

2010 Environmental & Social Report

环境・社会报告书



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Regarding the preparation of this report

We have compiled this report in an effort to introduce our Group's involvement in contributing to the emergence of a sustainable society for all stakeholders in a broad and easily understandable fashion. More specifically, this report presents the progress of our global environmental initiatives throughout the product life cycle as well as examples of our initiatives regarding the life cycle of products developed by our Group. In addition, we have included a special feature with examples of the CO₂ emissions reduction initiatives implemented by our production plants outside Japan.

In compiling this report, we have followed the 2007 edition of the Environmental Reporting Guidelines issued by the Ministry of the Environment of Japan as well as the Japanese protocols set forth in ISO 14001 specifications, clarifying the vocabulary specific to compliance (particularly in the Japanese version).

Publication and requests for information

- **Publication**
July 2010 (next publication planned for July 2011)
- **Production department / requests for information**
GS Yuasa International Ltd., Environmental Management Division
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Website http://www.gs-yuasa.com/us

Reporting information

- **Organizations covered in this report**
 - Kyoto office**
Date of ISO 14001 certification: December 24, 1997 (certification number: EC97J1151)
Main business efforts (extent of certified activities): research, development, design, manufacturing and sales activities related to all types of batteries, power supply systems, lighting equipment and other electrical equipment handled by all parts of the certified organization.
 - Osadano office**
Date of ISO 14001 certification: June 12, 1998 (certification number: JQA-EM0173)
Main business efforts (extent of certified activities): manufacture of automotive lead-acid batteries and industrial lead-acid batteries, research and development of batteries and filtration equipment, and development and manufacture of battery production facilities.
 - Odawara office**
Date of ISO 14001 certification: November 27, 2009 (certification number: JQA-EM6438)*
Main business efforts (extent of certified activities): manufacture of automotive and industrial lead-acid batteries, and design, development and manufacture of vehicle and industrial alkaline batteries.
 - Gunma office**
Date of ISO 14001 certification: December 25, 1998 (certification number: EC98J1133)
Main business efforts (extent of certified activities): manufacture of lead-acid batteries handled by all parts of the certified organization.
- **Business activities covered by this report**
The focus of this report is the product life cycle (including development & design, procurement, production, physical distribution & sales, use and collecting of products).
- **Period of report coverage**
April 1, 2009-March 31, 2010

*Note
Subsequent to changes in its business operations, our Odawara office was relocated on March 23, 2009; for this reason, it chose not to renew its existing ISO 14001 certification until November 27, 2009. Prior to obtaining this renewal, it continued to operate its environmental management system according to the terms of the ISO 14001 certification which had been maintained continuously since September 10, 1999.

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关于本报告书的编辑

本报告书的编辑力求通俗易懂地向广大利益相关方报告杰士汤浅集团对可持续性发展社会所做出的努力。特别是本年度，以特集形式登载本集团在产品生命周期的努力实例以及在海外工厂减少CO₂排放的实例，对本集团推进的贯穿整个产品生命周期的减少全球化环境负担活动情况进行了说明。

另外，编辑本报告书时谨以日本环境省发行的《环境报告书指南（2007年版）》作为参考。同时，我们按照ISO 14001的标准，在本报告书中将“遵守”这一文字的表现形式统一为“遵循”。

发行时间和咨询处

- **发行时间**
2010年7月（下次发行时间预计在2011年7月）
- **制作部门、咨询处**
株式会社 杰士汤浅国际 环境统括部
电话：+81-75-312-0716 传真：+81-75-312-0719
网址：http://www.gs-yuasa.com/us

报告涵盖信息

- **报告涵盖的组织**
 - 京都事业所**
取得ISO14001认证日期 / 1997年12月24日（注册证号码EC97J1151）
主要事业活动（注册活动范围） / 注册组织整个范围内的各种蓄电池、电源系统、照明器材以及其他电气机器的研究、开发、设计、制造和销售
 - 长田野事业所**
取得ISO14001认证日期 / 1998年6月12日（注册证号码JQA-EM0173）
主要事业活动（注册活动范围） / 汽车铅蓄电池以及产业用铅蓄电池的制造、电池和过滤装置的研究开发以及电池生产设备的开发和制造
 - 小田原事业所**
取得ISO14001认证日期 / 1999年11月27日（注册证号码JQA-EM6438）*
主要事业活动（注册活动范围） / 汽车用和产业用铅蓄电池的生产以及产业用、车辆用碱蓄电池的设计、开发和生产
 - 群马事业所**
取得ISO14001认证日期 / 1998年12月25日（注册证号码EC98J1133）
主要事业活动（注册活动范围） / 注册组织整个范围内的铅蓄电池的制造
- **报告涵盖的企业活动**
围绕对象组织在产品生命周期（开发・设计、采购、生产、物流、销售、使用、回收）方面的活动进行报告。

- **报告涵盖的时间**
2009年4月1日-2010年3月31日
- *（注意）
小田原事业所因经营内容的变更，于2009年3月23日迁入现在所在地。当时未更新已取得的ISO14001认证，但于2009年11月27日重新取得了ISO14001认证资格。而在重新取得ISO14001认证资格之前，一直不间断地执行在1999年9月10日取得ISO14001认证资格时所依照的环境保护管理系统。

Overview of our Group

Pure holding company

GS Yuasa Corporation

Form the management plan and strategy for GS Yuasa Group and administer the group of companies to enhance the total value of the group

Established	April 1, 2004
KYOTO HEAD Office	1, Inobanba-cho, Nishinosho, Kisshoin, Minamiku, Kyoto 601-8520, Japan
TOKYO HEAD Office	(Shiba-koen Tower) 2-11-1, Shiba-koen, Minatoku, Tokyo 105-0011, Japan
Capital stock	33 billion yen

Business companies

GS Yuasa International Ltd.

Manufacturing & sales of automotive batteries, industrial batteries, power supply systems, switch gear, lighting equipment, ultraviolet systems, specialty equipment and other electrical equipment

GS Yuasa Battery Ltd.

Sales of automotive battery for replacement market; sales of automobile-related products

GS Yuasa Technology Ltd.

Manufacturing & sales of other batteries

GS Yuasa Power Electronics Ltd.

Manufacturing & sales of multipurpose power supply

GS Yuasa Fieldings Ltd.

General engineering services for industrial batteries, power supply systems and power conversion systems

GS Yuasa Accounting Service Ltd.

Affiliated-company finance and accounting business

Lithium Energy Japan

Development, manufacturing & sales of large lithium-ion batteries

Blue Energy Co., Ltd.

Manufacturing, sales and R&D of high-performance lithium-ion batteries

本集团概况

纯粹控股公司

株式会社 杰士汤浅

统筹规划杰士汤浅集团企业的经营战略，以实现集团企业价值的最大化。

设立	2004年4月1日
京都总公司	邮编 601-8520 日本国京都市南区吉祥院西之庄猪之马场町1番地
东京总公司	邮编 105-0011 日本国东京都港区芝公园2-11-1（芝公园塔楼）
资本金	330亿日元

经营公司

株式会社 杰士汤浅国际

汽车用和产业用各类蓄电池、电源系统、受变电设备、照明器材、紫外线应用机器、特种专业机器、其他电气设备的生产和销售。

株式会社 杰士汤浅蓄电池

补修市场中汽车及摩托车蓄电池的销售、汽车以及摩托车相关产品的销售。

株式会社 杰士汤浅科技

其他蓄电池的生产和销售。

株式会社 杰士汤浅电子电源

通用电源的生产和销售。

GS Yuasa Fieldings Ltd.

产业用蓄电池、电源系统、受变电设备的综合工程服务。

株式会社杰士财会服务

分公司财务、财会业务。

Lithium Energy Japan

大型锂离子蓄电池的开发、生产和销售。

Blue Energy Co., Ltd.

高性能锂离子蓄电池的生产、销售和研究开发。

Principal Products 主要产品

Automotive and motorcycle battery

汽车、摩托车电池



"ECO. R LS Series" automotive battery
汽车用蓄电池ECO. R LS系列

Industrial battery

产业用电池



"MSE Series" stationary valve regulated lead-acid battery
控制阀式固定铅蓄电池 MSE系列

Power supply system

电源系统



"LINE BACK Q" utility-connected photovoltaic inverter
太阳能光伏发电用功率调节器"LINE BACK Q"

Lithium-ion battery

锂离子蓄电池



"LIM Series" lithium-ion battery for industrial use
产业用锂离子蓄电池 LIM系列

Lighting equipment

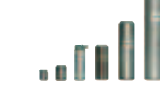
照明装置



"ECO-CERA II" ceramic-metal-halide-lamp
陶瓷金属卤素灯 "ECO-CERA II"

Special battery

特殊电池



Thermal battery
热电池

Nickel-metal hydride battery

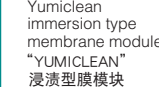
镍氢电池



Cylindrical Ni-MH battery
圆筒型镍氢电池

Membrane system

膜过滤系统



Yumiclean immersion type membrane module
"YUMICLEAN" 浸渍型膜模块

Domestic production base

Kyoto office

1, Inobanba-cho, Nishinosho, Kisshoin, Minamiku, Kyoto 601-8520 Japan

Osadano office

1-37, Osadano-cho, Fukuchiyama-shi, Kyoto Prefecture 620-0853 Japan

Odawara office

721, Naruda, Odawara-shi, Kanagawa Prefecture 250-0862 Japan

Gunma office

671, Sakai Kami Yajima, Isesaki-shi, Gunma Prefecture 370-0111 Japan

International consolidated subsidiaries

Ztong Yee Industrial Co., Ltd.

GS Battery Vietnam Co., Ltd.

GS Battery (U.S.A.) Inc.

Yuasa Battery, Inc.

Yuasa Battery Europe Ltd.

Century Yuasa Batteries Pty Ltd.

Yuasa Battery (Guangdong) Co., Ltd.

Yuasa Battery (Shunde) Co., Ltd.

Yuasa Battery (Thailand) Pub. Co., Ltd.

YTTL International Holding Ltd.

23 other companies

Overseas affiliated companies

Siam GS Battery Co., Ltd.

PT. GS Battery Inc.

23 other companies

Business Reorganization and Renaming

GS Yuasa Power Supply Ltd. was formed from a spinoff of GS Yuasa Corporation's R&D Division and part of the Control Division. On April 1, 2010, GS Yuasa Power Supply Ltd., GS Yuasa International Ltd. and GS Yuasa Business Support Ltd. merged to form GS Yuasa International Ltd.

国内生产基地

京都事业所

邮编601-8520日本国京都市南区吉祥院西之庄猪之马场町1番地

长田野事业所

邮编620-0853日本国京都府福知山市长田野町1丁目37番地

小田原事业所

邮编250-0862日本国神奈川県小田原市成田721

群马事业所

邮编370-0111日本国群馬县伊势崎市境上矢岛671番地

海外连结子公司

统一工业股份有限公司（台湾）

GS Battery Vietnam Co., Ltd.

GS Battery (U.S.A.) Inc.

Yuasa Battery, Inc.

Yuasa Battery Europe Ltd.

Century Yuasa Batteries Pty Ltd.

广东汤浅蓄电池有限公司

汤浅蓄电池（顺德）有限公司

Yuasa Battery (Thailand) Pub. Co., Ltd.

YTTL International Holding Ltd.

23个其它公司

海外关联公司

Siam GS Battery Co., Ltd.

PT. GS Battery Inc.

23个其它公司

事业体制的重组和

公司名称变更

2010年4月1日，

分割并继承了株式

会社杰士汤浅公司

的部分事业管理部

门和研究开发相关

业务的株式会社杰

士汤浅电源，兼并

了株式会社杰士汤

浅国际和株式会社

杰士汤浅商务服

务，并正式更名为

“株式会社 杰士汤

浅国际”。

Promoting global management of the environmental impact of products throughout their life cycle

This year, we published our Environmental & Social Report.

At the 15th Conference of the Parties of the United Nations Framework Convention on Climate Change held in Copenhagen, Denmark in December 2009, the Copenhagen Accord was framed by leaders of about 30 countries including the U.S.A., the EU, China, India and Japan. Unfortunately, it did not pass unanimously due to the dissenting views of some participating countries, and it was decided the members would merely "take note of" this agreement. As with the preceding United Nations Summit on Climate Change in September, Japan's approach to the global environment was greatly highlighted at the 2009 event. Specifically, then Japanese Prime Minister Yukio Hatoyama announced the medium-term target of a 25% reduction in greenhouse gas emissions by 2020 compared with 1990 levels and proposed the "Hatoyama initiatives" comprising four approaches to reducing greenhouse gas emissions.

Moreover, in light of events such as the tenth meeting of the Conference of the Parties to the Convention on Biological Diversity will be held in Nagoya in October, the international framework for global environmental conservation is becoming both more specific and more diverse.

Considering these developments, our Group has made steady progress in dealing with changing times and shifting demands while refining our unique technologies and leveraging our special expertise in both our product lines and the scope of our business. In fiscal 2009, we achieved great progress in developing our business as an environmentally focused enterprise involved in initiatives such as the mass production of lithium-ion batteries for electric vehicles.

It is clear, however, that these business operations consume large amounts of both energy and resources while generating both waste and CO₂ emissions, all of which have an impact on the global environment. For this reason, all the offices of our Group have adopted specific environmental policies based on the GS Yuasa Group Environmental Policy. At the same time, we have put into practice environmental management initiatives to establish, implement, maintain, and continually improve our ISO 14001-compliant environmental management system.

Fiscal 2010 represents year two of our Second Five-Year Environmental Plan, which is scheduled to conclude in fiscal 2013.

We are approaching the stage at which we must execute our policy in bold terms by fully understanding and managing the impact that our Group's products have on the environment throughout the product life cycle (both at a comprehensive business level and a global level). Initially, we focused not only on the environmental impact generated by Group operations, but also on the impact generated by our supply chain and customers. Life cycle assessments (LCA) are focused on the recycling of post-consumer products, the disposal stage, and the effects on biodiversity in an effort to determine the impact of the product life cycle on the living world. We strongly recognize the need to accelerate our Group's approach to environmental management as well.

In addition to our global environmental initiatives, our Group complies with all laws and regulations. Moreover, in all relations with customers, business partners, shareholders, local communities, and employees, we shall proactively strive to fulfill our responsibilities with a strong awareness of the role of a corporation as a part of society.

This Environmental & Social Report has been prepared in a Japanese version and a combined English and Chinese version to create a better understanding of our environmental management initiatives and our efforts to help society among communities, our business partners, shareholders, and investors both inside and outside Japan. In disclosing information related to our environmental and social initiatives, we aim to provide more transparency and foster greater trust. As we work to reduce our environmental burden, we are also contributing to the emergence of a sustainable society.

GS Yuasa Corporation
President
Makoto Yoda



针对产品在生命周期中对环境的影响，力争实现全球化的管理目标

今年，我们继续向大家公布环境·社会报告书。

2009年12月在丹麦首都哥本哈根召开的《联合国气候变化框架公约》第十五次缔约方会议（COP15）上，我国以及美国、欧盟、中国、印度等约30个国家的首脑级领袖制定了《哥本哈根协议》。因部分参加国之间意见相对立，很遗憾未获全体会员国一致支持和正式采纳，但还是做出了“参加国留意该协议”的决定。另外，在此之前的9月召开的联合国气候变化首脑会议上，鸠山首相（当时）表明我国的中期减排目标——“到2020年使日本的温室效应气体排放量比1990年时减少25%”，并提出了由4个项目组成、为减少CO₂排放的构想（鸠山倡议）等等。2009年是我国对地球环境发挥作用，值得大写特写的一年。特别是2010年10月将在名古屋召开《联合国生物多样性公约》第10次缔约方会议（COP10）等，显示出有关地球环境保护的国际性框架正变得更加具体化，并且更加多样化。

在此背景下，杰士汤浅集团在产品和事业领域里钻研固有的技术，并发挥其特性，同时稳步前进以准确响应时代的变化及要求。2009年度也是从电动汽车用锂离子蓄电池的量产开始，作为环境贡献企业的本集团在事业上取得长足进步的一年。

但是，在此事业活动的开展过程中，我们消耗了大量的资源和能源，产生的废弃物和排放的CO₂事实上也对地球环境造成了影响。因此，杰士汤浅集团的各事业所均已根据集团的环境保护基本方针制定了相应的环保方针，为确立、实施、维护以及持续改进以ISO14001标准为基准的环境保护管理系统而开展了各类环境保护管理工作。

2010年度是截止到2013年度的『第二个环境5年计划』实施的第二年，迈入具体执行本集团基本观念——“针对本集团在生产产品的生命周期中对环境的影响，我们将进一步从经营事业

全方位以及全球范围来掌握并致力于相应管理”一的阶段。不仅是针对杰士汤浅集团的事业活动对环境的影响，而且关注供应链、客户的使用和已使用后产品的回收再利用、直至处理阶段的生命周期评估（LCA），以及将在生命周期对生物界的影响纳入视野的『生物多样性』观点等，都使我们强烈认识到本集团的环境保护经营必须再上台阶。再进一步说，本集团并不只停留在地球环境保护的相关活动上，除了严格遵循各类法律法规外，我们还重视企业作为社会一员的作用，在客户、合作伙伴、股东、地区社会以及员工关系中积极承担企业的责任，并在今后也将继续致力于尽到企业的社会责任。

本报告书以日语版和中英文双语版的两种版本形式制作。我们希望通过它，能够使本集团事业活动所在区域的人们、所有海内外的合作伙伴以及股东和投资者，了解我们在环境保护管理方面的工作以及为社会所做的努力。通过向公众展示我们在环境保护管理以及对社会工作方面的信息，杰士汤浅集团将确保透明可信的经营活动，今后我们也将上下团结一心，致力于减轻环境负担，为实现可持续性发展的社会作出贡献。

株式会社 杰士汤浅
董事长
依田 诚



Philosophy

Innovation and Growth

We are committed to the people, society and global environment through Innovation and Growth of our employees and business entities.

Vision

We are committed to delivering security and comfort to our customers around the globe through advanced technologies developed in the field of stored energy solutions.

Management policy

1. GS Yuasa will become “First call” company based on our “Customer First” policy.
2. GS Yuasa considers “Quality” and “Safety” as most important, and supply environmentally considered product all over the world.
3. GS Yuasa will comply with all laws and operate by clear and fair management.

企业理念

革新与成长

通过员工和企业的“革新与成长”，为人类、社会和地球环境作出贡献。

经营目标

我们通过电池而培植积累起来的先进能源技术，致力于为全球客户提供舒适而安心的服务。

经营方针

1. 杰士汤浅将以“客户至上”为宗旨，成为客户的“首选”公司。
2. 杰士汤浅重视“质量”，提供考虑到环境与安全的产品以及服务。
3. 杰士汤浅将遵循所有法律规定，实现高度透明、公平的管理。

We are measuring and minimizing the environmental impact throughout all stages of the product life cycle, from development and design to collecting.

The products of our Group, notably lead-acid batteries, play an important role in every corner of society. On the other hand, they impact the environment at every stage in the product life cycle. To date, we have tended to address environmental impact reduction in the stages of procurement, physical distribution, and production; however, in the future, we will seek to address the entire product life cycle including during usage to disposal.

● **Environmentally considered products and technologies**

Development of lithium-ion batteries

The history of lithium-ion batteries is still rather short, as it is a new technology that only came into practical use in the early 1990s. Because this battery offers performance that dramatically exceeds that of conventional batteries, it is used in cellular phones, notebook PCs and electric vehicles. The applications for lithium-ion batteries are expected to continue expanding in the future. We have started to develop lithium-ion batteries for applications such as manned research submersibles and satellites, both of which require a high degree of reliability. The special advantages of these batteries make them suitable for use in mobile products. As a result, we have focused on developing batteries for use in industrial mobile products such as electric vehicles, regenerative brakes for use in electric trains, and hybrid driving systems for cranes. Lithium-ion battery technology holds significant potential for the future. Our goal is to develop lithium-ion batteries that exhibit the optimum performance in a variety of applications and to contribute to the effective use of energy through electric storage technologies.



Teruo Sonoda
General Manager, Development Division
Lithium-ion Battery Business Unit
GS Yuasa International Ltd.

● **Conserving energy in production processes**

Saving additional energy through specific process verification utilizing visualization

We are designing a method of visualizing our energy consumption in order to effectively conserve energy consumed in the production process. We installed meters in a variety of locations and at the start and end of the processes where energy consumption is visible. As a result, we are able to measure the energy consumed in each process in detail. By examining whether the appropriate amount of energy is consumed, we can identify processes that can be used to conserve energy. For example, even when not in production, we maintained the temperature of the furnace used in the process of melting lead, a principal material used in battery production. We had been setting the heater temperature slightly higher than necessary in order to prevent cracking of the furnace and heater damage. However, we were able to adjust it to the proper temperature and thus reduced our energy consumption. In addition, by optimizing the air pressure supplied by the air

compressors located in every plant, we were able to further reduce our power consumption. Moreover, during future facility upgrades — which are a good opportunity for promoting dramatic energy conservation measures — we plan to introduce inverter-type equipment and distributed systems for facilities and the like. We will also adopt individually controlled lamps to ensure effective energy usage on a daily basis.



Takumi Ishibashi
Assistant Manager, Production Engineering Group
Production Engineering Department
Engineering Division, GS Yuasa International Ltd.

● **Effective physical distribution**

Adopting the terminal physical distribution method and reducing wasteful shipping of single items

When large industrial batteries are delivered, they often require installation work. For this reason, our conventional approach has been to charter a truck for each customer on the specified completion date and to ship the product directly from the plant to the customer. This method, however, entailed a large loading loss, so an improvement was needed for environmental conservation. As a result of recent advances in the IT industry, we are now able to keep track of construction details. Consequently, we have been taking steps to switch over to a terminal physical distribution system. With such a system, we can batch-transport products from our plants to our delivery center and then ship them separately to individual customers. Compared with our conventional approach of shipping individual products, this innovation greatly improved loading efficiency. Because replacement demand for industrial batteries is high, it is expected that return-trip loads will increase once the wide area certification system under the Waste Management and Public Cleansing Law has been implemented. Implementing such energy conservation measures by transforming the existing system cannot be done in a day; in fact, it has taken us more than 10 years to fully adopt the terminal physical distribution system. Going forward, we intend to further improve loading efficiency by adopting information technology.



Tomohiro Nakamura
Manager, Sales Group II
Sales Department, GS LOGITEC Co., Ltd.

Development & Design

Procurement

Production

Physical Distribution & Sales

Use

Collecting

● **Operational aspects of the CDM for small- and medium-sized enterprises**

Reducing CO₂ emissions in cooperation with suppliers

The Clean Development Mechanism (CDM) for small- and medium-sized enterprises enables large companies to help small- and medium-sized companies reduce their CO₂ emissions by providing technology and funds for reducing CO₂ emissions. In this way, large companies are able to obtain emission credits for a share of the reduction achieved. Kyoto Prefecture has many internationally renowned companies that have a variety of technological strengths, as well as many small- and medium-sized companies that supply components and the like. Thus, the supply chain is fertile ground for nurturing the adoption of this system. As a trial member of this project in Kyoto Prefecture, GS Yuasa International Ltd. is actively implementing this approach by tracking CO₂ emissions of principal suppliers, selecting target suppliers for this mechanism, undertaking energy-saving diagnoses for selected suppliers, and verifying the results of CO₂ emissions reduction

measures.

In the future, by helping to identify target suppliers of this system and carrying out CO₂ emissions reduction measures, this system is expected to help suppliers reduce their CO₂ emissions. This CDM for small- and medium-sized enterprises is an important approach to achieving emissions reduction targets for CO₂ (a greenhouse gas) in the future. Going forward, I expect GS Yuasa International Ltd. to remain committed to initiatives incorporating this system in cooperation with the supply chain.



Shingo Itoh
Secretary General
Kyoto Center for Climate Actions (NPO)

● **Operational aspects of the wide area certification system under the Waste Management and Public Cleansing Law for industrial batteries**

New initiatives for collecting and recycling post-consumer batteries

To date, we have been active at using recycled materials in the manufacture of our lead-acid batteries. In order to promote additional initiatives targeting the emergence of a recycling-oriented society, we are collecting and recycling post-consumer industrial batteries by using the wide area certification system under the Waste Management and Public Cleansing Law. We initiated a trial implementation of this system from January to March 2009. The application rate was 11%, but rose to 69% in fiscal 2009 due to our continuing efforts to explain this system to our customers. Thus, we greatly improved the application rate of this system. We will further expand the system's scope of operation with the goal of a 100% application rate while monitoring compliance. Toward this end, we will promote the establishment of a collection scheme for small-sized valve regulated lead-acid batteries and shall make our best efforts to prioritize lithium-ion batteries as a collection target, even though they exceed the scope of recognition for wide area disposal. By implementing this system, we are promoting more efficient recycling and use of recycled resources — as reflected in our product development and design — while implementing extended producer responsibility.

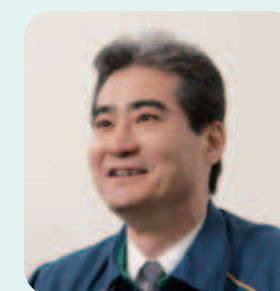


Yasushi Hagiwara
Assistant Manager, Business Promotion Group
Planning Department, Business Management Division
Industrial Batteries & Power Sources Business Unit
GS Yuasa International Ltd.

● **Adoption of lead-acid batteries and reduction of environmental burdens during use**

Reducing fossil fuel consumption by improving the performance of lead-acid batteries

Batteries are a clean power storage system that has little environmental impact in use. It is possible to reduce the fossil fuel consumption by improving performance and adopting batteries. For example, electric forklifts have been widely adopted for warehouse use due to their lack of exhaust emissions and the emergence of improved maintenance-free lead-acid batteries with fast charging times. In recent years, they have exhibited higher energy densities and improved charge-discharge capabilities. High-powered versions of forklift batteries are now being developed with capabilities approaching those of gasoline-fueled engines. In the future, they will compete in outdoor applications as well. We will continue to develop and popularize lead-acid batteries, our principal product, that are even more environmentally considered in addition to optimizing models for specific applications.



Tatsuo Nagayasu
General Manager
Industrial Battery Technical Department
Industrial Battery Production Division
Industrial Batteries & Power Sources
Business Unit, GS Yuasa International Ltd.



Tomoyuki Enomoto
Manager
Industrial Battery Technical Department
Industrial Battery Production Division
Industrial Batteries & Power Sources
Business Unit, GS Yuasa International Ltd.

在从开发设计到回收的整个生命周期的所有阶段，我们致力于掌握并减轻对环境的影响。

●充分考虑环保的技术以及产品

锂离子蓄电池的开发

锂离子蓄电池的历史还很短，是在20世纪90年代才推广实用的新技术。但因其拥有的功能远远高于原有的电池，所以被广泛运用在手机、笔记本电脑，甚至于电动汽车上。并且可以期待今后将在更大范围推广使用。

本公司锂离子蓄电池的开发是从可靠性要求较高的载人潜水调查船以及人造卫星上的使用而开始的。由于锂离子蓄电池的特性比较适合在移动体上使用，所以除电动汽车用外，本公司特别着眼于电车的再生制动、起重机的混合驱动系统等产业用移动体，并正在开发该类蓄电池。

锂离子蓄电池技术是蕴含了许多可能性的技术。本公司将开发能在各种各样的用途上发挥最优性能的锂离子蓄电池，并通过储备电能技术，在有效利用能源上做贡献。



株式会社 杰士汤浅国际
锂离子蓄电池事业部
开发本部长 园田 辉男

●生产工序的节能

以“可视化”抽取可以更加节能的工序

本公司为高效推行生产工序的节能，力求能源利用状态的“可视化”。除生产工序的入口和出口，并在各种位置设置仪表仪器以了解能源的使用状况，详细掌握每个工序的能源使用量。由此讨论所用能源量是否合适，以便发现能够节能的工序。

例如，在铅蓄电池的主要材料铅的溶解工序上，原来在未生产的过程中也打开溶铅炉的加热器。虽其目的是为了防止溶炉因热膨胀而出现的龟裂和加热器破损，但加热器的设定温度过高，所以，我们通过重新设定适当的温度后，削减了所用的能源量。同样，对于工厂各处使用的空气压缩机，我们也是在调查各工序实际所需供给量后，最大程度地优化能源量，从而削减了消耗的电力。

以铅蓄电池为首的本集团产品在社会各个方面发挥着作用的同时，在产品生命周期里的各个阶段也对环境造成了影响。迄今为止，不仅是生产环节，我们也在采购、物流环节中致力于减轻对环境的负担。今后，我们更要包含使用中和已使用过在内的整个生命周期纳入视野，推进环保事业。

另外，大幅度节能的绝好机会是不能错过设备更新时间，除力求导入降低能源浪费的变频式成套设备和将设备分散设置外等，也要采取个别照明化方式贯彻日常的节约，并以此达到推进节能活动的目的。



株式会社 杰士汤浅国际
生产技术本部 生产技术部生产技术G
负责人 石桥 卓己

●物流的高效化

构筑物流配送中心，削减单独配送的浪费

大型产业用蓄电池的交货，很多时候需要安装工程。过去是结合工期，为每个顾客包租卡车，从工厂直接交货给顾客。该方法装载浪费大，从环境保护角度出发也需要改善。

近年来随着IT化的进展，人们可以详细地掌握工程信息，因此我们采取了切换到物流配送中心的方式。即在各地设立物流基地，将产品从工厂一次性运到该基地，再分别运送到各个顾客处，所以，其装载效率比全程单独运输方式大幅提高。产业用蓄电池的更换需求也很多，因此产业废弃物广泛认定制度运用开始后，往返装载量也增加了。

所以，通过改变已有结构实施节能对策并不是一朝一夕就能完成的，本公司走上物流配送中心体系的正轨也用了长达10年以上的时间。今后我们也将活用IT技术，致力于提高装载的效率。



GS LOGITEC Co., Ltd.
营业部 营业第二小组
课长 中村 知博

开发·设计

采购

生产

物流、销售

使用

回收

●中小企业CDM制度的运用状况

与供应商企业携手努力，减少CO₂排放

中小企业CDM制度，是指大型企业支援中小企业减少CO₂排放的活动，中小企业可以获取用于减少CO₂排放的技术和资金，大型企业取得相对该减少部分的排放权的一种制度。在京都府内，拥有技术生产力而在国际上享有盛名的大型企业为数不少，同时也存在众多的为他们提供零部件的中小型制造企业，因此具备了以供应链为契机来普及本制度的外部环境。

杰士汤浅国际公司作为京都府本制度项目的试点实施企业，积极开展了掌握主要的供应商企业CO₂排放量，选取执行本制度的对象供应商企业，在该企业实施节能诊断，验证所采取的减少CO₂排放措施效果等活动。并计划今后确定执行本制度的对象供

应商企业，实施减少CO₂排放的措施等，具体支援供应商企业减少CO₂排放。

中小企业CDM制度是为今后实现减少温室效应气体目标的重要制度。我期待杰士汤浅国际公司在今后也继续努力，携手供应链活用本制度。



NPO法人
京都府地球温室化防止活动推进中心
事务局长 伊东信吾先生

●产业用蓄电池相关的产业废弃物广泛认定制度的运用情况

对已使用后蓄电池的回收和再利用的新措施

一直以来，本公司在生产铅蓄电池时就积极采用再生材料。为进一步推进实现循环型社会，我们活用基于废弃物处理法的产业废弃物广泛认定制度，回收已使用后产业用蓄电池，并进行资源再生化。

在开始试行本制度的2009年1月~3月间，其应用率仅为11%，经过不断勤恳地努力向客户说明本制度，在2009年度达到了69%，大幅提高了本制度的应用率。今后，我们将在注意合规精神的同时，以实现本制度的应用率100%为目标，积极开展更进一步的运用活动。所以，我们将推进确立小型控制阀式铅蓄电池的回收体系，以及采取对策把不在广泛处理认定范围内的锂离子蓄电池也作为回收对象。

本公司通过活用本制度，在推进高效的资源再生化的同时，推进考虑了资源再生化处理的产品在开发和设计上的反映，实现扩大生产者责任。



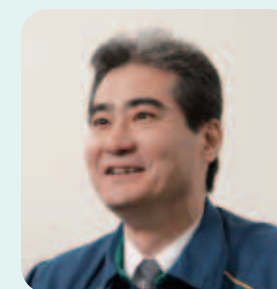
株式会社 杰士汤浅国际
产业电池电源事业部
事业企画本部企划部 事业推进小组
负责人 萩原 靖

●铅蓄电池的普及和使用时的环境负担减轻

提高铅蓄电池的性能，削减化石燃料的消耗

蓄电池是在使用时不会对环境造成影响的清洁电储备装置。通过提高其性能和普及利用，可以削减化石燃料的使用量。例如，因没有废气排放而在以仓库为中心得到普及的蓄电池叉车，正是由于免维护化、充电时间缩短等铅蓄电池的改良而使其得以普及。近年来，在蓄电池基本性能的能源密度、充放电能力的提高上有了很大进步。叉车用电池也将以高性能化为目标，以便今后在室外用途上不输于竞争对手汽油动力型叉车。

对本公司的主力产品—铅蓄电池，我们将在最优化对应用途的机型的基础上，致力于进一步考虑环保的产品开发和普及。



株式会社 杰士汤浅国际
产业电池电源事业部
产业电池生产本部
产业电池技术部长
长安 龙夫



株式会社 杰士汤浅国际
产业电池电源事业部
产业电池生产本部
产业电池技术部课长
榎本 朋之

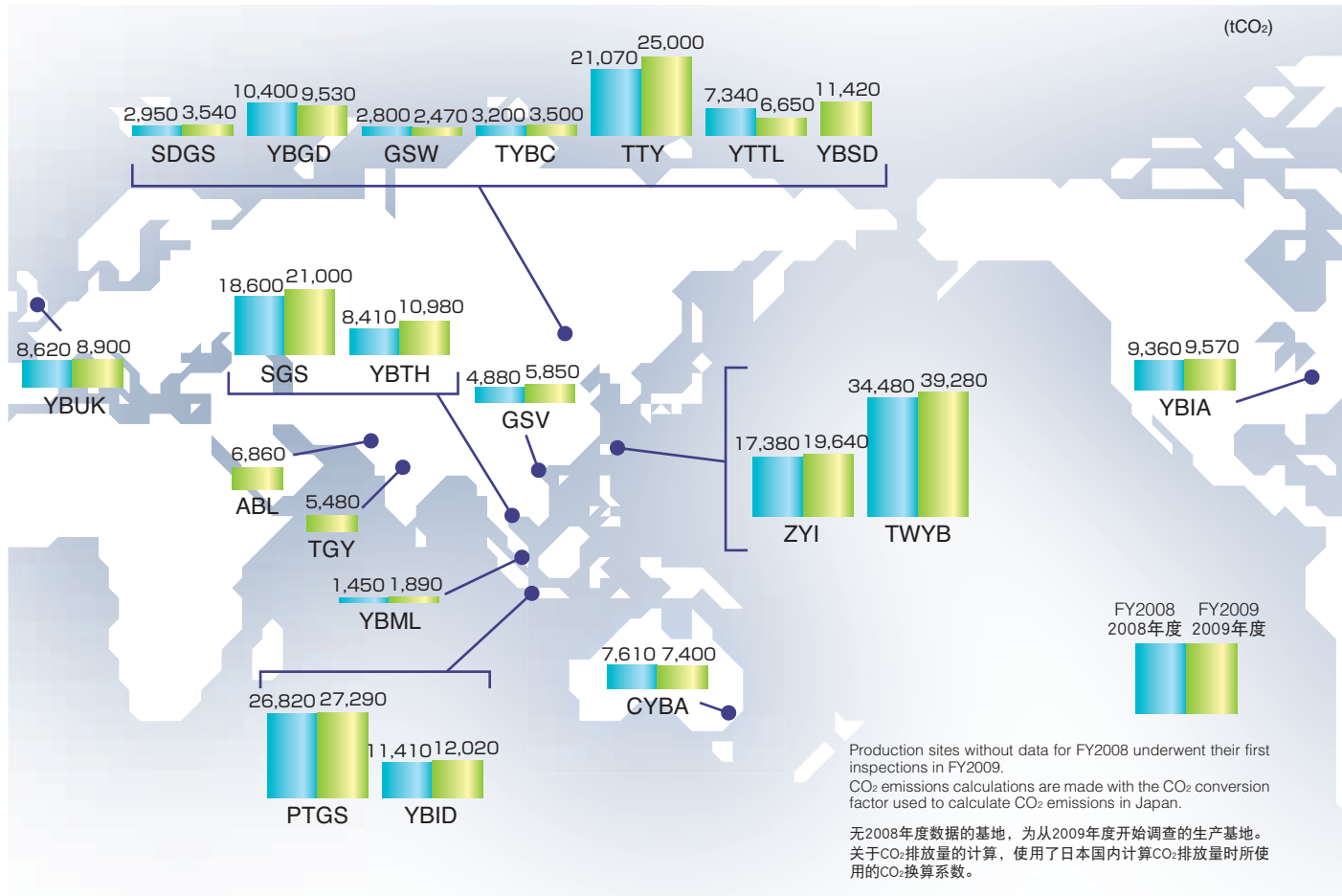
Special Feature: Promoting global initiatives for reducing CO₂ emissions

We are reducing CO₂ emissions by determining the amount of emissions attributable to manufacturing at our production sites around the world.

In fiscal 2008, our Group undertook a survey of CO₂ emissions from our production sites around the world, and we have started calculating and reducing our CO₂ emissions attributable to manufacturing.

The illustration below depicts the two-year trend in CO₂ emissions from our production sites around the world. CO₂ emissions are closely linked to production volume, so the trend is not necessarily downward. However, we will actively promote various initiatives to reduce CO₂ emissions outside Japan.

Our Group's CO₂ emissions outside Japan



Company code	Company	Location	公司名(缩写)	公司全称	国家名
SDGS	Shandong Huari Battery Co., Ltd.	China	SDGS	山东华日电池有限公司	中国
YBGD	Yuasa Battery (Guangdong) Co., Ltd.	China	YBGD	广东汤浅蓄电池有限公司	中国
GSW	GS Battery (China) Co., Ltd.	China	GSW	杰士电池有限公司	中国
TYBC	Tianjin Yuasa Batteries Co., Ltd.	China	TYBC	天津汤浅蓄电池有限公司	中国
TTY	Tianjin Tong Yee Industrial Co., Ltd.	China	TTY	天津统一工业有限公司	中国
YTTL	Yuasa (Tianjin) Technology Ltd.	China	YTTL	汤浅(天津)实业有限公司	中国
YBSD	Yuasa Battery (Shunde) Co., Ltd.	China	YBSD	汤浅蓄电池(顺德)有限公司	中国
CYBA	Century Yuasa Batteries Pty. Ltd.	Australia	CYBA	Century Yuasa Batteries Pty. Ltd.	澳大利亚
YBUK	Yuasa Battery (UK) Ltd.	UK	YBUK	Yuasa Battery (UK) Ltd.	英国
GSV	GS Battery Vietnam Co., Ltd.	Vietnam	GSV	GS Battery Vietnam Co., Ltd.	越南
SGS	Siam GS Battery Co., Ltd.	Thailand	SGS	Siam GS Battery Co., Ltd.	泰国
YBTH	Yuasa Battery (Thailand) Pub. Co., Ltd.	Thailand	YBTH	Yuasa Battery (Thailand) Pub. Co., Ltd.	泰国
YBIA	Yuasa Battery, Inc.	USA	YBIA	Yuasa Battery, Inc.	美国
PTGS	PT. GS Battery	Indonesia	PTGS	PT. GS Battery	印度尼西亚
YBID	PT. Yuasa Battery Indonesia	Indonesia	YBID	PT. Yuasa Battery Indonesia	印度尼西亚
YBML	Yuasa Battery (Malaysia) Sdn. Bhd.	Malaysia	YBML	Yuasa Battery (Malaysia) Sdn. Bhd.	马来西亚
ZYI	Ztong Yee Industrial Co., Ltd.	Taiwan	ZYI	统一工业股份有限公司(台湾)	台湾
TWYB	Taiwan Yuasa Battery Co., Ltd.	Taiwan	TWYB	台湾汤浅电池股份有限公司	台湾
TGY	Tata AutoComp GY Batteries Ltd.	India	TGY	Tata AutoComp GY Batteries Ltd.	印度
ABL	Atlas Battery Ltd.	Pakistan	ABL	Atlas Battery Ltd.	巴基斯坦

特集 在全球展开对策削减CO₂排放

在世界各国的生产基地，掌握并努力削减生产中的CO₂排放。

杰士汤浅集团从2008年开始就在世界各国的生产基地开展CO₂排放量调查，并开始致力于掌握和削减生产过程中CO₂排放量的活动。下图显示的是最近两年本集团在世界各国主要生产基地的CO₂排放量变化。CO₂排放量与生产量密切相关，趋势不一定全是减少，但今后我们将采取各种对策，积极推进在海外的CO₂排放量削减。

在海外的杰士汤浅集团CO₂排放量

Our initiatives for CO₂ emissions reduction at plants outside Japan

United Kingdom

Yuasa Battery (UK) Ltd.

Yuasa Battery (UK) Ltd. (hereafter YBUK), which acquired ISO 14001 certification in August 2002, is engaged in environmental management mainly through improvement team initiatives. As a step toward reducing CO₂ emissions in fiscal 2010, YBUK is implementing a plan to reduce its liquefied natural gas consumption by 10% compared with the fiscal 2009 level by replacing old boilers with energy-efficient models. As part of its medium- and long-term CO₂ emissions target, it is planning to take steps to generate wind power, which is renewable and emits little CO₂ per unit of output and does not deplete resources. YBUK'S five-year goal for reducing CO₂ emissions is to obtain 25% of its power from its own wind turbines.



Head office 总公司外观

Overview of Yuasa Battery (UK) Ltd.

Scope of business	Manufacturing & sales of industrial lead-acid batteries
Established	May 1981
Capitalization	£ 10 million
Number of employees	320 (at March 31, 2010)

Vietnam

GS Battery Vietnam Co., Ltd.

After acquiring certification of ISO 14001 registration in April 2005, GS Battery Vietnam Co., Ltd. (hereafter GSV) operated its business with a strong environmental awareness. It has adopted environmental management initiatives such as environmental improvement and occupational safety and health activities through a periodic process patrol staffed by delegates from various departments. According to our action plan for reducing CO₂ emissions in fiscal 2010, GSV sought to reduce its power consumption by 6% compared with fiscal 2009 by installing skylights in its office to ensure maximum use of the abundant natural light available in Vietnam. For facilities that consume liquefied petroleum gas (LPG), GSV installed a control system that enables supply of the proper amount of energy. It has also taken the initiative toward reducing LPG consumption by 15 percent compared with fiscal 2009.



Head office 总公司外观

Overview of GS Battery Vietnam Co., Ltd.

Scope of business	Manufacturing & sales of lead-acid batteries for two-wheeled and four-wheeled vehicles
Established	May 1997
Capitalization	US\$6 million
Number of employees	532 (at March 31, 2010)

海外工厂的CO₂排放量消减对策

英国

Yuasa Battery (UK) Ltd.

Yuasa Battery (UK) Ltd. (以下简称YBUK)于2002年8月取得ISO14001认证，正致力于以改进团队为主体的环境保护管理活动之中。

作为2010年度的CO₂削减对策，YBUK制定了利用节能型设备更换旧的锅炉而削减2009年度10%的液化天然气使用量等的实施计划。

此外，YBUK还制定了消减CO₂排放量的中、长期计划。在使用电力时的CO₂排放量消减计划方面，YBUK设定了今后5年间的目标：使用发电量单位CO₂排放量少、资源可无止境地使用且可再生利用的能源—风力发电，将占到YBUK用电量的25%。



Meeting in progress 公司会议

Yuasa Battery (UK) Ltd. 公司概况

事业内容	产业用铅蓄电池的生产和销售
成立日期	1981年5月
资本金	£ 1,000万
雇员数	320名（截止到2010年3月末）

越南

GS Battery Vietnam Co., Ltd.

GS Battery Vietnam（以下简称GSV）于2005年4月取得ISO 14001认证，开展具有高度环境保护意识的事业活动。另外，GSV实施了环境保护管理活动，例如，通过各部门选派代表参加定期举行的工序巡查，改进环境和劳动安全卫生相关问题等。

在2010年度的CO₂排放量削减活动计划中，GSV设定了通过利用越南得天独厚的自然光优势，在事务所内开设天窗，以达到削减2009年度6%的用电量的目标。此外，针对使用液化石油气(LPG)的设备，设置了可合理供给能源量的控制装置，以达到消减2009年度LPG使用量15%的目标。



Meeting in progress 公司会议

GS Battery Vietnam Co., Ltd. 公司概况

事业内容	摩托车以及汽车用铅蓄电池的生产和销售
成立日期	1997年5月
资本金	US\$600万
雇员数	532名（截止到2010年3月末）

Maintaining compatibility between environmental conservation and economic development

Our Policies and Medium-term Plan for Environmental Conservation

ISO 14001 standards stipulate the establishment of an environmental policy as a guideline for corporate environmental management efforts and the regular examination of these policies to reflect changes in corporate status and business conditions. We established the Environmental Policy of the GS Yuasa Group and implemented it in our domestic offices. Each office used this policy as the basis for establishing its own environmental policy.

In keeping with our corporate vision of “Innovation and Growth,” we have developed medium-term plans for important issues related to our environmental policy in order to contribute to the emergence of a sustainable society. Most recently, we developed our Second Five-Year Environmental Plan, which started in fiscal 2009 and concludes in fiscal 2013.

GS Yuasa Group Fundamental Environmental Policies

Fundamental philosophy

At the GS Yuasa Group, we set protection of the global environment as one of our most important tasks, and we contribute to the creation of a sustainable society through the development, manufacture and sale of batteries, which are a form of clean energy, power supply systems, and lighting equipment.

Action agenda

- 1

We carefully evaluate the environmental impacts of our business activities, products and services, and we are working to reduce environmental burdens and to prevent pollution. Through energy and resource conservation, waste reduction and recycling, we will continuously improve our results.
- 2

We promote the development and design of products that protect the environment throughout product life cycles. We seek to reduce environmental impacts from the product development and design stages to manufacture, use and disposal.
- 3

We work to decrease environmental burdens with our business partners throughout our entire supply chain, including materials procurement and physical distribution.
- 4

We have created environmental management systems according to ISO 14001 standards and have enacted environmental policies at each of our offices based on these fundamental policies. We also advance our environmental management activities by setting related goals and targets.
- 5

We abide by all laws, ordinances, agreements and regulations related to the environment, as well as other requirements agreed on by the Group. We also make voluntary management standards according to these as necessary to promote environmental conservation.
- 6

We steadily execute revisions based on environmental audits and management reviews to maintain and improve our environmental management systems continuously.
- 7

Through education, training and other environmental awareness efforts, we promote the environmental awareness of all group employees, and we contribute to society through our environmental preservation activities.
- 8

We seek to achieve good communications with our stakeholders and with society as a whole by providing information related to the environment, including our fundamental environmental policies.

Second Five-Year Environmental Plan (Fiscal 2009 to 2013) and Results for Fiscal 2009

	Key items Objectives	Results for Fiscal 2009	Self-assessment/Challenges
1	Reduction of energy and resource usage <ul style="list-style-type: none">We will reduce the amount of CO₂ emissions to 30% less than the fiscal 1990 level by fiscal 2013.We will promote energy-saving activities at sales branches.We will reduce the amount of energy used in physical distribution to 5% less than the 2006 level by fiscal 2011 (applicable to specified shippers).	<ul style="list-style-type: none">We succeeded in reducing CO₂ emissions in fiscal 2009 by 34% below the fiscal 1990 level.We calculated the amount of energy used by the various divisions of our offices, including our sales locations, for fiscal 2009.We reduced the amount of energy used for physical distribution by 7% below the fiscal 2006 level.	<ul style="list-style-type: none">Our target achievement status is favorable. From now on, we must manage our CO₂ emissions in response to changing business conditions.In fiscal 2010, we will establish an energy reduction target for our sales locations and take appropriate actions.Our target achievement status is favorable. In the future, we will remain committed to increasing our energy efficiency and reducing costs.
	<ul style="list-style-type: none">We will reduce the rate of production errors and defective products (pursuit of greater efficiency of resource usage and the 3Rs; consistency with ISO 9001).We will reduce the lead scrap rate to less than 2% by fiscal 2013.We will reduce the amount of waste water produced by industrial processes to one-third of the fiscal 2003 level by fiscal 2013.	<ul style="list-style-type: none">The lead scrap rate in fiscal 2009 was 4%.We reduced the amount of waste water produced in fiscal 2009 by 67% below the fiscal 2003 level.	<ul style="list-style-type: none">Efforts aimed at reducing waste must be intensified through coordination of process improvement and “product design for the environment.”Further efforts — such as improved recycling — are required to facilitate the efficient use of water.
	We will further promote the proper disposal and recycling of used products on the basis of the wide area certification system under the Waste Management and Public Cleansing Law (increasing the range of businesses and products covered).	In fiscal 2009, the percentage of used industrial batteries under the wide area certification system under the Waste Management and Public Cleansing Law was 69%.	With the current scope of the wide area certification system under the Waste Management and Public Cleansing Law, there are business areas and product categories to which the system cannot be applied.
2	Focusing on higher levels in the management of environmental aspects <p>We will implement product design for the environment and life cycle assessment in development and design departments and prepare to address the issue of carbon footprints. We will address the issue of MIPS (Material Intensity Per Service) in product design.</p>	We promoted the development and design of environmentally considered products on the basis of the GS Yuasa Design for the Environment Guidelines issued in October 2005.	Compared with the development of product applications, the incorporation of environmental consideration in product design is insufficient.
3	Promotion of green procurement <p>We will support the acquisition and advancement of environmental management system certification by suppliers.</p>	We implemented second-party audits for suppliers subject to environmental auditing. We also undertook improvements to our environmental management systems.	The introduction and improvement of environmental management systems by suppliers must continue to be promoted.
	Management of chemicals <p>On the basis of GS Yuasa Group Chemical Management Guidelines established in April 2005, we will monitor the material flow of chemicals regulated by these guidelines.</p>	In coordination with green procurement activities, we implemented the comprehensive identification and management of chemicals contained in products, and attained compliance with both Japanese and overseas regulations on the amount of contents.	We will continue to practice chemical management within the framework of our environmental management systems.
4	Increased sensitivity to environmental risk <p>We will implement environmental risk education based on the GS Yuasa Group Regulation Guidelines on Environmental Risk (and make the management of environmental risk a subject of environmental management systems).</p>	In an effort to strengthen awareness of environmental risks, we distributed the GS Yuasa Group Regulation Guidelines on Environmental Risk issued in March 2009 to the environmental management representative at each of our domestic offices, to Group Risk Management Committee, and to our domestic and international affiliates.	The level of sensitivity towards environmental risk, including compliance, is insufficient. Reconsideration of environmental risks is necessary at each site.
5	Compliance with laws <p>We will set voluntary management standards that exceed the requirements of municipal and national government environmental regulations and pursue the improvement of our environmental management technologies.</p>	There were no instances of emergencies directly related to environmental pollution, and there were no instances of lawsuits, punitive fines, or administrative fines related to environmental aspects.	We will continue to implement compliance measures within the framework of our environmental management systems.
6	Maintenance and continuous improvement of environmental management systems <p>We will conduct internal environmental auditing and undertake continuous improvement of our environmental management efforts. We will receive environmental auditing from external inspection agencies and seek to raise the level of our environmental management efforts.</p>	Our Odawara office reacquired its certification of ISO 14001 registration in November 2009 following its relocation. All domestic offices periodically underwent internal and external audits to identify issues in order to implement improvements to our environmental management system.	All of our domestic offices are committed to the continuous improvement of our environmental management systems following certification of registration with ISO 14001.
7	Contributions to society <p>We will actively and continuously participate in environmental conservation efforts and community beautification activities. We will conduct continuous environmental education and training for our employees.</p>	We undertook various activities such as cleaning the areas around our office grounds and conducting environmental education programs at elementary schools. Moreover, under our environmental management systems, we developed and implemented training programs.	We will continue to practice social contribution initiatives within the framework of our environmental management systems.
8	Communication about the environment <p>We will continuously provide information about our activities and the environment through Environmental & Social Reports and other means. We will strive to receive positive appraisals of our environmental management efforts from society.</p>	We published our annual Environmental & Social Report in a Japanese version and a combined English and Chinese version, both of which were posted on our website in order to reach a diverse range of stakeholders. The completed questionnaires returned by stakeholders revealed a generally favorable impression of the report.	We will continue to implement environmental communication initiatives within the framework of our environmental management systems.

为同时实现环境保护和经济发展而努力。

杰士汤浅集团的环境保护基本方针及中期计划

根据ISO14001标准要求，作为企业环境保护管理工作的指导准则，要制定环境保护基本方针，为反映企业和企业周围情况的变化，需要定期修订该方针。我们制定了杰士汤浅集团的环境保护方针《杰士汤浅集团环境保护基本方针》并在国内事业所推广，而各事业所根据该环境保护基本方针设立相应的环境保护方针。

关于环境保护基本方针的重点事项，是制定融入本公司“革新与成长”的经营理念，以实现可持续性发展社会做贡献为目的的中期计划。2009年度，正在制定截止到2013年度的第二个环境5年计划。

杰士汤浅集团环境保护基本方针

基本理念

在杰士汤浅集团，我们将地球的环境保护作为最重要的经营课题之一，通过对清洁能源的蓄电池、电源供应系统、照明设备等的开发、生产和销售，为建造可持续性发展的社会作出贡献。

行动准则

- 1 确实地评估经营活动、产品和服务对环境造成的影响，通过节省能源、节省资源、削减废弃物及循环再利用等途径，努力降低对环境 的压力，预防污染，并针对这些方面进行不断的改善。
- 2 力争降低贯穿产品开发、设计至生产、使用、废弃的各个阶段的产品生命周期中对环境的影响，推进考虑到环境保护的产品的开发、设计。
- 3 致力于降低包括原材料的采购和物流等所有的合作伙伴在内的整个供应链中对环境的影响。
- 4 根据ISO14001标准创建环境管理体制，根据该环境保护基本方针制定各个事业所的环境保护方针，设定环境保护目的、目标，推进环境保护的管理活动。
- 5 除了遵循与环境保护相关的法律、条列、协议等规定以及集团认同的其他方面的要求事项之外，根据需要制订自行主动管理基准，致力于环境保护。
- 6 确实地实施环境保护监察以及经营决策层所进行的修正，力求环境保护管理系统的维持及不断的改善。
- 7 通过教育、培训等来提高集团全体员工的环境保护意识，并通过环境保护活动贡献于社会。
- 8 通过提供展示包括该环境保护基本方针在内的与环境保护相关的信息，致力于同利益相关方及社会的良好沟通。

第2个环境5年计划（2009年度～2013年度）以及2009年度实际业绩

	重点项目 目 标	2009年度实际业绩	自我评估 / 课题
1	削减能源的使用量以及节省能源化 ・2013年度的CO ₂ 排放量将比1990年度削减30％。 ・推进营业分公司的节省能源活动。 ・2011年度有关物流的能源使用量将比2006年度削减5％（针对特定货主）。 ・降低废品、不良品率（追求资源效率化和3R，与ISO9001共通任务化）。 ・2013年度的铅废弃率将低于2％ ・2013年度的工序排水量比2003年度降低至1/3。 通过对广泛认定制度的活用，推进了使用后产品的正当处理和再生资源化（对象事业、产品的范围扩大）。	 ・2009年度的CO ₂ 排放量比1990年度削减34％。 ・掌握了包括营业基地在内的各事务所部门2009年度的能源使用量。 ・2009年度物流相关的能源使用量比2006年度削减7％。 ・2009年度的铅废弃率为4％。 ・2009年度的排水量比2003年度降低67％。 2009年度涉及已使用后产业用蓄电池的产业废弃物广泛认定制度活用项目比率为69％。	 ・处于完成目标的状况。今后有必要根据经营活动的变化管理CO ₂ 排放量。 ・2010年度起，各营业基地设立能源削减目标，制定相应对策。 ・处于完成目标的状况。尤为重要的是，今后也需持续实行节能和降低成本的对策。 ・必须通过工序改善和产品环保性设计的结合，强化削减废弃物。 ・循环水再利用率的提高等，必须进一步筹划对水的有效利用。 在现在广泛认定的登记范围中还存在着不能运用制度的事业领域和产品分类。
	环境侧面管理的视线向上流转移 开发、设计部门在对产品环保性设计以及实施对生命周期评估的同时开始进行对“碳足迹”的对策准备。进行商品设计时采取MIPS (Material Intensity Per Service / 资源效率化设计)。	 实施了考虑环保的产品开发和设计工作，该工作活用了2005年10月公布的产品环保性设计指南。	 与在产品的用途方面开展的工作相比，在产品环保性设计方面的投入显得不足。
	推进绿色采购 要求供应商企业取得环境保护管理系统认证注册，同时对其水准提高进行支援。	 对环境监测对象的供应商企业实行双重监测，同时支援其提高环境保护管理系统水平。	 必须继续促进对供应商的环境保护管理系统的引进以及水准的提高。
3	化学物质的管理 以2005年4月制定的化学物质管理指南为基准，监控该指南规定的化学物质的材料流程。	 结合绿色采购活动，彻底掌握和管理产品中所含的化学物质，适合国内外的产品含有量的规定。	 今后也将继续在环境保护管理系统的运用中实施对化学物质的管理。
4	对环境风险灵敏度的提高 根据“环境风险特定指南”实施环境风险教育（环境保护管理系统也将环境风险作为管理对象）。	 向国内的各事业所环境保护管理责任人、风险管理委员会、国内外的关联公司等发放了于2009年3月制定的环境风险特定指南，进行了环境风险意识的强化。	 对于环境风险的感性认识还处在不充分的阶段，包括合规精神方面，要求重新考察各现场的环境风险。
5	遵循法规 设定高于国家、地方政府环境保护规定值的更为严格的自行主动管理基准，推进环境保护管理技术的改善。	 从未发生过与环境污染有着直接联系的紧急事件，也未有过与环境关联的诉讼、罚款、赔款事项。	 今后也将继续通过在环境保护管理系统的运用中确认合规精神。
6	环境保护管理系统的维持、不断改善 开展内部环境保护监查，不断进行环境保护管理系统的改善。 接受来自外部检查机构的环境保护监查，力求提高环境保护管理系统的水平。	 小田原事业所因事业所搬迁，于2009年11月重新取得ISO14001认证。在国内的各事业所，活用由定期实施的内部环境保护监查或外部环境保护监查指出的不足，力求改善环境保护管理系统。	 国内各事业所正致力于遵循ISO14001标准的环境保护管理系统所要求的持续改进。
7	对社会的贡献 积极地不断进行环境保护活动和美化活动。 不断实施员工环境保护教育与培训。	 积极参与各事业所周边的清洁活动，以及对小学生开展环境保护学习事业等活动。同时，在环境保护管理系统的运用中，建立并实施了教育计划。	 今后也将继续在环境保护管理系统的运用中实施对社会作贡献的活动。
8	环境保护方面的交流沟通 通过环境・社会报告书及其他方式，不断提供展示所开展的环境保护方面的信息，获得环境保护管理活动的社会性评价。	 每年继续发行环境・社会报告书，并通过在本公司的网站登载和发行英语、中文双语版等向广大利益相关方公开有关信息。另外，从各利益相关方的问卷调查反馈来看评价大致良好。	 今后也将继续在环境保护管理系统的运用中实施环境保护方面的交流沟通活动。

Business activities and the environment

We aim to reduce environmental burdens in all aspects of our business operations, including manufacturing.

Our Group manufactures and sells batteries, power supply systems, and lighting equipment and provides related services that are essential to many aspects of today's business and society. Our business operations consume raw materials, energy, water and resources while generating waste water, the greenhouse gas CO₂, waste products and other materials. We are well aware of the impact of our business operations on the environment. As a result, we are promoting efforts to reduce, reuse, and recycle resources beginning with the product design stage. At the same time, we are striving to reduce CO₂ emissions and other environmental impacts.

The principal product of our Group is the lead-acid battery, which incorporates lead as a main component. While lead is ideal for recycling, it can also have a large environmental burden. Consequently, we are striving to minimize the defect rate from our production processes in order to reduce the scrap rate. Our initiatives include working to reduce environmental burdens by recycling depleted lead-acid batteries.

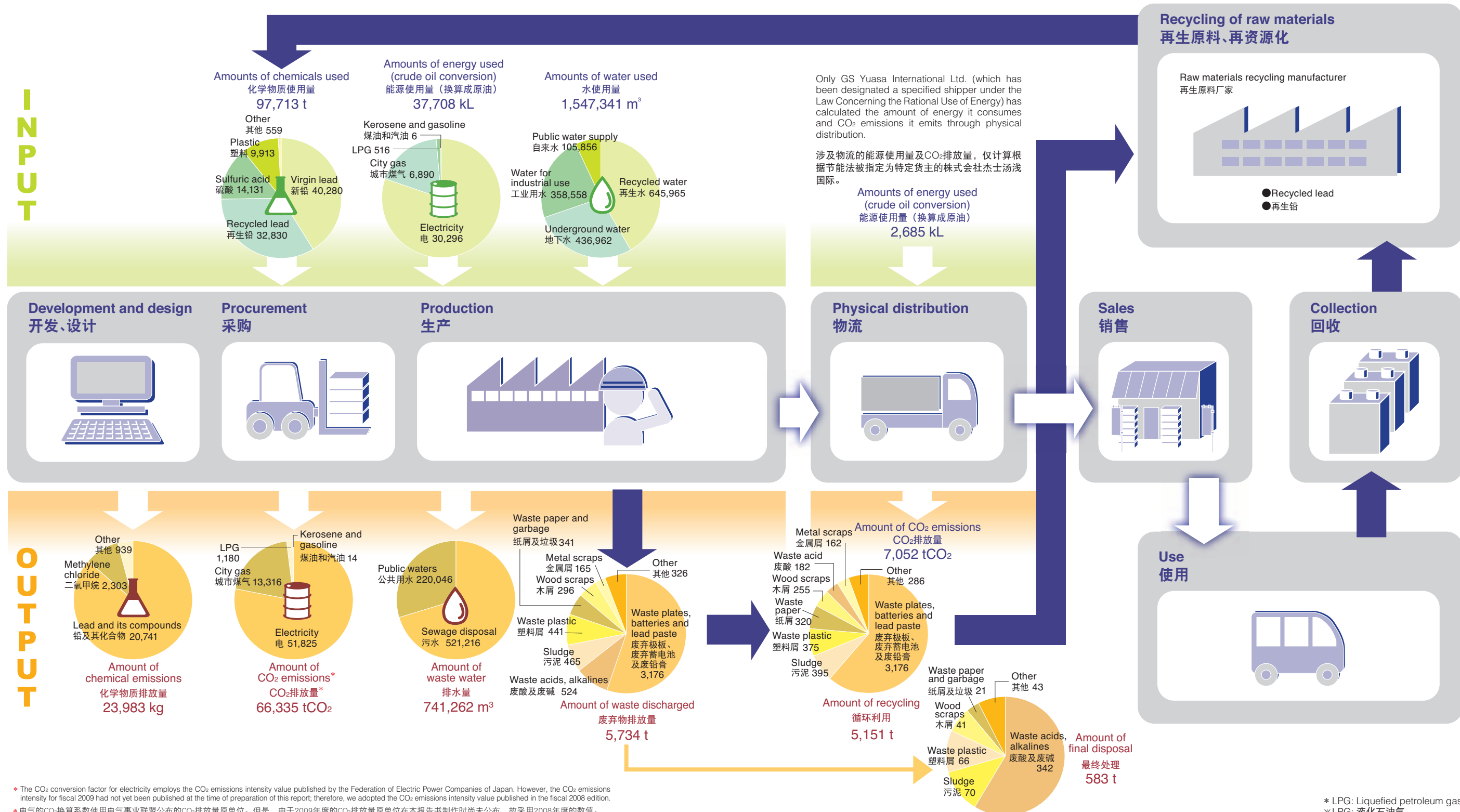
经营活动和环境

不仅是在生产工序,而且在事业活动的整个阶段致力于降低对环境负荷。

杰士汤浅集团生产及销售在生活和生产活动的各个领域被广泛应用的蓄电池、电源供应设备、照明机器等等,并提供相关产品的服务。在此经营活动过程中,我们投入了原材料、能源、水等资源(输入),而排放了废弃物、温室效应气体CO₂、废水等(输出)。我们充分认识到集团的经营对环境造成的影响,因此,从产品的设计阶段就开始致力于资源的3R(Reduce:节省资源化;Reuse:重复使用;Recycle:循环再利用),并同时推进减少CO₂排放量等活动。此外,本集团的主要产品铅蓄电池,其主要材料使用铅。铅非常适合于资源的循环再利用,但同时它也可以说是给环境带来负担可能性很大的物质。杰士汤浅集团通过在生产工序中将不良产品发生率降低到最小范围,减少废弃率并致力于已使用后铅蓄电池循环再利用,努力降低对环境的负担。

Material flow in business activities (Scope: Fiscal 2009 results from four offices in Japan)

事业活动中原材料流程 (统计对象: 国内4家事业所的2009年度实际业绩数据)



Corporate governance

Legend
 凡例
 — Coordination 协调
 → Auditing 监督

Shareholder's meeting
 股东会议

Selection
 选任

Accounting Auditor
 会计监查人

Corporate Auditors / Outside Auditors
 监查员/社外监查员

Auditor Meeting
 监查员会议

Business Auditing Office
 监查室

Directors
 董事

Board of Directors
 董事会

Overall management
 统括管理

Election and supervision
 选定、监督

Reporting
 报告

President
 总经理

Representative Director
 董事长

Management Meeting
 常务会议

Consultations
 咨询

事业分公司
Business companies

Overall management
 统括管理

关联公司
Affiliated companies

GS Yuasa Corporation (Pure holding company)
株式会社 杰士汤浅 (纯粹控股公司)

企业管控

Risk management

风险管理

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graph TD; A[Compliance Promotion Committee  
合规推进委员会] --- B[Group Risk Management Committee  
集团风险管理委员会]; B --- C[Risk Management Promotion Office Council  
风险管理推进负责人会议]; B --- D[Secretariat  
事务局]; B --- E[Risk Management Committee of Subsidiaries  
各分公司等风险管理委员会];
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The diagram illustrates the organizational structure of the Risk Management Committee. At the top is the Compliance Promotion Committee (合规推进委员会), which oversees the Group Risk Management Committee (集团风险管理委员会). The Group Risk Management Committee is supported by four entities: the Risk Management Promotion Office Council (风险管理推进负责人会议), the Secretariat (事务局), and the Risk Management Committee of Subsidiaries (各分公司等风险管理委员会).



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