# 2022 Safety & Environmental Report





**TAIYO YUDEN** 

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	Editorial Policy			Scope of Disclosure	
Why this Report was Published	The Taiyo Yuden Group strives for perpetual growth while fulfilling its corporate social re- sponsibilities. We regard endeavoring to improve safety and the environment as an important social responsibility, so 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 de- tails 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 em- ployees, and a wide range of other stakeholders. We also publish this English version to make the contents available to readers overseas.			(Hongo Photovoltaic Power Plant) <b>Consolidated Subsidiaries</b> 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.	
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.			[Outside Japan] Consolidated SubsidiariesSouth Korea: KOREA KYONG NAM TAIYO YUDEN CO., LTDChina:TAIYO YUDEN (GUANGDONG) CO., LTD.Philippines:TAIYO YUDEN (PHILIPPINES), INC.Malaysia:TAIYO YUDEN (SARAWAK) SDN. BHD.MalaysiaELNA-SONIC SDN. BHD.	
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			Thailand: TANIN ELNA CO., LTD.	
	you gain a deeper understanding of our environ- mental, health, and safety activities, and be used as a reference for making an objective judgment of the Group.		Period Covered by this Report	This Report focuses on our performance from April 1, 2021 to March 31, 2022. (Date of any activities which have taken place outside this period are specified).	
	Reference : The Taiyo Yuden website https://www.yuden.co.jp		Date of Issue	July 2022 (Previous issue: July 2021; Next issue scheduled for July 2023)	

# s TAIYO YUDEN CO., LTD. and

#### ubsidiaries

port	April 1, 2021 to March 31, 2022. (Date of any activities which have taken place outside this period are specified).
sue	July 2022 (Previous issue: July 2021; Next issue scheduled for July 2023)

# Safety and Environmental Management System 2-1

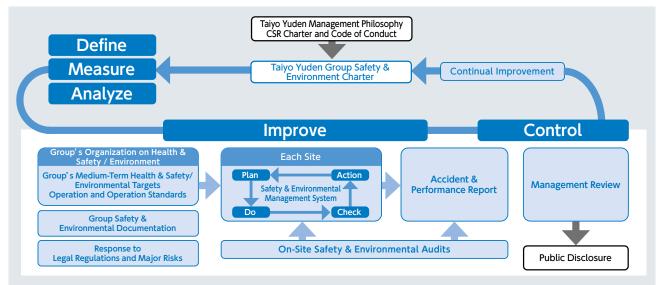


Our group-wide Safety and Environmental Management System keeps individual activities proceeding toward common goals under a common philosophy.

### System Overview

This management system consists of long- and short-cycle activities.

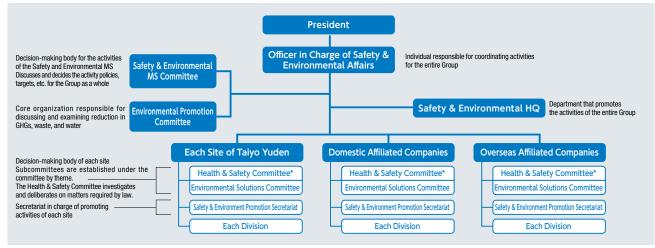
In the long-cycle activities, which are designed for the entire group, we are making continuous improvements based on common goals and criteria by checking achievements based on reports about site audits and from sites and by reviewing the management system. For site-specific short-cycle activities, 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.

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.



\* MS stands for the management system.

\* HQ stands for Headquarters.
\* The Health & Safety Committee consists of representatives selected from among management and employees.

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# Safety and Environmental Management System 2-2

# **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

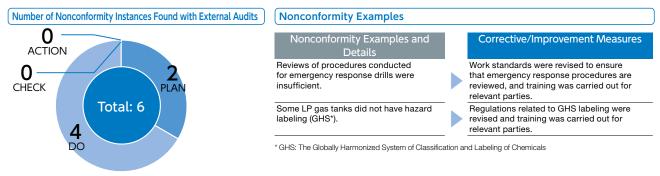
Location	Name of Sites	Acquired ISO14001 Certification	Certification authorities
Japan	TAIYO YUDEN CO., LTD. Takasaki Global Center, Haruna Plant, Nakanojo Plant, Tamamura Plant, Yawatabara Plant, R&D Center TAIYO YUDEN CHEMICAL TECHNOLOGY CO., LTD. TAIYO YUDEN TECHNO SOLUTIONS CO., LTD. FUKUSHIMA TAIYO 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 CO., LTD. ELNA TOHOKU CO., LTD.	<b>4669324</b> (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 (as of Nov. 2001)	SGS
Malayria	TAIYO YUDEN (SARAWAK)SDN. BHD.	EMS00226 (as of Oct. 2002)	SIRIM
Malaysia	ELNA-SONIC SDN. BHD.	<b>17318-E</b> (as of Dec. 2003)	Kiwa
Thailand	TANIN ELNA CO., LTD.	<b>04 104 990506</b> (as of Mar. 2004)	Τυν

# 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 6 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.



The RBA-VAP audits for FY2021 have been completed at six domestic sites and three 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 FY2021, we performed site audits to examine the status of compliance with customer requirements, as well as changes in the RBA code of conduct's safety, health, and environmental requirements.

In each audit, auditors checked documents and performed on-site audits on matters related to customer requirements/RBA requirements such as risk management against potential hazards, management of required protective equipment, emergency preparedness, and management of chemical substances, waste, and air/water quality.

The audits revealed inadequacies in areas such as warning signs, protective equipment, and evacuation route management. Countermeasures were implemented for validated inadequacies found during the site audits, and verified its effectiveness. 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

Some power distribution cabinets did not have warning signs for electrical shock hazards.

The expiration date was unclear for some helmets.

Some of the posted evacuation route maps did not clearly indicate master points.

# 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 43 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 FY2021, we inspected and audited 13 companies (five collection, delivery, and intermediate processing companies; and eight 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 nine contractors). The results showed that all inspected operators are processing and disposing of waste appropriately. The operators have also 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.

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# Safety and Environmental Risk Management

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**



Haruna Plant Conducted early-stage fire extinguishing training using fire extinguishers. (November 2021)



NIIGATA TAIYO YUDEN Conducted fire extinguishing training using outdoor fire hydrants. (October 2021)



TAIYO YUDEN (GUANGDONG) Conducted fire extinguisher training using powder fire extinguishers. (June 2021)

# Emergency Training for Spillage of Chemical Substances



Takasaki Global Center Conducted training to prevent substance spread in a kerosene leak scenario. (December 2021)



TAIYO YUDEN Mobile Technology Conducted training to prevent external leakage and to collect leaked substances in an untreated wastewater leak scenario. (February 2022)



ELNA-SONIC Conducted training to collect leaked substances in a chemical leak scenario. (January 2022)

# **Evacuation and Medical Emergency Training**



Nakanojo Plant Conducted an evacuation drill in an earthquake and fire scenario. (November 2021)



Yawatabara Plant/TAIYO YUDEN TECHNO SOLUTIONS Conducted training for first aid and transportation of the injured using stretchers. (October 2021)



TAIYO YUDEN (PHILIPPINES) Conducted first aid training under the guidance of the Philippine Red Cross. (December 2021)

# **Removing Soil Contamination**

Yawatabara Plant conducted inspections and implemented measures in accordance with the Soil Contamination Countermeasures Act. Takasaki Global Center conducted inspections and implemented systematic 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

1	Name	Category	Purpose	Main Subjects
	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, Health, and Environment/ Status of Safety, Health, and Environment at the Taiyo Yuden Group
General Training	General training	Awareness	Deepening all employees' understanding of the Taiyo Yuden Group Safety, Health, and Environment Charter and Course of Action, and teaching them the skills to act accordingly	Management system (including the Safety, Health, 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	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		Abilities	Teaching the skills to recognize risks and creating a safe and sanitary workplace	Risk assessment / Health and Safety targets / Cases of Health and Safety improvements / Causes of Health and Safety accidents and their countermeasures
Environmental Training	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 related to health and safety

We hold various events related to health and safety at all sites, providing employees with opportunities to raise their awareness and improve their skills. Examples include traffic safety class, where participants used virtual reality to simulate bicycle accidents, and a sleep seminar aiming to prevent sleep disorders in employees who work in shifts.

#### Occupational Health and Safety Training

#### Respiratory protection equipment training

Training including mask positioning and tightening mask cords was conducted, and confirmation of mask adhesion to the face was measured in real time.

#### Heavy-cargo handling training

To improve safety in heavy-lifting operations, training was done to reaffirm handling standards, and on rules and precautions needed when moving cargo by hand.

#### Environmental Training

#### Training for waste management personnels

Training for proper management of waste such as waste classification, consignment contracts, and manifest systems was conducted for waste management personnels.

#### Training for wastewater treatment facilities managers

Training including on-site training was carried out on the mechanisms used in wastewater treatment facilities and periodical checks for wastewater treatment systems.



Bicycle simulator



Respiratory protection equipment Heavy-cargo handling training training



Training for waste management personnels



Sleep seminar





Training for wastewater treatment facility managers

**TAIYO YUDEN** 

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# **Environmental Accounting**



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**

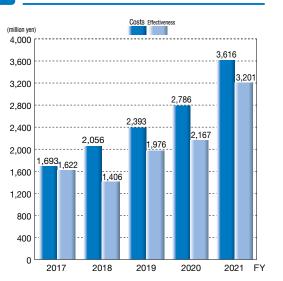
Type of cost Expenses Investment (million yen)			Main items	
Busines	s unit area costs	2,113	649	
	Pollution prevention	886	24	Monitoring and measurement of atmosphere, water quality, noise, vibration, and soil; preparations for and responses to emergencies
down	Conservation of global environment	175	107	Ozone depleting substance emission reduction, water quality improvement, exhaust gas purification, resource conservation
Breakdown	Cost for global warming prevention	570	483	Greenhouse gas emission reduction, energy conservation
	Resource recycling costs	482	35	Waste management, and outsourcing of waste treatment; reduction of waste; recycling
	im / downstream ss activities	10	-	Activities to improve the environmental impact of products, green procurement
Manage	ement activity costs	559	_	Building and operating an EMS; surveillance audits; environmental training; costs for operating secretariat; department operations costs
R&D		264	-	R&D costs to improve the environmental impact of product processes etc.
Social a	activities	21	_	Donations to environmental groups; participation in communities' global environmental preservation events
Respon damage	se to environmental e	0	_	
Total		2,967	649	

# **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	199	3,022kL	Improvement in productivity; improvement in energy management method	
Conservation of resources	2	759t	Reduction in amount of chemical substances used through improvement in process yield etc.	
Reduction in waste, and recycling	3,000	3,634t Improvement in recycling rate		
Total	3,201	*"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.
- 2. Depreciation costs shall be the current fiscal year's depreciation expenses at the environmental conservation facilities.
- 3. 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.
- 4. The cost-effectiveness by saving energy is yielded from the reduction of either the rated dissipation or the operating time or both.
- 5. The cost-effectiveness by reducing and recycling waste is calculated as follows:

Lowered costs through reducing waste and recycling =

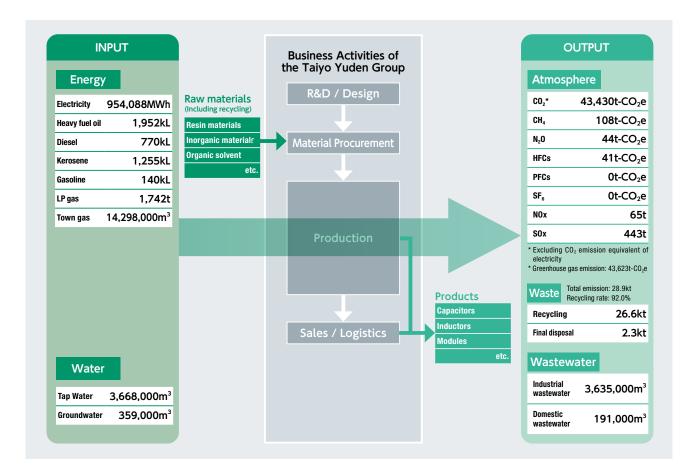
[Unit cost of waste treatment in the prior fiscal year (JPV/ton) – Unit cost of waste treatment in this fiscal year (JPV/ton)] × Amount of waste generated (tons)

# 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.

# 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 CO<sub>2</sub>) 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.



#### Reasons for Changes from FY2020

In FY2021, electricity use rose due to the higher production volume. Furthermore, kerosene increased due to operating power generators at Taiyo Yuden (Guangdong) to curb power consumption at peak times.

# 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

"Strengthening responses to climate change" and "efficiently using resources and helping to build a recycling-based society" have been set as the materialities of environmental efforts. Especially for climate change, a global issue, we have formulated targets to achieve carbon neutrality by 2050. To achieve these targets, we will be diligent at saving, generating, and re-using the energy that drives our manufacturing based on the principle of decarbonization.

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

	Mediu	m-Term Environmental Targets	Performance
Prevention of global warming	Global	GHG absolute emissions Reduction by 42%* in FY2030 * compared to FY2020	Reduction of 5.2% in FY2021
Biodiversity conservation Effective use		Average waste generation per unit (sales amount) Reduction by 10% in FY2025 * compared to FY2020	Increase of 12.8% in FY2021
of resources by reducing consumption	Global	Average water use per unit (sales amount) Reduction by 10% in FY2025 * compared to FY2020	Reduction of 2.8% in FY2021
Biodiversity Japan conservation Cyclic use of		Waste final disposal volume rate 0.1% annually	0.4% in FY2021
résources by reuse and recycling	Outside Japan	Waste final disposal volume rate 12% annually	14% in FY2021
Biodiversity conservation Nature conservation activities in local areas	Global	Continue nature conservation activities in local areas (such as forests)	Continued afforestation, forest maintenance, extermination of non-native species, etc.
Environmental		Compliance with applicable environmental laws and regulations	Complied with all applicable laws and regulations
risk management	Global	Maintain zero accidents that affect the ecosystem and carry out ongoing training	Maintained zero accidents that affect the ecosystem and conducted periodic emergency training
Contribution through	Clabel	Development of smart products	Continued development of smart products, which reduce environ- mental impact through downsizing, etc.
environmentally friendly products	Global	Regulatory compliance for chemicals contained in products (RoHS, ELV, REACH)	Complied with regulations for chemicals contained in prod- ucts

 $^{\ast}$  In May 2022, the reduction target for FY2030 was revised upward from 25% to 42%.

# 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

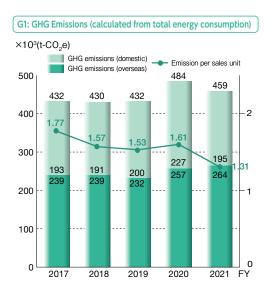
In FY2021, the amount of GHGs emitted by the entire group decreased by  $25,000 \text{ t-CO}_2\text{e}$  compared to FY2020. Specifically, the domestic sites reduced their emissions from 227,000 t-CO<sub>2</sub>e in FY2020 to 195,000 t-CO<sub>2</sub>e, and overseas sites increased theirs from 257,000 t-CO<sub>2</sub>e in FY2020 to 264,000 t-CO<sub>2</sub>e (see G1).

The amount of energy used by the entire group was 265,000 kL (crude oil equivalent).

We will continue to review production processes, with a focus on core products, to further improve production efficiency and reduce energy use.

Furthermore, we have been promoting the incorporation of renewable energy in our efforts to combat global warming. The renewable energy used in FY2021 was 87,179 MWh.

\* 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.



	GHG Emissions (×10 <sup>3</sup> t-CO <sub>2</sub> e)
SCOPE1	44
SCOPE2	415

# 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	379,879	t-CO <sub>2</sub> e		category9	Transportation and delivery (downstream)	Not applicable
category2	Capital goods	83,697	t-CO <sub>2</sub> e		category10	Processing of sold products	17 t-CO <sub>2</sub> e
category3	Fuel- and energyrelated activities (not included in scope 1 or scope 2)	75,642	t-CO <sub>2</sub> e		category11	Use of sold products	Not applicable
category4	Upstream transportation and distribution	47,668	t-CO₂e		category12	End-of-life treatment of sold products	244 t-CO2e
category5	Waste generated in operations	21,235	t-CO <sub>2</sub> e		category13	Leased assets (downstream)	Not applicable
category6	Business travel	570	t-CO₂e	domestic sites	category14	Franchise	Not applicable
category7	Employee commuting	9,060	t-CO₂e	domestic sites	category15	Investments	Not applicable
category8	Upstream leased assets	0	t-CO <sub>2</sub> e	Included in SCOPE2			

# Efforts to Address Climate Change 4-1

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In response to the recommendations of the Task Force on Climate-related Financial Disclosure (TCFD), we are proceeding with a scenario analysis of the risks and opportunities that climate change issues pose to society and business, and consider business strategies based on the results.

# Efforts to Address TCFD

As the impact on society of climate-related physical risks, such as frequent storms and floods is increasing, the role of companies in achieving a carbon-free society is becoming more important.

We consider that strengthening the implementation of climate adaptation measures is one of the most important business challenges.

To tackle the global issue of climate change, we thoroughly promote planning and working on energy efficiency & conservation, energy creation, and the utilization of renewable energy through manufacturing based on the decarbonization concept to achieve carbon neutrality by 2050. We have set a reduction target of absolute GHG emissions based on the SBT.

We aim to contribute to the achievement of the international goals set forth in the SDGs and the Paris Agreement through collaboration with a wide range of stakeholders. In addition, we will expand our information disclosure in line with the TCFD based on the recognition of the importance of climate-related financial disclosure.

# Governance

The Taiyo Yuden Group considers climate change is one of the most important business challenges. In April 2021, we established the Sustainability Committee (held four times a year), chaired by our President and Chief Executive Officer, with the aim of promoting company-wide efforts towards sustainability issues through business activities.

The Committee deliberates on setting materialities sharing of issues, and measures to resolve issues, and reports to the Board of Directors.

The Environmental Promotion Committee, a sub-committee of the Sustainability Committee sets quantitative targets for climate change and monitors the status of achievement.

If the targets are not achieved or may not be achieved, the Environmental Promotion Committee needs to investigate the cause and take corrective measures for improvement. The deliberations and decisions by the Environmental Promotion Committee are reported to the Sustainability Committee, which is its superior committee.

# Strategy

#### 1 Identification of risks and opportunities

In order to identify climate-related risks and opportunities that affect our business, we used climate scenarios such as the IEA and the IPCC to identify them, qualitatively evaluated their characteristics, and conducted scenario analysis.

Division	Assumed items	Climate-related risks and opportunities	Degree of financial impact (Profit basis)
	Introducing and raising carbon prices	Increasing of operation costs due to introducing of carbon prices	Major
Transition risks	Strengthening environment-	Increasing of costs for measures due to strengthening of GHG emission reduction targets and energy efficiency improvement targets	Medium
	related regulations	Increasing of costs due to compliance with domestic and overseas environmental regulations	Medium
Physical risks	Intensifying extreme wind and flood damages	Intensified wind and flood damages to sites	Minor - Medium
Opportunities	Acceleration of EV shift	Increasing in sales of electronic components for the electric vehicle market due to the global shift to EVs	Major

Degree of financial impact: Minor=JPY 1.5 billion or less; Medium=JPY 1.5 to 6 billion; Major=JPY 6 billion or more

# Efforts to Address Climate Change 4-2

#### 2 Setting the scenario analysis theme

We carried out a scenario analysis on the following themes evaluated as "highly important risks and opportunities" based on the degree of impact on our business, the relevance to our business strategies, and the degree of stakeholder interest.

#### Transition risks / Opportunities

Target business / Analysis theme	
Common to all businesses	Financial impact of introducing carbon prices on operating costs

#### External information referred to in the analysis

	1.5°C scenario	4°C scenario			
Key reference scenarios <sup>*1</sup>	SDS (Sustainable Development Scenario)	STEPS (Stated Policies Scenario)			
View of the world	•As of mid- 2021, each country had achieved their Net 0 commitments, and the average global temperature rose between 1.5℃ and 1.65℃ around 2100 compared to before the industrial revolution.	●As of mid- 2021, each country had partially carried out policies and implementation maeasures affecting the energy market adopted in mid- 2021, and the average global temperature rose between 2.6°C and 4°C around 2100 compared to before the industrial revolution.			
	•As each country shifts to renewable energy, prices of fossil resources tend to decrease.	•As each country depends on fossil resources, prices of fossil resources tends to rise.			

\*1 The analysis is based on the scenarios published in the World Energy Outlook 2021, the annual report by the IEA (International Energy Agency).

#### Physical risks

Target business / Analysis theme							
Common to all businesses	Impact of intensified extreme weather disasters on sites (floods and storm surges)						

This data covers the 18 sites in Japan and 7 sites outside Japan. We assessed physical impacts at the baseline (current), and at the middle and end of this century.

External information referred to in the analysis							
Information provider	Reference						
Ministry of Land, Infrastructure, Transport and Tourism	Flood hazard map						
WRI (World Resources Institute)	Aqueduct Floods Hazard Maps, Inundation depth in meters for coastal and riverine floods						
IPCC (Intergovernmental Panel on Climate Change) <sup>*2.3</sup>	AR6 Climate Change 2021: The Physical Science Basis						

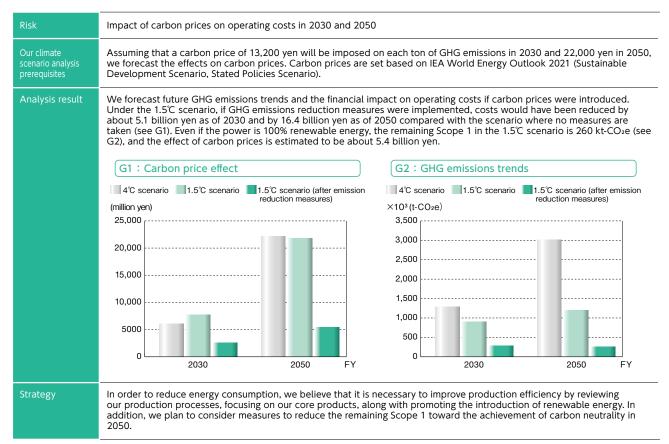
\*2 We assessed physical impacts based on the climate scenarios SSP1-2.6 and SSP5-8.5 used in the IPCC AR6.

\*3 The SSP1-2.6 and SSP5-8.5 scenarios correspond to the RCP2.6 and RCP8.5 climate scenarios used in AR5.

# Efforts to Address Climate Change 4-3

#### **3** Scenario analysis results

#### Transition risks: Financial impact of introducing carbon prices on operating costs



#### Physical risks: Impact of intensified extreme weather disasters on sites (Floods and Storm Surges)

Risk	Impact of increased weather disasters associated with climate change on our manufacturing sites at the middle and end of this century											
Our climate scenario analysis prerequisites	We assessed 25 sites inside and outside Japan based on public hazard information and various information obtained for climate change impact assessment.											
Analysis result	We assessed the potential for manufacturing site damage due to intensifying extreme floods and storm surges, and screened sites that require priority investigation of the impact of physical risks. We independently graded baseline (current) flood and storm surge risks and assessed the changes in the current to mid-century or end-of-century grades based on the RCP2.6 and RCP8.5 climate scenarios. At present, there is one site in Japan and one site outside considered to be at high risk of flooding. But there has been no grade change in the future. Regarding storm surges, one site outside Japan is assessed to have an increased risk compared to the baseline by the middle and the end of the 21st century.											
	Flood risk	2005		(Grade A )50		85	Storm Surges risk	2010	*	Grade A 50		90
				RCP8.5	-		nor c			RCP8.5		
	Japan (18 sites)	1 site	1 site	1 site	1 site	1 site	Japan (18 sites)	0 site	0 site	0 site	0 site	0 site
	Outside Japan (7 sites) 1 site 0 Outside Japan (7 sites) 0 site 1								1 site			
Strategy	In the future, we this analysis and installation heigh system based on in the event of a l	take pre t of the p our Busi	ventive n bower su iness Cor	neasures pply syst ntinuity P	such as i em if dee lan(BCP),	nstalling emed nec which wi	equipment to mir essary. In additio ill enable us to re	iimize flo n, we wi	oding or Il establis	n site and sh a stab	l ensuring le produ	g the ct supply

# Efforts to Address Climate Change 4-4

14

### **Risk management**

Regarding climate-related risks, we assign Director and Executive Vice President who is a responsible director of safety and environment, reports and deliberates these issues at the the Internal Control Committee through the Compliance Subcommittee and the Risk Management Subcommittee in accordance with the group management system. We refer to social analysis, interviews with customers and suppliers, and ESG engagement with investors as tools for identifying climate-related risks. The impact of these risks has been assessed in relation to their financial impact and management strategy.

# Indicators and targets

#### **GHG** emissions

The Taiyo Yuden Group has set targets for GHG emissions; a 42% reduction by FY2030 compared to FY2020 to achieve carbon neutrality by 2050. In order to achieve these targets, we will steadily promote efforts to reduce GHG emissions through measures such as the use of renewable energy and the improvement of production efficiency. As part of our measures, we will convert 100% of the electricity used at our R&D center to renewable energy in FY2024.

Target and Result regarding GHG emissions

	FY2020 Achievement	FY2021 Achievement	FY2030 Targets
GHG emissions* [10 <sup>3</sup> t-CO <sub>2</sub> e]	484 (Reference year)	459 (Compared to FY2020 ▲5.2%)	281 (Compared to FY2020 ▲42%)

\*SCOPE1+SCOPE2

Please refer to page 10 for changes in GHG emissions.

#### Approach to Health and Safety Efforts

# 15

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.

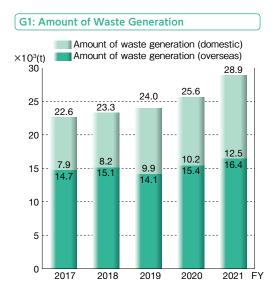
### **Results of Reducing Waste**

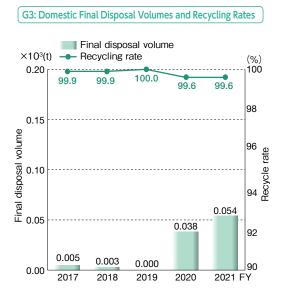
The amount of waste generated in FY2021 by the entire group increased to 28,900 tons from 25,600 tons in FY2020. This increase was due to an increase in production volume and other factors (see G1).

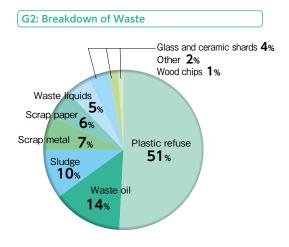
The waste (including valuables) mainly consists of waste plastic, waste oil, and sludge (see G2).

The domestic final disposal volume increased to 54 tons from 38 tons in FY2020. The waste recycling rate reached 99.6% (see G3). The overseas final disposal volume increased to 2,300 tons from 2,200 tons in FY2020 (see G4).

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

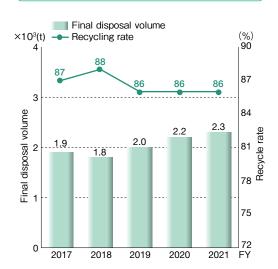






Definition of waste: general waste, industrial waste, and items having resale value.





# Reducing Waste / Preserving Water Resources 2-2

# **Resource Recycling Efforts**

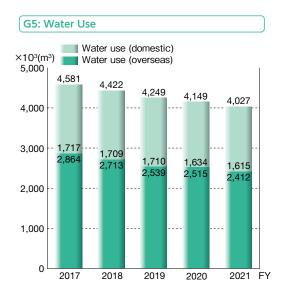
92% of the waste generated through our business activities is recycled and reused as resources in society. However, we are also promoting efforts to reuse waste for the Taiyo Yuden Group's own business activities. For solvent A, which is the most frequently used solvent in our business, 26% of the amount used is recycled waste solvent. In addition, for reels that are used in packaging electronic parts, strict quality checks are performed and 7% of all the reels are recycled reels.

# **Results of Water Resource Efforts**

The entire Group's water usage fell from 4,149,000 m<sup>3</sup> in FY2020 to 4,027,000 m<sup>3</sup> in FY2021. Specifically, sites in Japan reduced their usage to 1,615,000 m<sup>3</sup> from 1,634,000 m<sup>3</sup> in FY2020, while sites outside Japan reduced theirs to 2,412,000 m<sup>3</sup> from 2,515,000 m<sup>3</sup> in FY2020 (see G5).

The amount of water taken was 3,668,000 m<sup>3</sup> from municipal water supplies (or other water supply facilities), and 359,000 m<sup>3</sup> from freshwater and underground water.

The amount of water recycled was 561,000 m<sup>3</sup>.



	Quantity of water taken (×10 <sup>3</sup> m <sup>3</sup> )
Municipal water supply (or other water supply facilities)	3,668
Freshwater/ underground water	359

# **Our Efforts**

# **Reducing Greenhouse Gas Emissions**

#### Reduction in energy consumed by compressors/pumps [Haruna Plant/ TAIYO YUDEN Mobile Technology/TAIYO YUDEN(GUANGDONG)/ TAIYO YUDEN (PHILIPPINES)]

Many of the infrastructure facilities installed at plants consume a large amount of energy. We are working toward various ways to improve operational efficiency while maintaining the necessary supply of air and water for manufacturing activities. Haruna Plant, Taiyo Yuden Mobile Technology, and Taiyo Yuden (Guangdong) have installed inverters for chilled water pumps and compressors to control their operations and reduce electricity consumption. Taiyo Yuden (Philippines) has investigated and addressed compressor's air leaks to reduce electricity consumption through low-loss operations.

The reduction in GHG emissions was 881 t-CO<sub>2</sub>e per year.

#### Reduction of GHG by changing boiler fuel [Tamamura Plant/ WAKAYAMA TAIYO YUDEN]

Heavy oil-fueled, aging boilers were replaced with LP gas-fueled boilers, resulting in reduction of GHG emissions.

The reduction in GHG emissions was 494 t-CO<sub>2</sub>e per year.

#### Use of renewable energy [FUKUSIMA TAIYO YUDEN/WAKAYAMA TAIYO YUDEN/TAIYO YUDEN Mobile Technology/TAIYO YUDEN (PHILIPPINES)/ Hongo Photovoltaic Power Plant/ELNA]

The Taiyo Yuden Group has been installing solar panels as part of our efforts to combat global warming. After establishing the group's first power-generating sute, Hongo Photovoltaic Power Plant in 2013, others have been built as well, and there are currently six powergenerating sites in Japan and overseas.



FUKUSHIMA TAIYO YUDEN



TAIYO YUDEN (PHILIPPINES)



Compressors to supply compressed air



Boilers for air conditioning



TAIYO YUDEN Mobile Technology



Hongo Photovoltaic Power Plant ELNA

WAKAYAMA TAIYO YUDEN

### **Reduction in Waste Generation**

#### Reduction of waste by changing surface treatment methods [TAIYO YUDEN CHEMICAL TECHNOLOGY]

Chemicals are used in some manufacturing processes that treat the surface of electronic components, and the used chemicals are processed appropriately as waste. By fundamentally reviewing surface treatment methods to adopt those that do not use chemicals, we achieved a significant reduction in chemical waste. The reduction in waste emissions was 416 tons per year.

# **Reducing Water Use**

#### Water conservation in plating processes [TAIYO YUDEN (PHILIPPINES)]

Water is used in various processes when plating electronic components. Solenoid valves are used to adjust the volume of water supplied to the manufacturing line at automated plating processes. By investigating and optimizing valve opening and closing, we reduced the volume of water use.

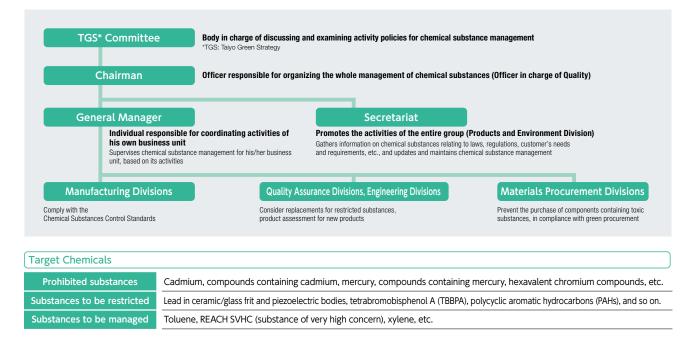
The reduction in water was 9,300 tons per year.

# Appropriate Management of Chemical Substances

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.



# 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	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	11.4	0.0	308	Nickel	0.3	3.5	100.0		
82	Silver and its water-soluble compounds	0.0	2.7	3.8	309	Nickel compounds	1.1	8.6	12.5		
87	Chromium and trivalent chromium compounds	0.0	0.7	0.3	374	Hydrogen fluoride and its water-soluble salts	0.0	1.5	0.0		
272	Water-soluble copper salt	0.0	0.3	0.2	405	Boron compound	0.8	1.1	0.0		
300	Toluene	36.3	4.7	31.0	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**

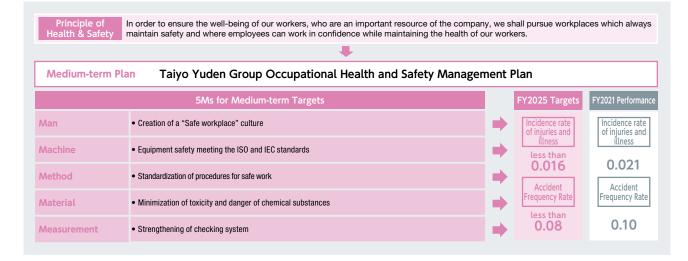
We do not use ozone-depleting substances in our production processes. Although we use HCFC as a coolant in air conditioners and other equipment, we carry out appropriate collection and disposal.

# Achievement Levels for Medium-Term Occupational Health and Safety Targets

All employees participate in health and safety efforts based on the Fundamental Principle of Health and Safety outlined in the Taiyo Yuden Group Safety and Environment Charter and implemented according to the Occupational Health and Safety Management System (OHSMS).

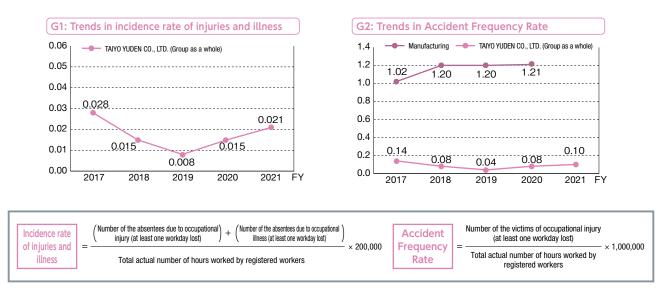
# Fundamental Principle of Health and Safety, and Targets

In order to realize our health and safety philosophy of "creating a workplace where employees can work without anxiety," the Taiyo Yuden Group has drawn up group-wide medium-term plans. The medium-term plan is set to prevent industrial accidents by clarifying action targets for each 5Ms (Man, Machine, Method, Material, Measurement) and by setting a target incidence rate of injuries and illness for numerically evaluating the result of such efforts.



# FY2021 Work-related Accidents and Safety Indicators

In FY2021, the incidence rate of injuries and illness for the entire group was 0.021 (see G1), the accident frequency rate was 0.10 (see G2), and the danger rate was 0.0030. Note: No fatal accident has occurred.



We are promoting countermeasures against occupational injury and illness by conducting risk assessments in all workplaces. We found no workplace with high risks. Going forward, we will continue to conduct activities geared toward achieving zero work-related accidents from the perspective of the 5Ms, based on our medium-term health and safety plan.

# New Medium-Term Occupational Health and Safety Targets (Medium-Term Targets for FY2025)

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### New Medium-Term Occupational Health and Safety Targets (Medium-Term Targets for FY2025)

As FY2021 was the closing year for the medium-term targets established for FY2019 to 2021, results for targets were assessed and analyzed, and the New Medium-Term Occupational Health and Safety Targets were established (medium-term targets for FY2025).

Measures for the 4-year policy have been clarified, with the aim of further enhancing the occupational health and safety program standard for each of the ongoing 5Ms (Man, Machine, Method, Material, Measurement), in efforts to eliminate the causes of occupational accidents, which are "Unsafe Situations and Unsafe Behavior."

From now on, activities will be carried out in line with the New Medium-Term Occupational Health and Safety Targets. Specific initiatives will be promoted to eliminate occupational accidents and reduce significant risks to allow a culture of safety to be established and take root.



Incidence rate	(	Number of the absentees due to occupational injury (at least one workday lost)	)	+	(	Number of the absentees due to occupational illness (at least one workday lost)	)	×200.000
illness	_	Total actual number of	of hou	Irs wo	rked	by registered workers		*200,000

Accident	_	Number of the victims of occupational injury (at least one workday lost)	×1.000.000
Frequency Rate	-	Total actual number of hours worked by registered workers	*1,000,000

# Efforts and Status 2-1

### Man

#### Creation of a "safe workplace" culture

To create a safe workplace culture, we are conducting activities to help employees increase their knowledge of health and safety so that they can perform their work with such knowledge in mind. In FY2021, we analyzed the results of the 3rd Safety Awareness Survey conducted in FY2020, and with the safety and health experts at each site. We discussed and decided necessary actions to take toward problems, along with continued efforts to review training methods and establish these practices. Improvements were seen in the 4th Safety Awareness Survey conducted in FY2021, enabling us to confirm the outcome of these initiatives.

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



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 Machines, which define measures against risks common to production machines to enhance safety measures for them.

In FY2021, we clarified the responsibilities and roles of qualified machine safety experts (safety assessors [SAs] and safety sub-assessors [SSAs]) and machine safety leaders (safety basic assessors [SBAs]), and implemented training for these qualified personnels, to reinforce machinery safety systems.

Furthermore, for machines designed at overseas sites, we have conducted double-checks with SAs/SSAs through devices such as web cameras along with local machine safety checks, to improve the quality of machine safety measures and boost the skills of machine design/ modification personnels at overseas sites.

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



Machine safety instructor training

# 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 FY2021, we added safety rules for lockout/tagout in accordance with the revised requirements of the RBA code of conduct. Furthermore, we reviewed risk assessment methods for Physically demanding works, including prolonged sitting or standing, to ease the workload for pregnant and nursing mothers.

We will continue to strive toward promoting a safe working environment from a common perspective.



Lockout/tagout

# 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 FY2021, we established detailed standards for the use, storage, and disposal of chemicals, which is combined with multiple chemicals, Such as painting materials, as a measure to prevent heat generation/ignition caused by chemical reactions. Safety measures were reinforced for external contractors as well.

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

### 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 FY2021, we analyzed customer and industry requirements findings at past audits, to configure audit standards and apply them in audits at each site. Furthermore, improvement guidance based on outstanding examples of lead players through audits has led to better workplace safety standards.

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<sup>11</sup> for reducing incidences of mental health problems and is conducting preventive activities.

We have switched the legal stress check questionnaire to the "New Occupational Stress Simple Questionnaire (80 questions)" from FY2020, to investigate the stress state of each employee, along with work engagement<sup>2</sup> and the rate of organized harassment.

In our approach to individual employees, industrial nurses conduct individual interviews with

employees who have concerns about their mental health in efforts to prevent mental health problems. Regarding our approach at the organization level, group analysis results are shared with organization

management to encourage mutual understanding of the results. This has allowed individuals to reaffirm the importance of mental health and has led to activities that help in maintaining personal mental health. At the organization level, training to foster leaders who are able to care for the mental health of their subordinates took place at the discretion of respective departments.

Although the percentage of employees suffering from mental health issues increased slightly to 0.87% (see G1), environmental facilitation has become smoother due to contracting a psychiatrist as an industrial physician.

We will continue to provide mental health care so that all employees can work with peace of mind and energy.

\*1 Mental Healthcare System (%) Outside healthcare professionals Managers and supervisors ---- Taiyo Yuden 15 Consultation Treatment (Superiors) (Psychiatrist) 1.15 1.15 Line care, External care Individua 1.0 Consultation / Collaboration Collaboratio 0.86 0.78 0.87 Psychological **Clinical psychotherapists** nsultation / Advi CO and inselors (Medical staff room) industrial counselors 05 Collaboration Manager of Operations manager Contracted Administration Dept. industrial physician In-house staff care

\*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 with vigor.

0.0

#### 2 Establishing a healthy lifestyle

Based on the management philosophy of "Employee well-being." Taiyo Yuden sees employee health management as an issue related to business, and we run health management activities to promote employee health and work engagement. Within this, to advance these activities both strategically and systematically, we have set health indicators (Focus 5: Food, non-smoking, exercise, sleep, and stress) and established targets, and have been endeavoring to implement specific health measures to achieve these targets.

The anomaly observation rate in regular health checkups has been increasing in recent years as the average age of employees rises. For this reason, for FY2021 as well, we strived to emphasize prevention of lifestyle diseases, which increase with age.

For example, healthier dishes were introduced as a cafeteria reform, by subsidizing ingredient costs for cafeterias at each site. For sleep, a seminar on sleep disorders was held for shift workers and

new recruits. Furthermore, for exercise, we launched initiatives to motivate employees to exercise on a daily basis, such as physical fitness measurements at regular health checkups and yoga classes with external instructors.

Additionally, to promote health, we held activities such as walking events in cooperation with health insurance associations, RIZAP seminars jointly conducted with the labor union, and "stop smoking" campaigns to promote quitting.

We have received acclaim in external evaluations such as the Ministry of Economy, Trade and Industry's "Health & Productivity Management Outstanding Organization 2022 (White 500)"<sup>3</sup> for two consecutive years, and the "Sports Yell Company 2022"<sup>14</sup> by the Japan Sports Agency has also certified us for two consecutive years as a company that actively promotes sports activities to improve employee health.

We will continue to pursue both mentally and physically healthier work environments that enable our employees to work with vigor.

\*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



Mental health leader training



Health & Productivity Management Outstanding Organization 2022 (White 500)



Sports Yell Company 2022

2017 2018 2019 2020 2021 FY

G1 : Incidence rate