



2018 Environmental Report

Outshining Light

STANLEY

STANLEY ELECTRIC CO., LTD.

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Editorial Policy

Embracing the bold Stanley Spirit of "outshining light," the Stanley Group strives to contribute to society and achieve both environmental protection and economic development through the boundless pursuit of the value of light.

This report provides information on our basic stance on environmental management and the status of our environmental protection activities in an easy to understand manner. It was issued in the aim of further increasing communication with our shareholders, suppliers and investors, residents of local communities, the people who use our products, and employees, as well as to reassure them and gain their confidence.

● Applicable Scope of the Report

This report covers Stanley Electric Co., Ltd., 8 domestic affiliate companies, and 15 major overseas production affiliate companies.

● Applicable Period of the Report

FY 2017 (April 1, 2017 to March 31, 2018)
Some parts of the report include environmental activities from FY 2018.

● Business Changes related to the Environment during the Report Period

[Overseas]
The dissolution and liquidation of the following companies has been completed.
· Chongqing Hua-yu Stanley Electric Co., Ltd.
· Stanley Electric Mexico S.A. de C.V.

● Guidelines Consulted

The Environmental Reporting Guidelines 2012

● Month Issued / Next Scheduled Issuance

Month Issued: June 2018
Next Scheduled Issuance: June 2019
(Issued every year since 2002)

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For more information, please contact

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TEL: 81-463-80-3956 FAX: 81-463-80-1926 URL: <http://www.stanley.co.jp/>

Top Message

Aiming for the Sustainable Development of Society and Business



**President
Takanori Kitano**

Last summer, high-temperature conditions persisted over a number of months in areas all throughout the world. In Japan, Northern Kyushu—primarily Fukuoka and Oita Prefectures—were assailed by severe downpours, with extended bouts of rain lasting up through late August. These are just some of the abnormal weather phenomena that have been occurring all over due to the effects of global warming.

Reducing CO₂ and other greenhouse gases that are considered to be causing this warming is something that each of the concerned parties at every level, including the government, administration, and companies, must consider from a variety of standpoints and soundly take action on. In addition, we have recently reached an age in which we must undertake total and complete environmental activities and corporate activities that take things like natural disasters into consideration, rather than focusing solely on CO₂ reductions.

As part of this, we at the Stanley Group, for whom "manufacturing" lies at the core of our corporate activities, are working on improving efficiency with our energy consumption resulting from our business activities and creating products designed for the environment as themes that are absolutely crucial.

One area we are placing particular emphasis on as we move ahead with our business activities is thoroughly eliminating waste. In other words, setting forth the goal of eliminating waste throughout all of our business processes minimizes the raw materials, energy, and other resources that go into our business activities and uses

them in an economical manner, thereby boosting productivity to achieve a balance between environmental conservation and economic development.

As a result of these activities, we have been soundly achieving our targets for basic added value units, which is an indicator of CO₂ emissions per amount of value added, both at our domestic and overseas companies.

Moreover, in response to problems such as the water shortages, water pollution, and air pollution that are progressing at the global level, we are promoting the development of LED light sources for sterilizing and purifying water and air. Moving forward, we will promote proactive activities designed to harness the technological innovations and product development brought about by our initiatives for environmental problems as the driving force behind our corporate growth.

We in the Stanley Group aim for the sustainable development of society and our company by pooling our wisdom. We do this in order to pass on the immeasurably rich blessings of our Earth and its ecosystems to the next generation in a healthy state.

Here, we have compiled the environmental protection activities of the Stanley Group over the previous fiscal year in the form of our 2018 Environmental Report. This report is designed to raise understanding of our company's initiatives, attitudes, and specific activities for environmental conservation. We welcome your candid opinions with a view toward strengthening our future activities.

Introduction to the Stanley Group's Business

Business Overview

Stanley Electric Co., Ltd.

Address : 2-9-13, Nakameguro,
Meguro-ku, Tokyo
153-8636, Japan

Phone : 81-3-6866-2222

Founding : December 29, 1920

Establishment : May 5, 1933

President : Takanori Kitano

Capital stock : ¥30,514 million

Head Office : (Meguro-ku, Tokyo)

Laboratories : Research and Development Laboratory
(Yokohama), Utsunomiya Technical
Center, Yokohama Technical Center,
Opto Technical Center (Yokohama)

Branch offices : Osaka, Nagoya

Marketing offices, etc.:

Omiya, Sayama, Suzuka, Sendai,
Mizushima, Asaka

Factories : Hatano, Okazaki, Hamamatsu,
Hiroshima, Yamagata

Overview of the Stanley Group

Consolidated affiliates: 36 companies

Affiliates accounted for by the equity method:
3 companies

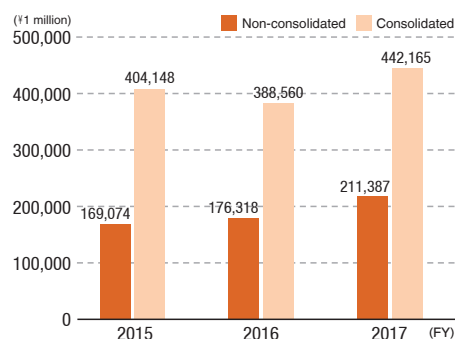
Major Lines of Business

- ① Manufacture, sales, and export/import of automotive and other lamps
- ② Manufacture, sales, and export/import of semiconductors, electronic parts, and other electric devices
- ③ Manufacture, sales, and export/import of automotive electric parts and other automotive accessories
- ④ Manufacture, sales, and export/import of measuring, medical, and other instruments and equipment
- ⑤ Development and sales of software programs
- ⑥ Investment in various business projects
- ⑦ Business operations relating to the above items 1 through 6

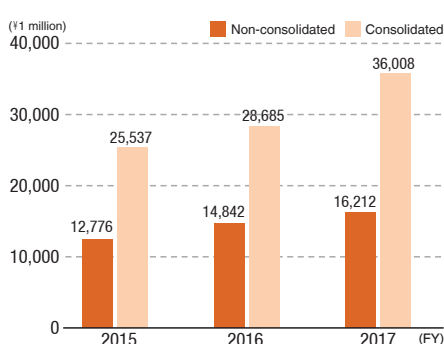
(As of March 31, 2018)

Summary of the Stanley Group

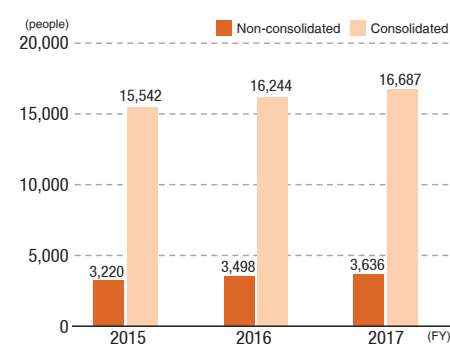
Changes in Sales



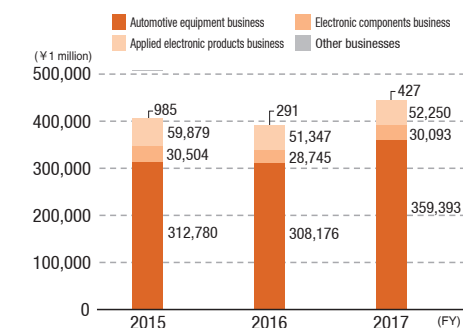
Changes in Net Profit

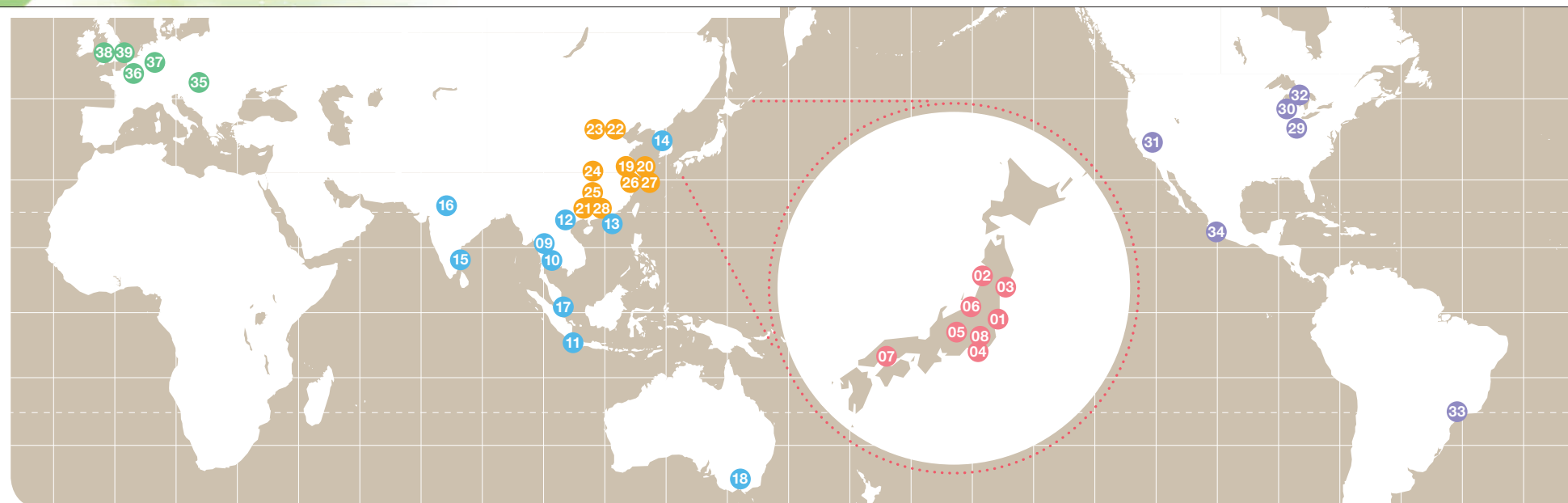


Changes in the Workforce



Changes in Consolidated Segment Sales by Type of Business





Introduction to the Stanley Group's Business

Major Affiliate Companies

Japan

- 01 Stanley Iwaki Works Co., Ltd.
- 02 Stanley Tsuruoka Works Co., Ltd.
- 03 Stanley Miyagi Works Co., Ltd.
- 04 Stanley Well Corp.
- 05 Stanley Ina Works Co., Ltd.
- 06 Stanley Niigata Works Co., Ltd.
- 07 Matsuo Electric Co., Ltd.
- 08 Stanley Pal Co., Ltd.

Asia and Oceania

- Thailand 09 Asian Stanley International Co., Ltd. (ASI)
- 10 Thai Stanley Electric Public Co., Ltd. (THS)
- Indonesia 11 PT. Indonesia Stanley Electric (ISE)
- Vietnam 12 Vietnam Stanley Electric Co., Ltd. (VNS)
- Hong Kong 13 Stanley Electric (Asia Pacific) Ltd. (SAP)
- Korea 14 Stanley Electric Korea Co., Ltd. (SEK)
- India 15 Stanley Electric Sales of India Pvt. Ltd. (SSI)
- 16 Lumax Industries Ltd. (LMX)
- Singapore 17 Stanley Electric Holding Asia-Pacific Pte. Ltd. (SEAP)
- Australia 18 Hella-Stanley Holding Pty Ltd. (HESA)

China

- 19 Suzhou Stanley Electric Co., Ltd. (SEZ)
- 20 Suzhou Stanley LED Lighting Technology Co., Ltd. (SLT)
- 21 Shenzhen Stanley Electric Co., Ltd. (SSZ)
- 22 Tianjin Stanley Electric Co., Ltd. (TSE)
- 23 Tianjin Stanley Electric Technology Co., Ltd. (TST)
- 24 Wuhan Stanley Electric Co., Ltd. (WSE)
- 25 Guangzhou Stanley Electric Co., Ltd. (GSE)
- 26 Shanghai Stanley Electric Co., Ltd. (SSE)
- 27 Stanley Electric (China) Investment Co., Ltd. (SECN)
- 28 Stanley Electric Trading (Shenzhen) Co., Ltd. (SST)

Americas

- U.S. 29 Stanley Electric U.S. Co., Inc. (SUS)
- 30 I I Stanley Co., Inc. (IIS)
- 31 Stanley Electric Sales of America, Inc. (SSA)
- 32 Stanley Electric Holding of America, Inc. (SEAM)
- Brazil 33 Stanley Electric do Brasil Ltda. (SEB)
- Mexico 34 Stanley Electric Manufacturing Mexico S.A. de C.V. (SMX)

Europe

- Hungary 35 Stanley Electric Hungary Kft. (SEH)
- France 36 STANLEY-IDESS S. A. S. (SID)
- Germany 37 Stanley Electric GmbH (SED)
- England 38 Stanley Electric (U.K.) Co., Ltd. (SEU)
- 39 Stanley Electric Holding Europe Co., Ltd. (SEEU)

Introduction to the Stanley Group's Business: Main Products

Stanley's Lights Create New Possibilities

A Automotive equipment business

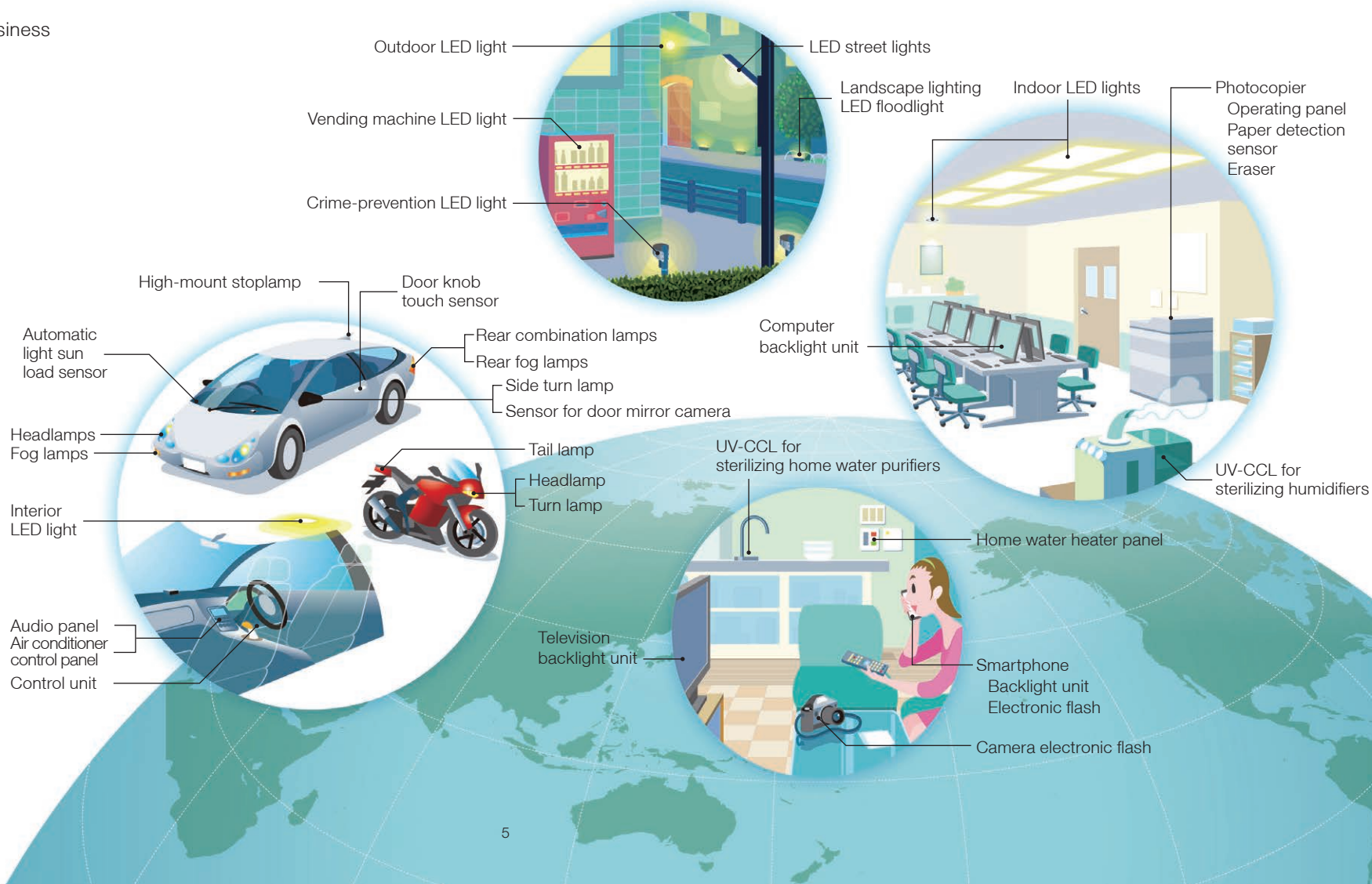
LED Headlamps
HID Headlamps
Halogen Headlamps
Rear Combination Lamps
Motorcycle LED Headlamps
Motorcycle Halogen Headlamps
Motorcycle Taillamps
High-mount Stoplamps
Fog Lamps
LED Bulbs
Automotive Bulbs

B Electronic components business

Light Emitting Diodes (LED)
Infrared LED
Photodetector
Optical Sensors
Liquid Crystal Display (LCD) Elements
Sub-miniature Lamps

C Applied electronic products business

Center Panel Modules for Automobiles
Electrical Sensors for Automobiles
Operating Panels
Backlighting Units for LCD
Flash Units for Camera
Plant Grow Lights
LED Lights for Scenery / Production
LED Lights for Facilities
LED Lights for Roadways



—Highlights of Our Environmental Activities in FY 2017—

Creating Value from Light and Illuminating a Bright Future

Here we will report on the new environmental activities that the Stanley Group has been working on, as well as activities that are worth taking note of.



Achieving energy-savings of 70%

Switching to full LED headlamps for the N-Box

The Honda Motor Company, Ltd.'s N-Box was the number one new model in terms of vehicles sold in Japan in FY 2017. The headlamps on the N-Box were switched from a halogen to LED design, while front turn signals with sequential function were equipped on the N-Box Custom, their top-of-the-line model. Both types represent the first instances in which our headlamps have been equipped on light motor vehicles. The N-Box has achieved energy-savings of 70% over prior models, while at the same time increasing the sense of safety for drivers when driving at nighttime and in rainy weather that comes with lighting that is brighter and travels farther.

Bi-function LED unit, which make it possible to switch between high-beams and low-beams on a single unit, needed to be cooled via a fan. But we newly developed the Fan-less Bi-function LED unit, which curbs power consumption by disusing the fan, as a single lens-type. This is now the lamp equipped on said vehicles.

Moreover, using the onboard network to control the lights makes it possible to reduce the number of body harnesses, which contributes to reducing the overall weight of the vehicle.



N-BOX Custom :
Full LED nine-lamp system
headlamp



N-BOX :
Full LED headlamps
(Projector-type)

Fan-less Bi-function LED unit

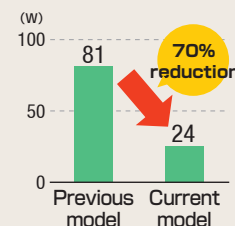


Reduces LED power consumption by 36% over our previous Bi-function LED units.



Curbs power consumption while maintaining the same light distribution performance, and disusing the fan.

N-Box headlamp power consumption



Views

Successfully reducing power consumption and maintaining light distribution performance through a specialized design

Yasuyuki Zanna

Design Department, Utsunomiya Technical Center

In order to achieve full LED lamps that are still designed to be moderately-priced, it was important that we develop a fan-less version of our Bi-function LED units. Disusing the fans required that the electricity be reduced, which would have reduced the light distribution performance as things stood. So we utilized a specialized design, thus achieving performance that met the approval of our customer.



—Highlights of Our Environmental Activities in FY 2017—

Creating Value from Light and Illuminating a Bright Future



Our high efficiency, high durability specialized LEDs are used at the front lines of the fishing industry

Developing environmentally friendly LED fishing lights

Stanley newly developed fishing lights equipped with specialized LED technology that boasts high efficiency and high durability for fishing boats in Central Vietnam, for which we carried out an onsite demonstration project to verify their effectiveness at reducing emissions of greenhouse gases and other such benefits.

The LED fishing lights we developed have a die-cast aluminum casing that was designed to be thin. This allows it to efficiently illuminate the ocean's surface with directional light distribution at a power consumption of 197W, while also improving its durability against salt damage.

For the demonstration project, we switched the existing metal halide lamps on 40 fishing boats over to our LED fishing lights. This resulted in reducing power consumption and fuel consumption by roughly 70% when illuminating an area of ocean with equal brightness, which led to improving the work onboard the boats by means of reducing the heat radiating from the lights, making the lights maintenance-free, and improving safety (since the lights cannot be broken the way glass can).

It was also confirmed that the haul of fish caught was equal to or greater than that with the existing light sources. In addition, cutting down on fuel consumption extended their traveling distance, which in turn improved convenience and led to striking a balance in terms of reducing energy and economy regarding the fishing business.

The Stanley Group will continue to proactively promote environmentally-friendly initiatives globally through the use of our cutting-edge technology in order to contribute to the conservation of the global environment on into the future.

※ This demonstration project was carried out as a commissioned project by the New Energy and Industrial Technology Development Organization (NEDO) as one of its Dissemination and Promotion of Global Warming Countermeasure Technology Feasibility Studies and Demonstration Projects pertaining to the Joint Crediting Mechanism (JCM), the goal of which is to promote the dissemination of low-carbon technologies and products to developing countries.

▶ See Page 17 for related information



Coping with the harsh environments of coastal zones

Developing LED lights for port facilities

Stanley Electric Japan and Suzhou Stanley Electric in China have developed LED lights for port facilities. These CE-compliant products (that meet the standards of EU member countries) have been installed on 143 pieces of equipment of the International Car Operators in Belgium. This has resulted in cutting power consumption by 65% compared with their previous lighting equipment, while also contributing to work safety by boosting brightness and visibility.

In addition to having long operating lives and high efficiency, our LED lights were designed to be resistant against salt damage and corrosion to accommodate the harsh environments of coastal zones. As such, they acquired Type I certification under the Nippon Kaiji Kyokai's Type Certification for LED Floodlights for Port Facility-Use.



**Type I
certification
under the Type
Certification for
LED Lights for Port
Facility-Use**

▶ See Page 17 for related information

◀ Views



Taking on the challenge of acquiring Type Certification for LED Lights for Port Facility-Use!

Ryosuke Yamazaki

Design Department, Yokohama Technical Center

We designed and developed LED lights for port facilities, where the use of LED lights has yet to become widespread, thus acquiring Type I certification for our LED lights for port facilities. Using a lighting design that achieves uniform brightness within container terminals made it possible for us to achieve power-savings over the conventional lights, which had used high-voltage sodium-vapor lamps as their light source. Based on this recently acquired know-how, we will continue working to design environmentally-friendly products on into the future.

—Highlights of Our Environmental Activities in FY 2017—

Creating Value from Light and Illuminating a Bright Future



Preventing global warming via sustainable energy

Promoting the adoption of solar power generation equipment across the Group as a whole

As part of our counter-measures against global warming via sustainable energy, the Stanley Group has adopted solar power generation equipment at our head office, Hatano Factory, Utsunomiya Technical Center, and Yokohama Technical Center.



Bird's-eye view of the rooftop solar panels on our Okazaki Factory (storage building)

In FY 2017, we installed solar power generation equipment at our Okazaki Factory (storage building), Hiroshima Factory, Stanley Iwaki Works, and Stanley Niigata Works.

At our Hiroshima Factory and Stanley Niigata Works, we switched to solar power generation equipment via captive use, and supplied the generated electricity to the air conditioning and lighting within the factories. In addition, we made efforts to equalize out electricity (cut electricity peaks) while also working to curb CO₂ emissions.

At Guangzhou Stanley Electric in China we began generating solar power via captive use in 2011, and further augmented the generating equipment there in FY 2017.

In the future, we plan to install this equipment at our Okazaki Factory (New B Building) and Thai Stanley, and will continue contributing to the prevention of global warming through sustainable energy.



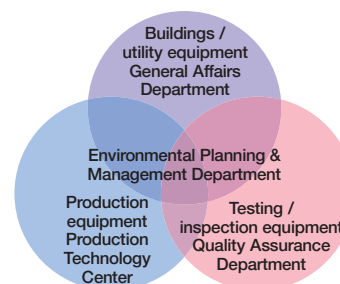
Hiroshima Factory
Solar power monitors



Reducing energy consumption through thorough equipment operation and maintenance

Control and management activities for our equipment

Since FY 2017, the Stanley Group has been enhancing our operation and maintenance for buildings/utility equipment, production equipment, and testing/inspection equipment at the global level through coordination between our General Affairs Department, Production Technology Center, and Quality Assurance Department, with this being spearheaded by our Environmental Planning & Management Department. Since equipment degrades over time, performing the proper maintenance and inspections in an ongoing manner is conducive to preventative maintenance. The degradation of equipment not only causes defects like malfunctions and decreased precision, but also leads to increased energy usage. As such, undertaking these activities will allow us to keep these sorts of defects and energy losses down to a minimum. What is more, by getting a grasp of the equipment's condition and upgrading it at the proper time, we will install equipment with the latest in energy-saving performance through these activities.



Achieving sustainable societies

The connection between our environmental activities and the Sustainable Development Goals (SDGs)

In September 2015, the United Nations adopted the Sustainable Development Goals (SDGs), which consist of 17 goals and 169 targets for resolving a variety of social challenges in areas such as the environment, health, human rights, poverty, and peace.

These have been positioned as "goals for all people" for the year 2030 that indicate an ideal vision for the future. Of these 17 goals, our environmental activities contribute to the four areas listed above.

We will continue working to achieve the SDGs through products and services borne through Stanley's "boundless pursuit of the value of light."

6 CLEAN WATER AND SANITATION	Ensure availability and sustainable management of water and sanitation for all
7 AFFORDABLE AND CLEAN ENERGY	Ensure access to affordable, reliable, sustainable and modern energy for all
12 RESPONSIBLE CONSUMPTION AND PRODUCTION	Ensure sustainable consumption and production patterns
13 CLIMATE ACTION	Take urgent action to combat climate change and its impacts

Environmental Management

Stanley Group Vision

In April 2000 the Stanley Group enacted the Stanley Group Vision, which establishes our basic values, the significance of our role in society, and our lasting mission in aiming for a sustainable society. In realizing the vision, it is essential to collaborate and cooperate with many stakeholders while sharing values, and by sharing the vision with the entire group we fully exploit the total power of the group, thereby addressing the challenge of creating a sustainable society through business activities.

Environmental Management

With our business base in manufacturing with a mastery of the boundless possibilities of light under the Stanley Group Vision, the Stanley Group provides products considered necessary by society while promoting environmental management designed to pass on the immeasurably rich and momentous blessings of our Earth to the next generation in a healthy state.

Stanley Group Vision



Basic Stance on Environmental Management

Under the Stanley Group Vision we have enacted our Basic Environmental Philosophy, Environmental Proclamation, and Environmental Policies, through which we are proactively working to address environmental conservation.

The Stanley Group seeks to reduce its environmental impact and aspires to achieve both environmental protection and economic development.

Environmental Activities of the Stanley Group

Basic Environmental Philosophy

Environmental Proclamation

Environmental Policies

Environmental Long-Term Management Plan

Activities that Aim for the Sustainable Development of Society and Business

Strengthening management systems

Prevention of global warming

Resource recycling / waste reduction

Prevention of pollution

Phase IV Environmental Mid-Term management Plan (April 2010 to March 2014)

Phase V Environmental Mid-Term management Plan (April 2014 to March 2017)

Phase VI Environmental Mid-Term management Plan (April 2017 to March 2020)

Underlying Concepts of Ecological Activities

Under our Basic Environmental Philosophy, the Stanley Group aims for the sustainable development of society and business. In addition, through the implementation of our Environmental Policies, we are working towards the conservation of the Earth's environment. Curbing emissions of greenhouse gases to prevent global warming, resource conservation activities that aim for a recycling-oriented society, curbing emissions of harmful chemical substances, and the development of environmentally friendly products are among the activities that we promote.

Basic Environmental Philosophy

Stanley Group, will strive to "create new values in harmony with the environment" through all our corporate activities by reducing the environmental impact to a bare minimum, so that we can pass on the immeasurably rich blessings of our earth and its ecosystem to the next generation in a healthy state.

Environmental Proclamation

We, Stanley, strive to become an Earth friendly corporation by practicing the "non-use, non-emission and non-disposing" of environmentally harmful substances.

Environmental Policies

In all our corporate activities, Stanley Group will follow our Basic Environmental Philosophy, with each member of our company aware of his or her roles and responsibilities regarding environmental conservation.

1. Throughout the lifecycle of our business operations, products and services, we promote activities such as the conservation of natural resources and energy, pollution prevention thereby reducing the environmental impact globally.
2. In addition to essentially observing the environmental laws and regulations of each country and region as well as other environmental agreements we conclude with other parties, when necessary, we apply voluntary environmental standards of our own on the basis of those regulations and agreements.
3. To implement our Environmental Policies, we specify environmental objectives, set up environmental targets, and regularly or extraordinarily reexamine the objectives and targets in view of current progress, thus ensuring continuous and proactive improvement.
4. We communicate our Basic Environmental Philosophy and Environmental Policies to all the persons working for Stanley Group, and we also gain the understanding and cooperation of our suppliers through informational efforts.
5. We make our Basic Environmental Philosophy and Environmental Policies accessible to the general public, and we report the progress of our environmental activities in order to increase communication with the local community, when requested.
6. We actively participate in the environmental conservation activities of the local communities in collaboration with governmental agencies or other local or affiliated organizations.

Environmental Long-Term Management Plan

In order to achieve the sustainable development of society and business, we have formulated an Environmental Long-Term Management Plan (April 2010 to March 2020) in order to promote environmental management, and are working to address environmental challenges such as the prevention of global warming.

Environmental Activities of the Stanley Group

Basic Environmental Philosophy

Environmental Proclamation

Environmental Policies

Environmental Long-Term Management Plan

Activities that Aim for the Sustainable Development of Society and Business

Strengthening management systems

Prevention of global warming

Resource recycling / waste reduction

Prevention of pollution

Phase IV Environmental Mid-Term management Plan (April 2010 to March 2014)

Phase V Environmental Mid-Term management Plan (April 2014 to March 2017)

Phase VI Environmental Mid-Term management Plan (April 2017 to March 2020)

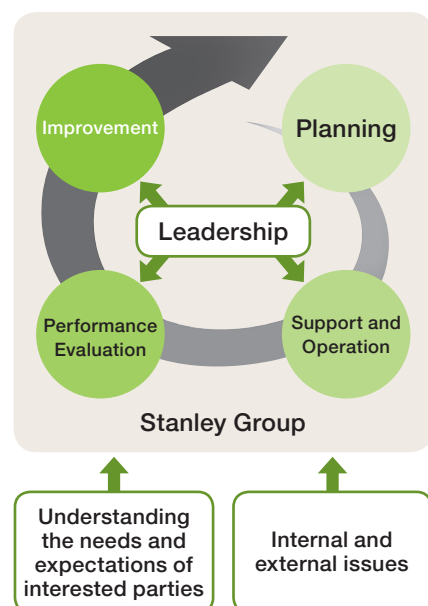
The Stanley Group's Second Environmental Long-Term Management Plan

	Phase IV Environmental Mid-Term Management Plan (April 2010 to March 2014)	Phase V Environmental Mid-Term Management Plan (April 2014 to March 2017)	Phase VI Environmental Mid-Term Management Plan (April 2017 to March 2020)
Second Environmental Long-Term Management Plan	Achieve sustainable development for society and business/carry out manufacturing that contributes to the Earth's environment to achieve both social contribution and profit creation.		
	Create a foundation for environmental management	Promote environmental management and start expanding it globally	Promote the global expansion of environmental management
Strengthening initiatives for our Environmental Management System (EMS)	Regulate a global Environmental Management System		
	Domestic Improve the efficiency of operation through EMS integration	Strengthen the regulated EMS activities	Promote self-sufficient EMS activities at each base
	Overseas Prepare for global EMS integration	Promote global EMS	Promote self-sufficient EMS activities globally
Initiatives for environmental regulations	Continue complying with regulations related to business activities		
Design for Environment	Offer products designed for the environment that will contribute to the Earth's environment (continuously)		
Prevention of global warming	Promote the prevention of global warming / reduce greenhouse gas emissions through business processes		
	Domestic Reductions of 1% a year or more relative to FY 2009 in basic added value units		
		Overseas Reductions of 1% a year or more relative to FY 2013 in basic added value units	
	<Distribution region> Reductions of 1% a year or more relative to FY 2009 in sales basic units	<Distribution region> Reductions of 1% a year or more relative to FY 2012 in sales basic units	
Resource recycling / waste reduction	Deploy and strive for activities that do not generate waste globally Continue with zero emissions		
	Reduce waste - Reductions of 1% a year or more relative to FY 2009 in basic added value units	Reduce waste - Reductions of 1% a year or more relative to FY 2012 in basic added value units	
Prevention of pollution /product environment	Completely eliminate environmental accidents by thoroughly ensuring that no substances of environmental concern are used		
	Strengthen management foundations to accommodate global expansion	Continue with zero environmental defects	
Initiatives for biodiversity	Actively contribute to regional ecosystem protection activities		

* In 2013 we revised our Environmental Long-Term Management Plan so that Phase V started from April 2014.

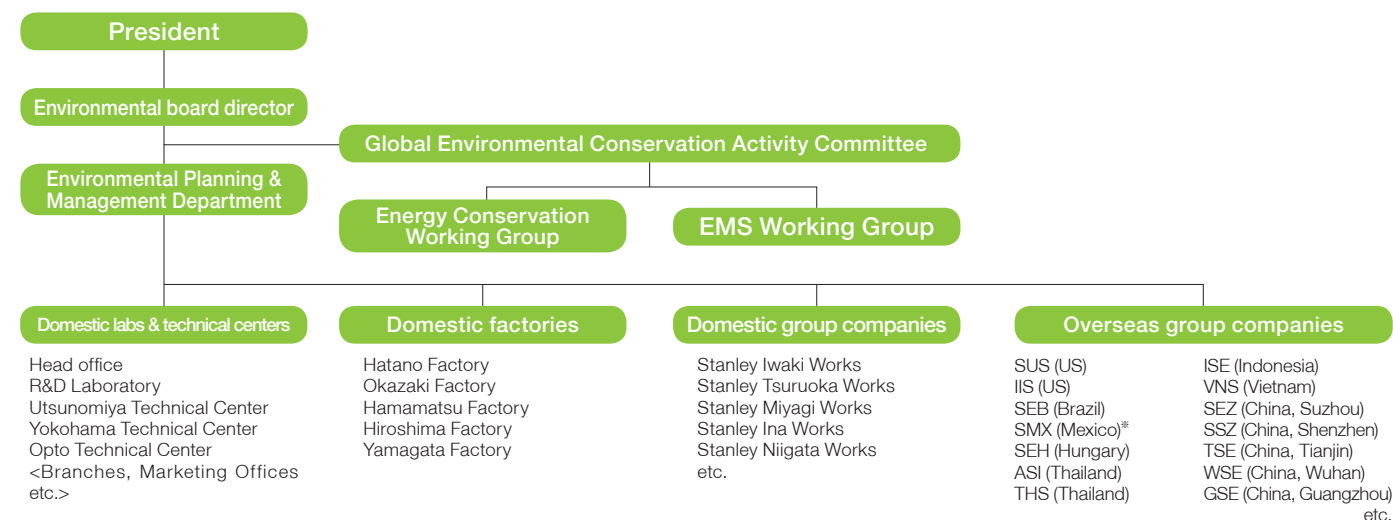
Environmental Management System

The Stanley Group has erected an Environmental Management System (EMS) based upon ISO 14001 international standards and promotes long-term environmental management plans and addresses environmental activities based on our Environmental Policies across the group as a whole.



Environmental Management Structure

We have created an environmental management structure with an environmental board director as its highest officer under the president. What is more, we have set up the Environmental Planning & Management Department as a department to promote environmental management, and we work to ensure administrative control. We also established the Global Environmental Conservation Activity Committee in order to oversee the Stanley Group as a whole to promote environmental activities through the combined efforts of our domestic and overseas group companies.



*Branches that have yet to acquire ISO14001 certification.
These are the informal names of our overseas group companies. See P04 for their official names.

Global Environmental Conservation Activity Committee	Discusses environmental strategies and regulatory affairs from a global standpoint; optimizes and maintains the environmental management system to realize the Basic Environmental Philosophy and the Environmental Policies.
Energy Conservation Working Group	Facilitates energy conservation by drafting and promoting policies related to the Stanley Group's energy management.
EMS Working Group	Optimizes and makes continuous improvements to environmental management systems with a view towards galvanizing and increasing the efficiency of environmental activities and strengthening monitoring functions.
Environmental Planning & Management Department	Advances the environmental management system of the whole Stanley Group, including domestic and overseas subsidiaries, and works to plan and undertake administrative control for the full spectrum of our environmental activities.

Environmental Education

We provide environmental education divided into the categories of training according to personnel position and job type, training according to occupational abilities (strategic education) such as certification education for internal environmental auditors, and training according to occupational abilities (function segmented education) which is aimed at employees engaged in operations related to the environment.

Trainings by personnel position, job type

New manager training

Management of environment related laws and regulations and our environmental challenges

New supervisors training

General environmental knowledge and awareness, and environment al knowledge pertaining to environment-related laws and regulations and duties as a supervisor

Mid-career recruits trainings

General environmental knowledge and awareness, and environmental knowledge pertaining to duties

New recruits training

General environmental knowledge and awareness required of employees as members of society

Trainings by work skill (strategic education)

Qualification training for in-house environmental auditors

Understanding of ISO 14001 requirements and learning auditing techniques

Skill-up training for in-house environmental auditors

Auditing expertise training for sustained environmental improvements and improving auditing techniques

Train environmental regulations

Understanding of environmental regulations

Train substances of environmental concern investigation instructors

Gaining of skills to analyze and detect substances of environmental concern in products

Trainings by work skill (functional education)

EMS education & training

- Education based on the divisional education plan
- Seminars outside the company
- Jobs relating to education/training
 - Jobs with the potential to cause a considerable environmental impact
- Education relating to awareness (policies, objectives, emergency actions, etc.)
 - Subject to all employees, outside personnel working at Stanley, personnel of commissioned agents
- Education & training for qualification
 - Jobs that have a considerable environmental impact (i.e. designated environmental jobs)

Environmental Management Auditing

We consider Environmental Management System (EMS) auditing to be essential for the sake of continuously improving the EMS. The Stanley Group conducts auditing through internal environmental auditors, as well as external audits through third party certifying agencies.

Internal Environmental Audits

Striving to maintain and improve our level of environmental management

We carry out internal environmental audits by forming independent in-house auditor teams comprised of internal environmental auditors who have been certified internally. Our domestic group companies implement audits by environmental management supervisors at each base on a reciprocal basis to promote the maintenance and improvement of the EMS level at each base.

External Audits

Checking to confirm items that need improvement through regular external audits

Our domestic group companies have received integrated authentication as Stanley Electric Co., Ltd., and include all of our factories and laboratories, our head office, branch offices, and affiliates in Japan. These companies and our overseas group companies undergo external audits regularly once per year, as well as renewal inspections once every three years at each base, through third party certifying agencies.

The results of an external audit from FY 2017 indicated that issues that had previously been pointed out had already been completely corrected, and we have finished deploying these corrections laterally at each base around the globe.

Environmental Risk Management

Initiatives for Environmental Risk Management

Observing domestic and foreign regulations and promoting the reduction and elimination of harmful chemical substances

We observe all domestic and foreign environmental regulations, and work to reduce and eliminate harmful chemical substances (substances which are contained in products and those which are used during their manufacture). One such initiative is to carry out development, design, and purchasing management for products that do not contain harmful chemical substances on the basis of management criteria for substances of environmental concern.

With regard to regulations and controls, we are promoting compliance with the PRTR Law and the revised Law concerning the Rational Use of Energy, as well as the Regulation on Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) and others. To prevent environmental accidents in advance, we have instituted environmental patrols and checks during internal environmental audits.

Management of Substances of Environmental Concern

Gathering information on related regulations and customer demands, and promoting sound regulatory compliance

In recent years, laws and regulations on chemical substance management have been growing stricter and stricter around the world as the globalization of regulations advances.

The Stanley Group gathers and complies with information on related regulations and customer demands, and promotes the initiatives listed on the right for the sake of sound regulatory compliance.

Internal Structure for Managing Information on Substances of Environmental Concern

● Promoting the Development of Design for the Environment through the Use of a Database of Substances of Environmental Concern

We meticulously collect and confirm the suitability of information on the substances of environmental concern contained in the parts and raw materials that make up our products with the understanding and cooperation of our suppliers. Moreover, by recording this information on the substances of environmental concern to an internal database and sharing this we make efforts to select components that do not contain such harmful chemical substances, while also working to design and develop environmentally conscious products.

● Establish and Strengthen a Structure for Managing Substances of Environmental Concern

We periodically carry out audits on our structure for managing substances of environmental concern at our production bases in Japan and overseas and promote initiatives to strengthen this.

Major Initiatives for FY 2017

● Enacting management standards for our hazardous material-related facilities and facilities that store poisonous and deleterious substances

The Stanley Group has enacted uniform management standards for the Group as a whole and begun implementing these globally in order to preemptively prevent fires, spills, leaks, and other environmental accidents resulting from the improper management of our hazardous material-related facilities and facilities that store poisonous and deleterious substances (starting from October 2017 for domestic companies and from April 2018 for our overseas companies).

Regarding the implementation status for this, we use internal audits, patrols, and other means to periodically verify their effectiveness and promote ongoing improvements.

● Making progress on ridding our products of substances of environmental concern

To ensure that the chemical substances contained in our products do not adversely affect the environment, the Stanley Group uses a database of substances of environmental concern in working to determine the usage status of these substances and cut down on them.

In July 2019, four types of phthalates will be added as newly restricted substances under the RoHS Directives targeting electrical and electronic products. As a result, our Group went through and selected the parts that contain these substances, which include automotive products, from our database of substances of environmental concern and has been promoting their systematic replacement.

For the future, we will identify chemical substances subject to controls and continue to promote initiatives for these that include reducing the amounts contained in our products and switching over to alternatives.

Initiatives through Our Supply Chain

Promoting our Green Procurement Guidelines

For our environmental conservation activities, we must reduce the environmental impact over the entire lifecycle of our products, from the procurement of materials through to their production, sale, use, disposal, and recycling. As it is not enough to work towards this through the initiatives of individual companies alone, the Stanley Group actively engages in the procurement of environmentally friendly products and promotes the reduction of our environmental impact through mutual cooperation with our suppliers.

We have established Green Procurement Guidelines for the Stanley Group to allow us to continue promoting initiatives through our supply chain, and work to reduce our environmental impact through coordination with our suppliers.

In our Green Procurement Guidelines, we primarily ask the following five requests of our suppliers.

1. Understand and cooperate with our environmental goals, targets, and requirements
2. Establish an environmental management system (EMS)
3. Thoroughly manage substances of environmental concern
4. Promote initiatives to determine and reduce emissions of greenhouse gases (GHG)
5. Promote the recycling of resources

Green Procurement Policies

Holding yearly meetings to explain our purchasing policies

Stanley Electric holds yearly meetings to explain our purchasing policies to our major suppliers based on our green procurement policies, and continues to further strengthen and promote environmental initiatives and green procurement.

As for our activities to reduce greenhouse gas emissions starting in FY 2015, we are making efforts designed to reduce our basic units for CO₂ emission by 1% or more over the entirety of our supply chain.

Continuing on from the previous fiscal year, in FY 2017 we commended two of our suppliers that reduced CO₂ emissions by 1% or more on a basic unit-basis and carried out outstanding initiatives to improve the environment during the target period with our Green Procurement Award. We will continue to enhance reductions over the entirety of our supply chain.



Environmental Risk Management

PRTR Substances

We reduced the amount of chemical substances we used by 39.4% YOY, thus achieving our basic unit target

Pursuant to the PRTR Law, we determine the emissions and transfer of chemical substances which are subject to said law. In FY 2017 our emissions and amount transferred came to 35.6t (decrease of 40.6% YOY) and 10.9t (decrease of 38.1% YOY), respectively.

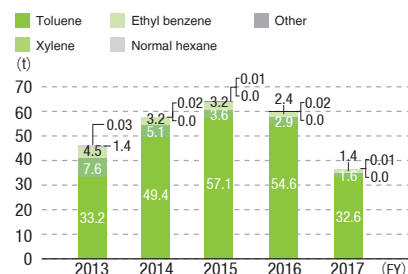
Furthermore, we adopted basic unit management for chemical substances, including substances subject to PRTR.

We worked towards our goal of 1.09t/1 billion yen or less for basic added value units for FY 2017 (decrease relative to FY 2014), which we achieved by coming in at 0.66t/1 billion yen (decrease of 39.4% relative to FY 2014).

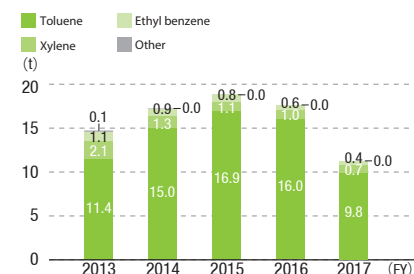
Records of PRTR-designated Class 1 Chemicals (Data from Notifying Factories)

	Objective	FY2013	FY2014	FY2015	FY2016	FY2017
Emissions	Atmospheric emissions	46.7t	57.8t	63.9t	59.9t	35.6t
	Emissions into public water systems	0.0t	0.0t	0.0t	0.0t	0.0t
	Emissions into the soil on premises	0.0t	0.0t	0.0t	0.0t	0.0t
	Landfill disposal on premises	0.0t	0.0t	0.0t	0.0t	0.0t
	Total emissions	46.7t	57.8t	63.9t	59.9t	35.6t
Amount transferred	Transfer to sewage	0.0t	0.0t	0.0t	0.0t	0.0t
	Transfer to outside	14.8t	17.1t	18.9t	17.6t	10.9t
	Total amount transferred	14.8t	17.1t	18.9t	17.6t	10.9t

Changes in Emissions by Type of Substance Requiring Notification under PRTR



Changes in the Amount Transferred by Type of Substance Requiring Notification under PRTR



Management of Polychlorinated Biphenyl (PCB)

Management and treatment pursuant to law

We promote rigorous storage, control, and treatment of PCB pursuant to the Special Measures Law for the Proper Treatment of Polychlorinated Biphenyl Wastes.

Our storage status for FY 2017 is shown in the table on the right. We have already finished registering the treatment of PCB wastes with a waste treatment contractor, and will treat this in sequence.

PCB storage equipment

Equipment	No. of units
Capacitor	109
Stabilizer	16
Transformer	1
Total	126

Soil Contamination Surveys

A survey was carried out at one location

The survey results for FY 2017 are listed below.

For the future, we will continue to carry out voluntary surveys and confirm the soil contamination conditions, which we will cope with based on laws and ordinances.

Branch	Survey results
Hatano Factory	A soil contamination survey was performed following the construction work to demolish the factory's inorganic waste treatment building (an environmental facility such as a facility for treating inorganic fluid waste, etc.). The results of this detected fluorine, lead, hexavalent chromium, selenium, and cyanide in excess of standard values, and so the soil was replaced. We plan to confirm that the groundwater did not and does not contain any of the aforementioned substances either prior to the work or after it.

Compliance with Laws and Ordinances

We regularly confirm our compliance status

Our domestic group companies perform internal audits at each base based on the Checklist of Environmental Laws and Regulations prepared by our Environmental Planning & Management Department to confirm their compliance status. In addition, each of our bases performs reciprocal internal environmental audits on one another in an effort to thoroughly ensure compliance with laws and regulations.

For our overseas group companies, starting in FY 2016, our Environmental Planning & Management Department in Japan began using external agencies to get a grasp of legal and regulatory trends in different countries. A checklist is prepared based on this which is then used to regularly confirm their legal and regulatory compliance status in order to strengthen management for said compliance.

In addition, both our domestic and overseas group companies check to confirm whether the results of their legal and regulatory checks are appropriate via external audits in aiming to thoroughly ensure compliance.

Environment-related Awards

Appraisal for our environmental initiatives

At the Stanley Group, for the sake of environmental risk management we undertake various initiatives to prevent environmental accidents at each of our offices and to reduce our impact on the environment.

In FY 2017 our day-to-day activities were commended by relevant agencies as described below.

Evaluating LED fishing lights that balance reducing energy and economy regarding the fishing business

Stanley newly developed fishing lights equipped with specialized LED technology that boasts high efficiency and high durability, which have been equipped on 40 fishing boats in Central Vietnam. These LED fishing lights achieve a balance between reducing energy and economy regarding the fishing business. This was confirmed through facts such as they reduced power consumption and fuel consumption by roughly 70% when illuminating an area of ocean with equal brightness, improved work onboard the boats and that the haul of fish caught was equal to or greater than that with the existing light sources.

This project has been praised for its enormous contributions to the local community, and was granted an escutcheon of gratitude by the People's Committee of Vietnam of the Quang Tri Province.



Commendation for our LED lights for port facilities, which were the first in the industry to acquire type certification

For our business of selling LED lights for port facilities, Stanley and UNI-X Corporation from the NYK Group were jointly awarded the Award for Developing Technologies that Mitigate the Environmental Impact of Logistics (environmental grand prize for logistics) by the Japan Association for Logistics and Transport.

This environmental grand prize for logistics was created with the objective of commending companies and other organizations that have made significant contributions to the sound development of logistics by working to promote environmental conservation and enhancing environmental awareness within their logistics department.

Our newly-developed LED lights not only feature long operating lives and excellent efficiency, they were also designed to be resistant to salt damage and corrosion to handle the harsh environments found in coastal zones. They are even more highly dependable products that were the first in the industry to receive type certification, and have already begun receiving praise for their performance record of being adopted at port facilities in Belgium.



Evaluating Stanley Tsuruoka Works' ongoing initiatives for environmental conservation activities

In June 2017, the Shonai Environmental Management Research Group in which Stanley Tsuruoka Works participates won the Selection Committee Special Award from the Yamagata Prefecture Environmental Conservation Council. The Shonai Environmental Management Research Group was founded in 2001 with the goals of contributing to the community in relation to the environment, primarily through companies and organizations in the Shonai Region, and also continually improving environmental activities by exchanging information. Our factory won this award out of recognition for its ongoing initiatives when it comes to activities that contribute to the community and environmental conservation activities by sweeping away barriers between companies. Examples of such activities include its hosting of a workshop where kids could learn about the environment at Environmental Fair Tsuruoka, joint environmental training for new employees at neighboring companies, and holding energy conservation patrols between companies. This factory will continue working to address environmental activities together with neighboring companies and residents on into the future.



Commendation as an Outstanding Hazardous Materials Engineer

In April 2017, the employee at our Hamamatsu Factory appointed as its Hazardous Materials Security Superintendent received a commendation as an Outstanding Hazardous Materials Engineer from the Hamamatsu Disaster Preparedness Association. The employee received this award for thoroughly managing the safety of the hazardous materials found at the factory, complying with the relevant fire-prevention laws and ordinances, and being proactive about independent security controls.

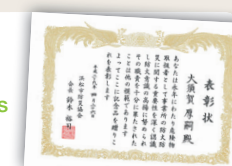


Views

Working to ensure thorough management of hazardous substances

Atsushi Osuka

Management Department,
Hamamatsu Factory



In the 13 years since the relocation of the Hamamatsu Factory, we have not had a single accident occur related to firefighting or hazardous materials. I believe that this, plus the fact that our company has been praised for our approach of complying with the Fire Services Act, are what led us to winning this award. Hazardous material management does not function properly unless a variety of different departments all lend their cooperation for it, and so I feel that my winning this award came on behalf of all of the people involved in this. For the future, I will continue working to ensure thorough management of hazardous materials in cooperation with relevant departments.

Environmental Performance

The Stanley Group promotes a variety of different environmental conservation initiatives for the prevention of global warming and the like.

In order to continue to effectively advance our activities, we quantitatively determine the impact on the environment from our business activities and the results of our countermeasures to this. We address this in an ongoing manner with the understanding that it is important to continue evaluating our environmental performance.

Results of Activities from FY 2017

The Stanley Group's major targets for FY 2017 and their achievement status are listed at right.

We also take opportunities to proactively provide education designed to encourage a raised awareness of the environment among our employees, such as regularly sending out environmental information and providing environmental e-learning.

Furthermore, we established the Environmental Award System, which awards employees who have made significant contributions to environment-related activities in the aim of invigorating and strengthening our environmental activities.

Moving forward, we will strive to thoroughly implement various environmental measures across the Stanley Group to achieve our environmental targets.

Item	Target	Results	
Initiatives for environmental regulations	Continue complying with regulations related to business activities	Continue complying with regulations related to the environment	○
Design for Environment	Offer products designed for the environment that will contribute to the Earth's environment (continuously)	100% implementation of designs for the environment checklists Provide training for design-related departments	○
Prevention of global warming	Domestic Basic added value units of CO ₂ : 77.2t-CO ₂ /.1 billion yen or less (reduction of 8% or more relative to FY 2009)	Domestic Basic added value units of CO ₂ : 63.1t-CO ₂ /.1 billion yen (reduction of 24.8% relative to FY 2009)	○
	Overseas Basic added value units of CO ₂ : 325.3t-CO ₂ /.1 billion yen or less (reduction of 4% or more relative to FY 2013)	Overseas Basic added value units of CO ₂ : 304.5t-CO ₂ /.1 billion yen (reduction of 10.1% relative to FY 2013)	○
	Domestic Distribution region Sales basic units: 2.21t-CO ₂ /.1 billion yen or less (reduction of 5% or more relative to FY 2012)	Domestic Distribution region Sales basic units: 2.20t-CO ₂ /.1 billion yen (reduction of 5.6% relative to FY 2012)	○
Resource recycling / waste reduction	Domestic Basic added value units for the amount of waste generated: 5.45t/.1 billion yen or less (reduction of 5% or more relative to FY 2012)	Domestic Basic added value units for the amount of waste generated: 4.52t/.1 billion yen (reduction of 21.3% relative to FY 2012)	○
	Overseas Basic added value units for the amount of waste generated: 19.8t/.1 billion yen or less (reduction of 3% or more relative to FY 2014)	Overseas Basic added value units for the amount of waste generated: 16.8t/.1 billion yen (reduction of 17.7% relative to FY 2014)	○
	Domestic Continue with zero emissions (landfill disposal rate of 0.50% or less)	Domestic Continue with zero emissions (landfill disposal rate of 0.10%)	○
	Domestic Basic added value units for the amount of water used: 650m ³ /.1 billion yen or less (decrease relative to FY 2014)	Domestic Basic added value units for the amount of water used: 430m ³ /.1 billion yen or less (decrease of 33.4% relative to FY 2014)	○
	Overseas Basic added value units for the amount of water used: 1,220m ³ /.1 billion yen or less (decrease relative to FY 2014)	Overseas Basic added value units for the amount of water used: 1,060m ³ /.1 billion yen or less (reduction of 13.2% relative to FY 2014)	○
Prevention of pollution / product environment	Domestic Basic added value units for the amount of chemical substances used: 1.09t/.1 billion yen or less (decrease relative to FY 2014)	Domestic Basic added value units for the amount of chemical substances used: 0.66t/.1 billion yen (reduction of 39.4% relative to FY 2014)	○
	Continue with zero environmental defects	We verify the content of substances of environmental concern through x-ray fluorescence inspections and other means to continue with zero environmental accidents	○
Initiatives for biodiversity	Contribute to regional ecosystem protection activities	Institute social contribution activities and volunteer activities	○

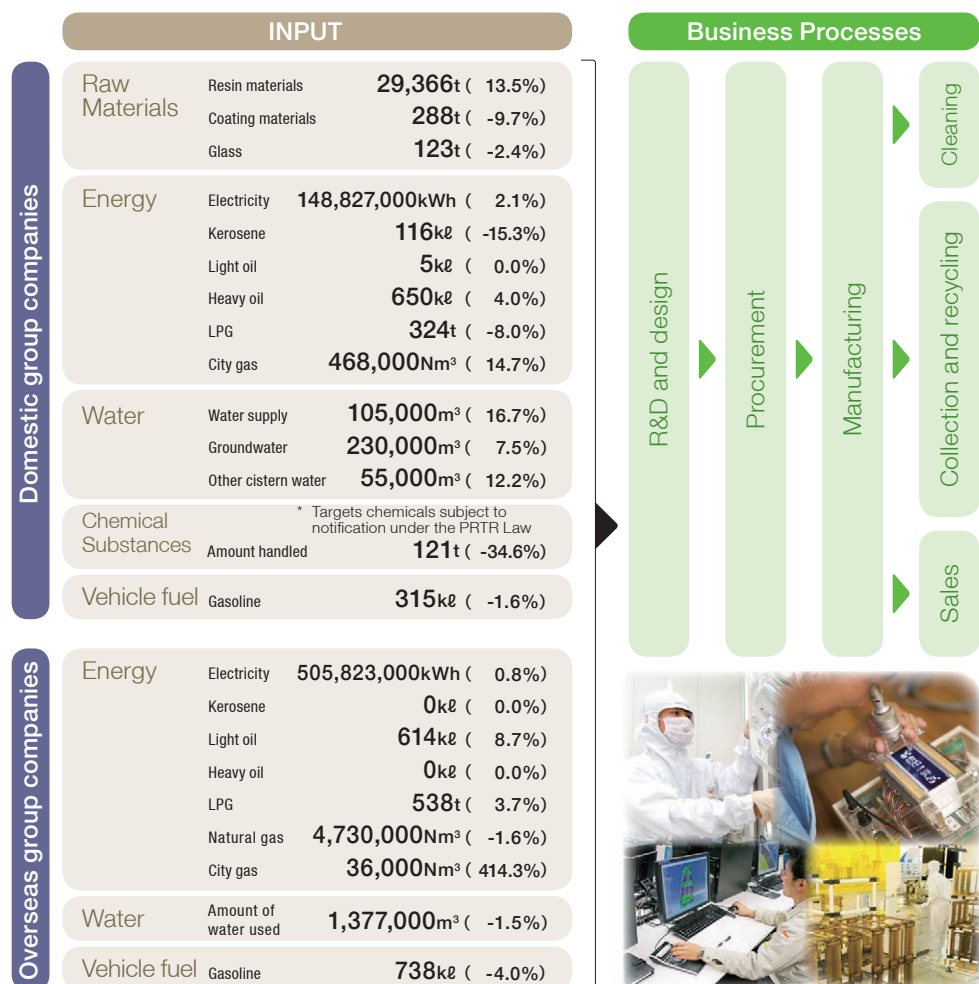
○ : Achieved × : Unachieved

The Environmental Impact of our Business Activities

The major INPUT items for the environmental impact accompanying our business activities are the use of raw materials, energy, water, chemical substances, and vehicle fuel. Conversely, the OUTPUT items include CO₂ gas, NO_x, and SO_x for the atmosphere, while the impacts in water environments include biochemical oxygen demand (BOD) and chemical oxygen demand (COD). This also includes factors like emissions of waste and chemical substances.

Our environmental impact for FY 2017 is listed on the right. We quantitatively determine the environmental impacts from these and carry out environmental conservation activities such as the conservation of resources and energy, as well as measures to reduce emissions of waste and chemical substances, in an ongoing manner.

Environmental Impact of Our Business Activities in FY 2017



The figures in parentheses are the percentage change YOY

OUTPUT			
Greenhouse gases	CO ₂	56,835t-CO ₂	(2.0%)
Impact on the atmospheric environment	NO _x	3.3t	(-35.3%)
	SO _x	3.5t	(-82.4%)
Impact on water environments	BOD	5.2t	(18.2%)
	COD	1.1t	(10.0%)
* The total amount generated is the total amount of waste and valuable materials			
Waste	Total amount generated	4,268t	(5.0%)
	Amount recycled	4,166t	(5.5%)
	Amount of landfill	4t	(-33.3%)
* Targets chemicals subject to notification under the PRTR Law			
Chemical Substances	Amount emitted	35.6t	(-40.6%)
	Amount transferred	10.9t	(-38.1%)
Greenhouse gases	CO ₂	396,457t-CO ₂	(0.1%)
* The total amount generated is the total amount of waste and valuable materials			
Waste	Total amount generated	21,874t	(-4.0%)



Initiatives for the Prevention of Global Warming

Eliminating waste and minimizing energy use serves as the foundation for preventing global warming.

Electricity accounts for approximately 95% of the energy used by the Stanley Group, and so in order to prevent global warming we consider it of the utmost importance to reduce our power consumption and curb peak power usage, while also promoting reduction initiatives.

Reduction Status for Emissions of CO₂

Both our domestic and overseas group companies achieved their basic unit targets in FY 2017

In FY 2017 net emissions of CO₂ by our domestic group companies increased by 1,130t-CO₂ compared to the previous fiscal year to come in at 56,835t-CO₂ (increase of 2.0% YOY). In terms of basic added value units, these companies made efforts to achieve our target of 77.2t-CO₂ /1 billion yen or less (reduction of 8% or more relative to FY 2009), which they achieved when this came in at 63.1t-CO₂ /1 billion yen (decrease of 24.8% relative to FY 2009).

Net emissions of CO₂ by our overseas group companies increased by 431t-CO₂ compared to the previous fiscal year to come in at 396,457t-CO₂ (increase of 0.1% YOY).

These companies made efforts to achieve our basic unit target of 325.3t-CO₂ /1 billion yen or less (reduction of 4% or more relative to FY 2013), which they achieved when this came in at 304.5t-CO₂ /1 billion yen (decrease of 10.1% relative to FY 2013).

Thus, in FY 2017 both our domestic and overseas group companies achieved their basic unit targets, continuing on from the previous fiscal year.

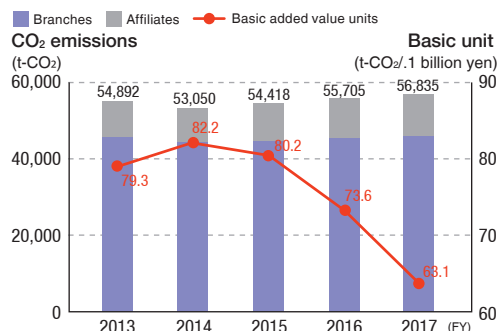
Domestic

The CO₂ emission basic unit for the usage side announced by the Federation of Electric Power Companies of Japan was applied for the calculations of the amount of CO₂ pertaining to electricity.

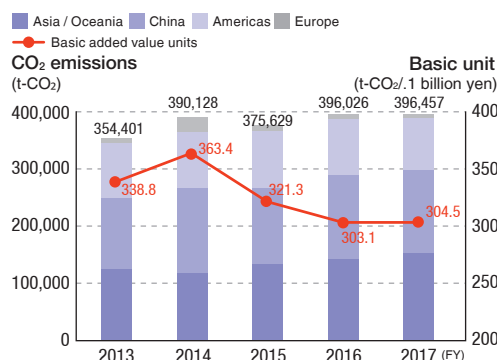
Overseas

The amount of CO₂ was calculated based on the Survey Report on Estimating Basic Units for CO₂ Emissions from the Power Sectors of Each Country – Ver.3 compiled by the Japan Electrical Manufacturers' Association

Changes in CO₂ Emissions and Basic Units (Domestic)

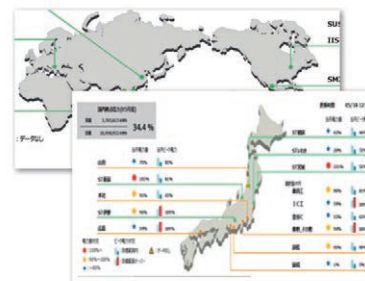


(Overseas)



Promoting energy conservation through the use of an integrated power monitoring system

The Stanley Group has adopted an integrated power monitoring system as a tool for our energy reduction activities. The system aggregates data on the amount of power used by 27 of our major production factories, including domestic and overseas group companies, and performs intensive monitoring of this in real-time. The main feature of this system is that it makes it possible to get a grasp of the current power consumption status at our domestic and overseas factories at a glance. It displays yellow and red signals that serve as monthly estimates to indicate whether the current status is on track or off-pace to hit the targets that have been established. Initiatives are taken for those bases where red warnings are displayed, such as checking on the status of energy-saving measures, considering additional measures, and enhancing patrols on non-working days. As such, this is used as a tool for taking action before the final results come in. Moreover, since this makes it possible to compare the actual results with those of other factories, it promotes exchanges of information on and the lateral deployment of measures that achieve results. Proactively promoting energy saving measures through the use of this tool allowed both our domestic and overseas companies to achieve their targets for FY 2017, continuing on from the previous fiscal year.



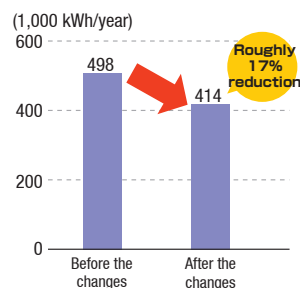
Initiatives for the Prevention of Global Warming

Initiatives geared towards moderating our energy use

Contributing to the prevention of global warming by optimizing energy use

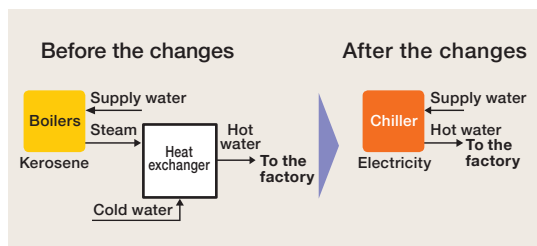
● Upgrading to energy-saving pumps

At our Hiroshima Factory, we upgraded the cooling tower's water pumps and motors to energy-saving models. For the pumps, we surveyed the volume of water they supply to ascertain this, and downsized them to their optimal size. By upgrading seven water pumps in this manner, we worked to reduce our power consumption by 84,000kWh per year. In addition, we adopted inexpensive systems that offered excellent durability via inverter-less control.



● Reducing the amount of water used and changing how it is supplied

At our Okazaki Factory, hot water boilers are used for the air conditioning system. Following the reconstruction of the building, the factory adopted a system that offers excellent energy-savings, thus halving the amount of hot water it used. In addition, by switching the conventional hot water boilers to chillers, the factory switched its energy source away from kerosene (which generates enormous CO₂ emissions) over to electricity, which led to cutting 56t-CO₂ per year (when compared based on the same amount of energy, kerosene emits 1.7-times more CO₂ than electricity does).



※ Chillers are a type of cooling equipment. While they give the impression that they produce cold water based on their name, equipment capable of producing hot water in addition to cold water exist as well. They run on electricity.

Chiller

● Promoting load reductions via countermeasures against heat loss

The Stanley Group works to save energy by taking countermeasures against heat loss.

When the heat generated by equipment is emitted indoors, it not only lowers the heating efficiency, but the increase in temperature also worsens the working environment and increases the energy consumed by the air conditioning system in order to keep this in check.

By way of countermeasures against heat loss, Suzhou Stanley Electric in China installed heat insulating material to curb the radiated heat loss. For the heat insulating material, due consideration was given to its thickness, wrapping method, material, and cost according to the conditions and characteristics of the equipment, based on which thorough and meticulous heat loss countermeasures were taken. As a result, the factory cut down on energy loss by 137t-CO₂.



Molding machine cylinders: 9 units
Driers: 3 units
Heat regulator hoses: 35 units



Red outlined section: Countermeasures against heat loss

Initiatives for Resource Recycling (Waste)

By way of resource recycling and waste reduction activities, at the development and design stages we curb the generation of waste by reducing the size and weight of our products, while at the manufacturing and disposal stages we implement measures like recycling activities through activities to improve yields and for sorting waste, while also working on zero emission activities to reduce landfill waste to close to zero.

Status for Reducing the Total Waste Generated

Both our domestic and overseas group companies achieved their basic unit targets in FY 2017

The amount of waste generated by our domestic group companies in FY 2017 increased by 203t compared to the previous fiscal year to 4,268t (increase of 5.0% YOY).

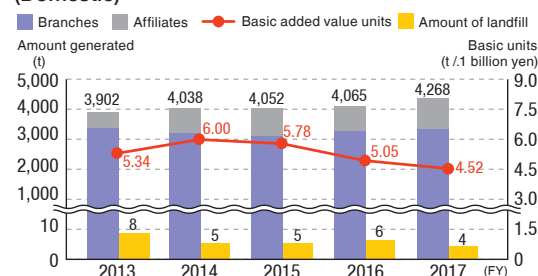
In terms of basic added value units, they worked towards our goal of 5.45t/1 billion yen or less (reduction of 5% or more relative to FY 2012) and reached it when this came to 4.52t/1 billion yen (decrease of 21.3% relative to FY 2012). What is more, their amount of landfill came to 4t, giving them a 0.10% landfill disposal rate and enabling them to continue to achieve zero emissions.*

The amount of waste generated by our overseas group companies decreased by 901t compared to the previous fiscal year to 21,874t (decrease of 4.0% YOY). They worked towards our goal for basic units of 19.8t/1 billion yen or less (reduction of 3% or more relative to FY 2014) and reached it when this came to 16.8t/1 billion yen (decrease of 17.7% relative to FY 2014).

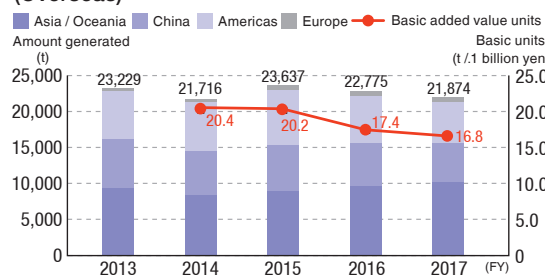
Thus, in FY 2017 both our domestic and overseas group companies achieved their basic unit targets, continuing on from the previous fiscal year.

* The value for our amount of landfill versus the amount of waste generated is less than 0.5% in terms of its ratio by weight

Changes in the Amount of Total Waste Generated and Basic Units (Domestic)



(Overseas)



Initiatives to Decrease Waste

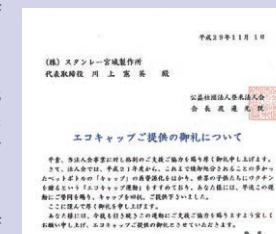
Results from day-to-day environmental improvements

Stanley Tsuruoka Works produces the LEDs used in our LED headlamps and on the display areas of copy machines and other equipment. Since LED chips are no larger than 3mm their circuit boards are also extremely small, and so we cut them by laying the circuit boards on a UV radiation sheet. By ascertaining the UV radiation conditions, we reduced the drop rate when cutting circuit boards in an effort to cut down on the inputted materials.

Moreover, another 64 environmental improvements were made on the production lines in question, which led to cutting down on defects and reduced waste by 564kg per year. The main points from these environmental improvements will be deployed horizontally, thereby promoting further reductions in waste.

The Stanley Group also carries out reduction activities by participating in community environmental activities.

Many of our branches, including three of our branches in the Yokohama District and Stanley Miyagi Works, take part in the Eco Cap Campaign. This is a campaign that contributes to society by collecting the caps of plastic bottles and using the proceeds obtained by recycling these caps to donate to having children vaccinated. It is an initiative that anyone can take part in. It also promotes the recycling of caps by sorting and collecting them, rather than disposing of them as waste via incineration, and so it contributes to reducing CO₂ from their disposal via incineration.



Initiatives for Resource Recycling (Water)

When it comes to water, we work to curb the amount of water we use and reuse it by means of water conservation through awareness-raising activities and reassessing our manufacturing processes.

Reduction status of water usage

Both our domestic and overseas group companies achieved their basic unit targets in FY 2017

Water usage by our domestic group companies in FY 2017 came to 390,000m³, an increase of 37,000m³ compared to the previous fiscal year (increase of 10.5% YOY).

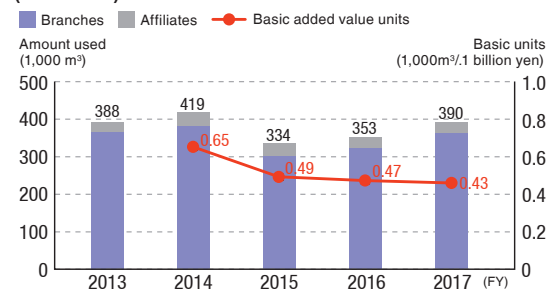
In terms of basic added value units, they worked towards our target of 650m³/1 billion yen or less (decrease relative to FY 2014) which they achieved by coming in at 430m³/1 billion yen (decrease of 33.4% relative to FY 2014).

Water usage by our overseas group companies came to 1,377 million m³, a decrease of 21,000m³ compared to the previous fiscal year (decrease of 1.5% YOY).

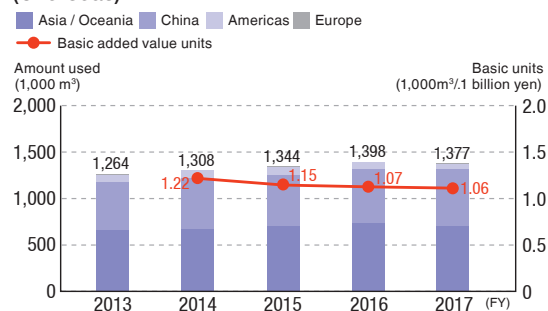
They worked towards our basic unit target of 1,220m³/1 billion yen or less (decrease relative to FY 2014) which they achieved by coming in at 1,060m³/1 billion yen (decrease of 13.2% relative to FY 2017).

Thus, in FY 2017 both our domestic and overseas group companies achieved their basic unit targets, continuing on from the previous fiscal year.

Changes in water usage and basic units (Domestic)



(Overseas)



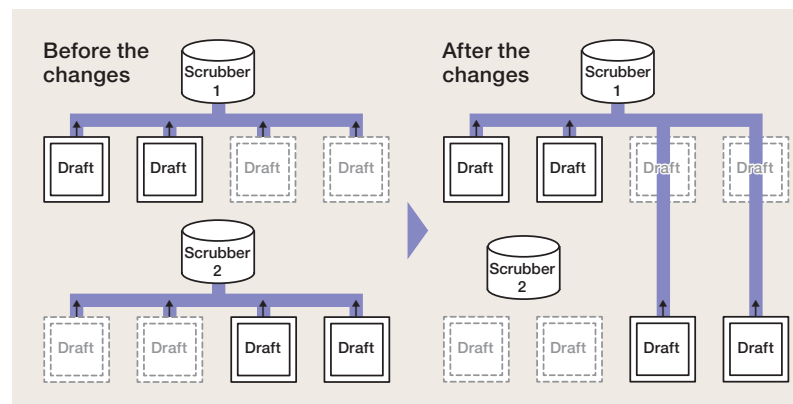
Initiatives to reduce our water usage

Improving the operation of scrubbers

Our Yamagata Factory uses wet scrubbers and draft chambers, which are types of local ventilation equipment, in order to remove toxic substances. With this system four draft chambers are connected to each scrubber, and traditionally dual line systems were used. But we recently reassessed their usage methods and changed how the draft chambers are connected to the scrubbers, altering this so that we could operate it as a single-line system. As a result, we reduced the amount of water used by the scrubbers by 3,000m³ per year, while also reducing power consumption by 67,000kWh a year.

*Scrubber: A scrubber is an equipment that purifies and uses filtration to remove the toxic substances found within exhaust gas.

*Draft chamber: In some cases, chemical substances and hazardous materials may combine and mix, thereby changing into new chemical substances that disperse in the form of gas or particles. Draft chambers are equipment that protect workers and workplaces from this.



Design for Environment

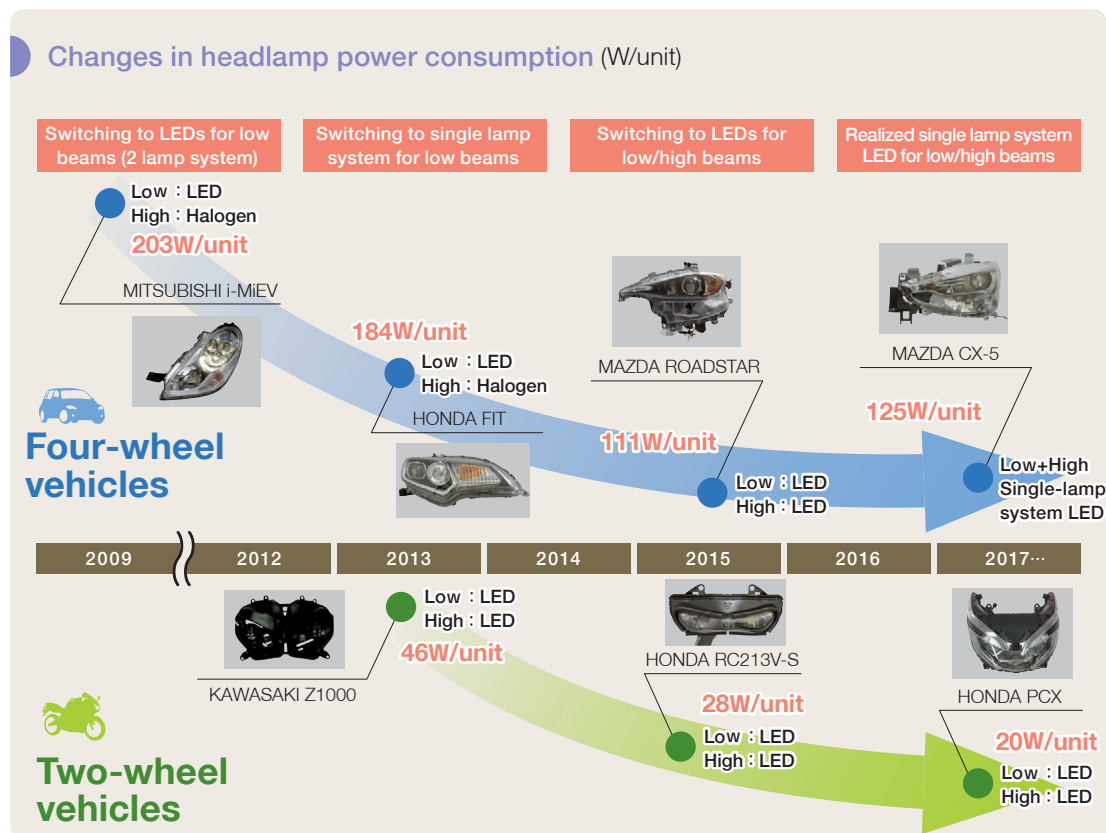
In order to minimize our impact on the environment to the extent possible and achieve the "creation of new values in harmony with the environment," we in the Stanley Group promote energy and resource conservation and the prevention of pollution over the entire life cycle of our products, while also working to cut down on our environmental impact globally.

Headlamps

Disseminating energy-saving LED headlamps

Our LED headlamps come equipped on a variety of different vehicle models, including electric, hybrid, gasoline, diesel, and other vehicle types. We have worked to reduce the energy used by our headlamps, with this including their light sources. What is more, we have also expanded the adoption of LEDs on two-wheel vehicles in an effort to disseminate the energy-saving effects from switching to LEDs.

For the future, we will achieve even greater efficiency with our headlamps, while also developing LED light sources that are optimally suited as headlamps and further promoting energy savings.



*Headlamp power consumption is measured not just for the low/high beams, but for the headlamp as a whole, including position lamps and turn signal lamps

Rear combination lamps

Energy savings from LED light sources

Since the year 2000, we have made progress on changing rear combination lamps, including tail lamps and stop lights, over to LEDs. Compared with conventional incandescent light bulbs, LEDs have achieved reductions in power consumption of roughly 90%.

In addition, we will continue contributing to cutting CO₂ by striving to conserve power through even more efficient use of light and by reducing the weight of our lamps.

Design for Environment

Life Cycle Assessment (LCA)

Promoting design for the environment through the use of a checklist

In order to promote the manufacture of products designed for the environment we use our Design for Environment Guidelines and apply them to the full range of our product design. We perform evaluations through the use of checklists in order to reduce our impact on the environment to the extent possible.

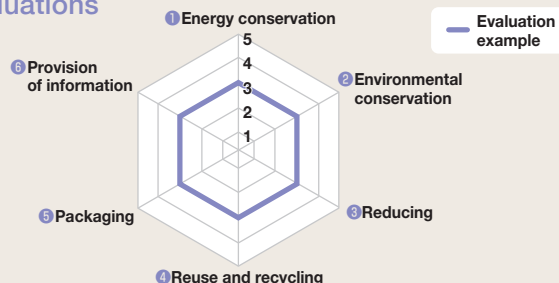
We revised our approach to evaluating these in FY 2017 and now use a six-item checklist that includes: ① **energy conservation**, ② **environmental conservation**, ③ **reducing**, ④ **reuse and recycling**, ⑤ **packaging**, and ⑥ **provision of information**. Our designers personally quantify and evaluate these in an effort to improve our environmental friendliness.

What is more, our checklists allow us to determine the CO₂ emissions given off in every step from the selection of the raw materials to the manufacturing of the product and its delivery to customers.

Overview of the Evaluations

Evaluations via Checklists

As indicated in the figure on the right, we perform quantitative evaluations for different items on a five-point scale in the aim of creating more products designed for the environment.



※Supplement to the evaluation items

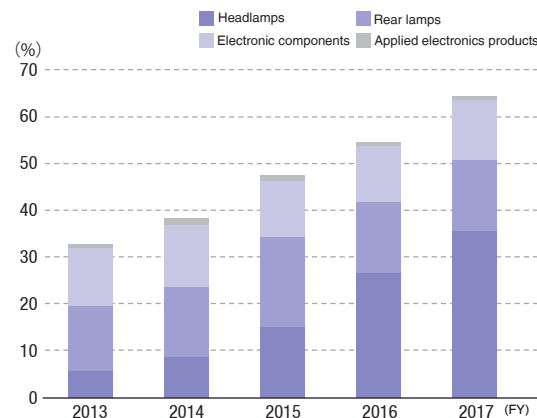
- ② **Environmental conservation:** We must meet standards like the REACH Regulations and RoHS Directive. But over and above these, we are aiming to meet our own, even stricter, voluntary standards.
- ⑥ **Provision of information:** We disclose environmental items that warrant attention as stipulated by law. On top of this, we aim to disclose information based on the guidelines of industry associations and the like.

Major Initiatives in FY 2017

- Based on the results from implementing our Design for Environment Checklist, which we have been evaluating since FY 2014, in FY 2017 we reassessed the evaluation items, details, and standards in order to produce products that are designed for the environment in a more effective and efficient manner.
- Using the Design for Environment Checklist allows us to evaluate all of our products by the same indicators to determine their strengths and weaknesses. Our domestic group companies have worked to improve their environmental friendliness as indicated below.

- ① Energy conservation:** Efforts were made to reduce power consumption during manufacturing via designs that cut down on the number of parts and improved assemblability.
- ② Environmental conservation:** We were able to confirm the replacement status for newly restricted materials via the management of substances of environmental concern.
- ④ Reuse and recycling:** Advances were made with design that gives consideration to allowing the identification of materials and sort these by thoroughly marking parts (labeling materials for identification).

Changes in the proportion of products designed for the environment



The percentage of our sales accounted for by products designed for the environment over the past five years is shown in the graph on the left. For FY 2017, headlamps using LEDs continued to increase, due to which the sales ratio of our products designed for the environment grew, and such products came to account for 65% of our products.

Scope 3

To date, the Stanley Group has determined and worked on reduction activities for Scope 1 and Scope 2, which represent emissions of greenhouse gases (GHG) for our company's section, from before, as well as "9. Transportation and delivery (downstream)," which is one of the items under Scope 3. This is done in an effort to prevent global warming and comply with regulations.

Since FY 2010, we have made efforts to determine "1. Purchased products and services," which is a supplier section under Scope 3. What is more, since FY 2015 we have been working to get a grasp of "6. Business trips" for employees and "7. Employee commuting," and since FY 2016 we have worked to determine the extent of our activities regarding "5. Waste from business activities," thereby increasing the number of survey categories as described below.

Moving forward, we will improve the accuracy of our calculations for each category to further promote reduction activities as we work to reduce our environmental impact across our supply chain as a whole.

Scope category			Emissions (t-CO ₂)		Subject to calculations
			FY 2016	FY 2017	
Scope 1			4,700	4,746	Direct emissions from the use of fuel internally
Scope 2			51,005	52,089	Indirect emissions from the use of electricity we purchased
Scope 3	1	Purchased products and services	38,567	46,621	Emissions from activities leading up to the use of raw materials, the materials used in parts, and so forth in manufacturing
	5	Waste from business activities	2,575	2,929	Emissions resulting from the transport and disposal of the waste we generate
	6	Business trips	1,877	2,096	Emissions from employee business trips
	7	Employee commuting	4,655	4,959	Emissions from travel when employees commute to and from their branch
	9	Delivery and transportation (downstream)	4,177	4,650	Emission from the transport and storage of products
Total for Scopes 1, 2, and 3			107,556	118,090	

Investments and Costs for Environmental Conservation Activities and Results

The Stanley Group determines the costs required for environmental conservation activities and the results obtained from these in order to promote environmental conservation activities efficiently and effectively. The values for FY 2017 for the domestic group companies are listed below.

By means of determining our environmental conservation results, we will continue to undertake capital investments that are efficient and effective and deploy business activities that give greater consideration to the environment on into the future.

Environmental conservation costs

(Million yen)

Category		Details of major initiatives	Investments	Costs
Business area costs	Pollution prevention costs	Air pollution prevention, water pollution prevention, noise / vibration prevention, other pollution prevention	151	31
	Global environmental conservation costs	Global warming prevention and energy savings, prevention of ozone layer depletion, and other forms of global environmental conservation	238	18
	Resource recycling costs	Waste disposal	0	146
Management activity costs		Costs related to EMS, monitoring / measurement, environmental education	0	4
Social activity costs		Donations to / support for organizations engaged in environmental conservation	0	1
Environmental damage response costs		Soil pollution countermeasures	0	59
Total			389	259

Environmental conservation results

(t-CO₂)

Item	Details	Results
Energy conservation	Energy conservation measures such as capital investments and operational improvements	3,337

Economic results from environmental conservation measures

(Million yen)

Item	Details	Results
Energy conservation	Cost savings from energy conservation measures	153
Resource conservation	Gains from the sale of waste that has been turned into valuables	101

※ Items with a "0" displayed in them indicate that they are below one million yen or not applicable.

Relations with Communities

As a member of society, the Stanley Group not only contributes to society through its business activities, but also makes efforts that enable us to maintain better relations with local communities. We also work to contribute to society through a variety of different activities, such as volunteer activities by our employees.

Environmental Communication

External Communication

The Stanley Group introduces people to things like our environmentally conscious efforts through our products via displays at exhibitions and venues for a diverse array of activities.

● Raising awareness of energy at events

We cosponsored and participated in Soene Akari Park 2017, which was held in Ueno Park for five days starting from November 1, 2017. This event combines Japan's newest energy generation / energy saving technologies with the latest in lighting technology with the objectives of giving people a feel for the bright, beautiful, fun future of light, while also having them take a greater interest in energy. Stanley deepened people's understanding of our environmental initiatives through efforts like displaying our floodlights, which were adopted for the light up displays at Niagara Falls, as well as pyramid-shaped light-based artworks.



Pyramid-shaped light-based artworks



Our company's tent, in which displays of our floodlights at Niagara Falls served as the main centerpiece

● Introduction to initiatives via environmental reports

Every year our Hamamatsu Factory takes part in the Exhibition of Environmental Reports Issued by Local Companies held at the Seibu Garbage Disposal Plant in Hamamatsu City (with the cooperation of the Shizuoka Industrial Waste Association), where said plant is located. By displaying our Environmental Report, which is an important tool for environmental communication between our company and society, we were able to deepen understanding regarding matters like our initiatives and consideration for the environment. Through these sorts of opportunities, we work to continue spreading the word on our environmental activities and fulfilling our corporate social responsibility when it comes to our initiatives for the environment.



● Conveying the importance of the global environment to children

Stanley Tsuruoka Works cosponsored and participated in the Tsuruoka Environmental Fair 2017 held in Tsuruoka City on September 24, 2017. The theme was "Join Forces: Moving from an Individual to a Collective Consideration for the Earth." The Stanley Group hosted a panel to introduce visitors to our environmental activities, and held displays of our headlamps and LED floodlights featuring our design for the environment. Our LED floodlights are equipped with the three primary colors for light, which gave the children an opportunity to learn about the changes in light as they played. This display garnered a great deal of interest from many of the visitors.



Internal Communication

Raising environmental awareness by sending out environmental information each month

We promote a work culture and human resource development that allows each and every employee of the Stanley Group to remain environmentally aware at all times and proactively engages in environmentally friendly conduct in all sorts of social, community, and corporate settings.

Starting from August 2016, we began newly issuing a publication called Green Information in an effort to raise environmental awareness. This is designed to provide our employees with an understanding of environmental protection activities and to serve as a reference for their day-to-day environmental activities.



Relations with Communities

Social Contributions

Initiatives for Biodiversity

The Stanley Group strives to improve the environment in communities by reducing our environmental impact by optimizing the amounts of energy and raw materials used, as well as by offering environmentally friendly products. These are just a few examples of how we work towards both biodiversity conservation through our business activities and social contribution activities like volunteering.

Community Environmental Activities

Taking part in social activities

Hosting Charity Events to Support Reconstruction from the Great East Japan Earthquake

● Hosting the Stanley Ladies Golf Tournament

Every year Stanley Electric sponsors the Stanley Ladies Golf Tournament, which is sanctioned by the Ladies Professional Golfers' Association of Japan.

For FY 2017 we carried on in holding this as the Assistance for the Reconstruction from the Great East Japan Earthquake charity program. The prize money of 9.96 million yen, which was based on the scores of the participating golfers, was donated to activities that provide assistance to children orphaned by the earthquake in Iwate, Miyagi, and Fukushima Prefectures. In addition, we also carried out various other environmentally friendly activities, such as sorting garbage at the venue and donating the equivalent of 9,940 saplings to the Shizuoka Prefecture Forest Union Association.



Community and Home Initiatives

Carrying out clean-up activities in different regions with community members

● Clean-up Activities



Hatano Factory –
Clean-up activities along
the Mizunashi-gawa River
sponsored by Hadano City
Hall



Hamamatsu Factory –
Lake Hamana Cleanup
Campaign sponsored by
Honda



Okazaki Factory –
Volunteer clean-up
activities for Okazaki City
roads



Stanley Ina Works –
Clean-up activities along
the Tenryu River



**Three branches in the
Yokohama District**



**Utsunomiya Technical
Center**



Stanley Iwaki Works



**Shenzhen Stanley Electric
(China)**



**Tianjin Stanley Electric
(China)**