions is expected to be 1.8 times that of Japan.

We have started to come across counterfeits of Sumitomo Rubber Group tires, with some of these reaching the Japanese market. Japanese customs has measures to prevent these tires entering the country, and in the producing countries we are conducting investigations based on the assumption that we can exercise intellectual property rights.

### Close Cooperation with Local Patent Offices and Law Firms

Because intellectual property laws vary from country to country, we have to select trusted partners-patent offices and law firms specializing in intellectual property rights-in the countries we operate in and cooperate closely with these partners.

As of fiscal 2007, we are managing intellectual property rights by working with 18 such offices in 14 countries outside Japan. We plan to develop even closer relations with these partners in fiscal 2008.

### Effective Use of Patent Information

We maintain patents in the group using a patent management system. This system has a database compiling information such as patent rights.

We also maintain information on patents owned by other companies: this keeps us up to date on the state of their technology and also ensures that our products do not infringe on their patents. A part of this is the weekly listing on our intranet of new patent information for relevant technical divisions. As of April 2007, all group companies, including overseas subsidiaries and factories, have access to this information via the Internet.

# Thorough Compliance with Laws and Corporate Ethics

### **Basic Policy**

# Constantly Improve Systems to Comply with Laws and Uphold Corporate Ethics

In the Sumitomo Rubber Group, we believe that legal compliance and the upholding of corporate ethics form the cornerstone of a company's survival and are crucial to long-term corporate vitality and competitiveness.

In February 2003, we stepped up our compliance system with the formulation of the Regulations on Corporate Ethics Activities and the Sumitomo Rubber Group Code of Conduct, and the establishment of the Compliance Counseling Room.

We also work to educate employees on compliance by offering all job descriptions and management levels an increasing number of opportunities for compliance-related training.

In fiscal 2007, there were no cases of legal violations or corporate ethical infringement that had major social implications.

### **Compliance System**



### **Compliance Education**

### Raising Employees' Awareness through Anti-Monopoly Act Lectures and the In-House Magazine

The Sumitomo Rubber Group raises employee awareness by giving detailed explanations of compliance during new employee training and during training given to each management level and company division.

In fiscal 2007, the Tokyo head office hosted lectures on

the Anti-Monopoly Act by executive director Watanabe of the Tire Fair Trade Council. We have also had seminars on the Act against Delay in Payment of Subcontract Proceeds, etc to Subcontractors, and on export control. Our in-house magazine carried a series on compliance with the Anti-Monopoly Act, and our intranet provides a variety of legal information. It all serves to raise employee awareness on the importance of legal compliance.

### Internal Communications System

### Offices Inside and Outside the Company Listen to Employee Concerns

The Sumitomo Rubber Group established the Compliance Counseling Room in February 2003 to help detect risk at an early stage and prevent the occurrence of major problems. The system was expanded in fiscal 2004: employees can now consult directly with persons outside the company (legal advisors), and the intranet and in-house magazine regularly urge employees to make use of the Compliance Counseling Room when necessary.

The Corporate Ethics Committee offers consultation services to all employees who have issues of concern, and the committee looks into all matters and discusses appropriate responses. And no prejudicial action is taken against employees who have complaints or reports of wrong-doing.

### Information Security

### Improved Rules Detail Information Security Interpretation and Policy

The Sumitomo Rubber Group has been striving to handle information in an appropriate manner based on an understanding of the importance of protecting personal and classified information in today's Internet society. Numerous efforts ensure that employees know how to deal appropriately with personal and classified information. In April 2005, with the enactment of the Personal Information Protection Law, we established the Sumitomo Rubber Group Privacy Policy and the Personal Information Protection Rules. We have also published the Personal Information Protection Manual.

In fiscal 2007, a series of information leaks and similar scandals in Japanese society had the general public demanding that corporations be more socially responsible. In response, we strove to clarify our interpretation and policy on information security by expanding company rules on the management of classified information and giving employees more exposure to these rules.

# Feature CSR of a Global Company

Next-Gener 97% Fossil

**Reduce Tot** 

"*GENKI*" Ac

Efforts at t



Fossil resource-free eco tires road tested for performance

ration Eco-Tire is Resource-Free	3
al CO <sub>2</sub> Emissions by 20% ······ p1	7
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20 years of *GENKI* Activities: Getting everyone involved

### Feature CSR of a Global Company 1

Reduce Dependence on Fossil Resources and Help Curb Global Warming

# **Next-Generation Eco-Tire is**



In 2008, we released ENASAVE 97, an eco passenger car tire that is 97% free of fossil resources. These tires boast 35% lower rolling resistance and contribute to 36% fewer CO2 emissions during their life cycle.

Amount of Petroleum Used

An increasing number of people around the world are expected to be driving cars. This is forcing the automotive industry to deal with environmental problems like global warming and fossil fuel exhaustion, and it is pressing tire manufacturers to make more environmentally friendly products. In response to this, the Sumitomo Rubber Group has since 2001 been studying technology for using natural resources other than fossil resources for making tires that contribute to better fuel efficiency.

An effective way to improve a car's fuel efficiency is to reduce the rolling resistance of the tires. To this end, we decided to concentrate on natural rubber that brings two benefits: it reduces the energy loss that occurs when tires fail to hold their shape on the road; and it allows tires to be manufactured with minimal fossil resources. By making use of our group's existing technologies, we successfully developed ENASAVE 97, an eco-tire that is 97% free of fossil resources. This product went on sale in 2008. ENASAVE 97 contributes to fewer CO2 emissions throughout the entire product life cycle, including manufacture, use, and final disposal.

### **Evolution Means Going Back in Time**

The world's first inflatable tire, created by John Boyd Dunlop in 1888, was made of natural rubber. Over the past 120 years, the increasing speed of cars has necessitated tires to switch over to synthetic rubber, which boasts firm road grip performance, good air retention, and durability. This would appear to mean that the Sumitomo Rubber Group's return to natural rubber goes against the evolution of tires. But in fact natural rubber gives tires with extremely low rolling resistance and excellent fuel efficiency. Our group took on the challenge of using these advantages to develop fossil resource-free natural material tires that surpass synthetic rubber tires and maintain and improve the performance of today's cars.

In 2001, we started a project to make fossil resource-free tires. After exhaustive research, we developed technology using modified natural rubber that gives a branch-like molecular structure: this structure is what makes these tires perform just as well as tires made from synthetic rubber. Then in 2006 we received accolades for our ENASAVE ES801 tire, which is 70% free of fossil resources.

But we realized that to contribute to sustainability in the automotive industry, we had to raise the amount of renewable resources higher than 70%. Our group thus went on to develop a tire 97% free of fossil resources, with the remaining 3% being the antioxidant and vulcanizing accelerator, which still require fossil substances.



At first glance, a tire looks like just a hunk of rubber. But in fact it is a complex object made of material such as rubber, fiber, and steel cord. The Sumitomo Rubber Group's proprietary technology for using fossil resource-free material makes it possible to replace synthetic rubber, carbon black, and mineral oil, which are made from fossil resources such as petroleum and coal, with natural materials such as natural rubber, silica, and vegetable oil.



### A Word from a Product Developer



### Takao Wada

Advanced Technology elopment Dept Tyre Technical Hos nitomo Rubbe lustries I td

### Looking Back Taught Me the **Rich History of Tires**

The 2000 Medium-to-Long-Term Plan set the goal of making a tire that was 97% fossil resource-free, a challenge of huge proportions. But thanks to

comprehensive support from the Shirakawa Factory, Nagoya Factory, and all the people concerned with planning, marketing, and material procurement, we somehow made it to product release. During the development process, I came to appreciate how significant tires really are by looking back over the 120-year journey from natural to synthetic rubber.

I hope that this eco-friendly tire contributes to environmental protection around the world.

### A Word from a Designer



97% free of fossil resources 35% lower rolling resistance (Compared to EC201)



### Silica



### adao Matsumoto

echnical Dept 1 Tyre echnical Hos mitomo Rubbe

### **Valuable Journey Teaches the True Meaning of Tires**

Developing the ENASAVE 97 was one of the hardest things I have ever done. Using totally new materials for most of the tire made me think about what a tire really is. It drove home the point that the tires we manufacture today are the result of the sweat and toil of those who went before us.

ENASAVE 97 was my first experience achieving something not only with my technical department, but with the help of the entire company. I hope this tire is the market leader for years to come and contributes to Sumitomo Rubber Industries' image as an environmentally friendly manufacturer.

### **Environmental Performance** and Function

# EN Rubber: The Third Wave of Rubber



Exhaustive Trial and Error Results in EN Rubber, Which Uses Mainly Natural Rubber and Performs as Well as Synthetic Rubber

### EN Rubber with Good Air Retention for Inner Liners

The inner liner is attached to the inside of the tire for the purpose of preventing air from escaping. Using modified natural rubber that imitates the branch-like molecular structure of synthetic rubber gives tires with the same air retention performance as conventional tires.

### **Molecular Structure of Rubber**





Natural rubber molecules Verv few branches, so air can escape

Synthetic rubber molecules Many branches, so air cannot pass through



EN Rubber molecules give good air retention Because modified natural rubber the main ingredient, has a branch-like structure similar to that of synthetic rubber, air cannot pass

### EN Rubber for Tread: High Percentage of Natural Materials

hrouah

In order to achieve the ideal balance of rolling resistance and grip performance, you have to add a rubber property modifying agent to improve the flexibility of the rubber tread that comes in contact with the road surface. With EN Rubber, we have replaced fossil materials like petroleum and coal with plant-based material, in the process dramatically raising the percentage of natural materials that make up the tire. We also adopted a new directional pattern that contributes to further fuel efficiency.

### 97% Free of Fossil Resources

The ENASAVE ES801 uses modified natural rubber, made mostly from natural rubber, for the tread and sidewalls, which account for most of the tire. This allowed the tire to be 70% fossil resource-free. We next looked to raise this to 97%, which required us to come up with the ideal blend of natural material with the airtight, durable characteristics of synthetic rubber.

To this end, our research team used EN rubber (Evolutional Natural rubber) technology, a proprietary next-generation technology for making fossil resource-free tires, and developed EN Rubber, a third-generation rubber with performance rivaling that of synthetic rubber.

The development of EN Rubber allowed us to bestow particular performance factors on different parts of the tire. Good air retention EN Rubber for inner liners prevents air from leaking from inside the tire. By using modified natural rubber that has a branch-like molecular structure, the tire has air retention as good as one made from synthetic rubber. There is also highly durable EN Rubber for sidewalls, which are subject to repeated distortion as tires rotate. By adding vegetable oil during the blending process, we gave the rubber durability rivaling that of synthetic rubber. For the tread, constantly in contact with the road surface, we utilized plant-based material for the rubber property modifying material, which was needed for conventional fossil fuel-based tires. This gave low rolling resistance and superior grip performance in a tire that uses the maximum amount of natural materials.

We also replaced as many of the non-rubber tire parts as possible with natural materials. The result is ENASAVE 97, the ultimate eco-tire with 97% fossil resource-free materials.

### Life Cycle is Green Through and Through

**Further Reductions** in CO<sub>2</sub> Emissions **During Use** 



Compared to our standard tires, ENASAVE 97 tires reduce rolling resistance by 35% and improve a car's fuel efficiency by approximately 7%\*1.

# **Reduce** 3 Reduc

Compared to the Digi-tyre ECO EC201, ENASAVE 97 results in the emission of 36% less CO<sub>2</sub> per kilometer driven for the entire lifecycle, from raw material to manufacture, use, distribution, disposal, and recycling.



procurement and manufacture

fossil resources.

\*2 Biomass: Material made from plant and animal resources. Unlike fossil resources such as coal and petroleum biomass is sustainable. Trees and plants absorb CO2 through photosynthesis during their growth process, and this CO<sub>2</sub> is released when they are burned as fuel. This means they make zero contribution to the overall CO<sub>2</sub> balance.

### **Highly Durable EN Rubber for Sidewalls**

Sidewalls are subject to repeated distortion during tire rotation and thus require exceptional durability. EN Rubber prevents minute cracks from extending by using modified natural rubber islands that give a durability rivaling that of synthetic rubber

### Magnified Image of Molecular Structure



Natural rubber Extension of minute cracks

Synthetic rubber Islands of synthetic rubber prevent cracks from extending

### Highly durable EN rubber

Natural rubbe natural

Blending in vegetable oil allowed

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tires are symbolized by the

Eco-Leaf design.

New Directional Pattern Achieves Fuel Efficiency





ENASAVE

Environmentally friendly fossil resource-free

# We adopted a directional pattern for the

### **New Directional Pattern Reduces Rolling Resistance 35%**

We chose to use natural rubber not only to reduce the amount of fossil resources in the tire but also to improve fuel efficiency by taking advantage of natural rubber's low rolling resistance. Environmentally friendly tires can contribute to better gas mileage and this means fewer fossil resources are consumed during product use.

ENASAVE 97 uses EN Rubber, which improves on natural rubber's low rolling resistance. It also employs a new directional pattern that improves the tire's fuel efficiency. The tread pattern is made up of the grooves in the tire's surface: it contributes to ease of handling, stability, and the tire's ability to disperse water and heat. This new directional pattern employs four stability ribs running straight along the center that help the tire run in a straight line. Compared to the Digi-tyre ECO EC201 that we released in 2004, this tire has 35% lower rolling resistance and saves the equivalent of 7% of fuel\*1

These technologies help ENASAVE 97 reduce CO<sub>2</sub> emissions during manufacturing, product use, and disposal: what we have dubbed "Reduce 3." The Sumitomo Rubber Group will continue to contribute to both sustainable development of our car culture and protection of the environment through the

development of new technologies and materials and the spread of tires with minimal

\*1 This figure is based on the following calculation; it is not an actual tested number: Rolling resistance generally contributes 20% to a car's gas mileage, so the savings equal 35% x 0.2 = 7%.



creation of optimal modified natural rubber islands. These prevent cracks rom extending and give durability ivaling that of synthetic rubber.

A Word from a Production Eng



Hideo Nobuchika Works Technical Dept. Sumitomo Rubber dustries. Ltd.

### The Ultimate Tire Required Blood, Sweat, and Tears: Successful **Development for Future Progress**

We produce ENASAVE 97 tires at the Shirakawa Factory. Because we wanted the tire to have the absolute minimum fossil resources and characteristics unlike conventional tires, we faced a lot of obstacles to overcome in all production processes. Through new technologies and equipment-not to mention blood. sweat, and tears-we overcame these obstacles to create the ultimate tire.

Our goal is to continue to raise the levels of technology and productivity and one day realize a factory that makes only environmentally friendly tires like this one free of fossil resources.

A Bigger Contribution to Curbing Global Warming Requires the Use of More Environmentally Friendly Energy

# **Reduce Total CO<sub>2</sub> Emissions by**

We have set a goal of reducing fiscal 2010 CO<sub>2</sub> emissions by 20% compared to 1990 through measures including introducing cogeneration systems and switching to natural gas for fuel purposes.

Sumitomo Rubber Group CO<sub>2</sub> Emissions: Targeted and Achieved (Against fiscal 1990)



method detailed in the Guide to Calculating Greenhouse Gas Emiss (Proposed) (published in July 2007 by the Japan Rubber Manufact Association and the Japan Automobile Tyre Manufacturers Associ

2008 marks the start of the first commitment period (2008-2012) of the Kyoto Protocol. The Japan Rubber Manufacturers Association, of which we are a member, plans to use cogeneration systems to help reduce CO<sub>2</sub> emissions and in October 2007 set a voluntary goal of reducing fiscal 2010 emissions by 6% against fiscal 1990, which goes beyond the industry's target of simply maintaining CO<sub>2</sub> emission levels. The Sumitomo Rubber Group has taken this a step further: under the Medium-to-Long-Term Plan formulated in December 2006, we set a goal of a 20% reduction.

Cogeneration involves using the waste heat generated during electricity production for space cooling/heating, water heating, and steam, thus reducing CO<sub>2</sub> emissions. We introduced our first cogeneration system in 1984 and today all of our tire factories in Japan have these systems.

For electricity generating facilities and boilers, we are switching from heavy oil to natural gas, which emits less CO2 and gives off fewer air pollutants.

### Large-Scale Fuel Switchover at Shirakawa Factory Aimed at **6% CO<sub>2</sub> Emissions Reduction**

The Shirakawa Factory is the Sumitomo Rubber Group's largest tire facility, making mainly radial tires for passenger cars, trucks, and buses. Emissions in fiscal 2007 at this factory were 123,900 t-CO<sub>2</sub>, accounting for 40% of CO<sub>2</sub> emissions at our six domestic factories.

Tire production uses not only a lot of electricity but also a lot of steam, which is needed in the vulcanization process to give tires flexibility and strength. That's why in 1984 and 2004, we introduced cogeneration systems, which can give off both electricity and steam.

Cogeneration systems realize dramatic energy efficiency and run on either heavy oil or kerosene. To help reduce both global warming and air pollution, we began switching to natural gas for the fuel for cogeneration systems and boilers in November 2007. Although there was no pipeline going to the Shirakawa Factory, we solved this problem by building one of Japan's largest liquefied natural gas (LNG) satellites on the site, which is supplied by tank trucks bringing LNG.

This fuel switchover at the Shirakawa Factory is expected to reduce annual CO2 emissions by 17,000 t-CO<sub>2</sub>, equivalent to 14% of the factory's total emissions. This will reduce group CO<sub>2</sub> emissions by 6%. Streamlined production processes and energy-saving efforts by employees will contribute another 4% annually, equaling our goal of a 10% total reduction in emissions.

> Just completed, this is one of the largest LNG satellites in Japan



Cogeneration Systems of the Sumitomo Rubber Group and Fuel Switchover

		Cogeneration Systems Introduced			Switchover to Natural Gas
Factory Name	Products Produced	Date of Introduction	Power Generating Facilities	Output	Switchover Date
Chirakawa Fastany	Tires	August 1984	Gas turbine	14,560 kW	November 2007
Shirakawa Factory		July 2004	Diesel engine		
Izumiohtsu Factory	Tires	April 2007	Gas turbine	4,620 kW	April 1982
Miyozoki Feeten	Tires	September 1994	Diesel engine	14.000 kW	December 2008 (scheduled)
wilyazaki Factory		April 2004	Diesel engine	14,000 KW	
Nagoya Factory	Tires	October 2005	Gas turbine	7,000 kW	May 2005
Kakogawa Factory	Industrial products	April 2007	Gas engine	1,630 kW	August 2006

### A Word from a Man



### Takayuki Mie

o Rubh

### Fuel Switchover Despite Lack of a Pipeline: Major Hurdle Overcome

The Shirakawa Factory is in the south part of Fukushima Prefecture, where there are no industrial-use LNG pipelines. So how were we supposed to get natural gas? And from where? The solution was to build an LNG satellite on the site that would be supplied by tank trucks.

The next problem was finding the space to build this LNG satellite. After a series of trial and error mappings in which we repeatedly designed and relocated a compact satellite that could simultaneously accommodate three tank trucks, we finally came up with a plan that worked.



### Shirakawa Factory CO<sub>2</sub> Emissions: Targeted and Achieved (Against fiscal 1990)

Note: CO2 emissions are calculated according to the thermal power unit method detailed in the Guide to Calculating Greenhouse Gas Emissions (Proposed) (published in July 2007 by the Japan Rubber Manufacturers Association and the Japan Automobile Tyre Manufacturers Association).

### **Overview of Shirakawa Factory**

Located in Shirakawa City in Fukushima Prefecture this is the Sumitomo Rubber Group's largest tire factory.

With a site area of 604,000 m<sup>2</sup>, the factory has a monthly capacity of 10.100 tons.



### Shirakawa Factory cogeneration system



Employees and Their Families Volunteer to Make Themselves and Local Communities Lively and Energetic



# **Activities Spread Vitality**

For 20 years, the Sumitomo Rubber Group's GENKI Activities have helped facilitate in-house communication and motivation through creative volunteer activities.

The Sumitomo Rubber Group's GENKI Activities aim to raise employee motivation and contribute to local communities. These activities have been going on since 1989 when we started POWER-80, an employee initiative to celebrate the group's 80th anniversary.

GENKI Activities began with the aim of improving work processes and promoting in-house recreation. In 1993, on the occasion of the 30th anniversary under our new company moniker, the name was changed to GENKI-21 to symbolize that these activities invigorate everyone involved. GENKI-21 allows all employees to volunteer for the sake of revitalizing themselves, promoting harmony with the local community, and making contributions to society.



Poster and newsletter promoting the POWER-80 employee participation initiative

### **Activities Meeting Community Needs**

The original intent of GENKI Activities was to facilitate communication within the Sumitomo Rubber Group and group companies. In 2005, we took these activities out into local communities with the aim of being a good corporate citizen. Every year, young *GENKI* leaders at bases around Japan plan and carry out activities geared towards the specific needs of each community. In fiscal 2007, there were about 90 activities divided into 16 blocks. A total of 5,000, including employees, their families, and local citizens, took part.

The longevity of GENKI Activities is due in part to the participation of the group's board of directors. The GENKI Activities round-up meeting held at the end of each year is attended by the President of Sumitomo Rubber and never fails to be a lively and invigorating way to end a year of activities.

### 20 Years of GENKI Activities

1989

recreation

1993

new company moniker, the name was changed to GENKI-21 to symbolize that these activities invigorate everyone involved

### 1998

harmony with the community, GENKI-21 was extended to include affiliates so that everyone could take part in

2005

with the aim of being a good corporate citizen. 2008

We set a goal of having the number of GENKI Activities narticinants exceed the number of people we are serving through these activitie

Hokkaido region: 197 employ of 41 bases in the prefecture took part in cleanup activities

akawa Factory: Took part in a val at facilities for the

d office region: Took pa n Koto Ward cleanun activit A Nagoya Factory: Took part in









Sumitomo Rubber celebrates 80 years in business by launching the POWER-80 initiative to focus on improving work processes and promoting in-house

On the occasion of the 30th anniversary under our

With the aim of revitalizing employees and promoting independent, voluntary activities geared to local needs.

We took GENKI Activities out into local communities

A Word from a GENKI Activities Leade



Kumiko Yamamoto Offset Printing Blankets iness Unit SBI Hybrid I td

### A Chance to Communicate With **People Outside of Your Sphere of Work**

I became a GENKI Activities leader in fiscal 2007. As I took part in activities like tree and flower planting around the factories and the year-end round-up meeting. I realized that these activities were a wonderful opportunity to communicate with people I normally would not have a chance to meet through work.

What I will remember the most is working as a volunteer at a baseball tournament in Kakogawa City. I had my first ever chance to do the public address announcements at the opening ceremony, and seeing all those elementary school kids up so early in the morning and playing their hearts out was a truly energizing experience. As a GENKI Activities leader. I hope to plan activities that will get people excited about participating.

### CSR of a Global Company 4 **Feature**

Motivating Employees at the Thai Factory on Its Way to Becoming One of the World's Largest Tire Facilities

# Efforts at the

**Factory** 

With rapid growth in the tire business, our Thai Factory will hire about 1,000 employees annually for the next several years. We are doing all we can to create a work environment that instills pride and motivation in both new and existing employees. Sumitomo Rubber (Thailand) Co., Ltd. (SRT) is a new factory located about 100 kilometers southeast of the capital, Bangkok, in the Amata City Industrial Park, Rayon. With an approximately 600,000-m<sup>2</sup> site, the largest in the Sumitomo Rubber Group, the company began producing radial tires for passenger cars and SUVs in November 2006.

To keep up with global tire demand, we plan to raise overseas tire production to 60% of our worldwide production total in the next 10 years. Key to this is SRT, where we plan to increase production capacity by six times in the next three years and increase the number of employees from approximately 1,400 (as of March 2008) to about 4,000 in 2010.

SRT's corporate philosophy is Growth, Advance, and Harmony: to grow with the local community and to use advanced technology and quality to exist in harmony with the environment, people, and the Earth. All employees will continue to work as one to solidify the company's foundations based on this philosophy.

### Fostering a Corporate Culture Where SRT Employees Take the Initiative in Ensuring Safety and Quality

SRT plans to hire approximately 1,000 new employees each year as it expands production towards 2010. Hiring at such a rapid pace means that for the next several years almost 40% of the workforce will be new employees. This is why the company is making the assurance of safety and quality a top priority.

The key to ensuring safety and quality is standardizing work processes. Before SRT went online, approximately 100 of the first employees underwent training and quality control courses at the Shirakawa Factory, where they learned the fundamentals of tire manufacturing, safety, and quality by actually working on site and writing their own work standards guides. These people are now managers and process leaders in various department of SRT who supervise employees and constantly strive to improve work based on what they experience every day.

As employee numbers continue to increase, each member must be aware of how he or she can contribute to ensuring safety and quality. That's why SRT came up with the slogan "Create SRT Way" - a way to make employees think about what is truly important in their jobs and thus create a corporate culture in which individuals think and act for themselves. In fiscal 2007, local employees led efforts to acquire certification for ISO 9001 and ISO 14001, with SRT achieving ISO 9001 in March 2007, one month ahead of schedule, and ISO 14001 in January 2008. In fiscal 2008, SRT is aiming for certification for ISO 9001/TS 16949\*1 and OHSAS 18001.

In January 2008, SRT started its GAH Project\*<sup>2</sup> for the improvement of work processes. Proposed by locally hired staff, this project shows that a culture of thinking and acting for oneself to improve work processes has already taken root in SRT.

\*1 ISO 9001/TS 16949: A unified quality management standard for worldwide automotive industry suppliers. Certification for this standard means that a company is recognized worldwide as a supplier to the automotive industry. \*2 GAH Project: Stands for Growth, Advance, and Harmony, the three words of SRT's corporate philosophy.

### Sumitomo Rubber (Thailand) Co., Ltd. Production Volume: Targeted and Achieved





Sumitomo Rubber (Thailand) Co., Ltd. Number of Employees: Targeted and Achieved



### **Overview of**

Sumitomo Rubber (Thailand) Co., Ltd. Location: Amata City Industrial Park, Rayon • Established: May 2005 (Production start: November 2006) Factory area: Site area: 597.000 m<sup>2</sup> Building area: 119,000 m<sup>2</sup> No. of employees: Approx. 1,400 (as of March 2008)

> **Corporate Philosophy** Growth, Advance, Harmony

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### **Annual Picnic Recognizing Employee Service and Encouraging Communication**



In October 2006, SRT held its first Annual Picnic for all employees as a way to thank them for their contributions. This picnic is voluntarily organized by the SRT Employee Welfare Committee, which is made up of locally hired employees. The event aims to help employees unwind from daily work duties and get to know their coworkers better.

In fiscal 2007, the year production started. SRT held four picnics, each for a different work shift, for a total of 700 employees. Activities like games, dancing, and karaoke made it a lively affair and a big hit with participants.



Enjoying lunch in the cafeteri



SBT reaches the 1-million tire mark



In January 2008, SRT obtained certification for ISO 14001. just two years after starting operations



### CSR of a Global Company 4 Feature

### Creating an Environment Where Women—60% of All Employees—Can Work with Motivation

At SRT, over 60% of employees are young women. The company uses Taiyo, a new production system that the Sumitomo Rubber Group introduced in 2002, to lighten worker burden and raise productivity. With these female employees in mind, SRT went further by eliminating stairs and lowering work tables, thus making it easier to move heavy loads around the factory. These modifications made SRT unique in that it boasted female-worker-friendly production lines.

The SRT factory also has an air-conditioned break room for all employees. In Thailand, most workers spend their break time outside and there are very few companies with air-conditioned break rooms for employees. This makes SRT's room a huge hit with employees.

But simply providing a pleasant work environment is not enough: companies operating overseas have to give local employees a significant role in operations. That's why SRT is recruiting local employees for management positions, with 13 (including two women) appointed so far.

It is also important to raise employee motivation so that all employees have something to strive for in their jobs. To this end, SRT created scorecards on which managers assess what employees are doing and how well they are doing it, thus encouraging employees to set their own high targets. SRT also displays these score cards in the workplace to improve transparency in the assessment process. The Sumitomo Rubber Group will continue to create pleasant work environments for both men and women so that local employees have a motivating place to do their jobs.





### A Pleasant Workplace Allows Women to Use their Attention to **Detail and Allows Us to Make** the World's Best Tires

At first, I wondered if women could make tires. But after I started work I realized that physical strength was not an obstacle. In fact, since I started working, I think I've lost weight and am slimmer and healthier.

The work environment is also good: I enjoy talking with my coworkers in the clean cafeteria or in the air-conditioned break room. I look forward to going to work everyday.

Since tire manufacture requires meticulous attention to detail, I thought that it would be the perfect job for women. My coworkers and I will continue to make the world's highest quality tires.

# **For Our Stakeholders**

For Customers ·····
For Suppliers
For Local Communi
For Employees ·····
For Shareholders a



No more stairs, and easy transport of heavy materials



Lowering the work tables makes it easier for woman to do their job



As part of efforts to provide a pleasant work environment. SRT has maternity clothing on site for use by expectant mothers



Air-conditioned break room



Score cards are displayed in the workplace



			 •••	p25
			 •••	<b>p2</b> 9
es	•••		 •••	p31
			 •••	p33
		4		

# **For Customers**

All Group companies address group-wide quality improvement activities and endeavor to Create the Ultimate Quality by carefully listening to customers.

### **Highlights**

### Nikkei Superior Products and Services Award Received for the Second Consecutive Year

Our VEURO VE302, a premium comfort radial tire for passenger cars, won the Nikkei Business Daily Award for Superiority at the 2007 Nikkei Superior Products and Services Awards. These annual awards publicly recognize excellent new

products and services, and the ENASAVE ES801, a 70% fossil resource-free tire from the Sumitomo Rubber Group, won the same award a year earlier. The Group has received the award for two consecutive years.



### **Customers of the Sumitomo Rubber Group**



### Quality Management System

### All Group Companies Address Group-Wide Quality Improvement Activities under the Policy of Creating the Ultimate Quality

The Sumitomo Rubber Group believes its mission is to provide products that satisfy customers by listening to what they have to say. The Group's corporate philosophy is to meet customer expectations with ever-higherquality products manufactured after careful observation of actual markets.

Creating the Ultimate Quality is the fundamental quality policy of the Group to address group-wide quality improvement activities.

The Sumitomo Rubber Group's quality management system is structured in compliance with the ISO/TS 16949\* international standards for automotive and service parts. The Group is also active in establishing overseas quality management systems. In March 2007, the Thai Factory (for tire production) acquired ISO 9001 certification. In June 2008, the factory plans to acquire ISO/TS 16949 certification\*.

 ISO/TS 16949: Quality management system standards based on ISO 9001 to which requirements specific to the automobile industry are added.

### Acquisition of Certifications for Quality Management Systems

Factory	Covered Products	Date Certification Acquired
Chivelyour Nessue		August 1995—ISO 9002 by factory
Sililakawa, Nayoya,	Tires	November 2000—QS 9000 and ISO 9001
zumiontsu, ivilyazaki		March 2004—ISO/TS 16949
China	Tiroo	December 2004—ISO 9001
(Changshu/Suzhou)	Tiles	February 2006—ISO/TS 16949
ndonesia	Tires	July 2001—ISO 9001
		January 2005—ISO/TS 16949
Theiland	Tires	March 2007—ISO 9001
Inaliand		June 2008—ISO/TS 16949 (scheduled for certification)
Kakogawa	Blankets for offset printing presses, Marine fenders	July 2003—ISO 9001
Malaysia	Variaus rubbar glausa	July 1995—ISO 9002
	various rubber gloves	July 2003—ISO 9001

### QC Central Committee



Management Review
 Debriefing session with the President: monthly

### • QC Central Committee

As the supreme organ with regard to the quality of all products and operations of the Sumitomo Rubber Group, the QC Central Committee determines and prepares annual policies, priorities, and financial targets, and follows up on the results. (Meetings of the QC Central Committee: twice annually) • Each QC committee As subordinate organizations of the QC Central Committee, the QC committees prepare their respective policies at the QC committee level in line with the Central Committee's business policies. Each QC committee proposes quality targets for each division and promotes the improvement of product and operating quality. To raise the efficiency of QC activities, each QC committee may establish subcommittees and/or ad hoc committees and follow up on their activities. (Debriefing sessions of each QC committee: three times annually)

### **Initiatives to Improve Product Quality**

Presentation of Quality Improvement Cases and Recognition of Excellent Cases that Could Lead to the Enhanced Operating Quality of Employees

The Sumitomo Rubber Group, centering on the QC committees, believes business quality at the administrative and sales divisions should be included in the broader sense of quality. Based on this idea, the Sumitomo Rubber Group provides high-quality products and services.

Since fiscal 2004, the Group has held QC-related events to consistently raise awareness of quality among employees of the Group companies. For example, QC presentation meetings and a contest to find and reward the best slogans are held during the quality month of November every year at business offices in Japan and overseas. The Quality Improvement Cases Presentation Meeting is a group-wide event held at the Kobe head office. Presentations cover not



Quality Improvement Cases Presentation Meeting

# *Topics* 8th Highest Ranking in

# Total Quality Management

After getting the results of the fiscal 2005 Total Quality Management survey, which was sponsored by the Union of Japanese Scientists and Engineers, Sumitomo Rubber Industries, Ltd. started companywide quality improvement activities (product quality and business quality) under an initiative of the President. Such activities include conducting customer satisfaction surveys and recording the feedback of the results, reinforcing the purchasing system, and restructuring the education and training systems, in addition to our previous QC practices, thereby improving people's awareness of quality as well as raising product and business quality. As a result of these activities, the Company achieved the 8th highest ranking among 523 companies in the 2007 TQM survey.

We at the Sumitomo Rubber Group will make further efforts to improve the quality management level from a global perspective. Quality Policies of the Sumitomo Rubber Group
 Responses in the Event of Product Safety Problems

only cases of quality improvement in the technical and manufacturing divisions, such as reductions in the defective percentage, improved yield rate, and reductions in the number of complaints, but also cases in the administrative divisions including logistics and sales. As a result, the Group companies can share valuable information on customers and market needs. The recognition of excellent cases leads to enhanced operating quality by employees at their worksites.

### **Recall of Tires for Motorcycles**

It was discovered that there may be a serious defect on the tread portion (the rubber layer that touches the road surface) of three different sizes of rear tires. These tires were outsourced for consignment production to an overseas manufacturer. The affected tires include the DUNLOP SCOOTLINE SX01 model—mainly used for big scooters—which has been manufactured and sold by Sumitomo Rubber Industries, Ltd. since April 2007. Deformation and separation of the tread portion can result if a scooter in question continues to be used. In the worst case scenario, such peeling of the tread could cause the scooter to go out of control and topple over.

Sumitomo Rubber Industries, Ltd. has therefore applied to the Ministry of Land, Infrastructure, Transport and Tourism to do a recall. The Company would replace the relevant tires at no cost to ensure the safety of users.

We deeply apologize to our users and to others affected, and we will immediately take the necessary corrective measures. At the same time, we intend to reinforce our initiative to prevent a reoccurrence by focusing first on customer safety.

Learning from this recall incident, the Company will upgrade and strengthen its quality management to prevent a reoccurrence through reinforced and stricter manufacturing process management and product inspections.

### Quality Management at Production Companies

### Conducting Regular Audits and Training Sessions at Companies to which Manufacturing Is Outsourced

The Sumitomo Rubber Group continues to conduct quality audits at the companies to which it outsources manufacturing. The audits by Sumitomo Rubber Industries, Ltd.'s Tyre Quality Assurance Dept. aim to evaluate the status of quality through audit and training activities by regular visits to the suppliers in collaboration with the relevant departments to ensure the quality of purchased goods. In fiscal 2007, audits were conducted at companies to which the Company had outsourced manufacturing. During fiscal 2008, the Company will establish the Tyre Quality Supervision Office and place dedicated staff in charge of further quality improvement at companies to which manufacturing is outsourced.

The Company will further strengthen quality management measures regarding manufacturing process control and product inspections through future quality audit activities.

### For Customers

### Customer Feedback Improves Our Products and Services

### Customers' Opinions, Requests and Complaints are Collected, by Business Segment, at the **Customer Support Center and Immediately Fed** Back to the Related Departments

The Sumitomo Rubber Group has established the Customer Support Center within the storefront quality assurance or sales departments at each sales office as the department in charge of addressing customer feedback. Opinions and requests collected there are responded to appropriately, and the valuable information acquired is effectively used to improve our products and services.

In addition, the Customer Counseling Corner handles inquiries and complaints regarding the business concerned.

### Tire Business

The Tire Business opened the Customer Counseling Room in fiscal 2001. The Tyre Technical Service Dept. analyzes the information collected from the Room weekly, and frequent complaints are transmitted to the relevant departments to further improve product quality and service.

The Room conducts regular questionnaires regarding products and brand image to review and analyze changes over time in satisfaction and requests on the use of tires. The results are then used for new product development and sales promotion.

In fiscal 2007, 7,639 inquiries were collected addressing such issues as dimensions, weight and tire wear. Improvement measures were carefully studied and implemented. Typical inquires are included as FAQs on the Company's Web site, and the FAQs can also be accessed toll-free from mobile phones



Customer Counseling Room of Dunlop Falken Tyres Ltd.

### Number of Customer Inquiries in the Tire Business



Note: The number of inquiries includes telephone calls, e-mail, and postal mail within Japan

### Sports Business

SRI Sports Ltd. positioned dedicated staff at its Customer Support Center in fiscal 2003 to handle inquiries from customers via telephone calls and e-mail. The collected opinions, requests, and complaints are tabulated and analyzed every month, and the summarized results are communicated to the relevant internal departments so that they can be used in future business operations.

In fiscal 2007, SRI Sports Ltd. established the After-Sales Service Center and has endeavored to reduce the delivery time for investigations and repairs.

In the pursuit of higher customer satisfaction, SRI Sports Ltd. intends to make speedier responses and enhance collaboration with the merchandise departments and the quality assurance departments.

### Number of Customer Inquiries in the Sports Business



Note: The number of inquiries includes telephone calls, e-mail within Japan

### Industrial and Other Products Business

Dunlop Home Products Ltd. engages in the sale of gloves and gas hoses for consumers and has its own Customer Support Center. Opinions and complaints collected by the counseling service are reflected in the improvement of existing products and services.

The number of customer inquiries tends to increase as the sales volume of our products rises. In fiscal 2008, Dunlop Home Products Ltd. enhanced the information disclosure on its Web site and provided training on dealing with customers at storefronts to help ensure that consumers can purchase the Company's products with a sense of security.

### Number of Customer Inquiries in the Industrial and Other Products Business



Note: The number of inquiries includes telephone calls, e-mai within Japan

### Product Development that Meets Changing Requirements

### Spareless Technology Allows Us to Improve **Driving Safety and Environmental Performance**

Ensuring the appropriate air pressure of tires is indispensable for secure driving. Consequently, it has been compulsory in the United States for four-wheel vehicles (weighing 4.5 tons or less) sold since September 2007 to have a tire pressure monitoring device.

To meet such a requirement, Sumitomo Rubber Industries, Ltd. has developed and is providing a new technology that eliminates the need to carry a spare tire by making it possible for a car to continue driving a certain distance even if the tire pressure drops. Of course, we are also supplying tire deflation warning systems.

This innovative technology improves safety for driving and contributes to environmental preservation such as resource and energy conservation in a broad sense because it is no longer necessary to mount and use a spare tire as a replacement for a possible puncture.





**CTT Runflat Tire** This type of tire enables driving for a certain distance at a specified velocity by supporting the car's weight with the reinforced rubbe inside the sidewall portion of the tire even if air pressure is lost.

### PAX System Tire with Inne Support Ring This type of tire enables driving for a certain distance at a specified velocity by supporting the car's weight with the support ring inside

the tire even if air pressure is lost.



### **DWS: Deflation Warning System**

The system quickly sets off an alarm after detecting a reduction in the air pressure of tires by comparing, adjusting, and computing the tire rotation velocities of the four wheels



Tire Puncture First-Aid Renain Kit (IMS: Instant Mobility System This kit is included with small cars due to its light weight and compactness

Topics: Tire Shows Held in Thailand and China

### **Provision of Product Information**

### The Company Conducts Public Fuel **Consumption Tests to Demonstrate Product** Performance to Customers

In April 2007, Sumitomo Rubber Industries, Ltd. released ECORUT SP678, a new low-fuel-consumption all season truck and bus tire with considerably lower rolling resistance than previous models.

During fiscal 2007, we conducted open fuel consumption tests in five cities nationwide, starting at the Tohoku Expressway on April 5, 2007, to allow people to observe the performance of our tires. A number of guests were invited to the tests, and it was clear from the tests that the ECORUT SP678 is 16% better on average in terms of fuel

consumption than the corresponding SP660 predecessor model.

The test results were reported to the Technical Division and used to further develop enhanced low-fuel-consumption tires.



Open fuel consumption test

### Educational Activity on Traffic Safety

### Industry Groups Offer Educational Activities on How to Use Tires Properly

Three domestic industrial associations, including the Japan Automobile Tyre Manufacturers Association (JATMA), have established April 8 as Tire Day and conduct diverse educational events nationwide to showcase the proper use and maintenance of tires. In 2007, the three associations conducted 33 tire inspections nationwide. On these occasions, they distributed a leaflet titled How to Use Tires Effectively, which addresses the adequate use and maintenance of tires and the importance of air pressure management.

These industry organizations intend to continue their

efforts by placing ads on the Internet and signs at tire shops, and distributing leaflets, to raise awareness among drivers on the proper use of tires.



Inspection on Tire Day (April 8, 2008)





Leaflet titled How to Use Tires Effectively

# **For Suppliers**

The Sumitomo Rubber Group endeavors to conduct fair and appropriate transactions to establish credible partnerships with our suppliers through open procurement activities.

### **Highlights**

### **Procurement Guidelines (Version 3)** Issued

The revised Industrial Safety and Health Law, which was implemented in April 2006, requires tire manufacturers to investigate the risks and hazardous characteristics of raw materials and take necessary measures based on the investigative results. Meanwhile, automobile manufacturers are pursuing higher environmental performance of the tires used for their cars. In view of these circumstances, in September 2007, the Company issued the Procurement Guidelines (Version 3), which integrated an extended list of restricted chemical substances and substances that must be clearly identified if included in a product. The Company held several explanatory meetings to educate suppliers and request that they comply with the Procurement Guidelines.



### Suppliers of the Sumitomo Rubber Group

Industrial and other products business



### **Procurement Policy**

### Establishing Credible Partnerships with Our Suppliers through Fair and Open Business Activities

A trustful relationship with our business partners is essential for producing better products. To ensure fair and open business operations, the Sumitomo Rubber Group uses centralized purchasing and has prepared and implements the Procurement Guidelines to establish solid partnerships with our suppliers.

The Group's centralized purchasing covers all procurement operations to integrate suppliers, procurement volumes, and goods, except those handled by SRI Sports Ltd. and SRI Engineering Ltd., for which the lines of business are completely different from those of the Company. The standardization of parts for common use is also promoted by taking advantage of the centralized purchasing.

In fiscal 2004, the Group issued the Procurement Guidelines in which procurement policies, requirements, and various procedures are detailed. In the Version 3 guidelines, which were revised in fiscal 2007, the Group extended the list of prohibited chemical substances and added substances that must be clearly identified if included in a product, in response to recent revisions to the Industrial Safety and Health Law and changes in customer requirements.

The Group carefully monitors human rights and labor issues at overseas natural rubber plantations and worksites for sports gear and apparel.

### A Word from an Employee

### Equal and Fair Selection Processes for Suppliers

### Maki Takaishi

Purchasing Dept., Sumitomo Rubber Industries, Ltd.

We strive to make appropriate and fair transactions at the purchasing stage in negotiating with the representatives of suppliers. Setting the same conditions and environment for proposal requests is necessary to ensure equal and fair judgments in selecting the best providers of the goods to be purchased.

### **Communications with Suppliers**

# Holding Explanatory Meetings on the Procurement Guidelines

Our technical division handles inquiries from suppliers and consulting on technical and engineering features, whereas the Purchasing Dept. resolves contract-related matters.



Explanatory meeting for our suppliers

All the information is integrated into the Purchasing Dept.

If the Sumitomo Rubber Group formulates or revises the Procurement Guidelines, it holds meetings to explain its basic procurement policies to suppliers, at the appropriate time, so that they can better understand the newly added or revised points. In September 2007, an explanatory meeting was held when the Procurement Guidelines (Version 3) were issued.

### Appropriate and Fair Transactions

### Continued Training for Purchasing Staff to Ensure Strict Compliance with the Subcontracting Law

Within the Sumitomo Rubber Group, the staff of the Legal Dept. and the Purchasing Dept. of Sumitomo Rubber Industries, Ltd. have conducted joint inspections since September 2003 at the departments and sections of the respective Group companies to comply with the Subcontracting Law. In fiscal 2007, we conducted inspections at the purchasing sections of our four domestic tire factories.

In addition, the staff of the Purchasing Dept. attended outside training sessions and held study meetings about the Subcontracting Law to accumulate expertise on this subject.

SRI Sports Ltd. provides instruction, as required, on the observance of the Subcontracting Law to relevant departments and sections.

The Group will continue to conduct appropriate and fair

transactions in combination with the inspections at the relevant departments and sections, as well as training for the staff in charge of purchasing.



Study meeting on the Subcontracting Law

### Open Procurement on Our Web Site

### Reinforcing the Web Site Auction as a Promising Material Procurement Method Open to the World

With the aim of realizing materials procurement accessible worldwide, the Sumitomo Rubber Group set up an open procurement system on its Web site in fiscal 2004.

If a corporation satisfies the criteria in the Procurement Guidelines stipulated by the Company with regard to such requirements as chemical substance management, the applicable corporation may participate in a material procurement auction of the Group regardless of its previous transaction results. Given the features of the Web site, overseas entries are, of course, available. The Group is confident that this procurement channel will become an effective and useful means for the global procurement of raw materials.

In fiscal 2007, we carried out 62 auctions.

In fiscal 2008, we will strive to increase the number of goods covered and the number of auctions held.

### Collaboration for Better Safety and Quality

### Conducting Inspections and Calling for Participation in the Quality Improvement Campaign to Ensure Quality and Safety at Suppliers' Factories

Since fiscal 2004, the Sumitomo Rubber Group has conducted risk management examinations (factory audits) at the factories of suppliers. These examinations include inspections by staff of the Tyre Quality Assurance Dept., the Engineering Dept., and the Purchasing Dept. to address risk management improvement in the event of a possible emergency. These inspections check and evaluate such areas as fire-related countermeasures, the inventory of necessary materials and tools, and the status of aging equipment and facilities. Based on this evaluation, we point out weaknesses and provide guidance to improve the factories to acceptable levels. In fiscal 2007, we conducted inspections at raw materials manufacturers following up on similar efforts in fiscal 2006.

Furthermore, to improve product quality in collaboration with our respective suppliers, we called for in-house campaigns at our major suppliers during the annual quality month of November. In fiscal 2007, 86 business bases of 84 suppliers, which accounted for 97% of our 89 business bases at 86 suppliers, responded to the call of the Group and

participated in such activities as posting signs and total quality inspections. In fiscal 2008, the Group will commit to further quality improvement activities jointly with its suppliers.



Audit at a business partner

### A Word from an Employee

Giving Consideration to the Work Environment and the Health and Safety of Employees of Non-Group Subcontractors

### Nozomi Furui

Purchasing Dept., Sumitomo Rubber Industries, Ltd. (stationed at the Shirakawa Factory)

There are employees of cooperative companies working at the Shirakawa Factory.

We conduct patrols at the worksites of these cooperative companies to ensure health and safety, as well as a positive work environment. Should areas for improvement be found, we provide guidance for implementing the necessary measures and share successful solutions with other subcontractors.

# **For Local Communities**

The Sumitomo Rubber Group is aggressively engaging in CSR Activities that conform to its CSR Philosophy and CSR Guidelines and emphasizing its employees' GENKI (which means "lively and energetic" in Japanese) volunteer activities.

### **Highlights**

### Launched the Acorn Project— Planting for the Future with Each **Factory Becoming a Green Factory**

In March 2008, the Sumitomo Rubber Group launched the Acorn Project—Planting for the Future with each factory becoming a Gre Factory and reinforcing activities to plant acorns as part of the group-wide activities to nurture forests. Under the guidance of Akio Shimomura at the Faculty of Agriculture of the University of Tokyo, each Group factory strives to become a base for

green initiatives in the local communities where the Group's business sites are located through various activities that harness the factory's ow characteristics and potentia trees in cooperation with community residents thereby contributing to loca



### **Tree Planting Plan for the Acorn Project**

### **Targets for Planting Trees**

Period for the Plan	25 years
Period for Planting	10 years
Number of Trees to Be Planted a Year	20,000 trees
Total Number of Trees to Be Planted	200,000 trees

### **CO2 Absorption Volume**



- Note 1: The indicated values are based on the computations of a green initiative adviser outside the Company.
- Note 2: CO<sub>2</sub> absorption volume means the volume of CO<sub>2</sub> absorbed by leaves. It does not mean fixed CO<sub>2</sub> volume (the volume of CO<sub>2</sub> that turns into xylem). (Reference: "Green Initiative Manual for Cleansing Air" by the Pollution-Related Health Damage Compensation and Prevention Association)

### Basic Philosophy for Our Social Contribution Activities

### We Promote Environmental Protection and Social Contribution Activities for Local Communities in Compliance with Our CSR Philosophy

The Sumitomo Rubber Group actively engages in social contribution activities including GENKI ("lively and energetic") activities at each base (See pages 19-20).

In February 2008, we formulated the CSR Philosophy and the CSR Guidelines (See page 8), in which we designated the promotion of social contribution activities as a guideline for implementing "Integrity" (for stakeholders). In the future, in conjunction with the CSR Philosophy and the CSR Guidelines, we will develop continuing activities at each base such as the green initiative looking ahead to the Group's 100th anniversary, thereby contributing to environmental protection and communities as a corporate citizen.

### **Green Initiative**

### The Acorn Bank, in which Community **Residents and Our Employees' Families** Can Participate

As one of its CSR Guidelines, the Sumitomo Rubber Group promotes "Green" initiatives in the local communities where it operates. As part of such efforts, we developed the Acorn Project, in which we immerse ourselves in nature by picking acorns and growing acorn trees from collected acorns. thereby increasing the greenery in our forests.

In October 2007, we established the Acorn Bank so that our employees' families and community residents could also participate. From September through November 2007, as many as 420,000 acorns were collected throughout Japan. We will carefully nurture the collected acorns, offer seedlings to communities, plant acorn trees and use them for the greening of each Group factory.

We will continue the green initiative nationwide.

### **Outline of the Acorn Project**



### Support Physically Challenged People

### Co-Sponsorship of a Go-Kart Race to Promote the Coexistence of Physically **Challenged People and Youth**

Sumitomo Rubber Industries, Ltd. (the Company), supports an NPO, the HDX Association, that promotes the Hand Drive Xross Go-Kart race. Aiming to realize the coexistence of physically challenged people with other people in a diverse society, the HDX Association holds a go-kart race in which people with lower limb disabilities and youth jointly participate and enjoy. With an aim of helping to nurture youth, this event provides opportunities for interaction among people regardless of disability, thereby leading to compassion and a better understanding of each other.

The Company has cosponsored this event since 2005. In 2008, we intend to continue supporting this event to help achieve a barrier-free society.



The HDX event

### **Co-Sponsorship of a Volleyball Team** in Changshu, China

Under our policy to reinforce CSR activities in China, we have cosponsored China's No. 1 men's volleyball team since July 2007 to encourage sports activities in Shanghai, where we operate. This team has a representative in the Olympics.

This co-sponsorship has made the Company a

crown sponsor, and the team's name will include "Dunlop." The team has already won five consecutive league matches. We will continue to support and encourage the team, thereby enhancing our "Dunlop" brand value and raising our employees' motivation.



Co-sponsorship of a Shanghai volleyball

### Aid to a Devastated Area

### Each Group Company Contributed to the Earthquake-Stricken Area on the Niigata Chuetsu Shoreline

An earthquake that hit the Niigata Chuetsu shoreline on July 16, 2007, caused considerable damage to Niigata Chuetsu and the vicinity.

Sumitomo Rubber Industries, Ltd. contributed ¥3 million in aid to a social welfare entity, the Niigata Community Chest, and ¥3 million worth of goods and supplies to the Niigata Disaster Countermeasure Headquarters. Also, as part of GENKI activities, we contributed ¥1,171,192 collected through a contribution campaign at offices and factories to the Niigata Branch of the Japanese Red Cross Society. The Dunlop Falken Tyres Group also contributed ¥540,000 via Nikkei Inc.

### Measures Taken in the Tire Industry to Address Social Issues

### Participating in the WBCSD, We Address Common Issues Related to **Raw Materials and Tire Dust**

In January 2006, the Sumitomo Rubber Group joined the World Business Council for Sustainable Development (WBCSD) in which 190 international companies from more than 30 countries discuss various issues. Since then, we have been working on the WBCSD's tire project.

Through the Project, members from 11 tire manufacturers in various countries address common issues concerning raw materials and tire dust-related environmental, health and safety issues.

### A Word from an Employee

### **Volunteer Activities Enhance Compassion**

### Yayoi Haraikawa Shirakawa Factory,

Sumitomo Rubber Industries, Ltd.



I participated in a volunteer activity at a welfare facility, the Taiyo-no-kuni Facility for Social Welfare. I helped a person in a wheelchair. Someone asked me to participate in the wheelchair relay race. I tried. Because it was my first time using a wheelchair, at first I was at a bit of a loss. But when I experienced it by myself. I felt much closer to the people who use that facility.

One of the merits of volunteer activities is to become compassionate through interaction with people. As the secretariat of GENKI activities. I would like to help create a good mood and culture that makes it easier for the Company's employees to participate in similar activities

# **For Employees**

We will enhance employees' fulfillment by reinforcing systems and structures so that employees can work in a positive atmosphere and with job satisfaction.

### Highlights

### Making January 17 Disaster Prevention Day

Our company was directly affected by the Hanshin Awaji Earthquake. So that we will not forget that experience, we named January 17, the day of the earthquake, as Disaster Prevention Day for the Sumitomo Rubber Group, effective in 2008.

On the first Disaster Prevention Day, we held a disaster prevention liaison meeting at the Head Office. Related events were also held at each factory.



### Employees of Sumitomo Rubber Industries, Ltd.



### **Occupational Health and Safety Management Activities**

### We Emphasize Enhanced Awareness in Aiming for Zero Danger and Zero Occupational Accidents

The Sumitomo Rubber Group promotes health and safety in cooperation with the labor union and the Group companies to maintain employees' safety and health and a pleasant work environment. Because many occupational accidents are caused by unsafe activities, we have promoted the slogan "Change workers' attitude for awareness—Do what you are supposed to do" since 2005.

In 2007, we engaged in health and safety management activities with all employees participating. Although the Group's number of occupational accidents is declining, the rate of accidents of the same or similar kinds is high. In 2008, with the aim of achieving zero occupational accidents by creating a safe workplace, we will promote three principles for the zero occupational accident campaign—Zero occupational accident, Preemptive caution and All employee participation.

In 2007, we obtained the OHSAS 18001 international certification for occupational health and safety at our Chinese factory. In 2008, preparation is under way to obtain the same certification at the Miyazaki Factory and our factory in Thailand.





President Mino patrols for safety

### Organization Chart for Occupational Health and Safety Management Activities

The Sumitomo Rubber Group's offices and factories

Head Office (Kobe and Tokyo), Shirakawa Factory, Nagoya Factory, Izumiohtsu Factory, Miyazaki Factory, Ichijima Factory, Kakogawa Factory



### Occurrence of Occupational Accidents (Ratio of occupational accidents requiring medical leave\*)

### - All industries - Manufacturing industry - Sumitomo Rubber 2.5 (1.95)(1.90) (1.83) (1.85) 2.0 (1.78) 1.5 0 (1.10)(0.99) (1.02) (0.98) 1.0 (1.09) 8 0.5 (0.32) (1.01)0.33 (0.73) (0.71) 0 2007 2003 2004 2005 2006 (FY

 Occupational accident ratio: Number of persons killed or injured by occupational accidents per cumulative million service hours

Occupational accident ratio = Number of persons killed or injured by occupational accidents/Cumulative actual service hours x 1,000,000

### Safety Audit and Safety Observation

### We Will Continue Using Worksite Patrols to Eradicate Unsafe Activities and Situations

Aiming to achieve zero accidents by improving the health and safety standards at each factory via safety audits, the Sumitomo Rubber Group has been conducting audits on safety-related documents and worksite patrols using checklists since 2004. In 2007, we audited five overseas factories and three domestic factories including affiliates.

At factories, the staff proactively conducts safety observations to check the consistency of work standards and the actual work, and to discover and improve the defective parts of equipment. For example, at the Shirakawa Factory, the staff conducted 146 work audits and 69 construction audits; observed work standards and the actual work, providing guidance with regard to items for which the actual work was below the standard; and noted some important points.

In 2008, we will continue to promote safety audits and safety observations to eradicate unsafe activities and situations.





Safety indicators

Safety declaration and number of no-accident days

# Topics

### Safety Measure Training Center to Disseminate Safety throughout the Group

In March 2007, we established the Safety Measure Training Center at the Shirakawa Factory. Our analysis of past occupational accidents showed a lack of safety knowledge or the safety basics having been forgotten, that is, a danger was not recognized as being dangerous. Problem areas were not addressed fully. The purpose of the Safety Measure Training Center is to remind employees of the basics of safety repeatedly, thereby nurturing workers who work safely.

The Safety Measure Training Center holds training sessions that are open to all employees including those of the non-Group subcontractors. Since October 2007, we have been providing education through actual experience using devices that re-create quasi-dangerous situations. Also, through study meetings to analyze past occupational

accidents to clarify the causes, we strive to raise employees' awareness and increase their knowledge. In 2008, we will further reinforce the Safety Measure Training Center.



Safety Measure Training Center

Safety Education
 Healthcare for Employees

### Improvement of the Work Environment

### Improving the Work Environment for Employees' Better Mental and Physical Health

The work environment has a tremendous influence on employees' mental and physical health. With a goal of creating a pleasant work environment, the Sumitomo Rubber Group undertakes general worksite environmental measures to ensure appropriate temperature, clean air circulation and a positive worksite where workers can concentrate on their work, thereby helping to improve employees' mental and physical health.

### Asbestos

### Health Checkups for Retirees

At Sumitomo Rubber Industries, Ltd., one person had died of lung cancer caused by asbestos and two had died of mesothelioma as of May 2008. All three cases were recognized as occupational diseases. Although asbestos had been widely used in Japanese industry, and the Company had also used it within the legally permitted limit, currently we do not manufacture any products, including tires, that contain asbestos.

The Company has conducted health checkups for retirees since March 2007. Through December 2007, 60% of retirees had undergone a checkup, and we have addressed the results pursuant to the law. On April 1, 2007, we established a Special Compensation System for Asbestos Harm and in case the cause of a person's disease is determined to be asbestos, the Company provides special compensation based on its own standards.

### A Word from an Employee

### Communication Is Important for Mental Health

### Sumio Tominaga

Industrial Physician of the Health Management Center

The current issues that I need to address as an industrial physician are 1) mental healthcare, 2) metabolic syndrome, and 3) smoking prevention. The number of persons who need mental healthcare is increasing every year. Through interviews with employees, I have concluded that long work hours do not always cause their mental disorder but communication with supervisors and/or coworkers does have an effect.

In our e-mail-oriented society, we have fewer opportunities for direct conversation. However, good communication comes from face-to-face dialogue and listening to each other well. To maintain good mental health, I would like to help expand communication circles.





### **For Employees**

### Creating a Workplace that Makes Life Easier for Men and Women

### Reinforce the System to Help Employees with **Babies and Aggressively Dispense Information**

To provide a good work environment where employees with babies can keep a good balance between work and child care, in 2007 Sumitomo Rubber Industries, Ltd. introduced a reduced-hour service system through which employees can choose options to work 5–7 hours a day. We also revised the child-care leave period from a maximum of one year to two years. In addition, the Mutual Aid Association began providing a subsidy at the time of birth and the use of a babysitter.

Furthermore, we established a work-life balance team to introduce these beneficial systems using an in-house magazine and via the intranet, thereby increasing the rate of participation in such systems and creating a corporate culture in which cooperation is easier to achieve. The in-house magazine carried an article on discussions among the users of such systems to gain a better understanding of various work styles.

Nursing care leave of up to one year is also available.

The Mutual Aid Association provides a benefit for those who take nursing care leave and users of a caregiver. In 2008, we will encourage more employees to use these



henefits

Held a discussion among the users of these systems which was included in the in-house magazine

### Number of Persons who Took Child-Care Leave or Used a **Reduced Work Hours Option in 2007**

	Male	Female
Child-care Leave	0	15
Reduced Work Hours Option	0	6
Nursing Care Leave	0	0

### A Word from an Employee

### Workers Helped Me Make **Use of the Reduced-Hours Service System**

### Sonoko Sugimoto

Technical Dept. IV, Tyre Technical Hqs. Sumitomo Rubber Industries, Ltd.

I have two children: one is 7 years old and the other is 4. When I worked full time, it was difficult to take them to school and bring them home; it was difficult to take them to the hospital immediately when they got sick; and I couldn't spend enough time with them. When the new system began in April 2007, I immediately applied to participate. My coworkers understand my situation and are really cooperative

To me, both work and motherhood are important. I would like to carefully nurture both aspects. Although I need to direct more focus on child care now, I will surely work harder when my children have grown. I hope this reduced-hour service system will be extended so that I can participate when my children are in elementary school

# ODICS

### **Certified as Kobe's Better Workplace** for Men and Women

In 2007, Sumitomo Rubber Industries, Ltd. was certified as Kobe's Better Workplace for Men and Women, which is awarded by the City of Kobe to publicly recognize companies that make active efforts to create a good workplace for men and women.

The Company was evaluated highly for its fair and easy-to-understand personnel system and appointments

to executive posts, efforts to extend the child-care leave period and introduction of the reduced-hour service system, thereby reinforcing the system to help nurture the next generation.



and Women award ceremony

### Human Rights

### **Protections Against Human Rights Abuses** such as Sexual Harassment

The Sumitomo Rubber Group is committed to protecting each employee's human rights, with a clearly written statement in the Company's Code of Conduct: "No one should be discriminated against or harassed because of ideology, belief, religion, race, color of skin, nationality, social origin, gender, age or physical handicap."

To prevent sexual harassment, we formulated a regulation that was disseminated to all employees and established a contact for counseling. We also established the Compliance Counseling Room so that those who suffer from any possible human rights abuse can reach out for counseling.

# ODICS

### Implemented the "Love Your Work! Project"

Since 2007, the Sumitomo Rubber Group has conducted the "Love Your Work! Project," which is an in-house campaign to nurture a corporate culture in which all employees of the Group can have a feeling of attachment to their work and the

company. Through the

campaign, we offer various opportunities to acknowledge each employee's work ethic.



Educational poster for the project

白) On the Web

 Basic Policies for Employment Diversity of Employment Practices including reemployment of retirees and employment of physically challenged persons

Opportunities for Friendships among Employees Sound Labor-Management Relation

### Developing Each Employee's Abilities

### New Training to Streamline and Globalize Operations

The Sumitomo Rubber Group aggressively supports efforts to develop each employee's abilities through various programs including training for employees at each tier, training to nurture executives, training to foster overseas personnel, programs to enhance self-development and on-the-job training.

In 2007, we conducted new programs such as Training to Rationalize the Work Process for 454 employees in the Business Management Division, Line Management Training for 107 General and Senior Managers and Training to Prepare for Overseas Postings for 27 newly appointed overseas staff.

In 2008, we will offer Line Management Training to General and Senior Managers to improve on-site management capabilities and the ability to nurture subordinates. To address the ongoing globalization of business, we will newly offer Training to Nurture Overseas

Personnel, which includes basic education regarding overseas business and language education, thereby quickly nurturing personnel who can support our overseas

business expansion.



Training to streamline work process

# opics

### **Opened a Manufacturing Training Center**

The Sumitomo Rubber Group launched the Manufacturing Training Center on January 1, 2007. This center was established to promote continuing education on manufacturing for domestic and overseas factories, thereby reinforcing manufacturing capabilities at each factory and nurturing onsite leaders.

In 2007, we implemented training for new supervisors at each factory, candidates for supervisors and future supervisors at overseas factories, with 105 persons attending. In 2008, we will increase the number of training sessions and enrich the content. Moreover, we will establish a training center within the premises of the

Shirakawa Factory (scheduled to open in February 2009) to enable high-quality and intensive training and education.



Scene of onsite training

http://www.srigroup.co.jp/ecopedia/eco\_report.html

Expansion of Job Opportunities for Women

 Fair Evaluation and Treatment (Employee evaluation system, examinations for promotion

# ODICS

### **Established the President Online**

In November 2007, we established the President Online on the Company's intranet. The name was changed to "Mino Online" in January 2008. This site started with Mr. Mino's wish to communicate more with employees. The site includes not only his requests to employees but also a wide range of content including what is on his mind, impressive encounters with people, and his impressions of overseas business trips. This is updated every one or two weeks.

Feedback and comments from employees are welcome to establish interactive communication.



President Mino working on a PC

### Reflecting Employee Ideas in Management

### Management Understands Employees' Thinking through Discussions between the President and Employees and the Employee Questionnaire

The Sumitomo Rubber Group periodically provides opportunities for management and employees to share problem consciousness and exchange opinions. In 2006, Mr. Mino invited 10 employees from each tier to listen to employees' requests to the Company and exchange opinions. This exchange has continued to date, and the number of attendees so far has exceeded 550.

In 2007, we conducted an employee questionnaire, asking 1,900 administrative and technical staff about their satisfaction with work, the workplace, supervisors, the Company and the Company's future prospects. The results were reported to all employees via the in-house magazine. We will conduct this questionnaire every other year.



Discussion with the President

# For **Shareholders** and Investors

Because sharing profits with shareholders is a top priority. Sumitomo Rubber Industries, Ltd. emphasizes the release of information and respects the voting rights exercised by shareholders.

### Highlights

### **266 Shareholders Exercised** Their Voting Rights Via the Internet

management, Sumitomo Rubber Industries, Ltd. adopted the electronic method for the exercise of voting rights starting with the General Meeting of Shareholders held in March 2007. This change enabled voting using the Internet or mobile phones for shareholders who might not to be able to attend the General Meeting of Shareholders. The General Meeting of Shareholders uding directors; 266 shareholders, or 1.8% of all sholders with voting rights, used the Internet to exercise their voting rights.



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### Policy for the Return of Gains to Shareholders

### Our Basic Policy: Make it a Top Priority to Return Gains to Shareholders Over the Long Term

Sumitomo Rubber Industries, Ltd. regards the return of gains to shareholders as a priority issue. While comprehensively assessing performance prospects, profitability and the level of retained earnings, the Company has adopted a basic policy of steadily rewarding shareholders over the long term.

Retained earnings are directed to capital investments and advance investments such as R&D. Capital investments are used to increase manufacturing volume and to rationalize operations, thereby expanding the future earnings foundation. R&D expenses in 2007 were ¥18,223 million, or 3.2% of consolidated net sales.

### Communication with Shareholders and Investors

### We Strive to Release Information Using the Quarterly IR Meetings and the Web Site

Sumitomo Rubber Industries, Ltd. regards the accurate, guick and fair release of information not only to shareholders and investors but also to society as an important management issue.

We hold General Meetings of Shareholders and IR meetings for institutional investors guarterly when we

release financial results to explain our management and business activities. We also strive to reinforce the Web site to enhance the understanding of individual investors about the Group.



IR meetings on financial results

### We Value Shareholders' Voting Rights

### Helping We Take Various Measures for as Many Shareholders as Possible to **Execute Their Voting Rights**

Sumitomo Rubber Industries, Ltd. changed the number of shares that constitutes one unit in February 2006 so that more shareholders could exercise their voting rights. With the new system, one unit consists of 100 shares. Although 40% of all shareholders did not previously have voting rights, this change gave voting rights to more than 90% of all shareholders.

At the General Meeting of Shareholders held in March 2007, the electronic method was adopted to exercise voting rights. Furthermore, we strive to speed up the sending of the Convocation of the General Meeting of Shareholders, posting the English translation to make it easier for shareholders to exercise voting rights.

# For the Environment

Environmental Management **Overview of Business Activities an Progress Report on Voluntary Plan Environmental Accounting and Env Developing Environmentally Friend** Curbing Global Warming ..... **Reducing Waste and Recycling Use Reducing and Controlling Chemica** Global Environmental Data .....



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Making effective use of old tires by using them to make asphalt-rubber for a road in Shirakawa City

### Environmental Polic

### loing for new values in our l

三野哲治

Start of the Eco-Life Notebook activities, an original environmenta home diary

mini

~ Ichijima Factory vas commended

エコライフルート

と合物(VOC)対策功労者表彰式

by the Ministry of the Environmen for reducing the amount of VOCs

# Environmental Management

We are building an environmental management system covering all worldwide bases that will help the entire group continuously and effectively protect the environment.

### **Highlights**

### Globally Integrated ISO 14001 Certification

In fiscal 2007, the Sumitomo Rubber Group began activities aimed at obtaining globally integrated ISO 14001 certification for 32 bases worldwide, including the head office, group factories, and affiliates. The aim is to contribute to sustainable growth for the entire group. The first success was ISO 14001 certification for the head office, R&D Center, and SRI Research and Development Ltd. in December 2007. Fiscal 2008 is the start of efforts to use this head office certification as a springboard to globally integrated ISO 14001 certification, with the 32 worldwide bases (approximately 17,000 employees) scheduled to obtain the certification in 2010.



Certification ceremony for the head office R&D Center, and SRI Research and Development Ltd

### Progress of Sumitomo Rubber Group Environmental Management System

No. of employees at certified sites: 150,400 (67% of all) Employees at ISO 14001 certified sites as percentage of all employees All employees = 233,0997

### Entire Group Working Towards Integrated Certification\*1

Since fiscal 2007, the Sumitomo Rubber Group has been working towards globally integrated ISO 14001 certification\*1, and the head office, R&D Center, and SRI Research and Development Ltd. have already obtained it.

In 2008, the Thai Factory and the Vietnam Factory obtained the certification in January and in April, respectively, with more international bases scheduled to follow.

\*1 Globally integrated certification: Multiple factories and/or sites acquire certification as a single organization.

### **Environmental Management Organization**

**ISO 14001 Certification Progress** 



\*2 Group that looks into a variety of environmental issues

\*3 Group that takes a comprehensive look at environmental issues at individual bases (Japan) \*4 Group that takes a comprehensive look at environmental issues at individual bases (Overseas)

### **ISO 14001 Certification Progress**

Base Name	Certification Year	No. of Employees	Employees at Certified Sites as Percentage of All Employees (%)
Head Office and R&D Center	2007	756	3.3
Shirakawa Factory	1997	1,735	7.5
Nagoya Factory	1997	1,355	5.9
Izumiohtsu Factory	1998	656	2.8
Miyazaki Factory	1997	1,611	7.0
Ichijima Factory	1998	156	0.7
Kakogawa Factory	1998	298	1.3
Changshu/Suzhou Factory (China)	2005	2,426	10.5
Indonesia Factory	2003	3,344	14.5
Thai Factory	2008	1,197	5.2
Zhongshan Factory (China)	2004	676	2.9
Vietnam Factory	2008	221	1.0
Malaysia Factory	2005	800	3.5
SRI Research and Development Ltd.	2007	119	0.5
Nakata Engineering Ltd.	2004	120	0.5
No. of employees at certified sites		15,470	67.0
All group employees		23,097	100.0

Note: Number of employees, including contracted employees and dispatched workers, as of December 31, 2007

Note: SRI Research & Development Ltd. merged with Sumitomo Rubber Industries, Ltd. on April 1, 2008 and is now Research & Development Hqs. of Sumitomo Rubber Industries, Ltd.

# Topics

### **Global Environmental Control Meetings**

In fiscal 2007, the Sumitomo Rubber Group held the first Global Environmental Control Central Committee meeting as part of efforts to spread environmental control worldwide. At the August meeting at the head office, representatives of six Japanese factories, six overseas factories, and five affiliates, as well as ECO activity leaders, took part and reported on their respective environmental activities.

As an increasing percentage of our production takes place overseas, we believe that an international environmental control system is more important than ever. We will continue holding these meetings so that we can maintain employee awareness of the importance of safety and environmental protection for themselves and local communities. The next meeting is scheduled for August 2008.

### **Environmental Education**

### More Educational Activities Raise Employee Awareness of Environmental Protection

The Sumitomo Rubber Group holds educational activities that deepen employees' understanding of environmental problems and get them enthusiastic about taking part in environmental protection. Once a year at their place of work, all employees learn about the Medium-Term Environmental Action Plan, with its key environmental criteria, and the ECO Activities Plan. As well, they learn emergency skills through fire and other drills. Internal environmental auditors also take specialized courses once or twice a year.

In fiscal 2007, employees at the Shirakawa and Izumiohtsu factories improved their eco-knowledge by supplementing the Sumitomo Rubber Group's long-running environmental education page of the intranet with environmentally themed newsletters. Articles cover environmental protection and how employees can live eco-friendly lives. Other factories are scheduled to follow with similar activities.



Environmentally themed newspaper published at the Shirakawa and Izumiohtsu factories

Green Procurement, Green Purchasing Environmental Communication

External Environmental Review and Internal Environmental Audits

### Raising the Level of Internal Environmental Auditors

Every year, the Sumitomo Rubber Group undergoes external reviews by certification organs. We also carry out internal environmental audits led by certified auditors. External reviews last from two to six days at each site and have so far resulted in glowing evaluations. Internal environmental audits not only determine the suitability of environmental management systems, but also whether they are functioning effectively. Audits also provide various divisions with a to-do list of suggestions for improvement.

Internal environmental auditors take part in outside classes and in-house classes held at different sites in order to improve their auditing skills. In fiscal 2007, 36 employees took outside classes and were appointed internal environmental auditors at the head office, R&D Center, and SRI Research and Development Ltd., all three of which were recently ISO 14001 certified.



# Topics

### Environmental Home Diary Raises Employee Awareness

In April 2008, the Sumitomo Rubber Group started the Eco-Life Notebook activities, an original environmental home diary aimed at making employees aware of the connection between energy use at home and global warming.

Employees and their families keep records that make them understand

how their lifestyles affect the environment. These activities raise environmental awareness and get employees thinking about how environmental protection starts at home.



Eco-Life Notebook

### **Overview of Business Activities and Environmental Burden**





### OUTPUT













Wastewater E	missions
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### **Progress Report on Voluntary Plan**

### Progress Report on Fiscal 2007 Voluntary Plan

### Sumitomo Rubber Group Reaches Target for Organic Solvent Emissions but Falls Short of Targets for Energy Efficiency and CO<sub>2</sub> Emission Reductions

The Sumitomo Rubber Group established the Voluntary Plan in order to achieve our medium-to-long-term environmental targets by fiscal 2010. This plan will help us reach measurable targets for environmental protection.

In fiscal 2007, our per-unit energy consumption went up because of factors including the temporary stoppage of the cogeneration system due to rising fuel costs. While targets for CO2 emission reduction in production processes were not reached, we did improve by 2 points over the previous year.

We did not reach our target for waste generated per unit; however, all factories in Japan achieved complete zero emissions\*<sup>2</sup> for the third consecutive year. As well, all but one affiliate achieved zero emissions<sup>\*1</sup>. We went well beyond our target for reductions in organic solvents, achieving this three years ahead of schedule.

Through a fuel switchover at the Shirakawa Factory and energy-saving efforts at other factories, we have set a goal of reducing fiscal 2008 CO<sub>2</sub> emissions by 6% against fiscal 1990. To reduce waste to landfill, all worldwide production bases continue to work towards early achievement of zero emissions and then towards complete zero emissions. We have also set an even higher goal for the reduction of organic solvent emissions.

### Progress Report on Fiscal 2007 Voluntary Plan (For 6 Factories in Japan)

Environme	ntal Action Target	Fiscal 2007 Target	Fiscal 2007 Achievement	Self Assessment	Fiscal 2008 Target	Medium-to-Long-Term Environmental Target	Page
Energy Savir	ıg	Reduce energy use, in crude oil equivalent per unit, by at least 10.0% against fiscal 2003.	6.0% reduction		Reduce energy use, in crude oil equivalent per unit, by at least 12.5% against fiscal 2003.	By fiscal 2010, reduce energy use, in crude oil equivalent per unit, by at least 20% against fiscal 2000.	p49
Preventing	CO2 Reductions in Production	Keep total CO <sub>2</sub> emission* <sup>3</sup> increase against fiscal 1990 to no more than 4.0%.	+ 5.4%	X	Reduce total CO <sub>2</sub> emissions <sup>+3</sup> by at least 6% against fiscal 1990.	By fiscal 2010, reduce total CO <sub>2</sub> emissions <sup>•3</sup> by at least 20% against fiscal 1990.	p49
Global Warming	CO2 Reductions in Distribution	Reduce by at least 2% (against fiscal 2006) CO <sub>2</sub> emissions from distribution activities at four tire factories in Japan.	4.0% reduction		Reduce by at least 6% (against fiscal 2006) CO <sub>2</sub> emissions from distribution activities at four tire factories in Japan.	By fiscal 2010, reduce total CO <sub>2</sub> emissions by at least 8% against fiscal 2006.	p50
	Reductions in Waste Generated	Reduce waste generated per unit by at least 20% against fiscal 2000.	17.9% reduction	X	Reduce waste generated per unit by at least 20% against fiscal 2000.	By fiscal 2010, reduce waste generated per unit by at least 20% against fiscal 2000.	p51-52
Reductions in Waste	Reductions in Waste to Landfill	Achieve zero emissions*1 at all Sumitomo Rubber Group domestic production bases, including those of affiliates.	Target not met by one affiliate No. of bases in Japan: 10 of 11 = 91%	X	Maintain complete zero emissions*2 at factories in Japan. Achieve zero emissions*1 at overseas factories and at affiliates.	By fiscal 2010, achieve complete zero emissions* <sup>2</sup> at factories in Japan and overseas, and at affiliates.	p51-52
Reductions i Organic Solv	n Emissions of rents	Reduce total emissions <sup>+4</sup> of organic solvent by at least 31.5% against fiscal 2000.	35.2% reduction		Reduce total emissions <sup>*4</sup> of organic solvent by at least 40% against fiscal 2000.	By fiscal 2010, reduce total emissions <sup>*4</sup> of organic solvent by at least 45% against fiscal 2000.	p53-54
Per Ur	nit				accoment Standarda		
Crude oil equivalent per unit: Amount of heavy oil electricity and other sources converted to crude oil amount					now well we have satisfied target	100% or more ac	hievement
Now rubber concuration*5				items for the	volunitary Plan, our group has	At leas	t 70% but

three levels of achievement: less than 70%, less

than 100%, and 100% or more

less than 100% achievement

Less than 70% achievement

\*1 Zero emissions: Less than 1% of total waste goes to landfill.

\*2 Complete zero emissions: No waste goes to landfill.

Amount of substance

New rubber consumption\*

Per unit:

\*3 According to the Guide to Calculating Greenhouse Gas Emissions, published by the Japan Rubber Manufacturers Association.

\*4 The VOC voluntary restrictions from the Japan Rubber Manufacturers Association are used as the calculation method for organic solvent emissions.

\*5 New rubber consumption: Amount of natural rubber and synthetic rubber consumed.

New rubber consumption\*

## **Environmental Accounting and Environmental Efficiency**

### **Policy on Environmental Accounting**

### More than Just a Management Tool: A Way to Communicate with the Community

The Sumitomo Rubber Group uses environmental accounting to maintain good relations with the community and to continue being an environmentally friendly corporate citizen.

Environmental accounting is a way to quantitatively assess a company's environmental protection. Our group uses it to measure environmental costs, investments, and benefits in accordance with guidelines from the Ministry of the Environment.

To improve environmental protection, corporations, the government, and consumers must work together in providing environmentally related information. The Sumitomo Rubber Group uses environmental accounting as more than just a management tool: we also use it as an important tool for communicating with the public.

### Fiscal 2007 Environmental Accounting and Environmental Efficiency

### Implementation of Measures Results in Annual CO<sub>2</sub> Reduction of 8,960 t-CO<sub>2</sub>

By implementing environmental protection measures, in fiscal 2007 the Sumitomo Rubber Group emitted 8,960 fewer tons of CO2 than it would have had it not taken such measures. We also reduced organic solvent emissions by 106 tons for the year.

We successfully recycled and reused resources: the six major factories in Japan achieved complete zero emissions for the third consecutive year, meaning there was no waste sent to landfills.

Wastewater was also reduced: measures to reuse industrial water allowed us to reduce wastewater by 145,000 m<sup>3</sup> in fiscal 2007.

### **Energy Savings and Recycling Had** an Economic Benefit of 1.998 Billion Yen

Energy-saving efforts across the entire company, including the introduction of a cogeneration system at the Kakogawa Factory and stepped up initiatives at all tire factories, allowed us to save 88 million yen in expenses.

We strove to recycle and generate less residual waste: We reused plastic sheets for inner liners in production processes and thus had to purchase fewer new ones; and the six factories in Japan recycled and generated less residual waste as they achieved complete zero emissions. The result was a cost saving of 1.91 billion yen.

Environmental Conservation Cost (For 6 Factories in Japan) (¥ million)						
Class	Fiscal	2007				
Gias	sincation	Investment	Expenses			
1. Cost within Business Area	Expenses for desulfurization and wastewater processing equipment, etc.	592	2,685			
2. Upstream and Downstream Costs	Expenses for recycling used tires and outsourcing fees, etc.	7	55			
3. Administration Costs	Maintenance expenses for EMS, etc.	1	49			
4. R&D Costs	Expenses to develop environmentally friendly products, etc.	0	415			
5. Social Activities Costs	Expenses for planting trees	13	124			
6. Other Environmental Protect	0	98				
Total		613	3,426			

### **Effect of Environmental Conservation** (Effect Compared to Case of Business as Usual) (For 6 Factories in Japan)

•••••••••••••••••••••••••••••••••••••••		
Classification	Details of Effect	Reduction Over Previous Year
Environmental	CO <sub>2</sub> Emissions (t-CO <sub>2</sub> )	8,960
Protection	Organic Solvent Emissions (t)	106
Recycling and	Waste to Landfill (t)	Achievement of complete zero emissions for 3 consecutive years
Reuse	Wastewater (m <sup>3</sup> )	145,000

### Economic Benefit of Environmental Conservation Measures (For 6 Factories in Japan)

		· · (+ mmon
Classification	Details of Effect	Economic Benefit
Money Saved through Energy Conservation	Introduction of cogeneration system, energy-saving activities	88
Recycling and Generating Less Residual Waste, etc.	Reduction of waste, recycling, profit from sales	1,910
	Total	1,998

### Environmental Efficiency (For 6 Factories in Japan)



Environmental efficiency = Sales / Environmental burden (indexed based on the baseline year of 100) CO<sub>2</sub> emissions: 1990 = 100

Organic solvent emissions, wastewater, waste to landfill: 2000 = 100 Note: Due to the increased accuracy of calculations, data for the environmental efficiency of organic solvent emissions for past years is retroactively restated.

**Progress Report on** Voluntary Plan/Envir Ita ŋŋ and Enviror ental I Effici (Dua

# Developing Environmentally Friendly Products

Using proprietary technologies, we develop a range of products with the environment and users in mind. We also work with academia.

### **Highlights**

### Introducing Environmentally Friendly Products at Eco-Product Fairs

The Sumitomo Rubber Group takes part in a variety of exhibitions so that we can help customers and the general public truly understand our environmentally friendly products

We took part in Eco-Products 2007 in December 2007 and in ENEX 2008: the 32nd Energy and Environment Exhibition in January 2008, attracting many interested visitors (See Web site for details)



Sumitomo Rubber Group booth a ENEX 2008: the 32nd Energy and Environment Exhibition

### **Overview of Sumitomo Rubber Group Technologies**



### Product Technology Development Philosophy

### In All Our Business Areas, We Incorporate Proprietary Technologies to Develop Environmentally Friendly Products

The Sumitomo Rubber Group uses its proprietary technologies to develop a variety of environmentally friendly products.

At Sumitomo Rubber Industries, Ltd., proprietary design technologies like Digital Rolling Simulation (DRS) for passenger car tires and DECTES for truck and bus tires are used in tire design and development. But they do more than just improve tire performance: they also give birth to products that protect the natural environment, such as fossil resource-free eco-tires and fuel-efficient tires, and products that improve the environment inside cars, such as tires with special noise-absorbing sponges. We also do joint research with academic institutions to develop new materials and new processes.

SRI Sports Ltd., whose products include golf goods, has a design technology called Digital Impact II. It simulates the instant the club hits the ball, analyzing the state of the objects and the movement of the player, as well as what the player is sensing. The company also strives to reduce volatile organic compounds (VOCs) and use fossil resource-free materials for products.

At SRI Hybrid Ltd., we develop a wide range of industrial goods. Using the GRAST vibration-control technology, we develop and market high damping rubber that protects building in case of earthquake. We also develop a range of environmentally friendly products, such as long-pile artificial turf filled with minute chips of recycled rubber for stadiums and schools, and sponge scrubbers for kitchens using natural rubber latex foam.

### A Word from an Employee

Researching Environmentally Friendly Technologies with the Aim of Helping Society

### Ai Matsuura

Material & Process Technology Research Dept., SRI Research & Development Ltd.

My work, which includes research into natural rubber and materials for fuel-efficient tires, is inextricably tied to the environment. Such environmental protection technologies are a hot topic these days, and I always work with the knowledge that what I am doing is contributing to a better world.

Although I face major obstacles, I use a scientific approach to overcome these and develop technologies that place minimal burden on the environment.

Note: SRI Research & Development Ltd. merged with Sumitomo Rubber Industries, Ltd. on April 1, 2008 and is now Research & Development Hqs of Sumitomo Rubber Industries, Ltd.

### Product Life Cycle Assessment (LCA)

Quantitatively Assessing Environmental Burden in All Stages: Raw Material Production, Product Manufacture, Use, Distribution, and Recycling

### LCA for Passenger Car Tires

Released in June, 2008, the ENASAVE 97 is a 97% fossil resource-free tire with 35% lower rolling resistance and 36% fewer CO<sub>2</sub> emissions.



GI-TYRE CO ENASAVE ES BOI ENASAVE

### LCA for Passenger Car Tires (amount of CO2 emissions)



Note 1: Preconditions for use stage: Life of 31,800 km, car gas mileage of 10 km/ℓ, tire's contribution to fuel efficiency of 1/8

Note 2: Size: Compared with 195/65R15

Note 3: LCA calculation method: According to the Japan Rubber Manufacturers Association's Tire Inventory Analysis Trial (1998 edition)

### LCA for Truck and Bus Tires

Released in April 2007, the fuel-efficient all-season truck and bus tire ECORUT\* SP 678 realizes 38% lower rolling resistance and 34% fewer CO<sub>2</sub> emissions.

\* A combination of the words "eco" and "route," ECORUT is an environmentally friendly tire developed by Sumitomo Rubber Industries, Ltd.



### LCA for Truck and Bus Tires (amount of CO2 emissions)



Note 1: Preconditions for use stage: Life of 120,000 km, car gas mileage of 4 km/ℓ, tire's contribution to fuel efficiency of 1/5

Note 2: Size: Compared with 11R22.5 14PR

Note 3: LCA calculation method: According to the Japan Rubber Manufacturers Association's Tire Inventory Analysis Trial (1998 edition)

### Wear Performance Simulation Technology Helps Extend the Life of Tires

Using DRS, our proprietary technology for rotating precision tire models and subjecting them to numerous simulation tests, we have been able to predict uneven wear by simulating the tire's friction with the road surface and calculating wear energy, which shows how easily a tire wears.

In April 2007, making use of this function and keeping in mind how easily rubber material wears, we calculated wear energy under a variety of driving conditions and came up with a technology that could predict wear performance (wear life). Because this technology dramatically reduces the long periods previously required for road tests, it makes a huge contribution to the development of tires that can withstand wear and last longer.





Results of wear energy simulation (During cornering)



### Industry-Academia Cooperation in Wood Biomass: Good for the Environment and for the Producing Nation

SRI Research & Development Ltd. took part in the fiscal 2007 Grant for Practical Application of University R&D Results under the Matching Fund Method, an initiative of New Energy and Industrial Technology Development Organization (NEDO). The project we were involved in was a vertically integrated joint effort with government and universities to manufacture and duplicate modified bionanofiber.

Bionanofiber is a cellulose with strength rivaling that of steel. Because it is a wood biomass made from non-food resources, it will not adversely affect the food situation in developing countries. We are aiming to have this in practical use by 2011 in tires that boast improved gas mileage and wear performance.



Cellulose nanofiber



Cellulose nanofiber (magnified 50,000 times)

### **Developing Environmentally Friendly Products**

# Using Simulation to Improve the Air Retention with Natural Rubber-Based Compound

To reduce burden on the environment, Sumitomo Rubber Industries, Ltd. is not only reducing tire rolling resistance and improving fuel efficiency in order to consume less fossil resources; it is also trying to eliminate as much fossil resource-based material as possible from the tires themselves. However, compared to fossil resource-based synthetic rubber, natural rubber is far less airtight and so not suitable for the inner liner that lines the inside of a tire.

Using a molecular dynamics simulation, Sumitomo Rubber Industries, Ltd. looked at the molecular structure to try to find a natural rubber with the same level of air retention as synthetic rubber. We discovered what we

wanted and today we have a tire that is 97% free of fossil resource-based substances.



Gas-permeation Simulation Developing a fossil resource-free inner liner with the same level of air retention as synthetic rubber.

# Took Part in SPring-8 Beam Line Construction Via Industry-Academia Collaboration

Sumitomo Rubber Industries, Ltd. took part in the Frontier Soft Matter Beamline Consortium, made up of 17 companies, which is working to construct a dedicated polymer beamline in SPring-8. This will allow SPring-8, an experimental facility that uses the world's brightest synchrotron radiation, to be used more widely in developing materials and processes.

The consortium's installation plan was approved at the end of 2007 by the Japan Synchrotron Radiation Research Institute and by summer 2009 the dedicated beamline will be completed and ready to begin trial use.



Courtesy of SPring-8: Japan Synchrotron Radiation Research Institute

### Development of Environmentally Friendly Products and Technologies (Sports)

### Proprietary Digital Impact Technology Analyzes a Person's Body and Sensitivity

The instant a racket or club hits the ball has a dramatic effect on an athlete's performance. Digital Impact is a high-precision digital technology that can analyze this instant to see what it looks like stopped, to see inside the sports equipment, and to observe enlargements of the cells. Using this technology and inputting a wealth of collected data, you can freeze the instant of impact and thus drastically shorten the development time from conception to final product.

Digital Impact II took this technology further, allowing for analysis of a person's body and senses. At an impact duration as short as 5/10,000 of a second, users can analyze the state of the object just before and after impact, the player's body movement, and the level of comfort he or she is experiencing.

These analyses are leading to major advancements in the development of new technologies and products.



Aerodynamic Simulation After impact, Digital Impact analyzes the relationship between the changing dimples on the golf ball and wind flow. This allows us to develop balls with superior flying performance and directional stability.



Load and Fatigue Simulation Digital Impact can also analyze the load and fatigue on the joints of the arms, legs, and back, and on the us muscles when the golfer is swinging or walking. This leads to the development of golf gear that lets you play longer and feel less tired.

# muscles when the golfer is swinging or walking. This leads to the development of golf gear that lets you play longer and feel less tired.

### A Word from an Employee

### Digital Impact Also Reduces Waste in Test Production

Tomio Kumamoto Industrial Products Research & Development Dept., SRI Sports Ltd.

Using Digital Impact allows us to get by making fewer test shafts. This means not only more efficient development but also fewer test pieces to throw away: less waste means environmental protection.

We will continue to use digital simulation as much as possible to design and develop shafts.

### Development of Environmentally Friendly Products and Technologies (Industrial and Other Products)

# High-Damping Rubber Absorbs Vibration and Makes Homes Safer

REQ Damper, a system for reducing vibration in wood-frame housing, uses high-damping rubber developed with GRAST, an ultra-high-damping technology from SRI Hybrid Ltd. (REQ Damper is marketed by Fukuvi Chemical Industry Co., Ltd.) Easily installed on new wood-frame housing, this system allows homes to control and reduce vibration from earthquakes. Since going on the market in September 2007, sales have been brisk due to the way it adds superior vibration control through installation on posts and foundations.

With its superb damping properties, it converts earthquake energy into heat energy, absorbing shaking and reducing by 20-50% the warping that vibration can cause in wood-frame housing.

Our goal is to provide safe housing to as many customers as possible with high-damping rubber boasting superior safety at an affordable price.







REQ Damper

### A Word from an Employee

### Our Mission: Protect Human Life

### Noriko Ishizaki

Technical Department/ Damping Rubber Business Team, SRI Hybrid Ltd.

As our vibration control business grows, our customers and consumers in general are demanding a wider variety of characteristics in high-damping rubber.

Although it's tough to keep up development at such breakneck speed, I strive to carry out our mission of protecting human life when needed and providing rubber that lets people live safely and comfortably.

### Hybrid Turf, Artificial Turf Filled with Minute Chips of Recycled Rubber, is Easy on the Athletes

Hybrid Turf is long-pile artificial turf that eases the burden on an athlete's legs and back. It is used all over Japan in stadiums, practice fields, school grounds, and multi-purpose recreational facilities where sports like soccer, rugby, football, and baseball are played.

With longer pile than conventional artificial turf and a proprietary construction filled with sand grains and minute rubber chips, Hybrid Turf offers safety and performance rivaling that of natural grass. The rubber chips come from used tires, with one soccer field being the equivalent of about 8,000 tires.

It is also highly water permeable, with rainwater seeping back into the ground and helping maintain a healthy balance of the soil.



Baseball stadium using Hybrid Turf

# Kitchen Puff Uses Environmentally Friendly Natural Rubber Latex Foam

Kitchen Puff is a totally new kind of sponge scrubber using the core latex technologies built up over the years by SRI Hybrid Ltd.

Combining a soft touch resembling a powder puff with countless uniform, fine pores of natural rubber latex foam material, this sponge won't damage delicate glassware and enamel products, and removes grime so that plates and utensils keep their luster for years to come.

Kitchen Puff will also last longer than regular sponges. With a three-layer construction of environmentally friendly

natural rubber latex foam, nylon non-woven material for completely removing grime, and quick drying urethane foam, this product gets better with age and provides unmatched cleaning power.



Kitchen Puff

# **Curbing Global** Warming

Global warming is calling for expedient measures and the Sumitomo Rubber Group is answering the call with efforts to reduce CO<sub>2</sub> emissions during manufacturing and distribution.

### Highlights

### **Green Distribution Guidelines Created**

In December 2007, the Sumitomo Rubber Group formulated and publicly released the Green Distribution Guidelines to step up environmental protection in distribution and gain the understanding of both employees and the general public. These guidelines also contain environmentally friendly

distribution policy and details of our group's green

distribution activities. We plan to use these guidelines to work with our suppliers in reducing CO<sub>2</sub> emissions and lessening environmental burden in other ways as well.



Green Distribution Guidelines

### **Targeted and Achieved**

CO<sub>2</sub> Reductions in Manufacturing

Total CO<sub>2</sub> Emissions (Against fiscal 1990)



### **CO2** Reductions in Distribution

CO2 Emissions from Distribution at Four Tire Factories in Japan (Against fiscal 2006)



### CO<sub>2</sub> Reductions in Manufacturing

### Fiscal 2007 Targets were Not Met, But We Aim to Meet Fiscal 2008 Targets Through Fuel Switchover and Energy-Saving Efforts

The Japan Rubber Manufacturers Association is stepping up CO<sub>2</sub> reductions through the introduction of cogeneration systems. In October 2007, it revised its voluntary action plan of maintaining fiscal 2010 CO<sub>2</sub> emissions levels at 1990 levels and now aims to reduce this by 6%. It has also upped its target for per-unit CO<sub>2</sub> emissions reductions (from maintenance level) to 8%.

Before the Japan Rubber Manufacturers Association revised its action plan, in December 2006 the Sumitomo Rubber Group formulated its Medium-to-Long-Term Plan, under which the group has set a target of 20% CO<sub>2</sub> reductions in 2010 against fiscal 1990.

In fiscal 2007, we failed to meet our fiscal year targets, with total group CO<sub>2</sub> emissions of 309 thousand t-CO<sub>2</sub> (up 5.4% over fiscal 1990). However, thanks to a cogeneration system installation at the Kakogawa Factory and energy-saving efforts at other plants, total emissions were down 2% over fiscal 2006, and CO<sub>2</sub> emissions on a per unit basis were down as well by 3%.

We are aiming to meet future targets through a fuel switchover in November 2007 at the Shirakawa Factory and through a changeover at the Miyazaki Factory planned for fiscal 2009, as well as energy-saving measures at all plants.

There are other greenhouse gases besides CO<sub>2</sub>, such as methane, dinitrogen monoxide, and sulfur hexafluoride, and in fiscal 2007 these equaled about 0.2% of all emissions, or about 717 t-CO<sub>2</sub>. There were no emissions of hydrofluorocarbon and perfluorocarbon.

### CO2 Emissions by Total and Per Unit (For 6 factories in Japan)



 According to the Guide to Calculating Greenhouse Gas Emissions, published by the Japan Rubber Manufacturers Association (using for per unit calculation).

\*2 Total emissions without consideration for cogeneration credits.

### Amount of Energy Used and Per Unit (For 6 factories in Japan)



### CO<sub>2</sub> Reductions in Distribution

# Major Drop in Total CO<sub>2</sub> Emissions: 4.0% Down from Previous Year

In fiscal 2007, CO<sub>2</sub> emissions per unit in tire transport were down 8.2% over the previous year, to 0.0426 t-CO<sub>2</sub>/ton, while total CO<sub>2</sub> emissions were down 4.0%, to 44,460 t-CO<sub>2</sub>, both vast improvements. These are positive results of environmental protection efforts such as our four domestic factories switching to new modes of transportation.

Fiscal 2008 will see us focus further on these efforts as we work towards reducing burden on the environment.

### CO2 Emissions and Per Unit (For 4 factories in Japan)



### Transportation Modal Shifts

# Switching to Rail and Ship for Long-Distance Transport

We are shifting our transport from trucking to railway and shipping, which have a much lower environmental burden.

In fiscal 2007, we switched from trucks to rail and ships for products with a flexible delivery date. An example was deliveries from the Nagoya Factory to the Tohoku Region, where 27% of all transport previously done by truck was shifted to ferry transport, a major contribution to our transport switchover efforts.

The modal shift ratio\*<sup>3</sup> in fiscal 2007 was 12.1%, up 3 points over the previous year. In fiscal 2008, we will shift mainly to ferries with the goal of achieving a 17% modal shift ratio by fiscal 2012.

 $\star 3$  Modal shift ratio: Percentage of all transport carried out by rail and ship.



Modal shift (shipping transport)

### Boosting Transport Efficiency

### Shortening the Average Transport Distance by Shipping to Consumer Markets and Ports Nearest the Factories

To raise transport efficiency and reduce CO $_2$  emissions, we are doing all we can to shorten the distance delivery trucks travel.

In fiscal 2007, despite lower tire loading efficiency, we managed to dramatically shorten travel distances by shifting some of the shipments that previously went through Tokyo Port to Osaka Port. We also tried to constantly deliver to consumer regions and ports from the closest factories. The result of these efforts was a drop of 4 points in average transport distances traveled.

In fiscal 2008, we will continue to boost transport efficiency through comprehensive analysis of the most effective transport routes.

### Tire Loading Efficiency Index\*4 and Tire Transport Distance Index\*5

(%)       -○ Tire loading efficiency index       -○ Tire transport distance index         105       100       101       99         95       100       96         2005       2006       2007 (FY)				
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	(%)	-0	Tire loading efficiency index	- Tire transport distance index
$   \begin{array}{ccccccccccccccccccccccccccccccccccc$	105		(101)	
95         100         96           0         2005         2006         2007 (Ft)	100	(100) O		99
∼ <u>0</u> (96) 2005 2006 <b>2007</b> (FY)	95		100	
2005 2006 <b>2007</b> (FY)	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			96)
		2005	2006	<b>2007</b> (FY)

\*4 Tire loading efficiency index: Load weight per truck (The base year of fiscal 2005 is 100) (Shirakawa Factory, Nagoya Factory) Due to the increased accuracy of the calculation method, relevant data for past

fiscal years is retroactively re-calculated. The base year has thus changed. \*5 Tire transport distance index: Primary transport in ton-kilos ÷ primary transport

weight in tons (Base year 2006 of the Energy Conservation Law regular report = 100) (Shipments from total of four factories)

From this year, to calculate the tire transport distance index, a portion of the data used in the regular report of the Revised Energy Conservation Law (enacted on April 1, 2006) was used. The new calculation is: Primary transport in ton-kilos  $\div$  primary transport weight in tons.

### A Word from an Employee

CO<sub>2</sub> Reduced by Switching Iwate-Bound Shipments to Shipping

### Kenji Sugiura

Nagoya Center, SRI Logistics Ltd.



In 2007, we began a modal shift for tire shipments bound for the lwate plant of Kanto Auto Works Ltd. A portion of the shipments, all of which had previously been done by trucks, was taken by ship from Nagoya Port to Sendai Port.

Shipping transport involves a longer lead time from product order to delivery. Although Kanto Auto Works Ltd. requires just-in-time delivery, the company cooperated with our tire production and distribution divisions to make this modal shift possible. In fiscal 2007, we switched 27% of deliveries to the company's lwate plant to shipping. This resulted in a 16% reduction in CO<sub>2</sub> emissions compared to shipping everything by trucks. We will continue to raise the percentage of transport we do by shipping.

# Reducing Waste and Recycling Used Tires

We have become an industry leader in recycling waste and achieving zero emissions for landfill waste. We are also recycling used tires.

### **Highlights**

### Sumitomo Rubber Group Companies Worldwide Achieve Zero Emissions

In December 2003, the Sumitomo Rubber Group became the first Japanese tire manufacturer to achieve zero emissions for the Head Office and all major domestic factories (six in total). We went a step further in June 2005 by achieving complete zero emissions for those six factories.

Overseas, four factories also achieved zero emissions in November 2006. The remaining two factories in Thailand and Vietnam, which started operation in 2006, are scheduled to achieve it sometime in fiscal 2008. And all five of our domestic production affiliates achieved zero emissions in March 2008. We are currently working towards complete zero emissions for all production bases.

### **Targeted and Achieved**

### Waste Generated Per Unit (Against fiscal 2000)



### Reducing Waste Generated

# Aiming for Zero Emissions at Affiliates and Overseas Factories

The Sumitomo Rubber Group is working to achieve zero emissions\*<sup>1</sup> by reducing the amount of waste generated and recycling waste generated so that there is no waste going to landfills. In fiscal 2007, the total waste generated at six factories in Japan was 1,000 tons more than fiscal 2006. Per unit, the figure was 0.119 t/t, a 17.9% decrease against fiscal 2000 but still short of our target of 20%. Our medium-to-long-term target for 2010 is to reduce the amount of waste generated per unit by at least 20% against fiscal 2000. We hope to achieve this in fiscal 2008, two years ahead of schedule.

The Sumitomo Rubber Group conducts recycling activities to be seen. Rallying around our slogan "Mixed waste is garbage, separated waste is a usable resource," we are doing all we can to make the most of our resources by separating and reusing waste and recovering heat energy. We are making material recycling a priority and in fiscal 2007 we achieved a 73% material recycling rate (not including the tires we collected from outside). For fiscal 2008, we have set a goal of reusing 80% of materials and we are focusing recycling efforts on this.

Our six factories in Japan achieved complete zero emissions<sup>\*2</sup> in fiscal 2005 and have since had 100% recycling and 0% waste to landfill. We plan to spread this to overseas factories and affiliates in the near future and have set a medium-to-long-term target of complete zero emissions in fiscal 2010.

\*1 Zero emissions: Less than 1% of total waste generated goes to landfill.
\*2 Complete zero emissions: No waste goes to landfill.

### Waste Generated: In Total and Per Unit (For 6 factories in Japan)

![](_page_26_Figure_17.jpeg)

### Amounts Recycled and Percent Recycled (For 6 factories in Japan)

![](_page_26_Figure_19.jpeg)

### **Progress in Zero Emissions**

Factory or Production Affiliate Name	Achievement of Zero Emissions	Achievement of Complete Zero Emissions
Shirakawa Factory	December 2001	December 2004
Nagoya Factory	December 2001	December 2004
Miyazaki Factory	December 2003	December 2004
Izumiohtsu Factory	December 2003	March 2005
Ichijima Factory	December 2001	June 2005
Kakogawa Factory	December 2002	June 2005
Indonesia Factory	December 2004	-
Changshu/Suzhou Factory (China)	October 2005	September 2006
Malaysia Factory	August 2006	-
Zhongshan Factory (China)	November 2006	-
Dunlop Retread Service Ltd.	September 2006	-
Dunlop Retread Service Hokkkaido Ltd.	September 2006	-
SRI Engineering Ltd.	March 2008	-
Nakata Engineering Co., Ltd.	July 2006	-
Dunlop Golf Club Ltd.	July 2004	May 2006
Progress in achieving targets at major production bases*	15/15 (100% achievement rate)	8/15 (53% achievement rate)

\* Does not include the Vietnam Factory (started operation in October 2006) and the Thai Factory (started operation in November 2006).

### A Word from an Employee

### Working Together to Achieve Zero Emissions

### Koji Nakajima Kakogawa Plant,

Kakogawa Plant, SRI Engineering Ltd.

![](_page_26_Picture_27.jpeg)

In fiscal 2006, we started separating waste with the goal of achieving zero emissions at the Kakogawa Plant. We employees decided how waste would be separated and how thorough we would be. The biggest problem, however, was what to do with the casting mold sand and plaster from the mold casting process. After consulting with a number of contractors and conducting various tests, in February 2008 we finally managed to recycle these materials and achieve zero emissions.

We also tried a number of ways to improve the mold casting methods and succeeded in reducing the amount of waste per mold by approximately 40%, a major contribution to zero emissions. Our current goal is to reduce the amount of waste generated by 50%, a target that all employees are striving to reach in their daily collective efforts.

### **Recycling Used Tires**

### Recycling Used Tires to Boost Our Retread Tire Business

Every year, Japan generates about 100 million used tires weighing about 1 million tons. And with these used tires come serious problems, such as the difficulty of disposing of the increasing variety of tires, increasing environmental burden due to improper disposal, and a shortage of space in landfills. The Sumitomo Rubber Group is working to carry out thermal recycling and material recycling of used tires (See Web site for details).

And a specialty subsidiaries that were established in 1972 are involved in the retread tire business, each year turning more than 100,000 used tires into new ones.

On the Web
 Recycling Used Tires

# Number of Retread Tires Produced (1,000 tires) Image: Number of tires manufactured 120 117.9 100 Image: Number of tires manufactured 0 2004 2005 2006 2006 2007

### **Retread Tire Manufacturing Process**

Worn down used tires are given retreads and transformed into new products.

![](_page_26_Figure_40.jpeg)

### Used Tires Become Asphalt-Rubber

As a member of the Japan Automobile Tyre Manufacturers Association and the Japan Asphalt Rubber Research Group, SRI Research & Development Ltd. conducts R&D into asphalt-rubber as road paving material.

Asphalt-rubber is a mixture of asphalt and rubber crumbs from pulverized used tires. Compared to straight asphalt, it is said to improve the durability of the pavement. In order to prove the durability of asphalt-rubber, in 2004 the Japan Asphalt-Rubber Society began using it to pave city streets in Shirakawa City, Fukushima Prefecture, the home of our Shirakawa Factory, along with other prefectures in Japan, and has been studying the pavement characteristics and how it changes over time.

It has been shown that asphalt-rubber, like straight asphalt, can be reused after years of use. Development efforts towards putting asphalt-rubber to practical use will continue.

![](_page_26_Picture_45.jpeg)

A road paved with asphalt-rubber in Shirakawa City

Note: SRI Research & Development Ltd. merged with Sumitomo Rubber Industries, Ltd. on April 1, 2008 and is now Research & Development Hqs. of Sumitomo Rubber Industries, Ltd.

# **Reducing and Controlling** Chemical Emissions

We are doing all we can to control and reduce emissions of VOCs (volatile organic compounds) and other chemicals covered by the PRTR Law.

### **Highlights**

### Ichijima Factory Awarded by Ministry of the Environment for VOC Reduction

In December 2007, for environmental improvement in golf ball production, the Ichijima Factory of SRI Sport Ltd. received two awards from Japan's Ministry of the Environment: the Special Award for Taking Measures Against Volatile Organic

Compounds (VOCs); and the Best Contributor Award for Aerial Environment Preservation Activities. In 1997, the factory began production technology improvements such as modifying the golf ball paint and the pre-painting processes. These efforts

were aimed at reducing the VOCs in the washing process before painting, and in the spray-painting process. The result of this work was that from fiscal 2004 on, there were 60% fewer VOCs used than in fiscal 2000.

![](_page_27_Picture_8.jpeg)

r. Noritake Araki, General Manager e Ichijima Factory, receives e environmental awards

### Targeted and Achieved

### Organic Solvent Emissions (Against fiscal 2000)

![](_page_27_Figure_12.jpeg)

### **Organic Solvent Reductions**

# Targets Easily Achieved Thanks to Improvements in Production Technology and Processes

The Sumitomo Rubber Group strives to reduce emissions of VOCs (volatile organic compounds) by cutting organic solvents used in the factory and contained in raw materials.

In fiscal 2007, we reduced the amount of organic solvents used in tire manufacturing processes by improving production technology. We are also developing solvent-free paint that we hope to use in fiscal 2008.

At the Ichijima Factory, where golf balls are manufactured, we have been gradually reducing the amount of organic solvents used as well as improving processes for paint application and washing. We also distill used acetone and thinner so that they can be reused. These efforts were recognized by Japan's Ministry of the Environment with two awards: the Special Award for Taking Measures Against Volatile Organic Compounds (VOCs); and the Best Contributor Award for Aerial Environment Preservation Activities.

As a result of these activities, the group's organic solvent emissions for fiscal 2007 were down 35.2% over fiscal 2000, well above our original target.

### Organic Solvent Emissions: In Total and Per Unit (For 6 factories in Japan)

![](_page_27_Figure_20.jpeg)

Note: VOC voluntary restrictions; calculation method from Japan Rubber Manufacturers Association.

### Amount of Organic Solvents Reused

	2003	2004	2005	2006	2007
Acetone	6,790	7,100	9,157	7,753	7,578
Thinner	970	1,000	1,047	951	1,365

(kg/year)

Note: Actual amount at Ichijima Factory.

### Reducing and Controlling PRTR Substances

# 31% Reduction Against Fiscal 2001 Thanks to Raw Material Substitution and Streamlining of Processes

To reduce the amounts of chemicals covered by the PRTR Law that are emitted and transferred, the Sumitomo Rubber Group is reducing the amount of organic solvents used and has reduced to less than 1% the amount of PRTR substances contained in raw materials. We are also preventing dispersal and spillage of chemicals, switching to raw materials containing less of the rubber solvents toluene and xylene, and raising process yield.

These actions allowed us to reduce fiscal 2007 emissions and transfers of PRTR substances by 31% against fiscal 2001. Fiscal 2007 total emissions and per-unit emissions increased against fiscal 2006, but this was because we increased the production of blankets for offset printing presses at the Kakogawa Factory. In fiscal 2008, we will strive for reduction through improved processes.

### **PRTR Substances: Emissions, Transfers, and Per Unit** (For 6 factories in Japan)

![](_page_27_Figure_31.jpeg)

Note: See the Site Report from page 56 to 58 for details of PRTR substance emissions and transfers for each factory.

### A Word from an Employee

### Grass-Roots Work Brings Awards

![](_page_27_Picture_35.jpeg)

The Ichijima Factory has been working day and night to reduce the amount of organic solvents it uses by 30% against fiscal 2000. A noteworthy—and hard fought—success was the elimination of isopropyl alcohol, which is used to improve paint adhesion in golf ball pre-processing. This was achieved only after countless tests to improve conditions in the grinding process.

When there were problems with the liquid mixing device, everyone pooled their ideas to come up with solutions including system changes and monitoring, and we managed to reduce the amount of thinner for washing and waste solvent, all of which led to the use of fewer organic solvents.

Despite all the hardships, everyone in the Ichijima Factory never stopped plugging away. The result was the satisfaction of receiving the two awards from Japan's Ministry of the Environment. We will continue our efforts to reduce organic solvents. http://www.srigroup.co.jp/ecopedia/eco\_report.html

Reducing NOx and SOx Emissions
 Preventing Occurrence of Dioxins
 Treating Wastewater and Reducing Amounts of Discharged Water
 Kakogawa Factory Continues to Report on Soil and Groundwater Pollution

# Topics

### Proper Management of Substances Containing PCB\*<sup>1</sup>

In compliance with the July 2001 PCB Special Measures Law<sup>\*2</sup>, Sumitomo Rubber Group is storing five transformers, 69 capacitors, and 1,019 fluorescent ballasts at the Kobe R&D Center, the Nagoya Factory, the Izumiohtsu Factory, and the Kakogawa Factory. In fiscal 2006, we established a plan for disposing of PCB equipment, and in December 2006, we disposed of six capacitors from the Nagoya Factory at the Toyota facility of JESCO<sup>\*3</sup>.

Although we did not dispose of any PCB equipment in fiscal 2007, we are readying the remaining equipment for disposal (The legal deadline for disposal is 2016).

- \*1 PCB (polychlorinated biphenyls): Low-water-soluble and chemically stable, PCBs are good insulators and so were used as insulating fluids in transformers and capacitors. However, they have been found to be harmful to people's health and the environment and, because they do not easily break down, to be persistent in the environment.
- \*2 PCB Special Measures Law: This law obligates companies to dispose of PCBs at PCB waste treatment facilities by 2016 at the latest and to report to the government on the state of storage and disposal every year.
- \*3 JESCO (Japan Environmental Safety Corporation): Under the regulation of Japan's Ministry of the Environment, JESCO conducts PCB waste treatment programs at five sites in Japan.

# Hazardous Substances Discovered on Site of Planned Facilities in Kobe

Prior to construction of a new technological research wing on the site of the Kobe R&D Center of Sumitomo Rubber Industries, Ltd., we conducted a voluntary soil contamination survey using methods compliant with the Soil Contamination Countermeasures Law. Because the survey showed that the soil contained hazardous substances above designated allowable levels, we reported this to the Kobe City Environment Bureau on November 19, 2007. The source of the hazardous substances is unknown.

There were seven substances that the soil survey showed were above designated allowable levels: lead, arsenic, fluorine, boron, cadmium, PCB, and mercury. A survey of groundwater revealed no pollution, with none of these seven substances exceeding designated allowable levels. Under the guidance of the Kobe City Environment Bureau, we restricted access to work areas, prevented dust dispersal (built temporary fences, treated dust with sprayed water, and covered with construction sheets), prevented dirt from dispersing while it was being transported away (covered dirt with sheets during transport, washed transport vehicles and tires), and carried out monitoring. On March 12, 2008, we completed transport of the contaminated soil.

We will use the monitoring well we built to do periodic monitoring of groundwater, and will do everything to ensure that no groundwater contamination occurs.

### **Global Environmental Data**

Because of the increasing importance of environmental data besides that for just domestic factories, we also gather data for overseas factories, domestic affiliates, and worldwide non-production bases. However, not all consolidated subsidiaries are covered by the data, and it is also difficult to gather data from certain bases. That is why we intend to step up our control system for overseas bases and to improve the coverage and accuracy of data. As well, we are aware that we must have a firm grasp of environmental data for non-production bases. In fiscal 2007, we added the Thai Factory and Vietnam Factory to our data. Up to fiscal 2006, only tire manufacturing-related data was compiled for the Indonesia Factory but in fiscal 2007 we stepped up the control system to cover golf ball manufacturing as well.

![](_page_28_Figure_3.jpeg)

\*1 CO2 emissions are calculated using the Japan Rubber Manufacturers Association's Guide to Calculating Greenhouse Gas Emissions. The domestic emission coefficient is calculated using the fiscal 2004 published values from electric companies. The overseas emission coefficient is calculated using the WRI/WBCSD GHG Protocol Initiative Calculation Tool. Accordingly, some of the data has been retroactively re-calculated for 2005 and 2006.

\*2 Organic solvent emissions are, as a rule, calculated using the calculation method from the Japan Rubber Manufacturers Association. There are, however, some domestic affiliates and overseas production bases that calculate using in-house standards.

\*3 Not including the Thai Factory

\*4 Due to the increased accuracy of the calculation method, some of the data has been retroactively re-calculated for 2005 and 2006

# **Site Reports (Domestic Factories)**

# Shirakawa Factory

Location: 1 Hirokubo, Kurabeishi, Shirakawa, Fukushima 961-0017, Japan
TEL.0248-22-3311 FAX.0248-22-5689
Number of Employees: 1,735
Operation Start: 1974
Site Area: 604,000m <sup>2</sup>
Obtainment of ISO 14001 Certification: May 1997 (Certification No. JSAE009)
Main Product: Automobile tires
Achievement of Zero Emissions: 2001

iscal 2007 Emissions and ransfers of PRTR Substances				Facilities	Itome	Unit	Legal	Agreement	Fiscal 2007 Achievement			Name of Law					
		(kg/year)		raciliues	nems	Unit	Limit	Agreement	Minimum	Maximum	Average						
	Emissions	Transfers			SOx	K-value	17.5	_	0.10	0.31	0.20						
Ethyl benzene	240	_	Emissions	Gas	NOx	VOL ppm	70	_	18	56	31	Air Pollution					
Kylene (mixed isomer)	650	_	LO AIF	turbine	Soot and dust	a/m <sup>3</sup> N	0.05	_	0.001	0.002	0.001						
Cobalt and its compounds	-	590			DOD		100	10	1.0	0.5	1.4						
Dioxines (mg-TEQ)	1.84	120			BOD	mg∕≀	160	10	1.0	2.5	1.4	Water Pollution					
Toluene	2,100	_	Discharge	Discharge	Discharge	Discharge	Divor	Divor	Bivor	SS	mg/l	200	10	2.0	2.0	2.0	Control Law
Hydrazine	410	_	to Water	nivei	TUVCI	рH	—	5.8~8.6	5.8~8.6	6.6	7.3	6.9	Prefectural Pollution				
Total	3,400	590			Oil content	mg/l	5	1	0.5	0.5	0.5	Control Agreement					
	3.9	90															

![](_page_28_Picture_13.jpeg)

Voluntary cleanup activities at Nanko Park

# Nagoya Factory

Location: 4-1, Shinsei-cho, Toyota, Aichi 471-0837, Japan
TEL.0565-28-2345 FAX.0565-29-3565
Number of Employees: 1,355
Operation Start: 1961
Site Area: 190,000m <sup>2</sup>
Obtainment of ISO 14001 Certification: March 1997 (Certification No. JSAE006)
Main Product: Automobile tires
Achievement of Zero Emissions: 2001

!	(kg/year)		
		Emissions	Transfers
	Ethyl benzene	590	
	Xylene (mixed isomer)	730	—
	Cobalt and its compounds	_	310
	N-cyclohexyl-2-benzothiazolesulfenamide	—	500
	Toluene	4,400	—
	N-(tert-butyl)-2-benzothiazolesulfenamide	_	210
	Total	5,720	1,020
		67	'40

	Engilition		Legal	Aaroomont	Fiscal 2	2007 Achiev	Nome of Low		
	racilities	Items	UIIIL	Limit	Ayreement	Minimum	Maximum	Average	Name of Law
		SOx	K-value	9	9* <sup>1</sup>	_	_	_	Aichi Prefectural
Emissions to Air	Gas turbine	NOx	VOL ppm	250	100	24	37	32	Ordinance
to All		Soot and dust	g/m <sup>3</sup> N	0.05	0.05* <sup>2</sup>	_	_	_	Control Agreement
		BOD	mg/l	160	10	0.5	3.3	2.3	
Discharge		SS	mg/l	200	10	1.0	6.0	2.4	Water Pollution Control Law
to Water	River	рH	—	5.8~8.6	5.8~8.6	6.6	8.1	7.3	Toyota City Pollution
		Oil content	mg/l	5	5	1.0	1.0	1.0	<u>-</u>

\*2 No measurement of soot and dust necessary since June 2006.

![](_page_28_Picture_21.jpeg)

![](_page_28_Picture_22.jpeg)

Prefectural autumn traffic safety campaign, attended by a total of 3,000 people

Planting trees at a day-care center

![](_page_28_Picture_25.jpeg)

![](_page_28_Picture_26.jpeg)

Masafumi Takami Factory General Manager Shirakawa Factory

### **Emissions and Transfers of PRTR Substances and Per Unit**

(t/year)			Emissio	ons 🔲 🗖 1	Fransfers -	\varTheta Per unit	(kg/t)
16.0		0.10					0.12
12.0	0.06	11.4	0.03	(0.02)	(0.02)	0.03	0.06
8.0	6.5	9.9	<u> </u>			0	0.00
4.0	5.1		3.0	2.1	2.9	3 4.0 0.6	
0	-1.4	ı 🗖 🚽 1	.5 2.4 0	.6	8 - 2.	.6 -3.4	
	2002	2003	2004	2005	2006	2007	(FY)

![](_page_28_Picture_30.jpeg)

![](_page_28_Picture_31.jpeg)

Kiyoshi Morikawa actory General Manager Nagova Factory

\*1 No SOx emissions due to the use of natural gas.

### **Emissions and Transfers of PRTR Substances and Per Unit**

![](_page_28_Figure_36.jpeg)

Evacuation drills at night

# **Site Reports (Domestic Factories)**

# Izumiohtsu Factory

Location: 9-1, Kawahara-cho, Izumiotsu, Osaka 595-8650, Japan TEL.0725-21-1286 FAX.0725-21-1112 Number of Employees: 656 Operation Start: 1944 Site Area: 76,000m Obtainment of ISO 14001 Certification: March 1998 (Certification No. JSAE035) Main Product: Automobile tires Achievement of Zero Emissions: 2003

![](_page_29_Picture_3.jpeg)

Fiscal 2007 Emissions and Transfers of PRTR Substances				Encilition	ilition Itoms		Legal ,	al Agroomont	Fiscal 2007 Achievement			Name of Law
		(kg/year)		raciiiues	1101115	Unit	Limit	Ayreement	Minimum	Maximum	Average	Name of Law
	Emissions	Transfers			SOx	K-value	1.17*	_	_	_	_	Osaka
Xylene (mixed isomer)	390		Emissions	Emissions to Air     Gas turbine       Discharge to Water     Sewerage	NOx	VOL ppm	66	_	20	61	35	Prefectural Pollution Control
N-cyclohexyl-2- benzothiazolesulfenamide	-	250	LO AIF		Soot and dust	g/m <sup>3</sup> N	0.04	-	less than 0.001	less than 0.001	less than 0.001	Ordinance
Toluene	4,000	_			BOD	mg/ℓ	200	_	5.1	54.0	26.2	
N-(tert-butyl)-2-	_	270	Discharge		SS	mg/ℓ	200	-	2.2	17.0	6.6	Sewage Populations for
benzothiazolesulfenamide		270	to Water		pН	_	5.7~8.7	_	6.7	7.8	7.1	Izumiohtsu
Total	4,390	520			Oil content	ma/l	5.0	_	10	4.6	2.0	
	1 10	10			on contont	ing/c	5.0		1.0	4.0	2.0	

\* No SOx emissions due to the use of natural gas.

![](_page_29_Picture_6.jpeg)

![](_page_29_Picture_7.jpeg)

Factory tours for families

### Training sessions for cardiopulmonary

resuscitation, using AEDs

Emissions and Transfers of PRTR Substances and Per Unit												
(t/year)					Emis	ssion	s 🔲	Tra	ansfers	-	Per unit	(kg/t)
80.0	(0.10)	, (	2.51)		<u> </u>							3.00
60.0	(2.13		~		-0	)						2.00
40.0	47.7	<sup>1.2</sup>	48.5	-1.2	46.7	12	(0.94)		0.81	)		<u>1.00</u>
20.0	46.5		47.3		45.5	1.2	21.5	-0.8	21.6	-0.9	0.16	0.00
0.0							20.7		20.7		4.9 0.5	
	2002	2	2003		2004	ļ	2005		2006	6	2007	(FY)

# Miyazaki Factory

Location: 3 Tohoku-cho, Miyakonojo, Miyazaki 855-0004, Japan						
TEL.0986-38-1311 FAX.0986-38-4129						
Number of Employees: 1,611						
Operation Start: 1976						
Site Area: 268,000m <sup>2</sup>						
Obtainment of ISO 14001 Certification: December 1997 (Certification No. JSAE027)						
Main Product: Automobile tires						
Achievement of Zero Emissions: 2003						

### Fiscal 2007 Emissions and

Transfers of PRTR Substa	nces	(kg/year)
	Emissions	Transfers
Ethyl benzene	260	_
Ethylene glycol	360	_
Xylene (mixed isomer)	260	—
N-cyclohexyl-2-benzothiazolesulfenamide	—	3,400
Dioxines (mg-TEQ)	0.140	0.011
Hexamethylene tetramine	_	620
Toluene	730	—
Hydrazine	170	_
N-(tert-butyl)-2-benzothiazolesulfenamide	_	6,500
Total	1,780	10,520
	300	

![](_page_29_Picture_16.jpeg)

Presenting beetles and stag beetles to children at a day-care center

![](_page_29_Picture_18.jpeg)

Emissions

Discharge

to Water

to Air

Roile

River

Transplanting acorns

![](_page_29_Picture_20.jpeg)

Itomo	Unit	Legal	Agroomont	Fiscal 2	2007 Achiev	ement	Nome of Low	
1101115	Unit	Limit	Ayreement	Minimum	Maximum	Average	Name of Law	
SOx	K-value	17.5	8.0	3.58	4.61	4.09	Miyazaki Prefectural Pollution Control	
NOx	VOL ppm	150	150	71	75	73	Ordinance Miyakonojo City	
Soot and dust	g/m <sup>3</sup> N	0.25	0.20	0.003	0.009	0.006	Pollution Control Agreement	
BOD	mg/ℓ	40	15	0.5	3.8	1.6	Miyazaki Prefectural	
SS	mg/ℓ	60	40	1.0	3.0	1.8	Pollution Control Ordinance	
рH	—	5.8~8.6	5.8~8.6	6.9	8.0	7.7	Miyakonojo City Pollution Control	
Oil content	mg/l	5	4	0.5	0.5	0.5	Agreement	

### **Emissions and Transfers of PRTR Substances and Per Unit**

![](_page_29_Figure_23.jpeg)

Ichi	iima	Factory
	liiid	Facility

Location: 5 Kajiwara, Ichijima-cho, Tamba, Hyogo 669-4323, Japan
TEL.0795-85-3000 FAX.0795-85-3002
Number of Employees: 156
Operation Start: 1996
Site Area: 182,000m <sup>2</sup>
Obtainment of ISO 14001 Certification: May 1998 (Certification No. JSAE041)
Main Product: Golf balls
Achievement of Zero Emissions: 2001

Fiscal 2007 Emissions and Transfers of PRTR Substances					
Emissions	Transfers				
_	5,800				
2,100	_				
7,000	_				
9,100	5,800				
14,900					
	d nces Emissions 2,100 7,000 9,100 14,9				

![](_page_29_Picture_27.jpeg)

![](_page_29_Picture_28.jpeg)

![](_page_29_Picture_29.jpeg)

Planting a tree to celebrate the

GENKI ("lively and energetic") activity: milestone of 10,000 trees planted Harvesting fresh Japanese radish

# Kakogawa Factory

Location: 410-1, Kitano, Noguchi-cho, Kakogawa, Hyogo 675-0011, Japan TEL.079-424-0111 FAX.079-426-0189

Number of Employees: 298

Tr

Operation Start: 1972 Site Area: 30,000m<sup>2</sup>

Obtainment of ISO 14001 Certification: March 1998 (Certification No. YKA0771880)

Main Product: Blankets for offset printing presses, marine fenders, precision rubber parts for office machines, tennis balls, gas tubing

Achievement of Zero Emissions: 2002

### Fiscal 2007 Emissions and

ansfers of PRTR Substa	(kg/year)			
	Emissions	Transfers		
(ylene (mixed isomer)	1,100	—		
oluene	520,000	12,000		
Bis (2-ethylhexyl) phthalate	_	1,300		
otal	521,100	13,300		
	534,400			

![](_page_29_Picture_41.jpeg)

\* No SOx emissions due to the use of natural gas.

![](_page_29_Picture_43.jpeg)

![](_page_29_Picture_44.jpeg)

Kakogawa Factory's 35th anniversary event

Cleanup activities at beaches in SUMA

![](_page_29_Picture_48.jpeg)

![](_page_29_Picture_49.jpeg)

Noritake Araki Factory General Manager Ichiiima Factory

Unit	Legal	Agroomont	Fiscal 2	007 Achiev	Name of Law	
	Limit	Ayreement	Minimum	Maximum	Average	Naille UI Law
K-value	17.5	17.5	0.29	0.44	0.37	Hyogo Prefectural Pollution Control
VOL ppm	150	—	41	59	47	Ordinance
g/m <sup>3</sup> N	0.15	—	0.005	0.015	0.011	Control Agreement
mg/ℓ	300	300	92	110	101	Huogo Profectural
mg/ℓ	300	300	140	190	165	Pollution Control
-	5.0~9.0	5.0~9.0	6.9	8.2	7.6	Tamba City Pollution
mg/ℓ	5	5	1.0	2.7	1.9	Control Agreement

### **Emissions and Transfers of PRTR Substances and Per Unit**

(t/year)			Emissio	ons	Transfers •	-O Per unit	(kg/t)
25.0	646			(88.8)		_	8.00
20.0	0.40	(5.14)	(5.01)		(5.60)	(6.01)	6.00
<u>15.0</u>	12.1	~ <u> </u>		13.9	12.4	5.8	4.00
5.0	5.3	3.4	9.9	.9 4.9	4.0	0.0	2.00
0.0	6.8	6.1	8.0	9.0	8.4	9.1	0.00
	2002	2003	2004	2005	2006	2007	(FY)

![](_page_29_Picture_54.jpeg)

![](_page_29_Picture_55.jpeg)

Masahiko Ueno Factory General Manager Kakogawa Factory

Ilnit		Legal	Agroomont	Fiscal	ement	Name of Law		
l	UIII	Limit	Ayreement	Minimum	Maximum	Average	Name of Law	
	K-value	1.75*	—	—	_	_	Hyogo	
	VOL ppm	150	—	15	22	18	Prefectural Pollution Control	
	g/m <sup>3</sup> N	0.1	—	less than 0.001	less than 0.001	less than 0.001	Ordinance	
	mg/ℓ	600	—	4.8	26.0	16.2		
	mg/ℓ	600	—	4.7	42.0	12.6	Sewage Regulations for	
	-	5.0~9.0	—	6.2	7.5	7.0	Kakogawa	
	mg/l	5	—	less than 0.5	2.8	1.1		

### **Emissions and Transfers of PRTR Substances and Per Unit**

(t/year)			Emis	sions	Transfers	-O Per ur	nit (kg/t)
1,500.0	(258.70)	240.56	)				300.00
1.000.0	0-		(170.48	)		(117.20)	200.00
	843.4	12.1 819.8	10.9 655.7		(102.96)		100.00
500.0	831.3	808.9	642.5	518.6	11.6 472.4	11.1 534.4	13.3 <u>0.00</u>
0.0			042.5	507.0	461.3	521.1	
	2002	2003	2004	2005	2006	2007	(FY)

### **Site Reports (Overseas Factories)**

# Changshu/Suzhou Factory (China)

Location: Economic Development Zone, Changshu, Jiangsu, China TEL.86-512-5269-0502 FAX.86-512-5269-5022 Number of Employees: 2,426 Operation Start: 2004 Site Area: 267,000m Obtainment of ISO 14001 Certification: October 2005 (Certification No. 0105E10332ROM/3200)

Main Product: Automobile tires

![](_page_30_Picture_4.jpeg)

![](_page_30_Picture_5.jpeg)

![](_page_30_Picture_6.jpeg)

Chairman Changshu/Suzhou Factory (China)

![](_page_30_Picture_8.jpeg)

New employees join in picking up trash

Changshu/Suzhou Factory honored for social contribution by the local government

ime of Lav S0x K-value 500 14.0 22.0 18.0 Emissions 400 NOx VOL ppm 195 213 204 to Air Soot and dust g/m<sup>3</sup>N 100 19.4 36.0 27.7 Domestic Laws in China BOD 300 5.6 10.9 8.3 mg/ℓ SS 400 14.0 56.0 35.0 mg/ℓ Discharge to Water 6.0~9.0 7.2 7.4 7.3 pН 1.0 Oil content ma/ℓ 20 0.5 1.5

# Indonesia Factory

Location: Cikampek, Indonesia TEL.62-264-351346 FAX.62-264-351345 Number of Employees: 3,344 Operation Start: 1997 Site Area: 240 000m2 Obtainment of ISO 14001 Certification: August 2003 (Certification No. 500146) Main Product: Automobile tires, golf balls

Achievement of Zero Emissions: 2004

![](_page_30_Picture_13.jpeg)

Separa

![](_page_30_Picture_15.jpeg)

Planting a commemorative tree

![](_page_30_Picture_17.jpeg)

Kazunori Hiramatsu President Indonesia Factory

	Itomo Unit		Legal Fiscal 2007 Achievement				Name of Laws
	items		Limit	Minimum	Maximum	Average	Name of Law
	SOx	mg/m <sup>3</sup> N	800	30.4	39.5	34.9	
Emissions to Air	NOx	VOL ppm	1,000	37	47	42	-
10711	Soot and dust	g/m <sup>3</sup> N	350	34.7	42.1	38.4	
	BOD	mg/l	150	3.4	172.5*1	51.8	Domestic Laws in Indonesia
Discharge	SS	mg/l	400	4.0	126.0	58.6	-
to Water	рH	-	6.0~9.0	6.5	8.0	7.1	
	Oil content	mg/l	*2	_	_	_	

\*1 This was over the regulation value due to an oil spillage caused by a mechanical failure, but it was less than the regulation value for industrial complexes. There was no effect on the environment, as the substances underwent treatment once again at the central treatment facilities and were then discharged to outside of the area. \*2 No regulation value for the oil content.

# Thailand Factory

Location: Amata City Industrial Estate, Rayong, Thailand							
TEL.66-38-953-000 FAX.66-38-953-021							
Number of Employees: 1,197							
Operation Start: 2006							
Site Area: 597,000m <sup>2</sup>							
Obtainment of ISO 14001 Certification: January 2008 (Certification No. BGK600273)							
Main Product: Automobile tires							

![](_page_30_Picture_23.jpeg)

![](_page_30_Picture_24.jpeg)

![](_page_30_Picture_25.jpeg)

	lteme linit		Legal	Fisca	Name of Laws		
	Items	Unit	Limit	Minimum	Maximum	Average	Name of Law
	SOx	K-value	60 <mark>*1</mark>	—	_	—	The Enhancement
Emissions to Air	NOx	VOL ppm	200	42	62	52	of National
10 / III	Soot and dust	g/m <sup>3</sup> N	320	0.2	0.2	0.2	Quality Act
	BOD	mg/l	500	42.0	326.0	113.8	
Discharge	SS	mg/l	200	27.0	139.0	66.4	Industrial Estate
to Water	рН	_	5.5~9.0	7.0	8.9	7.9	Thailand Act
	Oil content	mg/ℓ	10	3.0	16.0 <mark>*</mark> 2	7.7	

![](_page_30_Picture_27.jpeg)

\*1 No SOx emissions due to the use of natural gas.

Opening ceremony of the 2nd factory

# Zhongshan Factory (China)

		-		<b>.</b>
Location: /honoshan lorch High-lech	Industry Development /one	/honoshan G	langdong	(Chin:
Loouloin Enongonan ioronnigh ioo	inductif Bereiophient Lene;	Literigenany a	aangaong,	•••••
TFL.86-760-5314773	FAX.86-760-5598924			

	_		-
Number	of	Employees	:

: 676 Operation Start: 2000

Site Area: 30 000m<sup>2</sup>

Obtainment of ISO 14001 Certification: December 2004 (Certification No. C042006) Main Product: Rubber parts for printers and photocopiers

Achievement of Zero Emissions: 2006

![](_page_30_Picture_37.jpeg)

![](_page_30_Picture_38.jpeg)

factory

![](_page_30_Picture_40.jpeg)

Cleanup activities at a famous park in the area

![](_page_30_Picture_44.jpeg)

![](_page_30_Picture_45.jpeg)

Yutaka Kuroda President hailand Factory

\*2 Due to large amounts of oil in wastewater from the cafeteria, some of the voluntary measurements were over the regulation value. We have already dealt with this problem. There was no effect on the environment, as the substances underwent treatment once again at the central treatment facilities and were then discharged to outside of the area.

![](_page_30_Picture_49.jpeg)

![](_page_30_Picture_50.jpeg)

Makoto Sakuraoka President Zhongshan Factory (China)

	Legal	Fisca	Name of Laws			
nit	Limit	Minimum	Maximum	Average	Name of Law	
N	500	2.5 or less	2.5 or less	2.5 or less		
pm	*	0.3	0.6	0.4		
	_*	_	—	—		
	20	7.8	14.6	11.2	Ordinance for Guangdong	
	60	4 or less	16.0	10.0		
	6.0~9.0	6.2	7.7	7.0		
	5.0	0.5	1.0	0.8		

\* No regulation values for NOx and soot and dust. NOx is voluntarily measured.

# **Site Reports (Overseas Factories)**

# Vietnam Factory

Location: An Dong Commune, Hai Phong City, Vietnam TEL.84-31-3743270 FAX.84-31-3743272

Number of Employees: 221

Operation Start: 2006

Site Area: 11,000m<sup>2</sup>

Obtainment of ISO 14001 Certification: April 2008 (Certification No. QAC6003288) Main Product: Precision rubber parts for office machines

![](_page_31_Picture_7.jpeg)

![](_page_31_Picture_8.jpeg)

			11					
		Items	Unit	Limit	Minimum	Maximum	Average	Name of Lav
Emissions to Air		SOx	K-value	0.35	0.04	0.06	0.05	
	Emissions to Air	NOx	VOL ppm	0.20	0.08	0.11	0.10	-
	1071	Soot and dust	g/m <sup>3</sup> N	_*	_	_	_	
		BOD	mg/l	500	57.3	75.2	66.3	Domestic Laws for Vietnam
	Discharge	SS	mg/l	600	64.0	80.0	72.0	
	to Water	рН	-	5.0~9.0	7.5	8.4	8.0	
		Oil content	mg/l	30.0	0.4	_	0.4	

\* No regulation value for soot and dust.

# Malaysia Factory

Opening ceremony

Evacuation dril

Emergency drill

Location: Sungai Petani, Kedah, Malaysia TEL.60-4-4213121 FAX.60-4-4213123 Number of Employees: 800 Operation Start: 1980 Site Area: 56,000m2 Obtainment of ISO 14001 Certification: September 2005 (Certification No. MY05/0022/ES) Main Product: Rubber gloves Achievement of Zero Emissions: 2006

![](_page_31_Picture_13.jpeg)

Katsutoshi Kitaou resident lalaysia Factory

			Legal	Fiscal 2007 Achievement			
	Items	Unit	Limit	Minimum	Maximum	Average	Name of Law
	SOx	K-value	200	-	18.2	-	
Emissions to Air* Discharge to Water	NOx	VOL ppm	2,000	_	66	-	
	Soot and dust	g/m <sup>3</sup> N	0.4	-	0.004	-	
	BOD	mg/l	50	2.0	29.0	11.1	Domestic Laws for Malaysia
	SS	mg/l	100	0.0	98.0	21.4	
	рН	_	5.5~9.0	6.3	7.7	6.8	
	Oil content	mg/l	10	less than 5.0	9.0	5.2	

\* Atmospheric emissions measured once a year.

![](_page_31_Picture_17.jpeg)

Dunlop Retread Service L	td.
Location: 355-9, Kitaoka-cho, Ono, Hyogo 675-1318, Japan TEL.0794-63-0543 FAX.0794-63-6510	
Number of Employees: 26	
Operation Start: 1972	
Site Area: 15,700m <sup>2</sup>	
Major Business: Manufacturing and marketing of retread tires	
Achievement of Zero Emissions: 2006	

![](_page_31_Picture_19.jpeg)

Fire-extinguishing drill

Steam-extinguisher handling procedures

# Dunlop Retread Service Hokkaido Ltd.

Location: 13-2, Koei-cho, Ebetsu, Hokkaido 067-0051, Japan	
TEL.011-383-3235 FAX.011-385-2891	
Number of Employees: 12	
Operation Start: 1972	
Site Area: 10,737m <sup>2</sup>	
Major Business: Manufacturing and marketing of retread tires	
Achievement of Zero Emissions: 2006	

![](_page_31_Picture_24.jpeg)

![](_page_31_Picture_25.jpeg)

On patrol in the snow

Safety notice at morning meetings

# SRI Engineering Ltd.

Location: 2-1-1, Tsutsui-cho, Chuo-ku, Kobe, Hyogo 651-0071, Japan
TEL.078-265-5716 FAX.078-265-5717
Number of Employees: 164
Operation Start: 2003
Site Area: 5,660m <sup>2</sup>
Major Business: Designing and producing of metallic molds for tire production
Achievement of Zero Emissions: 2008

![](_page_31_Picture_30.jpeg)

![](_page_31_Picture_31.jpeg)

Briefings for on-site safety measures

Message board for activities related to safety, environment, and improvements

![](_page_31_Picture_36.jpeg)

![](_page_31_Picture_37.jpeg)

Kunihiko Nakano President Dunlop Retread Service Ltd.

![](_page_31_Picture_40.jpeg)

![](_page_31_Picture_41.jpeg)

Yoshinori Takeyama President Dunlop Retread Service Hokkaido Ltd.

![](_page_31_Picture_43.jpeg)

![](_page_31_Picture_44.jpeg)

![](_page_31_Picture_45.jpeg)

Koji Soeda President SRI Engineering Ltd.

### Site Reports (Domestic Affiliated Companies)

![](_page_32_Picture_1.jpeg)

![](_page_32_Picture_2.jpeg)

Planting trees

# Dunlop Golf Club Ltd.

Location: 3 Tohoku-cho, Miyakonojo, Miyazaki, 855-0004, Japan TEL.0986-38-4679 FAX.0986-27-5026 Number of Employees: 166 Operation Start: 1989 (Miyazaki Head office and Miyazaki factory started operation) Site Area: 8.359m Main Product: Golf clubs Achievement of Zero Emissions: 2004

![](_page_32_Picture_6.jpeg)

![](_page_32_Picture_7.jpeg)

Education on traffic safety

Firefiahtina drill

**Environmental Reports of Overseas Factories** 

In 2006, the Changshu/Suzhou Factory in China published its own Environmental Report, while the Indonesia Factory published its first one in 2007.

We strive to communicate with local communities by constantly providing information on things like environmental burden from business activities and the goal of our social activities.

![](_page_32_Picture_13.jpeg)

DUNLOI

Environmental Report from the Indonesia Factory

![](_page_32_Picture_15.jpeg)

報告書

DUNLO

環境

Hideki Sano

resident Dunlop Golf Club I td

the Changshu/Suzhou Factory

# **Report from Third-Party Independent Review**

![](_page_32_Picture_18.jpeg)

Independent Review Report on "Sumitomo Rubber Group CSR Report 2008"

To the Board of Directors of Sumitomo Rubber Industries, Ltd.

1. Purpose and Scope of our Review

We have reviewed "Sumitomo Rubber Group CSR Report 2008" (the "Report") of Sumitomo Rubber Industries, Ltd. (the "Company") for the year ended December 31, 2007. Our engagement was designed to report to the Company, based on the results of our review, the credibility of the environmental performance indicators, social performance indicators and environmental accounting indicators (the "Indicators") for the period from January 1, 2007 to December 31, 2007 included in the Report.

The Report, including the identification of material issues, is the responsibility of the Company's management. Our responsibility is to independently report the results of our procedures performed on the Indicators.

2. The Standards and the Criteria used in our Review

We conducted our review referring to the "International Standard on Assurance Engagements 3000" (December 2003) issued by International Federation of Accountants (IFAC) and in accordance with the provisions of the "Assurance Standard for Environmental Reports (pilot version)" issued by the Ministry of the Environment of Japan(March 2004) and the "Practice Guidelines for Assurance Engagements on Sustainability Information" (revised February 2008) issued by the Japanese Association of Assurance Organizations for Sustainability Information, with the criteria which are the standards the Company formulated (the "Company's Standards") drawing upon references including the "Environmental Reporting Guidelines (Fiscal Year 2007 Version)" (June 2007) issued by the Ministry of the Environment of Japan, the "Sustainability Reporting Guidelines Version 3.0" (October 2006) issued by the Global Reporting Initiative and the "Environmental Accounting Guidelines 2005" (February 2005) issued by the Ministry of the Environment of Japan as well as the code of the Japanese Association of Assurance Organizations for Sustainability Information

- 3. Procedures Performed
- We have performed the following review procedures;
- (1) With respect to the Company's policies for compilation of the Report, interviewed the Company's responsible personnel.
- (2) Assessed the Company's Standards used for collecting, compiling and reporting the Indicators. (3) With respect to the way of collecting the Indicators and the process flow of calculating them, interviewed the Company's responsible personnel and reviewed the systems and processes used to generate the values of the Indicators
- (4) Compared the Indicators on a sample basis with the supporting evidences to test the conformity in collection, compilation and reporting of the Indicators to the Company's Standards.
- (5) Made on-site inspections of the Company's facilities domestic
- (6) Assessed the completeness of the Report in accordance with the applicable provisions of the code of the Japanese Association of Assurance Organizations for Sustainability Informa (7) Evaluated the overall statement in which the Indicators are expressed.

### 4. Results of the Procedures Performed

We believe that our review procedures provide a reasonable basis for our conclusion Based on our review, nothing has come to our attention that causes us to believe that the Indicators in the Report are not collected, compiled and reported, in all material respects, rationally and in accordance with the Company's Standards

Our firm and engagement members have no interest in the Company which would have to be disclosed pursuant to the provisions of the Assurance Standard for Environmental Reports (pilot version) issued by the Ministry of the Environment of Japan.

Osaka, Japan May 28th, 2008

### **Editor's Postscript**

We appreciate your interest in the Sumitomo Rubber Group CSR Report 2008. In this first report under the new title of CSR Report, we tried to introduce what the Sumitomo Rubber Group is really all about by reporting mainly on activities of the most material to stakeholders and the group and doing it in a visually appealing, reader-friendly manner. We have moved some of the information

KPMG AZSA Sustainability Co., Std.

KPMG AZSA Sustainability Co., Ltd.

The name change of this vear's publication to the CSR Report exhibits the Sumitomo Rubber Group's unique new philosophy, which is represented by its **GENKI** Activities. I hope these activities inject new life into the company's CSR efforts.

Although I believe that the group's overseas operations will take on increasing importance. However, this year's report focuses on the six factories in Japan and only includes partial data on overseas factories. It will be necessary to manage overall environmental performance around the world for better disclosure in the coming future. We also believe that the Group will be able to make further improvement in reporting by analyzing the material issues and actions necessary for both the Group and stakeholders.

![](_page_32_Picture_52.jpeg)

Tae Maki Manager KPMG AZSA Sustainability Co., Ltd.

contained in previous reports to our Web site. We will continue to include more relevant information in future CSR Reports while at the same time highlighting the unique features of the Sumitomo Rubber Group.

We look forward to working together with our readers for better sustainable societies to the best of our abilities

### **For Customers**

### **Quality policy**

### Creating the best quality in the world

We will prescribe the following quality policy based on our business principles, and implement, in order to observe laws and regulations and provide products that fulfill our customers' desires and meet the demand in the market, thereby making a wide contribution to society.

- 1) We will take a standpoint of the "principle of the actual article on-site," which is to understand customer satisfaction, the market, and changes by taking a look at the actual article on-site, and to think and act by learning the facts, in order to provide products and services with excellent quality that will be trusted by the customers, and also quality with a small dispersion.
- 2) We will advance our business activities innovatively in all our divisions, starting with technology development, and develop attractive products that will be satisfied by the customers, with a continuous improvement of the quality objectives.
- 3) We will carry out a continuous education, standardization, and observing of rules as basis in all our divisions, improving our ability in field and we will be conducting our duties and activities from a preventive viewpoint of preventing problems from happening.
- 4) We will make certain of mutual trust relationship with our business partners, and make efforts to advance in qualities still further.
- 5) We will go forward a improving the quality of our duties, through strengthening cooperation and harmony within our company, in order to enhance customer satisfaction and in-company satisfaction within our company.

All the people of SUMITOMO RUBBER GROUP should understand and practice this quality policy, and realize the implementation of the quality management system.

### Responses in the Event of Product Safety Problems

### Expanding All Possible Means Against Quality-Related Risks, and Ensuring Swift and Appropriate Responses to Quality Problems Should They Occur

With the recognition that "ensuring the safety of products" is the responsibility of the manufacturer, the Sumitomo Rubber Group makes continuing efforts to secure product safety.

At a trial production stage, we conduct a number of endurance tests, using testing machines, test vehicles and dynamic testing cycles, and then confirm the results of simulations at the design stage. The results of these tests are carefully examined by the quality assurance division. All of our trial products, including tires, sports-related items and industrial products, must attain the approval of the quality assurance division to proceed to mass production. Even after the startup of mass production, the quality of the initial products is strictly monitored to ensure excellence in the quality and safety of the products that we offer.

Should any defects or potential problems be suspected with our products, the executive officer in charge of quality assurance will immediately call a safety meeting to take the necessary measures to deal with the situation.

We will continue to ensure swift and appropriate responses to manage all possible risks regarding the quality and safety of our products.

# Topics

### Successful Events Held for the Presentation of Tires in Thailand and China

The Sumitomo Rubber Group held test-drive events and presentations around the world to raise awareness of its new tires among customers and dealers.

Dunlop Tire (Thailand) Co., Ltd., a tire sales company in

Thailand, held a test-drive event for the media and a presentation for dealers in June 2007 to raise awareness of the Group's new tire product, the SP SPORT LM703. The test-drive event, which was held at a track in Bangkok, was attended by professional racers and young actors, and the presentation was attended by 140 people, including the general public.

![](_page_33_Picture_22.jpeg)

LM703 test-drive event in Thailand

In China, Sumitomo Rubber (Changshu/Suzhou) Co., Ltd., invited the press and customers to a presentation in Shanghai before the launch of the LM703 and RV502 tires in September 2007. In addition to product presentations for 140 attendees, a model store for Dunlop tires was set up at the venue to show ideas for the store display of tires.

As a whole, these successful events won favorable responses from customers.

![](_page_33_Picture_26.jpeg)

LM703 presentation in Changshu, China

## **For Employees**

Employees gain satisfaction from working for the Sumitomo Rubber Group, and their achievements contribute to the growth of the Group. To promote such a healthy relationship, the Group appreciates its responsibility to provide fair opportunities for the growth of its employees through various incentives and educational programs.

### **Basic Policies for Employment**

- 1. Diversification of employment practices and emphasis on capabilities development
- 2. Offering of rewarding jobs and satisfactory workplaces
- 3. Fair evaluation and treatment

### **Diversity of Employment Practices**

### Endeavoring to Offer Varied Employment Opportunities to Acquire Diverse Human Resources with Various Capabilities

The Sumitomo Rubber Group aims to diversify its employment practices to offer various work options so that employees can fully display their various abilities.

In particular, the Group promotes the diversification of employment patterns by facilitating the reemployment of retired persons, as well as recruiting non-Japanese, mid-career workers and physically challenged persons. In addition, contract workers are recruited on a regular basis according to their expertise, experience and skills.

### Enhancing the System of Rehiring Retired Persons to Better Utilize Their Expertise, Experience and Skills for Our Businesses

The Sumitomo Rubber Group introduced a system of rehiring retired persons in fiscal 1990 to enable the effective use of the expertise, experience and skills of retired persons, while contributing to the enrichment of their lives.

Under this system, retired employees who are in good physical condition and want reemployment—on the condition of the same job duties and working patterns as when they retired—are allowed to extend their employment until they reach the age when they would start receiving their employees' pension.

### Rate of Reemployment of Retired Employees (for Sumitomo Rubber Industries, Ltd., on a non-consolidated basis)

![](_page_34_Figure_15.jpeg)

### Striving to Expand Job Opportunities for Physically Challenged Persons by Facilitating Their Employment and Increasing the Range of Jobs for Them

The Sumitomo Rubber Group employs physically challenged persons who are actively working in various fields with different job responsibilities.

We promote the recruitment of physically challenged persons in cooperation with job placement offices. In addition to general office work, the range of jobs to which physically challenged persons are assigned is expanding to include light work at factories, CAD operators and more. Specific positions are determined upon consideration of individual capabilities and the requirements of the workplaces to which they are assigned.

### Rate of Employment of Physically Challenged Persons (for Sumitomo Rubber Industries, Ltd., on a non-consolidated basis)

![](_page_34_Figure_20.jpeg)

### **Expansion of Job Opportunities for Women**

### Continuing Efforts to Enhance the Working Environment and Raise Job Satisfaction for Female Workers

In fiscal 2007, the Sumitomo Rubber Group strove to expand job opportunities for women by increasing the employment of women who want to be on a managerial career track, while reinforcing measures to support employees who handle both a career and raising children. As of 2007, there were 10 women employed for future managerial positions. We also made efforts to enhance the working environment for women who are married and/or raising children by extending the period for child-care leave and introducing an option for shorter workdays.

We will continue to encourage female employees to make effective use of these initiatives to create working environments that are friendlier to employees raising children and to enhance job satisfaction for women.

### Number of Female Employees in a Managerial Position

(Year)	2004	2005	2006	2007	2008		
Managers	2	3	3	3	3		
Assistant Managers	11	11	12	12	12		

Note: The numbers are as of April 1 each year.

### **Opportunities for Friendships among Employees**

# Offering Various Opportunities for Employees to Experience a Vibrant Corporate Climate

To build a vibrant corporate climate, the Sumitomo Rubber Group provides opportunities to promote friendships among employees, such as club activities and recreational events, as well as encouraging volunteer activities. Employees who have reached their 30th year of service are eligible for a refresher vacation with pay.

### **For Employees**

### **Sound Labor-Management Relations**

### The Labor Union and Management Joined Together to Reinforce Measures that Support Employees who Handle Both a Career and Raising Children

The Sumitomo Rubber Group's labor union and management maintain favorable relationships by sharing management information and through ongoing consultations. Based on a shared recognition that the growth of the Company is a common goal for labor and management, and that the Company's growth should be compatible with benefits for labor, both parties regularly have discussions through various labor-management committees.

Recently, stricter management of work hours has achieved a measure of success in eliminating unpaid overtime work and reducing prolonged overtime work. During fiscal 2007, focused efforts were also made to reinforce measures that support employees who handle both a career and raising children.

### **Fair Evaluation and Treatment**

# Our Employee Evaluation System, which Has Attained High Satisfaction among Employees

The Sumitomo Rubber Group's employee evaluation system consists of an annual evaluation for salaries and a semiannual evaluation for bonuses. The yearly evaluation assesses an employee's degree of improvement in his/her job performance in compliance with written standards, and the results are reflected in the determination of abilities to be developed and salary and benefits. The semiannual evaluation for bonuses assesses an employee's achievements for the half year based on their management by objectives, and the results are reflected in the determination of semiannual bonuses.

The details of the evaluations are reported to the employee through a face-to-face communication. For inquiries about compensation and treatment, employees can contact their supervisors, the labor union or the human resources division. We receive several inquiries each year. To ensure a fair evaluation, we offer evaluation training programs for newly appointed managers and follow-up training programs for mid-level managers.

### Carrying Out Tests for Promotion Every Year to Encourage Employees to Act on Their Own Initiative to Seek Promotions

To create a corporate culture that encourages employees to voluntarily develop themselves on a continuing basis, the Sumitomo Rubber Group once a year allows an employee to take a test to gain a promotion to a managerial position at the level of section chief or deputy section chief, upon such application from the employee with a recommendation by his/her supervisor.

To ensure the fairness of these promotion tests, we have set transparent standards for promotion to higher-level management. Such promotions are determined based on a strict and fair evaluation by executive officers and the human resources division given past achievements and the ratings of previous employee evaluations.

### Safety Education

### Regular Education on Safety and Hygiene Is Provided to Increase Awareness

The Sumitomo Rubber Group offers voluntary educational seminars to increase knowledge and awareness about safety for employees who have reached one, three and six months of service, and follow-up education to confirm the level of safety knowledge and skills acquired by employees who have served longer on an irregular basis. In addition, information about safety and hygiene are posted on a dedicated Web site

to support these educational activities.

During fiscal 2007, 671 educational seminars were held, attracting 6,863 participants. We will continue to provide safety education in fiscal 2008.

![](_page_35_Picture_18.jpeg)

Safety education

### **Healthcare for Employees**

### Continuing Efforts to Enhance the Physical and Mental Health of Our Employees, including the Prevention of Lifestyle Diseases

To enhance the mental health of employees, the Sumitomo Rubber Group has conducted workshops on mental health since fiscal 2001 for all employees. During fiscal 2007, we held eight seminars, with about 300 participants in total, at our facilities throughout Japan for supervisory employees to learn how to carry out stress management measures at workplaces. For an employee who has developed a mental disorder, we provide support to achieve good collaboration between the patient, the patient's supervisor, an industrial physician and the patient's family to help restore mental health.

We are making efforts to prevent overwork by reducing overtime work through the streamlining of work processes and an increased workforce. An employee who has worked more than 80 hours of overtime in a month is required to have a consultation with an industrial physician.

To prevent lifestyle diseases, we carried out pilot programs at our Kobe head office and the Izumiohtsu Factory in fiscal 2007 to teach preventive measures to employees who are at risk for lifestyle diseases given the results of their regular health checkups. These programs proved effective for around 90% of the participants. In fiscal 2008, we will increase the number of offices that employ these programs.

To prevent smoking-related health hazards, we set up smoking rooms to isolate smokers and began offering seminars on the adverse effects of tobacco to encourage smokers to quit.

![](_page_35_Picture_26.jpeg)

Seminar for mental health active listening method

## **Green Procurement, Green Purchasing**

Targeted and Achieved IS0 14001 Certification for Raw Fuel Suppliers						
89% of the money we spend buying raw fuel is spent on suppliers that are ISO 14001 certified (excluding natural rubber)	We will build on our fiscal 2007 success to further increase this percentage.					
Fiscal 2007 achievement	Fiscal 2008 target					
Buying More Environmentally Ce	ertified Products					
78% of the money we spend on office supplies is to purchase products that are environmentally certified. (Calculation conditions same as last year.)	We will build on our fiscal 2007 success to further increase this percentage.					

### **Green Procurement**

### Procurement Guidelines Revised for Banned Substances and Allowable Substances 3rd Explanation Meeting Held

When purchasing raw materials, the Sumitomo Rubber Group gives priority to suppliers that are ISO 14001 certified. We also purchase green, by avoiding raw materials containing hazardous substances, and we use low-polluting, fuel-efficient vehicles.

In September 2007, we published the third edition of our procurement guidelines. While the previous guidelines listed 640 substances whose use was prohibited, the revised version is divided into 113 banned substances and 815 substances whose presence must be reported. These changes are relayed to suppliers at explanation meetings. We also provide them with forms to submit that declare their products contain no banned substances and contain certain restricted substances. Suppliers who submit these documents will be given preference in future. We also ask new suppliers to fill out and submit these papers. In considering which raw materials to select, we use these forms, material safety data sheets (MSDS) from the manufacturer, and our own assessment standards to help us decide if substances contained in raw materials are hazardous, prohibited, or need to be reduced in quantity. This ensures that our own products are sufficiently safe.

To comply with Europe's REACH directive, we ask suppliers to tell us how they plan to meet the requirements of this legislation.

### **Green Procurement Items**

- 1. In the procurement guidelines, designate 113 banned substances and 815 substances whose presence must be reported.
- 2. When purchasing raw materials, give priority to suppliers that are ISO 14001 certified.
- 3. Strive to reduce PRTR substances in raw materials.
- 4. Use low-polluting and fuel-efficient vehicles.
- 5. Reduce the amount of packaging.
- When transporting rubber raw materials, use flexible containers and use as few paper bags as possible.
- When transporting natural rubber, use steel palettes rather than wooden palettes.
- 6. Purchase recycled rubber.
- Whenever possible, purchase rubber recycled from used tires or other products.

### **Handling Chemicals**

![](_page_36_Figure_19.jpeg)

### Low-Polluting and Fuel-Efficient Vehicles

The Sumitomo Rubber Group uses low-polluting and fuel-efficient vehicles so that we can reduce our CO<sub>2</sub> emissions. In fiscal 2007, we began using hybrids and 4-star cars. With the aim of reaching our fiscal 2010 targets, we will reduce the number of conventional vehicles we are currently using.

### Percentage of Low-Polluting and Fuel-Efficient Vehicles

![](_page_36_Figure_23.jpeg)

### Purchasing Recycled Rubber

The Sumitomo Rubber Group makes use of rubber crumbs and rubber recycled from used tires. In fiscal 2007, we used 4,530 tons of recycled rubber for tire manufacture, and 3,040 tons for industrial goods such as asphalt-rubber pavement and artificial turf.

### Amount of Recycled Rubber Purchased

(t)	2003	2004	2005	2006	2007
Recycled Rubber	920	830	1,080	1,990	2,660
Recycled Rubber Crumbs	1,430	1,640	1,690	1,770	1,870
Industrial Goods	2,230	3,130	4,205	3,640	3,040
Total	4,580	5,600	6,975	7,400	7,570

### Green Purchasing

# Green Purchasing Gives Preference to Suppliers with Environmentally Certified Products

The Sumitomo Rubber Group follows the letter and spirit of the Law on Promoting Green Purchasing (enacted in 2001) as we give preference to environmentally certified products.

Regarding the loss of environmental certification for certain products which were falsely labeled as made from recycled paper, both the number of green items purchased and total outlays for purchases are expected to decrease in fiscal 2008.

![](_page_36_Figure_32.jpeg)

# **Reducing and Controlling Chemicals/Recycling Used Tires**

### **Reducing NOx and SOx Emissions**

# Fuel Switchover at Shirakawa Factory Results in Dramatic Reductions in SOx Emissions

In fiscal 2007, the Shirakawa Factory gradually switched from heavy oil and kerosene to LNG (natural gas). This led to dramatic reductions in SOx emissions. As well, the high cost of fuel forced us to shut down the cogeneration system, resulting in even more reductions in SOx and NOx emissions.

By switching over to LNG at the Shirakawa Factory in fiscal 2008 and at the Miyazaki Factory in fiscal 2009, we will be able to further lower emissions.

### **NOx Emissions: In Total and Per Unit**

![](_page_37_Figure_7.jpeg)

### SOx Emissions: In Total and Per Unit

![](_page_37_Figure_9.jpeg)

### **Preventing Occurrence of Dioxins**

# Large Increase in Dioxins at Shirakawa Factory: Investigation Launched

Since November 2002, the Sumitomo Rubber Group has been shutting down garbage incinerators at its factories and the result has been a dramatic reduction in the amount of dioxins occurring.

In fiscal 2007 at the Shirakawa Factory, however, there was a drastic increase in dioxins. Although the levels were still within allowable limits, we are looking into the reason for this increase.

Amount of Dioxins Occurring (mg-TEQ/year)							
	2002	2003	2004	2005	2006	2007	
Dioxins	63	29	7	0.7	0.36	122	

### **Recycling Used Tires**

# Sumitomo Rubber Group Conducts Thermal Recycling and Material Recycling

To promote the recycling of used tires, we have a system at three factories for using these tires as boiler fuel—an effective way to make use of energy. We also recycle used tires into rubber crumbs and recycled rubber for use in applications such as artificial turf and road pavement.

The automobile tire industry in Japan is pooling its efforts as it conducts research and development into the recycling of used tires. The eventual goal is to contribute to a zero waste society.

### Number of Used Tires (Japan)

![](_page_37_Figure_20.jpeg)

### Number of Used Tires and Recycling Rate

![](_page_37_Figure_22.jpeg)

### **Used Tire Boiler System (Nagoya Factory)**

Used tires become fuel.

![](_page_37_Figure_25.jpeg)

### **Preventing Wastewater and Soil Pollution**

![](_page_38_Figure_2.jpeg)

Treating Wastewater and Reducing Amounts of Discharged Water

### Reducing Wastewater Volume through Voluntary Standards that are Stricter than Industry Regulations

Wastewater from factories goes to the ocean via rivers. Because factory wastewater has such far-reaching effects, it is crucial that this water is not polluted and that there is as little of it as possible. The Sumitomo Rubber Group purifies

wastewater and keeps its volume to a minim by installing wastewater treatment devices and reusing water repeatedly. In fiscal 2008, our goal is to reduce wastewater per unit of output by at least 5% over fiscal 2007.

![](_page_38_Picture_7.jpeg)

Wastewater treatment facilities

### Kakogawa Factory Continues to Report on Soil and Groundwater Pollution

As a result of voluntary surveys conducted according to the Environmental Quality Standards for Soil and Groundwater Pollution (January 1999), and the Soil Contamination Countermeasures Law (February 2003), tetrachloroethylene above allowable environmental levels was discovered on the Kakogawa Factory site of SRI Hybrid Ltd. In October 2004, we reported this to Kakogawa City and held a meeting to report this to nearby residents.

We then began purification of the soil and groundwater. Soil work is complete but we are still purifying the groundwater by pumping it through a special purification device. We also take periodic samples of groundwater concentrations and report these figures to Kakogawa City.

We are taking measures to prevent such pollution from reoccurring at the Kakogawa Factory. We are educating employees on what they need to know about leakage of solvents and other As for water quality measurements such as pH balance, biological oxygen demand (BOD), and suspended solids (SS), we are controlling these using voluntary standards that go beyond the levels set by national and regional regulations.

![](_page_38_Figure_14.jpeg)

![](_page_38_Figure_15.jpeg)

### Wastewater Data, by Factory

		Unit	<b>Regulation Value</b>	2003	2004	2005	2006	2007
	BOD	mg/l	10	1.0	1.0	1.1	1.5	1.4
Shirakawa	SS	mg/l	10	2.3	2.0	2.0	2.0	2.0
	pН	-	5.8~8.6	6.9	6.9	6.8	6.6	6.9
	BOD	mg/l	10	3.0	2.6	2.7	2.2	2.3
Nagoya	SS	mg/l	10	2.3	2.8	3.0	2.3	2.4
	pН	-	5.8~8.6	7.0	6.9	7.1	7.1	7.3
Izumiohtsu	BOD	mg/l	200	14.2	9.5	12.1	16.2	26.2
	SS	mg/l	200	8.1	8.8	10.7	5.9	6.6
	pН	-	5.7~8.7	7.2	7.2	7.1	7.0	7.1
	BOD	mg/l	15	1.7	1.5	0.9	1.9	1.6
Miyazaki	SS	mg/l	40	1.0	1.0	1.0	1.4	1.8
	pН	-	5.8~8.6	7.5	7.5	7.5	7.7	7.7
	BOD	mg/l	300	6.6	53.4*	60.5	79.5	101
lchijima	SS	mg/l	300	2.5	29.9*	142.0	114.5	165
	pН	-	5.0~9.0	7.2	6.7	7.3	7.6	7.6
	BOD	mg/l	600	18.7	17.5	26.5	28.9	16.2
Kakogawa	SS	mg/l	600	11.6	10.8	10.9	8.9	12.6
	pН	-	5.0~9.0	7.1	6.8	6.6	6.8	7.0

In fiscal 2004, the Ichijima Factory stopped emitting wastewater into the river and began emitting it into sewers.

chemicals, clearly explaining material safety data sheets (MSDS) on solvents and other chemicals, conducting drills to prepare for factory wastewater emergencies, and having all employees take part in disaster drills. We are also constantly making sure that there is enough emergency equipment in the proper places in case it is ever needed.

We will continue to strengthen our ability to control hazardous chemicals through constant education on proper handling and measures.

# Tetrachloroethylene Concentration of Groundwater from a Test Well (Allowable level: 0.01 mg/ $\ell$ or less) (ma/ $\ell$ )

2004 2005			2006				2007						
7/2	7/29	1/26	4/26	7/25	10/25	1/24	4/10	7/26	11/15	1/31	4/27	7/20	10/22
1.60	0.65	0.31	0.40	0.63	0.14	0.25	0.16	0.22	0.12	0.09	0.15	0.16	0.09

### **Environmental Communication**

### **Protecting Biodiversity**

### Raising Endangered Species and Protecting Biodiversity through Biotopes

Although the business of the Sumitomo Rubber Group has no direct negative impact on biodiversity, we still do our part to ensure that a wide variety of living species continue to survive and thrive.

Our varied activities include setting aside nature spaces for the growth of the endangered echinops, a member of the chrysanthemum family; breeding fireflies in biotopes, managing forests, and incubating beetles.

![](_page_39_Picture_6.jpeg)

![](_page_39_Picture_7.jpeg)

Echinops seedlings (Miyazaki Factory)

![](_page_39_Picture_9.jpeg)

Wild echinops field (Miyazaki Factory)

![](_page_39_Picture_11.jpeg)

Managed forest near the Shirakawa Factory (Shirakawa Factory)

Breeding fireflies in a biotope (Shirakawa Factory)

### **Overseas Factories Make Information Public**

# Two Overseas Factories Continue to Release Environmental Reports

The Changshu/Suzhou Factory in China began publishing its annual Environmental Report in 2006 and the Indonesia Factory began publishing in 2007.

We strive to communicate with local communities by constantly providing information on things like environmental burden from business activities and the goal of our social activities.

![](_page_39_Picture_18.jpeg)

Environmental Report from the Indonesia Factory

![](_page_39_Picture_20.jpeg)

Environmental Report from the Changshu/ Suzhou Factory

### Participation in Environmental Lectures and Exhibitions

### Showing Environmentally Friendly Products and Explaining Environmental Protection Efforts at Exhibitions Like Eco-Products 2007

In order to be a known and trusted global corporate citizen that fulfills its duty to society, we want to contribute widely to local communities, create new value for the public, and be a part of sustainable social development. To relay these desires to as many people as possible, we take every opportunity to provide the public with information.

At the 2007 Tokyo International Automotive Conference in October, President Testsuji Mino became the first speaker from the tire industry to deliver the keynote speech. Speaking on the challenges of providing new value in the tire business, Mr. Mino explained the group's environmental management and products like fossil resource-free eco tires.

In December 2007, we took part in Eco-Products 2007, where our staff explained, in layman's terms, what we are doing to lessen burden on the environment through activities that include decreasing CO<sub>2</sub> emissions and thus helping curb global warming.

In January 2008 at ENEX 2008: the 32nd Energy and Environment Exhibition, we had hands-on exhibits so visitors could better understand how the ENASAVE 97 fossil resource-free eco tire (released in June 2008) offers lower rolling resistance and what makes the ECORUT SP 678 tire so energy efficient. This was our fourth time at ENEX and we had even more visitors than previous years coming to our booth to ask questions and look at our hands-on exhibits. It was obvious that the public was sincerely interested in our efforts to protect the environment.

We will continue to publicize our group environmental protection activities.

President Mino gives the keynote speech at the 2007 Tokyo International Automotive Conference

![](_page_39_Picture_30.jpeg)

![](_page_39_Picture_31.jpeg)

The Sumitomo Rubber Group booth at ENEX 2008

![](_page_39_Picture_33.jpeg)

Staff explain the significance of low rolling resistance for tires at Eco-Products 2007

	Core:Core indicator Add	:Additional Indicator
Indicators		Page
1. Strategy and Analysi	S	
1.1	Statement from the most senior decision makerof the organization (e.g., CEO, chair, orequivalent senior position) about the relevance of sustainability to the organization and its strategy.	p5-6
1.2	Description of key impacts, risks, and opportunities.	р5-6
2. Organizational Profile	e	
2.1	Name of the organization.	p2
2.2	Primary brands, products, and/or services.	p3-4
2.3	Operational structure of the organization, including main divisions, operating companies, subsidiaries, and joint ventures.	p2-4
2.4	Location of organization's headquarters.	p2
2.5	Number of countries where the organization operates, and names of countries with either major operations or that are specifically relevant to the sustainability issues covered in the report.	p3-4
2.6	Nature of ownership and legal form.	p2
2.7	Markets served (including geographic breakdown, sectors served, and types of customers/beneficiaries).	p3-4
2.8	Scale of the reporting organization, including: Number of employees; Net sales (for private sector organizations) or net revenues (for public sector organizations); Total capitalization broken down in terms of debt and equity (for private sector organizations); and Quantity of products or services	p2
2.9	Significant changes during the reporting period regarding size, structure, or ownership including: The location of, or changes in operations, including facility openings, closings, and expansions; and Changes in the share capital structure and other capital formation, maintenance, and alteration operations (for private sector organizations).	p2
2.10	Awards received in the reporting period.	p25、p35、p53、p59
3. Report Parameters	• •	
Report Profile		
3.1	Reporting period (e.g., fiscal/calendar year) for information provided.	p2
3.2	Date of most recent previous report (if any).	-
3.3	Reporting cycle (annual, biennial, etc.)	p2
3.4	Contact point for questions regarding the report or its contents.	Back cover
Report Scope and Boundary		
3.5	Process for defining report content, including: Determining materiality; Prioritizing topics within the report; and Identifying stakeholders the organization expects to use the report.	p2
3.6	Boundary of the report (e.g., countries, divisions, subsidiaries, leased facilities, joint ventures, suppliers).	p2
3.7	State any specific limitations on the scope or boundary of the report8.	p2、p55
3.8	Basis for reporting on joint ventures, subsidiaries, leased facilities, outsourced operations, and other entities that can significantly affect comparability from period to period and/or between organizations.	-
3.9	Data measurement techniques and the bases of calculations, including assumptions and techniques underlying estimations applied to the compilation of the Indicators and other information in the report.	p41-43
3.10	Explanation of the effect of any re-statements of information provided in earlier reports, and the reasons for such re-statement (e.g., mergers/ acquisitions, change of base years/periods, nature of business, measurement methods).	-
3.11	Significant changes from previous reporting periods in the scope, boundary, or measurement methods applied in the report.	p55
GRI Content Index		
3.12	Table identifying the location of the Standard Disclosures in the report.	WEB
Assurance		
3.13	Policy and current practice with regard to seeking external assurance for the report. If not included in the assurance report accompanying the sustainability report, explain the scope and basis of any external assurance provided. Also explain the relationship between the reporting organization and the assurance provider(s).	p2、p64

Core:Core indicator Add:Additional Indicator

Indicators		Page
4. Governance, Comm	itments, and Engagement	
Governance		
4.1	Governance structure of the organization, including committees under the highest governance body responsible for specific tasks, such as setting strategy or organizational oversight.	p9
4.2	Indicate whether the Chair of the highest governance body is also an executive officer (and, if so, their function within the organization's management and the reasons for this arrangement).	p9
4.3	For organizations that have a unitary board structure, state the number of members of the highest governance body that are independent and/or non-executive members.	p9
4.4	Mechanisms for shareholders and employees to provide recommendations or direction to the highest governance body.	р9
4.5	Linkage between compensation for members of the highest governance body, senior managers, and executives (including departure arrangements), and the organization's performance (including social and environmental performance).	-
4.6	Processes in place for the highest governance body to ensure conflicts of interest are avoided.	р9
4.7	Process for determining the qualifications and expertise of the members of the highest governance body for guiding the organization's strategy on economic, environmental, and social topics.	-
4.8	Internally developed statements of mission or values, codes of conduct, and principles relevant to economic, environmental, and social performance and the status of their implementation.	p7-8
4.9	Procedures of the highest governance body for overseeing the organization's identification and management of economic, environmental, and social performance, including relevant risks and opportunities, and adherence or compliance with internationally agreed standards, codes of conduct, and principles.	p38-39
4.10	Processes for evaluating the highest governance body's own performance, particularly with respect to economic, environmental, and social performance.	-
Comm itments to External Ir	nitiatives	
4.11	Explanation of whether and how the precautionary approach or principle is addressed by the organization.	p10
4.12	Externally developed economic, environmental, and social charters, principles, or other initiatives to which the organization subscribes or endorses.	-
4.13	Memberships in associations (such as industry associations) and/or national/international advocacy organizations in which the organization: Has positions in governance bodies; Participates in projects or committees; Provides substantive funding beyond routine membership dues; or Views membership as strategic.	p32
Stakeholder Engagement		
4.14	List of stakeholder groups engaged by the organization.	-
4.15	Basis for identification and selection of stakeholders with whom to engage.	-
4.16	Approaches to stakeholder engagement, including frequency of engagement by type and by stakeholder group.	p2、p27、p36、p37
4.17	Key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns, including through its reporting.	p2

Core:Core indicator Add:Additional Indicator Indicators Page 5. Management Approach and Performance **Economic Disclosure on Management Approach** Direct economic value generated and distributed, including revenues, operatingcosts, employee compensation, donations and other community Core EC1. p37 investments, retained earnings, and payments to capital providers and Economic governments. Performance Financial implications and other risks and opportunities for the organization's EC2. Indicators Core activities due to climate change EC3. Coverage of the organization's defined benefit plan obligations. Core Significant financial assistance received from government. Core EC4. Range of ratios of standard entry level wage compared to local minimum Add EC5. wage at significant locations of operation. Policy, practices, and proportion of spending on locally-based suppliers at Market Presence Core EC6. p29 significant locations of operation. Procedures for local hiring and proportion of senior management hired from Core EC7. p21-23 the local community at locations of significant operation. Development and impact of infrastructure investments and services provided primarily for public benefit through commercial, inkind, or pro bono Core EC8. Indirect Economic engagement. Impacts Understanding and describing significant indirect economic impacts, Add EC9. including the extent of impacts.

			Core:Core indicator Add	l:Additional Indicator
Indicators				Page
Environmental				
Disclosure on Ma	anager	nent A	Approach	p39-40
	Core	EN1.	Materials used by weight or volume.	p41-42
Materials			Percentage of materials used that are recycled input materials.	WEB(Green
materiale	Core	EN2.		procurement, Green
	0	-		Purchasing)
	Core	EN3.	Direct energy consumption by primary energy source.	p41-42
	Core	EN4.	Indirect energy consumption by primary source.	p41-42、p49-50
<b>F</b>	Add	END.	Energy saved due to conservation and eniciency improvements.	p44
Energy	Add	EN6.	and services, and reductions in energy requirements as a result of these initiatives.	p13-18、p46、p49-50
	Add	FN7	Initiatives to reduce indirect energy consumption and reductions achieved.	p17-18_p49-50
	Core	EN8	Total water withdrawal by source	p41-42
	bbA	EN9	Water sources significantly affected by withdrawal of water	-
Water	Add	EN10.	Percentage and total volume of water recycled and reused.	WEB(Preventing Wastewater and Soil Pollution)
	Core	EN11.	Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.	WEB(Environmental Communication)
	Core	EN12.	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas.	WEB(Environmental Communication)
Biodiversity	Add	EN13.	Habitats protected or restored.	WEB(Environmental Communication)
	Add	EN14.	Strategies, current actions, and future plansfor managing impacts on biodiversity	-
	Add	EN15.	Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk.	-
	Core	EN16.	Total direct and indirect greenhouse gas emissions by weight.	p41-42、p49-50
	Core	EN17.	Other relevant indirect greenhouse gas emissions by weight.	p49
		EN18.	Initiatives to reduce greenhouse gas emissions and reductions achieved.	p17-18、p49-50
	Add	EN19.	Emissions of ozone-depleting substances by weight.	- n41-42
	Core	EN20.		WEB(Reducing and Controlling Chemicals)
Emissions,	Core	EN21.	Total water discharge by quality and destination.	p41-42、 WEB(Preventing Wastewater and Soil
Effluents, and				Pollution)
Waste	Core	EN22.	Total weight of waste by type and disposal method.	p41-42, p51-52
	Core	EN23.	Total number and volume of significant spills.	WEB(Preventing Wastewater and Soil Pollution)
	Add	EN24.	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII, and percentage of transported waste shipped internationally.	-
	Add	EN25.	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the reporting organization's discharges of water and runoff.	-
Products and	Add	EN26.	Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation.	p13-16、p45-48
Services	Add	EN27.	Percentage of products sold and their packaging materials that are reclaimed by category.	WEB(Recycling Used Tires)
Compliance	Core	EN28.	Monetary value of significant fines and total number of non-monetary sanctions for noncompliance with environmental laws and regulations.	p11
Transport	Add	EN29.	Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce.	p49-50
			Tatal anvironmental protection expanditures and investments by type	- 44

			Core:Core indicator Add	1:Additional Indicator
Indicators				Page
Labor Practices a	ind E	Decen	t Work	
Disclosure on Man	ager	nent A	Approach	p33-36、WEB(For
	Core	ΙΔ1	Total workforce by employment type, employment contract, and region.	Employees)
	Core		Total number and rate of employee turnover by age group, gender, and	p00
Employment	Core	LA2.	region.	p33
	اء اء ۵	1.4.0	Benefits provided to full-time employees that are not provided to temporary	1
	Add	LA3.	or part-time employees, by major operations.	-
Labor/Management Relations	Core	LA4.	Percentage of employees covered by collective bargaining agreements.	-
	Core	LA5.	Minimum notice period(s) regarding operational changes, including whether i is specified in collective agreements.	d -
	Add	LA6.	Percentage of total workforce represented in formal joint management-	
			worker health and safety committees that help monitor and advise on	p33
			occupational health and safety programs.	
Occupational	Core	LA7.	Rates of injury, occupational diseases, lost days, and absenteeism, and number of workrelated fatalities by region.	p33-34
Health and Safety		ELA8.	Education, training, counseling, prevention, and risk-control programs in	n22 24 WED/Ear
	Core		place to assist workforce members, their families, or community members	Employees)
			regarding serious diseases.	=
	Core	LA9.	nealth and safety topics covered in formal agreements with trade unions.	Employees)
	Core	LA10.	Average hours of training per year per employee by employee category.	p36
			Programs for skills management and lifelong learning that support the	
Training and	Add	LA11.	continued employability of employees and assist them in managing career	p36
Education			endings.	
	Add	LA12.	Percentage of employees receiving regular performance and career	WEB(For
			Composition of governance bodies and breakdown of employees per	Employees)
Diversity and Equal	Core	LA13.	category according to gender, age group, minority group membership, and	WEB(For
Opportunity			other indicators of diversity.	Employees)
	Core	LA14.	Ratio of basic salary of men to women by employee category.	-
Human Rights				
Disclosure on Man	ager	nent A	Approach	
		HR1.	Percentage and total number of significant investment agreements that	
	Core		include human rights clauses or that have undergone human rights	-
Investment and			screening.	
Procurement	Core	HR2.	Percentage of significant suppliers and contractors that have undergone	p29-30
Practices	COIE		screening on human rights and actions taken.	p=0 00
	اما ما	цро	I otal hours of employee training on policies and procedures concerning	_
	Auu	пкэ.	percentage of employees trained.	-
Non-discrimination	Core	HR4.	Total number of incidents of discrimination and actions taken.	p11
Freedom of			Operations identified in which the right to exercise freedom of association	ľ
Association and	Core	HR5	and collective bargaining may be at significant risk, and actions taken to	_
Collective	Cole	1113.	support these rights.	-
Bargaining Core				
Child Labor	Core	HR6.	Operations identified as having significant risk for incidents of child labor, and measures taken to contribute to the elimination of child labor.	p29
Forced and		bre HR7. dd HR8.	Operations identified as having significant risk for incidents of forced or	
Compulsory Labor	Core		compulsory labor, and measures to contribute to the elimination of forced or	p29
			compulsory labor.	<b> </b>
Security Practices	Add		Percentage of security personnel trained in the organization's policies or	-
			Total number of incidents of violations involving rights of indigenous people	
Indigenous Rights	Add	HR9.	and actions taken.	p11

Indicators	Page				
Society					
Disclosure on Mar	nager	nent A	Approach	p10、p11	
Community	Core	SO1.	Nature, scope, and effectiveness of any programs and practices that assess and manage the impacts of operations on communities, including entering, operating, and exiting	p10	
Corruption	Core	SO2.	Percentage and total number of business units analyzed for risks related to corruption.	p10	
	Core	SO3.	Percentage of employees trained in organization's anti-corruption policies and procedures.	p11	
	Core	SO4.	Actions taken in response to incidents of corruption.	-	
Public Policy	Core	SO5.	Public policy positions and participation in public policy development and lobbying.	-	
	Add	SO6.	Total value of financial and in-kind contributions to political parties, politicians, and related institutions by country.	-	
Anti-Competitive Behavior	Add	SO7.	Total number of legal actions for anticompetitive behavior, anti-trust, and monopoly practices and their outcomes.	p11	
Compliance	Core	SO8.	Monetary value of significant fines and total number of non-monetary sanctions for noncompliance with laws and regulations.	p11	
Product Responsibility					
Disclosure on Management Approach				p25-28、WEB(For Customers)	
Customer Health	Core	PR1.	Life cycle stages in which health and safety impacts of products and services are assessed for improvement, and percentage of significant products and services categories subject to such procedures.	p25-28、WEB(For Customers)	
and Safety	Add	PR2.	Total number of incidents of non-compliance with regulations and voluntary codes concerning health and safety impacts of products and services during their life cycle, by type of outcomes.	p25-28、WEB(For Customers)	
	Core	PR3.	Type of product and service information required by procedures, and percentage of significant products and services subject to such information requirements.	p25-28、WEB(For Customers)	
Product and Service Labeling	Add	PR4.	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes.	-	
	Add	PR5.	Practices related to customer satisfaction, including results of surveys measuring customer satisfaction.	p27	
Marketing Communications	Core	PR6.	Programs for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion, and	p11	
	Add	PR7.	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship by type of outcomes.	p11	
Customer Privacy	Add	PR8.	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data.	p11	
Compliance	Core	PR9.	Monetary value of significant fines for noncompliance with laws and regulations concerning the provision and use of products and services.	-	

Core:Core indicator Add:Additional Indicator

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(Inputs)		
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(Internal	recycling)	
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