

2021

Safety & Environmental Report



TAIYO YUDEN

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Editorial Policy

Why this Report was Published	The Taiyo Yuden Group strives for perpetual growth while fulfilling its corporate social responsibilities. Making efforts toward improving safety and the environment is an important social responsibility at Taiyo Yuden, so we promote such activities on a global scale. Every fiscal year, we publish a Safety and Environmental Report presenting our goals, our efforts, major results, and other details in a comprehensive yet easy to understand format.
Intended Readership	This publication assumes a target readership consisting not just of customers and clients, but also local communities in the vicinity of our sites, stockholders, investors, people involved in environmental activities or occupational health and safety, NPOs, NGOs, students, group employees, and a wide range of other stakeholders. We also publish this English version to make the contents available to readers overseas.
Referenced Guidelines	This report follows the Environmental Reporting Guidelines (2018 edition) issued by the Japanese Ministry of the Environment. We have listed the core indicators of environmental performance while referring to the GRI standard. Mixing in charts and figures, it outlines the Taiyo Yuden Group's environmental impact describes our management systems, spotlights current issues and reports on specific measures for improving that impact.
Publication on our Website	This report is published on the Taiyo Yuden website, in consideration of effective use of resources, etc. We hope that this report will help you gain a deeper understanding of our environmental, health, and safety activities, and be used as a reference for making an objective judgment of the Group. Reference: The Taiyo Yuden website https://www.yuden.co.jp

Scope of Disclosure

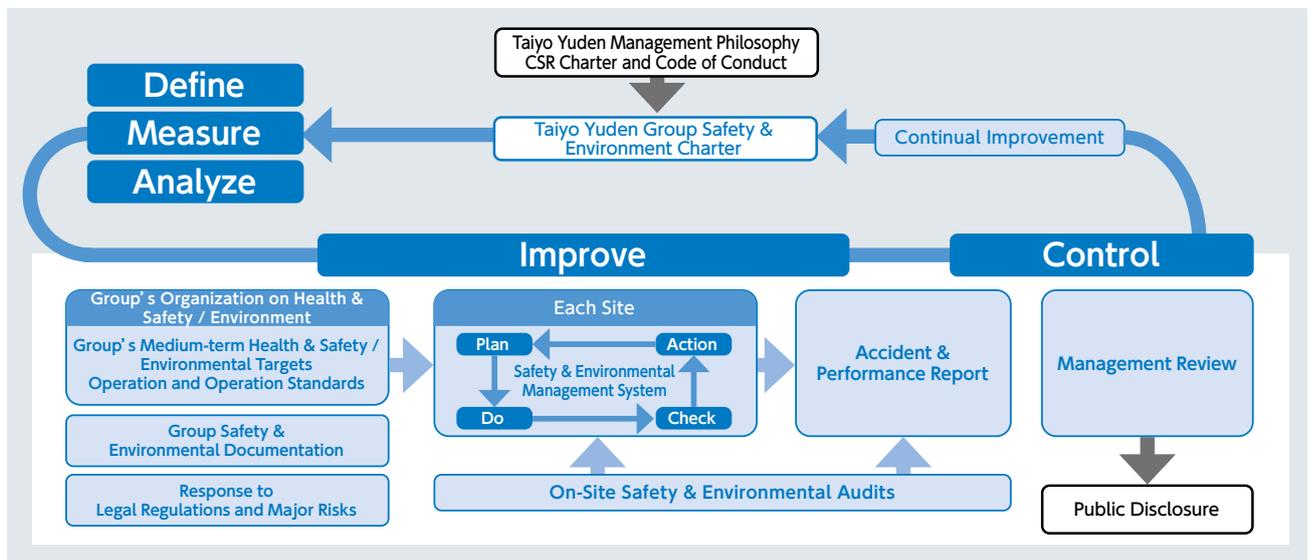
Organizations Covered by this Report	This report covers TAIYO YUDEN CO., LTD. and its domestic and overseas subsidiaries. Safety and environment data covers the following Taiyo Yuden Group members: six domestic sites, ten domestic consolidated subsidiaries, and six overseas consolidated subsidiaries. [Within Japan] TAIYO YUDEN CO., LTD. Takasaki Global Center / Haruna Plant / Nakanojo Plant / Tamamura Plant / Yawatabara Plant / R&D Center / (Hongo Photovoltaic Power Plant) Consolidated Subsidiaries TAIYO YUDEN CHEMICAL TECHNOLOGY CO., LTD. / TAIYO YUDEN TECHNO SOLUTIONS CO., LTD. / FUKUSHIMA TAIYO YUDEN CO., LTD. / NIIGATA TAIYO YUDEN CO., LTD. / TAIYO YUDEN ENERGY DEVICE CO., LTD. / WAKAYAMA TAIYO YUDEN CO., LTD. / TAIYO YUDEN Mobile Technology Co., Ltd. / Kankyo Assist Co., Ltd. / ELNA CO.,LTD. / ELNA TOHOKU CO.,LTD. [Outside Japan] Consolidated Subsidiaries South Korea: KOREA TONG YANG YUJUN CO., LTD. China: TAIYO YUDEN (GUANGDONG) CO., LTD. Philippines: TAIYO YUDEN (PHILIPPINES), INC. Malaysia: TAIYO YUDEN (SARAWAK) SDN. BHD. Thailand: TANIN ELNA CO., LTD. Malaysia: ELNA-SONIC SDN. BHD.
Period Covered by this Report	This Report focuses on our performance from April 1, 2020 to March 31, 2021 (Date of any activities which have taken place outside this period are specified).
Date of Issue	July 2021 (Previous Issue: July 2020; Next issue scheduled for July 2022)

Safety and Environmental Management System 2-1

Our group-wide Safety and Environmental Management System keeps individual activities proceeding toward common goals under a common philosophy.

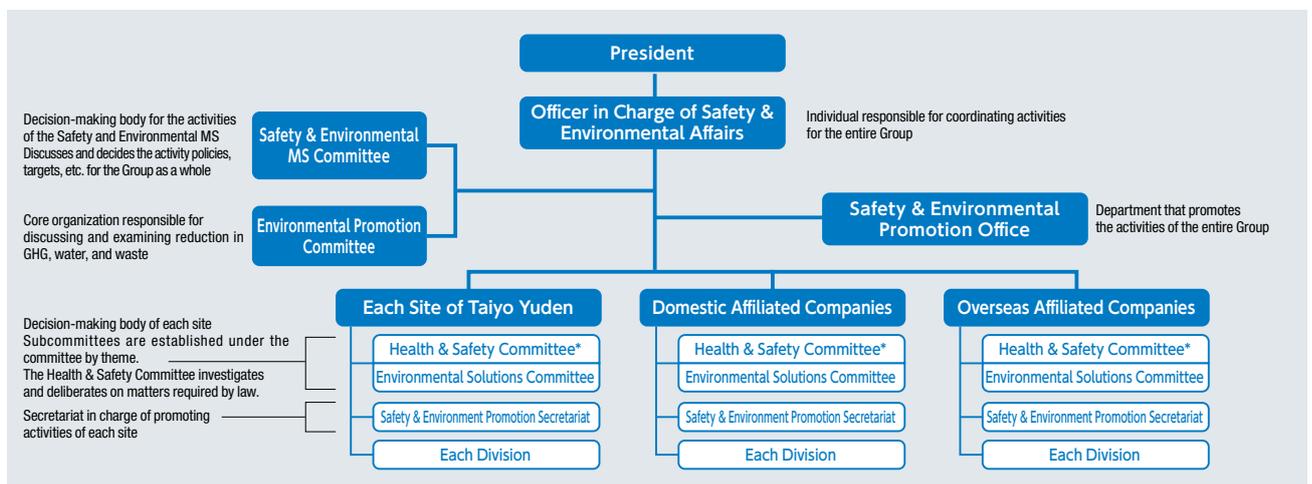
System Overview

This management system consists of long- and short-cycle activities. In the long-cycle activities, which are designed for the entire group, we are making continuous improvements based on common goals and criteria by checking achievements based on reports about site audits and from sites and by reviewing the management system. For site-specific short-cycle activities, we have an ISO 14001-compliant management system and the Occupational Health and Safety Management System (OHSMS) in place.



Promotion Structure

The officer in charge of safety and environmental affairs appointed by the President has overall responsibility for building and managing the promotion structure for Taiyo Yuden's Safety and Environmental Management System. The Safety and Environmental MS Committee, the Environmental Promotion Committee debate and decide policies and issues to be addressed. Each manager of sites then converts his/her decisions into actual plans matching the characteristics of each site, and takes charge of publicizing, enforcing and promoting these concrete targets.



* The Health & Safety Committee consists of representatives selected from among management and employees.
 * MS stands for the management system.

Safety and Environmental Management System 2-2

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Certification Acquisition Status

The Taiyo Yuden Group is ISO 14001 certified for its production sites and development centers. In addition, we address corporate responsibility in the global supply chain, and the group undergoes the Validated Assessment Program (VAP) audits by the Responsible Business Alliance (RBA) on a continuous basis in line with the set plan.

List of Certifications Acquired

Location	Name of Sites	Acquired ISO14001 Certification	Certification authorities
Japan	TAIYO YUDEN CO., LTD. Takasaki Global Center, Haruna Plant, Nakanojo Plant, Tamamura Plant, Yawatabara Plant, R&D Center TAIYO YUDEN CHEMICAL TECHNOLOGY CO., LTD. TAIYO YUDEN TECHNO SOLUTIONS CO., LTD. FUKUSHIMA TAIYO YUDEN CO., LTD. NIIGATA TAIYO YUDEN CO., LTD. TAIYO YUDEN ENERGY DEVICE CO., LTD. WAKAYAMA TAIYO YUDEN CO., LTD. TAIYO YUDEN Mobile Technology Co., Ltd. ELNA TOHOKU CO.,LTD.	4270140 (as of Oct. 1998) Collectively certified in Japan	BV
South Korea	KOREA KYONG NAM TAIYO YUDEN CO., LTD.	KR002580 (as of Mar. 2002)	BV
China	TAIYO YUDEN (GUANGDONG) CO., LTD.	CNGZ302307-UK (as of Dec. 2001)	BV
Philippines	TAIYO YUDEN (PHILIPPINES), INC.	PH13/0920.00 (as of Nov. 2001)	SGS
Malaysia	TAIYO YUDEN (SARAWAK)SDN. BHD.	EMS00226 (as of Oct. 2002)	SIRIM
	ELNA-SONIC SDN. BHD.	17318-E (as of Dec. 2003)	Kiwa
Thailand	TANIN ELNA CO., LTD.	04 104 990506 (as of Mar. 2004)	TUV

Safety and Environmental Audits

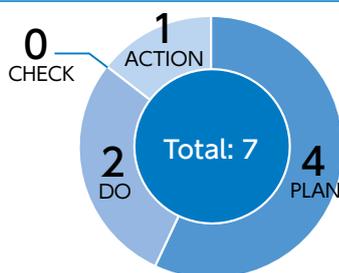
Triple audits evaluate each site's compliance, accident risk management, and the environmental impact situation aimed at producing continuous improvement.

External Audits

ISO14001 certification audits by certification authorities

Sites with ISO14001 certification underwent the audits required to update or maintain such certification. These audits uncovered 7 nonconformities. The root causes were analyzed and corrective action was promptly taken in response to each issue. The nonconformities were minor issues relating to our management systems, and were not directly linked with environmental pollution or occupational accidents.

Number of Nonconformity Instances Found with External Audits



Nonconformity Examples

Nonconformity Examples and Details

When identifying environmental aspects, some were overlooked.

The regular inspection of an unused spot air-conditioner had not been conducted.

Corrective/Improvement Measures

The regulation for environmental impact assessment was reviewed, and environmental aspects were identified.

The rule that unused air-conditioners shall also be inspected regularly was known to all sections through the committee, this was incorporated in the evaluation of compliance items, and checkups were conducted monthly.

The RBA-VAP audits for FY2020 have been completed in four domestic sites and one overseas sites.

Internal Site Audits

Audits of site safety and environmental activities at regularly scheduled intervals allow us to compare sites.

Domestic sites: Once every two years
Overseas sites: Once every three years

In FY2020, we performed site audits to examine the status of compliance with customer requirements, and items that include changes in safety and environmental requirements of the RBA code of conduct, as well as the requirements of ISO 45001 (the Occupational Health and Safety Management System) added to the Safety and Environmental Management System in January 2020. In each audit, auditors checked documents and performed on-site audits concerning matters such as (1) customer requirements/ RBA requirements: necessary approvals and licenses, risk management against potential hazards, emergency preparedness, and management of chemical substances and waste materials; and (2) the ISO 45001 requirements: participation in consultations, addressing risks and opportunities, management of inside contractors and visitors from the outside. The audits revealed inadequacies in areas such as lockout-tagout management, emergency equipment management, and SDS (Safety Data Sheet) management. Countermeasures were implemented and validated for inadequacies found during the site audits. We aim to improve the level of health, safety, and environmental protection activities for the whole group by globally incorporating societal requirements in a timely manner and sharing the results after benchmarking products from all sites.

Issue Examples

The list of equipment subject to lockout-tagout was an old version.

Things were placed near an emergency shower.

The latest versions of SDS's were not managed in a timely manner.

Internal Audits

Audits targeting site departments on observance of safety and environment laws, target achievement, and performance.

Once or twice every year

All sites conducted internal audits of their departments in accordance with their management systems. Priority areas were determined for each site, and 54 nonconformities were uncovered as a result of conducting internal audits (at sites in Japan). Corrective action was completed in all cases without delay, and after a follow-up check, it was reported to the managers that the management system has been effective in complying with the Taiyo Yuden Group's policies and goals.

Other Audits

On-site inspection of waste disposal contractors (Sites in Japan)

During FY2020, we inspected and audited 10 companies (three collection, delivery and intermediate processing companies; and seven intermediate processing companies). The travel restrictions due to the Covid-19 pandemic prevented us from auditing some contractors on site. We changed the audit procedures to self-audits for them using documents and photographs (for six contractors). As a result, it was confirmed that all inspected operators are processing and disposing of waste appropriately. The operators have been classified into three ranks from the results of these inspections, with the frequency of future inspections varying depending on the rank of the operator.

Safety and Environmental Risk Management

05

Various types of regularly scheduled training are implemented to respond to sudden accidents, disasters, and other risks, with the objectives of early discovery, rapid response, prevention and mitigation. The Taiyo Yuden Group reconfirms appropriate procedures and strives for continuous improvement.

Firefighting Training



Yawatabara Plant/TAIYO YUDEN TECHNO SOLUTIONS
Conducted a fire extinguishing training using fire pumps. (November 2020)



TAIYO YUDEN CHEMICAL TECHNOLOGY
Conducted an early-stage fire extinguishing training using fire extinguishers. (October 2020)



KOREA KYONG NAM TAIYO YUDEN
Conducted training on handling fire extinguishers under the guidance of the fire department. (October 2020)

Emergency Training for Spillage of Chemical Substances



R&D Center
Conducted training on isolating a gutter and collecting a chemical substance for a scenario in which a chemical substance has leaked into a gutter. (February 2021)



TAIYO YUDEN (GUANGDONG)
Conducted training on preventing a chemical substance from spreading for a scenario in which a chemical substance has leaked during transportation. (July 2020)



TANIN ELNA
Conducted training on collecting a leaked chemical substance. (December 2020)

Evacuation and Medical Emergency Training



Takasaki Global Center
Conducted a drill on transporting injured persons using chair-type stretchers. (October 2020)



FUKUSHIMA TAIYO YUDEN
Conducted an evacuation drill for the occurrence of an earthquake at night. (March 2021)



ELNA-SONIC
Conducted lifesaving training using cardio-pulmonary resuscitation and an AED. (July 2020)

Removing Soil Contamination

Ishikawa Plant of ELNA Tohoku inspected and implemented measures in accordance with the Soil Contamination Countermeasures Act.

Environmental Accidents

No accidents that could affect the surrounding environment have occurred.

Measures for Prevention of Fire and Explosion

We have established our own voluntary standard on the three elements of combustion (combustibles, oxygen, and heat sources) as prevention measures for fire and explosion, and we implement measures and conduct management accordingly. In addition, we conduct training on firefighting/evacuation every year in preparation for the breakout of a fire. No fire or explosion has occurred.

Employee Enrichment through Safety and Environmental Training

We provide a variety of training programs covering both general and specialized knowledge to promote employees' awareness of preventing occupational injury and illness, as well as active participation in environmental conservation.

Training Structure

Name	Category	Purpose	Main Subjects	
General Training	Awareness	Training for new recruits	Raising new recruits' awareness of occupational health and safety and environmental preservation, and ensuring they understand environmental problems pertinent to companies	General theory of Safety and Environment / Status of Safety and Environment at the Taiyo Yuden Group
		General training	Deepening all employees' understanding of the Taiyo Yuden Group Safety and Environment Charter and Course of Action and teaching them the skills to act accordingly	Management system (including the Safety and Environment Charter) / Mental health
		Workplace training	Understanding potential hazards and environmental impact with regard to divisional health and safety/environmental activities and work	Division activities / Matters for compliance in work
Health & Safety Training	Abilities	Training for managers, instructors and supervisors	Deepening understanding of the role of the duty for employee safety required by legal regulations and teaching foremen skills to instruct their subordinates regarding health and safety.	Role of the General Manager of Health and Safety / Role of management / Role of foreman / Chemical substance management / Hazardous material management
		Training for specialists	Teaching of specialized skills to operators of forklifts, cranes, and other heavy equipment, as well as managers of processes that handle organic solvents and the like, and employees involved in these tasks	Workplace restricted duties / Training for specific tasks / Prevention of static electricity accidents
		Training for risk assessors	Teaching the skills to recognize risks and creating a safe and sanitary workplace	Risk assessment / Health and Safety targets / Cases of Health and Safety accidents and their countermeasures
Environmental Training	Abilities	Training for specialists	Teaching special skills to managers and relevant employees involved with equipment and facilities for which a legal notification is required	Management to prevent deterioration of water quality / Management to prevent air pollution / Waste management
		Specialized training	Training skills to integrate business activities with environmental activities in order to balance an improvement in our environmental impact with improved resource productivity	Chemical substances and their environmental impact / Environmental targets / Cases of environmental improvements / Causes of environmental accidents and their countermeasures

Training Examples

General Training

Holding events associated with health and safety

At all sites, we hold various events associated with health and safety, providing employees with opportunities to raise their awareness and improve their skills. For example, we conducted driving aptitude assessment and exercise seminars aiming at building bodies strong enough to avoid falling.



Driving aptitude assessment



Exercise seminar

Occupational Health and Safety Training

Training on forklift driving safety

External instructors conducted training on how to drive and inspect forklifts.



Training on forklift driving safety



Machine safety training

Machine safety training

We emphasized the importance of machine safety to all the machine design/installation staff and provided them with training on risk assessment and measures based on the Group's machine safety standard.

Environmental Training

Training for the managers of wastewater treatment facilities

We provided the managers of wastewater treatment facilities with training on the mechanisms used in wastewater treatment facilities and emergency responses.



Training for the managers of wastewater treatment facilities



Training on rainwater discharge management

Training on rainwater discharge management

We provided training on rainwater management such as contamination prevention measures for rainwater side ditches, rainwater paths and rainwater measurement procedures, and regular inspection/emergency response procedures.

Environmental Accounting

07

The Taiyo Yuden Group promotes an effective environmental management by adopting environmental accounting to make clear what resources our domestic sites apply to their environmental preservation activities.

Environment Maintenance Costs

Type of cost	Expenses (million yen)	Investment (million yen)	Main items	
Business unit area costs	1,625	364		
Breakdown	Pollution prevention	1,069	213	Monitoring and measurement of atmosphere, water quality, noise, vibration, and soil; preparations for and responses to emergencies
	Conservation of global environment	49	49	Ozone depleting substance emission reduction, water quality improvement, exhaust gas purification, resource conservation
	Cost for global warming prevention	86	102	Greenhouse gas emission reduction, energy conservation
	Resource recycling costs	421	0	Waste management, and outsourcing of waste treatment; reduction of waste; recycling
Upstream / downstream business activities	10	—	Activities to improve the environmental impact of products, green procurement	
Management activity costs	472	—	Building and operating an EMS; surveillance audits; environmental training; costs for operating secretariat; department operations costs	
R&D	292	—	R&D costs to improve the environmental impact of product processes etc.	
Social activities	22	—	Donations to environmental groups; participation in communities' global environmental preservation events	
Response to environmental damage	1	—		
Total	2,422	364		

Environment Maintenance Effectiveness

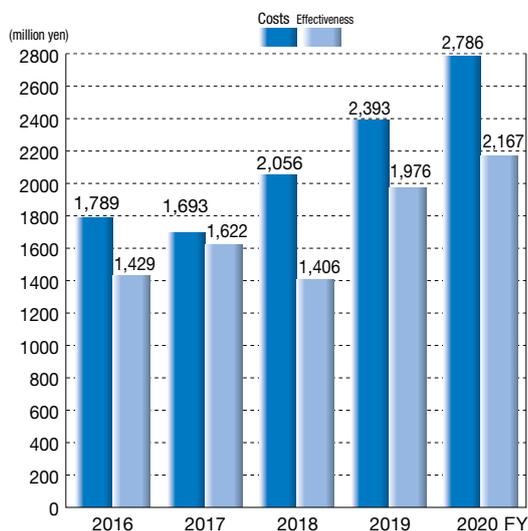
We calculate the economic effects only for those activities clearly improving our environmental impact.

Type of effectiveness	Economic effect (million yen)	Effects on amounts*	Main items
Energy saving	85	1,330kL	Improvement in productivity; improvement in energy management method
Conservation of resources	33	45t	Reduction in amount of chemical substances used through improvement in process yield etc.
Reduction in waste, and recycling	2,049	3,736t	Improvement in recycling rate
Total	2,167		

*"Effects on amounts" indicate the calculated difference with the case where no activities are conducted to improve our environmental impact.

* No penalties related to the environment have been paid.

Trends in Environmental Accounting



Environmental Accounting Standards

- The sum total of the costs for complying with environment-related laws and regulations, the costs incurred purely for the purpose of improving our environmental impact, and the EMS operation costs are calculated. However, in cases where environmental preservation costs partially overlap the costs for other purposes, the latter shall be deducted and the balance shall be applied.
- Depreciation costs shall be the current fiscal year's depreciation expenses at the environmental conservation facilities.
- If a clear-cut distinction cannot be made between the environmental cost and that for other purposes, if 50% or more of the content is environment-related, the full amount can be counted as the environmental preservation cost.
- The cost-effectiveness by saving energy is yielded from the reduction of either the rated dissipation or the operating time or both.
- The cost-effectiveness by reducing and recycling waste is calculated as follows:

Lowered costs through reducing waste and recycling =
[Unit cost of waste treatment in the prior fiscal year (JP¥/ton) – Unit cost of waste treatment in this fiscal year (JP¥/ton)] × Amount of waste generated (tons)

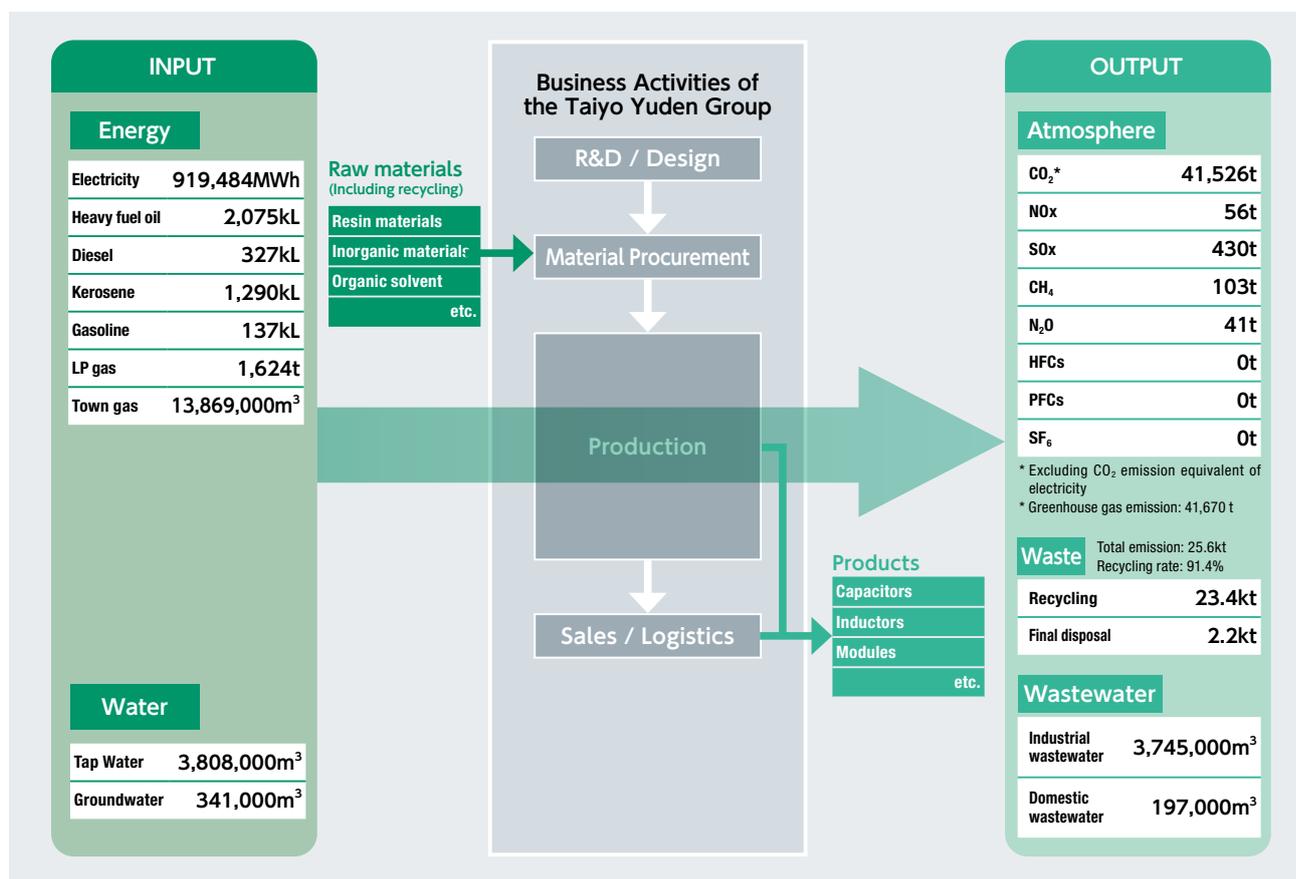
Determining Environmental Impact of Corporate Activities

Detailed understanding and analysis of the environmental impact of corporate activities is a prerequisite to devising various measures to improve this.

FY2020 Material Balance

The Taiyo Yuden Group primarily produces electronic components for delivery to our customers, set manufacturers. These electronic components have a life cycle with only a small environmental impact during use. The bulk is during production, with the main environmental impact arising from energy and water consumption, emissions (including CO₂) in the course of manufacture, waste and wastewater. The Taiyo Yuden Group is striving to improve our environmental impact by first identifying and analyzing in detail this environmental impact and then taking such measures as minimizing the resources applied and conserving other energy and resources by improving production processes. The Taiyo Yuden Group products are used in electrical and electronic equipment, automobiles, and other products which become waste once their product lifetime is over. We are therefore also striving to remove hazardous substances from these products.

* This includes the results of the four ELNA companies that have been our consolidated subsidiaries since FY2020.



Reasons for Changes from FY2019

In FY2020, electricity, kerosene and city gas usage increased due to the increase of production volume.
In addition, diesel usage increased because generators were used as a flood countermeasure in FUKUSHIMA TAIYO YUDEN.

Achievement Levels for Medium-Term Environmental Targets

We set medium-term environmental targets for the Group, and all sites pursue environment impact improvement.

Taiyo Yuden Group Environmental Targets and Results

We set targets to improve our environmental impact over the five-year period from FY2016 to 2020. The medium-term targets are divided into division, site, and department basis and each unit target is incorporated with the operations.

Medium-Term (FY2016 to FY2020) Environmental Targets			Achievements	Evaluation
Environmental risk management	Global	Compliance with applicable environmental laws and regulations	All applicable legal requirements are satisfied	○
		Maintain zero accidents that affect the ecosystem and carry out ongoing training	No accident has occurred that may affect an ecosystem. We are regularly conducting emergency training.	○
Contributing through environmentally friendly products	Global	Develop "smart products"	We are continuously developing downsized products and other smart products that help alleviate environmental impacts.	○
		Reduce environmental impact per each product	We have reviewed the production conditions, methods, and equipment to reduce the environmental load per product.	○
		Regulatory compliance for chemicals contained in products (RoHS, ELV, REACH)	Requirements for the amounts of chemicals contained in products are satisfied.	○
Curbing global warming	Global	5% improvement in "average energy consumption per unit" (weighted average by business unit) over FY2016-FY2020 compared with FY2011-FY2015	In FY2016 and FY2020, we achieved a 22.4% increase on average over the target of 5%.	○
Preserving biodiversity Effective use of resources by "Reducing" consumption	Global	5% improvement in "average waste generation per unit" (weighted average by business unit) over FY2016-FY2020 compared with FY2011-FY2015	In FY2016 and FY2020, we achieved a 11.8% increase on average over the target of 5%.	○
		5% improvement in "average water use per unit" (weighted average by business unit) over FY2016-FY2020 compared with FY2011-FY2015	In FY2016 and FY2020, we achieved a 27.3% increase on average over the target of 5%.	○
Preserving biodiversity Effective use of resources by "Reuse" and "Recycling"	Global	10% improvement in "average final disposal volume per unit" (weighted average by business unit) over FY2016-FY2020 compared with FY2011-FY2015	In FY2016 and FY2020, we achieved a 37.3% increase on average over the target of 10%.	○
	Japan	Recycle 99.5% of waste or more	In fiscal 2020 alone, we achieved a 99.6% increase over the target 99.5%.	○
Preserving biodiversity Nature conservation in local area	Global	Continue to carry out nature conservation activities in local area (in forests etc.)	We have continuously carried out activities for planting trees and preserving the Taiyo no Mori forest and Taiyoyama Mountain.	○

* Weighted average: An average in which each quantity to be averaged is assigned a weight.

Results of Taiyo Yuden Group's Medium-Term Activities

Because of the past ten years of energy/resource saving with the "Half Impact For Earth" activities, the FY2020 performance compared to FY2008 shows a 55% reduction in average energy consumption per unit, a 50% reduction in average waste generation per unit, and a 63% reduction in average water use per unit, which means we have achieved a reduction of at least 50%.

New Medium-Term Environmental Targets

10

FY2020 is the final year of the medium-term environmental targets, so we set new medium-term environmental targets.

Taiyo Yuden Group's Effort Items for the New Medium-Term Environmental Targets and Target Values

"Strengthening responses to climate change" and "efficient use of resources and contribution to the construction of a recycling-based society" have been set as the materialities of environmental efforts. Especially for climate change, a global issue, we set targets to achieve carbon neutrality in 2050. In order to achieve the targets, we will carry out thorough energy saving, energy generation, and energy renewal while propelling manufacture based on the principle of decarbonization.

To reduce the absolute value of GHG emissions, we set target values in accordance with the SBT (Science-Based Targets).

New Medium-Term Environmental Targets

Efforts	Subjects	Medium-term targets
Prevention of global warming	Global	GHG absolute emissions Reduction by 25% in FY2030 * compared to FY2020
Biodiversity conservation Effective use of resources by reducing consumption	Global	Average waste generation per unit (sales amount) Reduction by 10% in FY2025 * compared to FY2020
		Average water use per unit (sales amount) Reduction by 10% in FY2025 * compared to FY2020
Biodiversity conservation Cyclic use of resources by reuse and recycling	Japan	Waste final disposal volume rate 0.1% annually
	Outside Japan	Waste final disposal volume rate 12% annually
Biodiversity conservation Nature conservation activities in local areas	Global	Continue nature conservation activities in local areas (such as forests).
Environmental risk management	Global	Compliance with applicable environmental laws and regulations
		Maintain zero accidents that affect the ecosystem and carry out ongoing training.
Contribution through environmentally friendly products	Global	Development of smart products
		Regulatory compliance for chemicals contained in products (RoHS, ELV, REACH)

Curbing Global Warming

There are three categories for greenhouse gases (GHG) emitted during the course of business activities: Direct emissions from use of energy (SCOPE 1), Indirect emissions from energy use (SCOPE 2) and Indirect emissions other than from energy use (SCOPE 3). GHG emissions cannot be easily measured, so we concentrate on energy use and reducing energy consumption.

Results of Efforts to Reduce Greenhouse Gases and Energy Consumption

In FY2020, the amount of GHG emitted by the entire group increased by 52,000 t-CO₂e compared to FY2019. Specifically, the domestic sites increased their emissions from 200,000 t-CO₂e in FY2019 to 227,000 t-CO₂e, and overseas sites increased theirs from 232,000 t-CO₂e in FY2019 to 257,000 t-CO₂e (see G1). The amount of energy used by the entire group increased by 2,500 kL compared to FY2019. Specifically, sites in Japan increased their usage to 117,000 kL from 102,000 kL in FY2019. Overseas sites increased theirs from 128,000 kL in FY2019 to 138,000 kL (see G2).

Energy usage is broken down into 91% for SCOPE 2 and 9% for SCOPE 1 (see G3). Improvement in energy intensity, which we aim to achieve in the medium term environmental target, was 22.4% on average for FY2016–FY2020 (see G4). We will continue to review production processes with a focus on core products to further improve the production efficiency and lower energy usage.

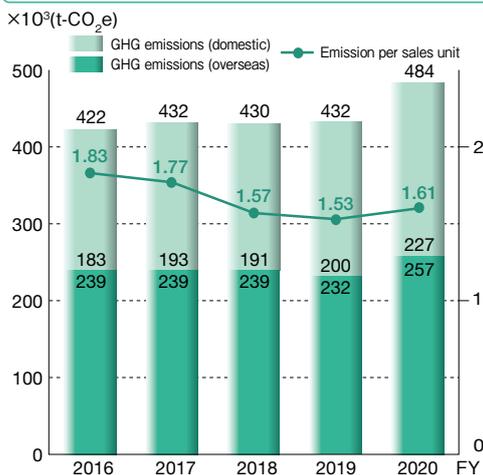
* Changes in the conversion factor have a major impact on GHG calculations, so the medium environmental targets were set according to energy consumption (crude oil equivalent), a factor that has measurable results.

* The following conversion factors were used for these calculations. [Electric power] Japan: factors released by the Ministry of the Environment; overseas: factors provided by the International Energy Agency (IEA); [Fuel] Japan/overseas: factors released by the GHG Protocol.

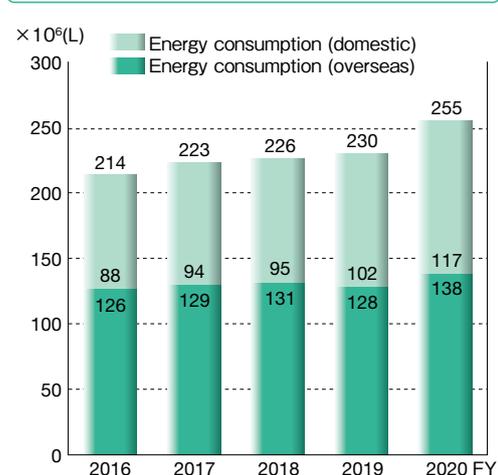
* Past GHG emissions have been corrected after reviewing the electricity-CO₂ conversion factor.

* This includes the results of the four ELNA companies that have been our consolidated subsidiaries since FY2020.

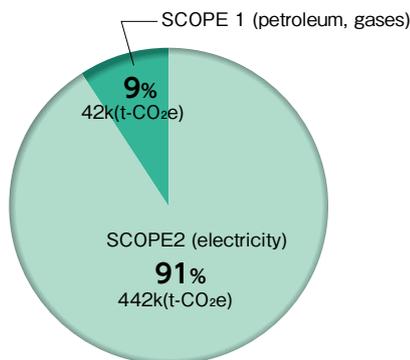
G1: GHG Emissions (calculated from total energy consumption)



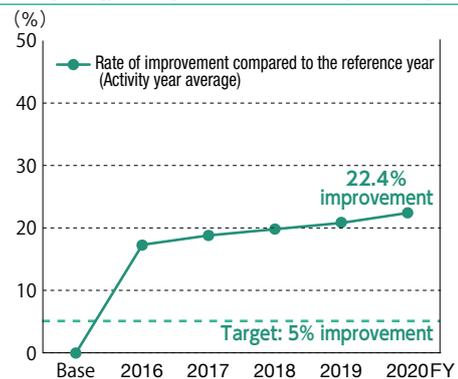
G2: Energy Consumption (crude oil equivalent)



G3: Breakdown of Energy Consumption (crude oil equivalent)



G4: Average Energy Consumption Per Unit (results compared to target)



Efforts on Indirect Emissions Other than from Energy Use (SCOPE 3)

In recent years, there has been an increasing demand from our stakeholders to disclose information on SCOPE3 emissions, in addition to information on SCOPE1 and SCOPE2 emissions. In order to respond to such a demand, we are striving to keep track of our SCOPE3 emissions.

category1	Purchased Goods and Services	392,102	t-CO ₂ e		category6	Business travel	340	t-CO ₂ e	domestic sites
category2	Capital goods	122,262	t-CO ₂ e		category7	Employee commuting	7,656	t-CO ₂ e	domestic sites
category3	Fuel- and energy-related activities(not included in scope 1 or scope 2)	19,286	t-CO ₂ e		category8	Upstream leased assets	0	t-CO ₂ e	Included in SCOPE2
category4	Upstream transportation and distribution	42,950	t-CO ₂ e		category10	Processing of sold products	11	t-CO ₂ e	
category5	Waste generated in operations	7,559	t-CO ₂ e	domestic sites	category12	End-of-life treatment of sold products	158	t-CO ₂ e	

Reducing Waste / Preserving Water Resources 2-1

We strive to reduce environmental effect on biodiversity while coexisting with nature, and we use the 3Rs (reduce, reuse, recycle) to reduce waste and make effective use of water resources.

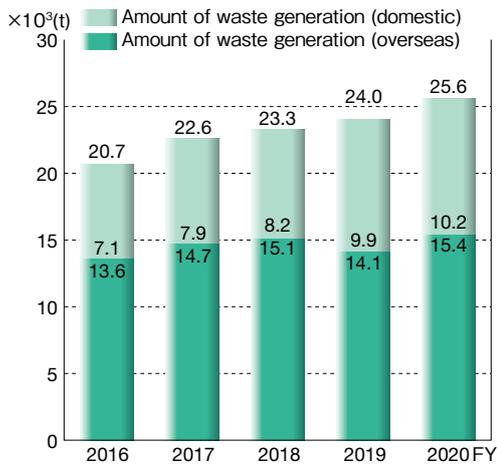
Results of Reducing Waste

The amount of waste generated in FY2020 by the entire group increased to 25,600 tons from 24,000 tons in FY2019. This increase was caused by an increase in production volume and other factors (see G1). The waste (including valuables) mainly consists of waste plastic, waste oil, and sludge (see G2). The final amount of waste disposed of inside Japan decreased to 38 tons in FY2019. The waste recycling rate, which we aim to improve in the medium term, was 99.6% (see G3). The total amount of waste disposed of outside Japan increased to 2,200 tons from 2,000 tons in FY2019 (see G4). Improvement in waste generation per unit of production, which we aim to achieve as a medium-term environmental goal, was 11.8% on average for FY2016-FY2020 (see G5). The final amount of waste disposed of per unit of production was improved by 37.3% on average for FY2016-FY2020 (see G6).

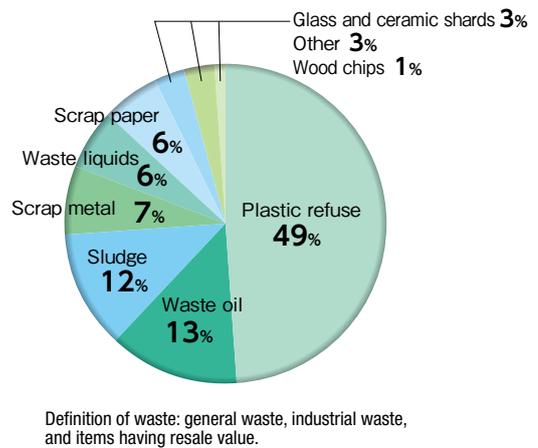
We will continue working to reduce waste volumes, boost in-house recycling rates, and recycle waste into resources at our overseas sites.

* This includes the results of the four ELNA companies that have been our consolidated subsidiaries since FY2020.

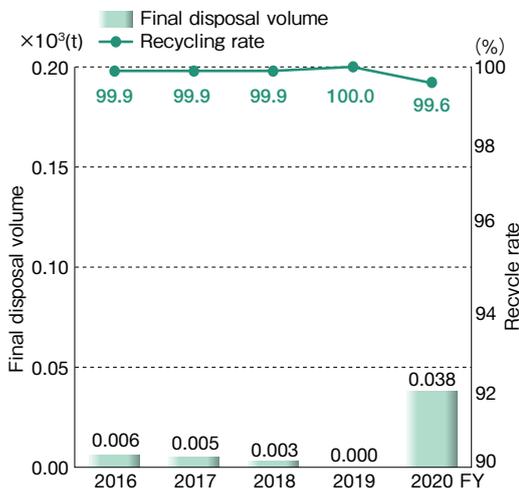
G1: Amount of Waste Generation



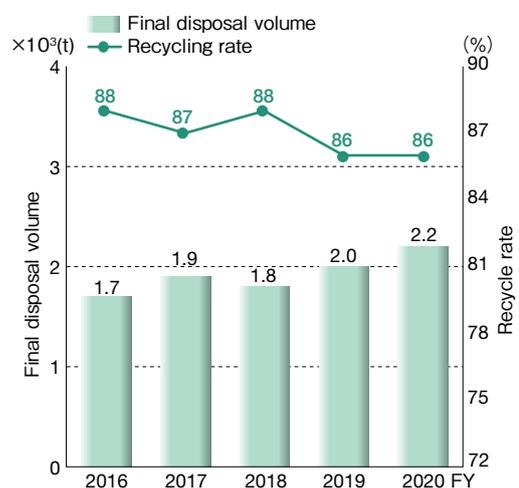
G2: Breakdown of Waste



G3: Domestic Final Disposal Volumes and Recycling Rates



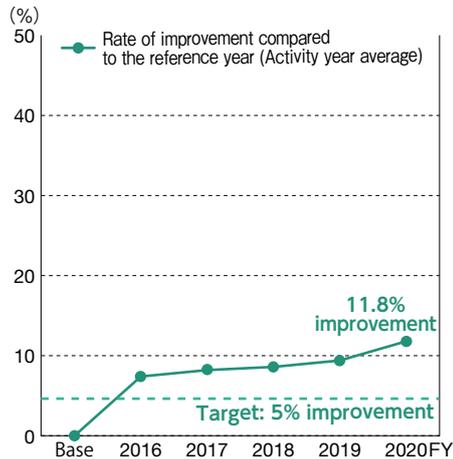
G4: Overseas Final Disposal Volumes and Recycling Rates



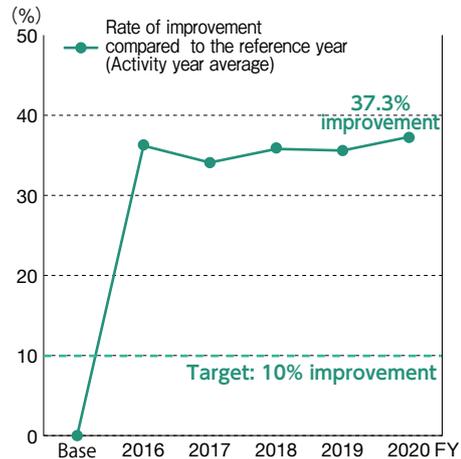
Reducing Waste / Preserving Water Resources 2-2

Results of Reducing Waste

G5: Average Waste Generation Per Unit (results compared to target)



G6: Average Final Disposal Volume Per Unit (results compared to target)



Resource Recycling Efforts

99.9% of the waste generated in the course of our business activities is recycled and reused as resources in society. However, we are also promoting efforts to reuse waste for the business activities of the Taiyo Yuden Group.

For solvent A, which is the most frequently used solvent in our business activities, 24% of the amount used is recycled waste solvent. In addition, for reels that are used for packaging electronic parts, strict quality checks are performed and 9% of all the reels are recycled reels.

Results of Water Resource Efforts

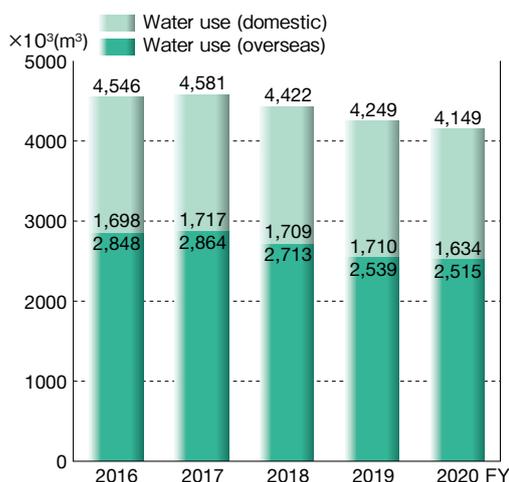
The water usage of the entire group decreased from 4,249,000 m³ in FY2019 to 4,149,000 m³ in FY2020. Specifically, the sites in Japan decreased their usage to 1,634,000 m³ from 1,710,000 m³ in FY2019, while the sites outside Japan decreased to 2,515,000 m³ from 2,539,000 m³ in FY2019 (see G7).

Improvement in water usage per unit of production, which we aim to achieve in the medium-term environmental target, was 27.3% on average for FY2016–FY2020 (see G8).

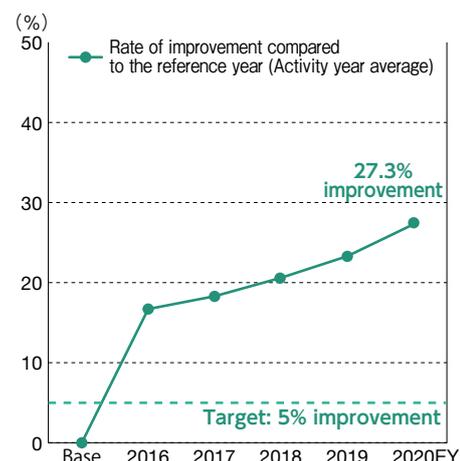
The amount of recycled water was 276,000 m³.

* This includes the results of the four ELNA companies that have been our consolidated subsidiaries since FY2020.

G7: Water Use



G8: Average Water Use Per Unit (results compared to target)



Our Efforts

Reducing Greenhouse Gas Emissions

Reduction in energy consumption by reviewing the number of heat treatment furnaces in operation [Nakanoyo Plant]

Heat treatment furnaces consume significant energy while in operation. The Nakanoyo Plant uses heat treatment furnaces for heat processes of products. Increasing production efficiency by optimizing the conditions for feeding products into heat treatment furnaces reduced the number of furnaces in operation. The reduction in GHG emissions was 168 t-CO₂e per year.



Heat treatment furnaces

Reduction in energy consumption by saving energy used by pumps [FUKUSHIMA TAIYO YUDEN/TAIYO YUDEN Mobile Technology]

FUKUSHIMA TAIYO YUDEN replaced the pump motors that send cooling water with ones with higher energy-saving performance and changed to control by inverters. TAIYO YUDEN Mobile Technology has replaced water seal vacuum pumps with dry vacuum pumps equipped with inverters. These improvements have reduced electric power consumption. The reduction in GHG emissions was 88 t-CO₂e per year.



Inverter of a cooling water pump



Dry vacuum pump

Response to Climate Change

We are promoting the use of renewable energies as a response to climate change. Currently, solar panels are installed in six sites to generate power. In FY2020, Scope 2 GHG emission was reduced by 1,849 t-CO₂e per year by generating 3,674 MWh.

FY2020 power generation amount	kWh
Hongo Photovoltaic Power Plant	616,834
TAIYO YUDEN Mobile Technology	229,392
FUKUSHIMA TAIYO YUDEN	47,536
WAKAYAMA TAIYO YUDEN	446,640
ELNA	2,327,174
TAIYO YUDEN (PHILIPPINES)	6,737



Hongo Photovoltaic Power Plant



TAIYO YUDEN Mobile Technology



FUKUSHIMA TAIYO YUDEN



WAKAYAMA TAIYO YUDEN



ELNA



TAIYO YUDEN (PHILIPPINES)

Reduction in Waste Generation

Reduction in waste generation by recycling solvents [TAIYO YUDEN (PHILIPPINES)]

Solvents used for production have been treated as waste. We started recycling solvents by removing contamination with a solvent regeneration system. Recycled solvents are effectively used for cleaning equipment and tools. The amount of waste solvent reduced was 54 t per year.



Solvent regeneration system

Reducing Water Use

Saving water in the plating process [TAIYO YUDEN CHEMICAL TECHNOLOGY]

Various processes use water in the plating line. Water use was reduced by changing the method of supplying water used in the process for feeding products to plating baths. The amount of water reduced was 720 t per year.

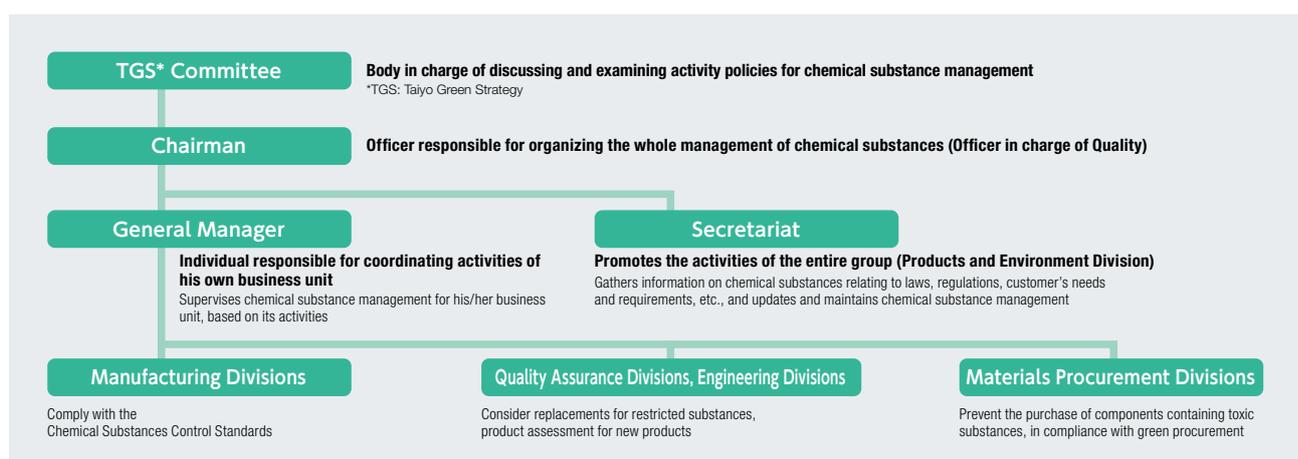
Appropriate Management of Chemical Substances

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To ward off environment contamination with chemicals and adverse effects on human health, we have banned the use of forbidden substances, implemented a chemical management framework, and are working on reducing emission volumes.

Chemical Management Framework

The Taiyo Yuden Group has its own standards in place for chemical substance management, which define chemical substances that must not be used, must only be used in limited situations, and must be managed.



Target Chemicals

Prohibited substances	Cadmium, compounds containing cadmium, mercury, compounds containing mercury, hexavalent chromium compounds, etc.
Substances to be restricted	Lead in ceramic/glass frit and piezoelectric bodies, tetrabromobisphenol A (TBBPA), polycyclic aromatic hydrocarbons (PAHs), and so on.
Substances to be managed	Toluene, REACH SVHC (substance of very high concern), xylene, etc.

PRTR Law Compliance

In order to reduce the risks that chemicals impose on the environment, the Taiyo Yuden Group reports to the government the amounts of chemicals released to the environment (air, water, and soil), and waste chemicals transported and recycled under the Japanese Law for Pollutant Release and Transfer Register (PRTR). The government publishes the records and a database of these quantities making them widely available to members of the general public.

PRTR Restricted Substances

Substance Number	Chemical Substance Name	Emission (ton/year)	Amount Transferred (ton/year)	Amount Recycled (ton/year)	Substance Number	Chemical Substance Name	Emission (ton/year)	Amount Transferred (ton/year)	Amount Recycled (ton/year)
71	Ferric chloride	0.0	28.2	0.0	308	Nickel	0.2	2.8	81.6
82	Silver and its water-soluble compounds	0.0	2.1	3.5	309	Nickel compounds	0.9	6.8	17.5
87	Chromium and trivalent chromium compounds	0.0	0.0	0.1	374	Hydrogen fluoride and its water-soluble salts	0.0	1.8	0.0
272	Water-soluble copper salt	0.0	0.2	0.2	405	Boron compound	0.6	1.0	0.0
300	Toluene	34.2	6.3	31.5	438	Methylnaphthalene	0.1	0.0	0.0

Note: Target chemical substances and their incoming amount shown refer to substances for which their incoming amount exceeds 1 ton in compliance with the PRTR Law.

Emission: This refers to the total emission into the atmosphere, water, and soil.

Amount Transferred: This refers to the amount whose disposal is outsourced to an industrial waste contractor outside the business facility concerned.

Ozone-depleting Substances

We do not use ozone-depleting substances in our production processes. Although we use HCFC as a coolant in air conditioners and other equipment, we carry out appropriate collection and disposal.

Efforts and Status 2-1

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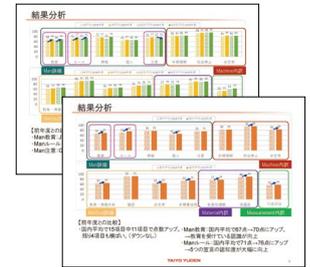
Man

Creation of a "safe workplace" culture

To create a safe workplace culture, we are carrying out activities to help employees increase their knowledge of Health and Safety so they can perform their work with such knowledge in mind.

We analyzed the results of the 2nd Safety Awareness Survey conducted on the employees of domestic group sites in FY2019, held discussions on what efforts need to be taken in order to improve safety, and then decided on a specific policy such as identifying potential risks and implementing countermeasures to propel efforts. In the 3rd Safety Awareness Survey conducted in FY2020, the results showed that almost all the items were improved, enabling us to confirm the results of the activities we carried out.

We will continue to administer the Safety Awareness Survey and improve safety awareness of each employee to promote a safe workplace culture.



Analysis results of Safety Awareness Survey

Machine

Machine safety meeting the ISO and IEC standards

With the objective of ensuring our machine safety activities conform to global standards (ISO and IEC), we are reviewing the Safety Standards for Group Machine, which define measures against risks common to production machine to enhance the safety measures for machine.

In FY2020, we not only further increased the number of qualified machine safety experts [safety assessors (SAs) and safety sub assessors (SSAs)], but also promoted also getting certified as machine safety leaders [safety basic assessors (SBAs)] and reinforced the machine safety system. In addition, we revised the group machine safety standards such as reviewing the safety design procedures, and provided training to 426 employees in total at ten domestic sites including skill-up training for machine design/modification personnel.

We will continue our efforts to reduce occupational injuries associated with machine.



Training on group machine safety standards

Method

Standardization of procedures for safe work

We are upgrading and reviewing procedures to standardize them and make them safe and consistent so that employees can work more safely. In FY2020, in order to safely operate material handling machines that are used for transporting heavy loads in production lines, we verified the operation method of these machines again and reviewed the procedures so that they can be operated more safely. In addition, for some machines, we implemented hardware measures by installing a safety device that controls the machine to move to the safe side if an operational error should occur.

We will continue to work towards promoting a safe working environment from a common perspective.

Material

Minimization of the hazards and danger of chemical substances

To minimize the hazards and dangers of chemical substances, we are continuously taking measures against risks associated with tasks that require workers to handle chemical substances. In FY2020, we reassessed the risk of the hazards and dangers of organic solvents, verified them including use purposes, and then implemented measures such as switching to less hazardous substances. In addition, we promoted sharing SDS in foreign languages companywide to enhance strict management.

We will continue to work towards minimizing the hazards and dangers of chemical substances.



SDS in local language

Measurement

Enhancement of check levels

To provide safe and hygienic workplaces, we are working to raise check levels by upgrading and improving the methods for identifying invisible hazards (or those that have gone unnoticed). In FY2020, we studied advanced efforts of industries and customers regarding safety and health, analyzed accident and incident cases of other companies, and then created checklists, which were used for checkups and audits at each site. Using check sheets helped recognize again the hazards that need measures, and appropriate measures were implemented to improve the safety standards of our workplaces.

We will continue to raise the check levels to provide safe and hygienic workplaces.

Efforts and Status 2-2

Health

1 Reducing incidences of mental health problems

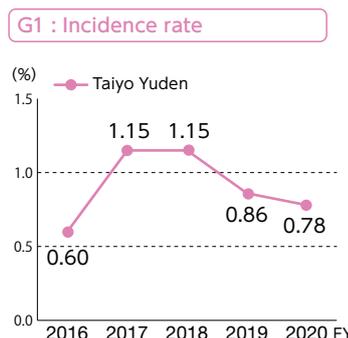
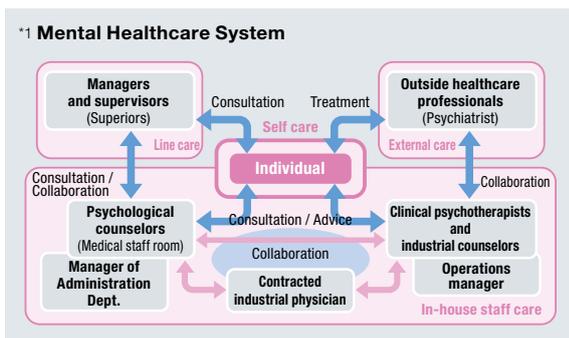
The Taiyo Yuden Group has developed a system^{*1} for reducing incidences of mental health problems and conducting preventive activities. To care for the staff, we have established a system that allows the industrial health staff (including industrial physicians and counsellors, public health nurses, and nurses) to provide added care so that they can identify employees who are not feeling well earlier and provide them with the appropriate support.

In FY2020, we switched from the Occupational Stress Simple Questionnaire (57 questions), which we had used to quickly assess employees' stress, to the New Occupational Stress Simple Questionnaire (80 questions), which provides more detailed organization analyses, to conduct our surveys.

Switching to the new questionnaire made it possible to understand individual conditions not only about health and stress but also about work engagement^{*2}. We analyzed the survey results, set goals to be met, and then started implementing specific measures toward achieving those goals.

Regarding measures for individual stress, occupational health nurses belonging to each site provide individual interviews whenever necessary to provide support promptly.

The percentage of employees suffering from mental illness has been on a decreasing trend reaching 0.78% (see G1). We will continue to work to providing mental health care so that all employees can work with a healthy body and mind.



*2 Work engagement is the condition in which employees gain energy from their work and are proud of the work they do, and so are able to work energetically.

2 Establishing a healthy lifestyle

Based on the management philosophy "Employee well-being," Taiyo Yuden thinks of employee health management as an issue directly related to business, and we conduct health management activities to promote employee health and improvement of work engagement. In order to encourage these activities forward strategically and systematically, we set health indicators and targets to implement specific measures for health.

The anomaly observation rate in regular health checkups is increasing in recent years as the average age of employees increases. For this reason, we are making efforts emphasizing prevention of lifestyle diseases, which increase with age.

For example, we promoted exercises such as the radio gymnastic exercise and bicycle commuting after placing bicycle parking spaces on factory premises. Thus, we made efforts to induce employees to exercise daily. In addition, as health promotion programs, we made various efforts such as holding walking events in cooperation with the Society-Managed Health Insurance, providing exercise seminars by industrial physicians, conducting physical ability measurement events, and promoting club activities hosted by employees.

As a result, we were certified as the Sports Yell Company 2021^{*3} by the Japan Sports Agency and as the Health & Productivity Management Outstanding Organization 2021 (White 500)^{*4} by the Ministry of Economy, Trade and Industry. We will continue to pursue environment to work healthy both mentally and physically for our employees.

*3: A program which certifies companies actively promoting measures to improve employees' health through sports.

*4: A program that certifies only the most significant 500 companies in the results of the Survey on Health and Productivity Management



Sports Yell Company 2021



Health & Productivity Management Outstanding Organization 2021 (White 500)