ESG / Environmental Activities

Medium-Term Environmental Targets

TAIYO YUDEN set "strengthening responses to climate change" and "efficiently using resources and helping to build a recycling-based society" as materiality (key issues) related to environmental efforts. To respond especially to climate change, which is a global issue, the targets have been set with the aim of achieving carbon neutrality. To achieve these targets, we will be diligent at saving, generating, and reusing the energy that drives our manufacturing based on the principle of decarbonization.

Achievement Levels for Medium-Term Environmental Targets
https://www.yuden.co.jp/en/sustainability/environment/materiality/

Environmental Impact of Corporate Activities

TAIYO YUDEN 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, with the bulk arising during production. The main environmental impact that arises during production includes energy and water consumption, emissions (including CO_2) in the course of manufacture, waste and wastewater.

TAIYO YUDEN 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. TAIYO YUDEN products are used in electrical and electronic equipment, automobiles, and other products which become waste once their product lifetime is over. Therefore, we are also striving to remove hazardous substances from these products.

Efforts to Address Climate Change

TAIYO YUDEN aims to contribute to the achievement of the international environmental goals set forth in the SDGs and the Paris Agreement. We also recognize the importance of climate-related financial disclosure, endorse the TCFD recommendations, and are working to disclose related information.

Efforts to Address TCFD

As the impact of climate change on society, such as frequent storms and floods, is increasing, the role of companies in achieving a decarbonized society is becoming more important. We consider that strengthening the measures to respond to climate change is one of the most important business challenges.

TAIYO YUDEN promotes manufacturing based on the decarbonization concept, with the aim of achieving carbon neutrality to tackle the global issue of climate change. As a part of this, we are thoroughly implementing efforts in the areas of energy saving, energy creation, and the utilization of renewable energy. We have established our target for reducing the absolute amount of GHG emissions in line with Science Based Targets (SBT)* and obtained Near-Term Target accreditation from SBTi in FY2024. We aim to contribute to the achievement of international goals, and through collaboration with a wide range of stakeholders, we will work to reduce emissions and enhance information disclosure in accordance with the TCFD recommendations.

* SBT refers to setting targets based on scientific evidence. It indicates greenhouse gas emission reduction targets set by a company for a period of five to ten years into the future to align with the levels sought by the Paris Agreement stipulated in 2015.

Governance

The TAIYO YUDEN Group considers climate change to be one of the most important business challenges. In April 2021, we established the Sustainability Committee with the aim of promoting company-wide efforts on sustainability issues through business activities.

The Sustainability Committee, chaired by our President and Chief Executive Officer, meets four times a year. The committee sets key issues as materiality, shares issues, and deliberates measures to resolve them, reporting to the Board of Directors. There are directors who have expertise and experience in ESG and sustainability on the Board of Directors. In addition, the Environmental Promotion Committee, a sub-committee of this Sustainability Committee, monitors steps taken against quantitative targets for climate change and the status of their achievement. If achieving the targets prove difficult, the Environmental Promotion Committee will request that additional measures be put in place and issue a directive for corrective action.

Strategy

(1) Identification of risks and opportunities

TAIYO YUDEN used climate scenarios such as the IEA and the IPCC to identify climate-related risks and opportunities that affect our business, qualitatively evaluated their characteristics. Moving forward, we will analyze these risks and opportunities we have identified.

Division	Assumed event	Climate-related risks and opportunities	Degree of financial impact (Profit basis)
Transition risks	Introducing and raising carbon prices	Increasing of operation costs due to introducing of carbon prices	Major
	Strengthening environment-related regulations	Increasing of costs for measures due to strengthening of GHG emission reduction targets and energy efficiency improvement targets	Medium
		Increasing of costs due to compliance with domestic and overseas environmental regulations	Medium
Physical risks	(Acute) Intensifying extreme wind and flood damages	Intensified wind and flood damages to sites	Minor - Medium
	(Chronic) Long-term change in weather patterns	Suspension of production due to water shortages caused by drought and a decline in productivity due to heat waves	Minor - Medium

Division	Assumed event	Climate-related risks and opportunities	Degree of financial impact (Profit basis)
Opportunities	Acceleration of xEVs shift	Increasing in sales of electronic components for the electric vehicle market due to the global shift to xEVs	Major
	Increased demand for high-efficiency products	Increased sales of electronic components for the industrial equipment market due to increased demand for power supplies with energy management functions to reduce GHG emissions	Major
	Increased production efficiency	Secure profits by promoting low-carbon production activities including the development of energy-saving measures and the introduction of renewable energy	Major
	Promotion of climate change-related measures	Enhance customer trust by advancing climate change-related measures	–

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

(2) Setting the scenario analysis theme

TAIYO YUDEN 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

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*1	NZE (Net Zero Emissions by 2050 Scenario)	STEPS (Stated Policies Scenario)
View of the world	■ A world where CO_2 emissions by the global energy sector reach net zero by 2050 and the advanced countries achieve zero emissions ahead of other countries. A world where global temperature rise is limited to 1.5°C with a probability of 50% or greater in accordance with the emissions reduction target specified in the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC). ■ As each country shifts to renewable energy, prices of fossil resources tend to decrease.	■ A world where the policies and implementation measures that affect the energy market adopted by the countries as of August 2024, and the related policy proposals are partially implemented. A world where the policies that are highly feasible are implemented without assuming the achievement of the targets set by the government of the countries and the energy transition progresses conservatively. ■ 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 2024, 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

This data covers the 17 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	The Geospatial Information Authority of Japan "Web-Based Flood Simulation Search System at an Arbitrary Point (Flood Navigation System)," "Hazard Map Portal Site" Flood hazard map, Guidance on the Physical Risk Assessment Based on the TCFD Recommendations (March 2023)
Fathom	Global Flood Map
WRI (World Resources Institute)	Aqueduct Water Risk Atlas V4
IPCC (Intergovernmental Panel on Climate Change)*2,3	AR6 Climate Change 2021: The Physical Science Basis, Working Group 1 Interactive Atlas
Others	Yukiko Hirabayashi et al. (2013). Global flood risk under climate change. Nature Climate Change, 3(9), 816-821. Cui, D., Liang, S., Wang, D., and Liu, Z.: A 1 km global dataset of historical (1979–2013) and future (2020–2100) Köppen–Geiger climate classification and bioclimatic variables, Earth Syst. Sci. Data, 13, 5087–5114, https://doi.org/10.5194/essd-13-5087-2021, 2021.

*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.

Opportunities

Target business / Analysis theme

Electronic components business	Impact of the global shift to xEVs on sales of electronic components for the automotive market

Major pieces of external information referred to in the analysis

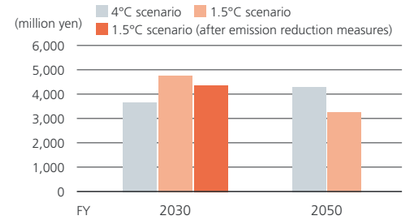
Information provider	Reference
IEA	IEA World Energy Outlook 2023, IEA Global EV Outlook 2023, IEA Global EV Data Explorer (Last updated 23 Apr 2024)

(3) Scenario analysis results

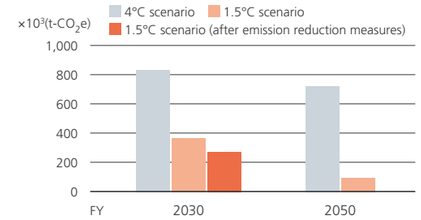
Transition risks: Financial impact of introducing carbon prices on operating costs

Risk	Impact of carbon prices on operating costs in 2030 and 2050
Our climate scenario analysis prerequisites	Assuming that a carbon price of 19,600 yen will be imposed on each ton of GHG emissions in 2030 and 35,100 yen in 2050, we forecast the effects on carbon prices. Carbon prices are set based on IEA World Energy Outlook 2024 (Net Zero Emissions by 2050 Scenario, Stated Policies Scenario).
Analysis result	We forecast future GHG emissions trends and the financial impact on operating costs if carbon prices were introduced. Under the 1.5°C scenario, if GHG emissions reduction measures were implemented, costs would have been reduced by about 400 million yen as of 2030 and by 3.3 billion yen as of 2050 compared with the scenario where no measures are taken (see G1). In addition, although we are promoting the introduction of renewable energy, even if electricity is sourced 100% from renewable energy, the remaining Scope1 emissions in the 1.5°C scenario will be 100,000 t-CO_2e (see G2), and the impact of the carbon price will be about 3.3 billion yen.
Strategy	In order to reduce energy consumption, we are improving production efficiency by reviewing our production processes, focusing on our core products, while also promoting renewable energy adoption. In addition, we will explore measures to reduce the remaining Scope1 emissions toward the achievement of carbon neutrality.

G1: Carbon Price Effect



G2: GHG Emissions Trends



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 24 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. Regarding floods, there is one site in Japan that seemed to be at high risk at present, but there was no change in the grade in the future. On the other hand, there are no overseas sites that are currently considered to be at high risk, and there is no change in the grade in the future. As for storm surges, there are no domestic and overseas sites that are currently considered to be at high risk and there is no change in the grade in the future.
Strategy	In the future, we will investigate in detail the sites that have been assessed as being at high risk based on the results of this analysis and take preventive measures such as installing equipment to minimize flooding on site and ensuring the installation height of the power supply system if deemed necessary. In addition, we will establish a stable product supply system based on our Business Continuity Plan (BCP), which will enable us to resume business activities as soon as possible in the event of a business continuity problem such as a shutdown.

Flood risk	Number of Sites Rated as Major Hazard (Grade A)				
	2005	2050		2085	
	—	RCP2.6	RCP8.5	RCP2.6	RCP8.5
Japan (17 sites)	1 site	1 site	1 site	1 site	1 site
Outside Japan (7 sites)	0 site	0 site	0 site	0 site	0 site

Storm Surges risk	Number of Sites Rated as Major Hazard (Grade A)				
	2010	2050		2090	
	—	RCP2.6	RCP8.5	RCP2.6	RCP8.5
Japan (17 sites)	0 site	0 site	0 site	0 site	0 site
Outside Japan (7 sites)	0 site	0 site	0 site	0 site	0 site

ESG / Environmental Activities

Risk Management

Regarding climate-related risks, TAIYO YUDEN assigns Executive Operating Officer who is a responsible director of safety and environment, reports and deliberates these issues at the Internal Control Committee through the Compliance Subcommittee and the Risk Management Subcommittee in accordance with the group management system. We refer to the social situation analysis, interviews with customers and suppliers, and ESG-related engagement process with investors as tools to identify risks and opportunities related to climate change. The impact of these risks has been assessed in relation to their financial impact and management strategy.

Indicators and Targets

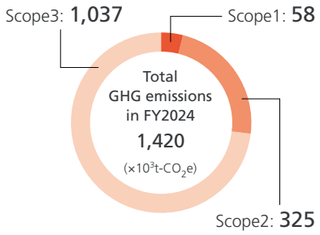
GHG emissions

TAIYO YUDEN has set the target of reducing GHG emissions through its business activities by 42% by FY2030 compared to FY2020, which is consistent with the 1.5℃ scenario, to contribute to the global initiatives to limit the temperature rise to 1.5℃. In order to achieve this target, we are steadily promoting the efforts to reduce GHG emissions through measures to improve production efficiency and to use renewable energy as well as to smoothly move forward with our plan by introducing energy-saving measures and photovoltaic facilities. We plan to use electricity generated from 100% renewable energy at the two domestic sites in FY2024 and expand the number of sites with 100% renewable energy going forward to further reduce our GHG emissions.

Target and Result regarding GHG emissions

	FY2020 Achievement	FY2024 Achievement	FY2030 Targets
GHG emissions* (10^3t-CO_2e)	484 (Reference year)	**383** (Compared to FY2020 (20.9)%)	**281 (Compared to FY2020 (42)%)**

*Scope1+Scope2

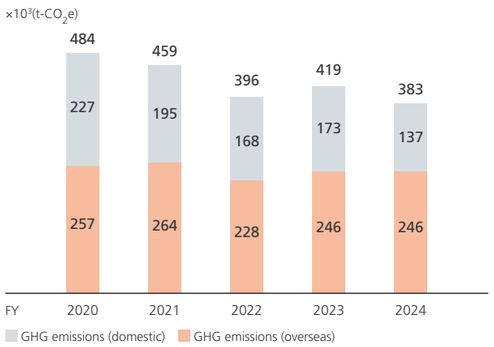


Results of Efforts to Reduce Greenhouse Gases and Energy Consumption

In FY2024, the GHG emissions by the entire group decreased by 36,000 t-CO_2e compared to FY2023. Specifically, emissions by the sites in Japan decreased from 173,000 t-CO_2e in FY2023 to 137,000 t-CO_2e, and emissions by the overseas sites remained at 246,000 t-CO_2e, the same as in FY2023. The crude oil equivalent for the amount of energy used by the entire group was 273,000 kL.

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 FY2024 was 270,662 MWh.

G1: GHG Emissions (calculated from total energy consumption)



	GHG Emissions (×10^3t-CO_2e)
Scope1	58
Scope2	325

Efforts on Indirect Emissions Other than from Energy Use (Scope3)

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. To reduce Scope 3 emissions, we are engaging with our suppliers.

(unit: ×10^3t-CO_2e)

category1	Purchased goods and services	683
category2	Capital goods	158
category3	Fuel- and energy-related activities (not included in Scope1 or Scope2)	102
category4	Upstream transportation and distribution	49
category5	Waste generated in operations	13
category6	Business travel	4
category7	Employee commuting	19
category8	Upstream leased assets	0 (Included in Scope2)

(unit: ×10^3t-CO_2e)

category9	Transportation and delivery (downstream)	2
category10	Processing of sold products	7
category11	Use of sold products	Not applicable
category12	End-of-life treatment of sold products	0.1
category13	Leased assets (downstream)	Not applicable
category14	Franchise	Not applicable
category15	Investments	Not applicable
Total		1,037

Use of Renewable Energy

Efforts to energy creation

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 site, Hongo Photovoltaic Power Plant in FY2013, others have been built as well, and there are currently 13 power-generating sites in Japan and overseas.We installed solar panels at 3 sites in FY2024.


TAIYO YUDEN CHEMICAL TECHNOLOGY


TAIYO YUDEN (CHANGZHOU)


TAIYO YUDEN (SARAWAK)

Efforts to utilize renewable energy

In FY2024, we switched all electricity used at the R&D Center and the Head Office of Sun Vertex, our subsidiary, to renewable energy. By FY2025, we plan to switch to renewable energy for all electricity used at the Takasaki Global Center.


R&D Center


Sun Vertex

ESG / Environmental Activities

GHG Emissions

TAIYO YUDEN supports TCFD, is advancing the related information disclosure, and is making efforts to reduce GHG emissions. In recognition of these efforts, we were selected as a CDP's "Climate Change A List" Company and Supplier Engagement Leader for the third consecutive year in FY2024.

Initiatives in FY2024

Obtained ZEB Ready certification for a new plant

To reinforce its technological capabilities in multilayer ceramic capacitors (MLCCs), TAIYO YUDEN newly constructed a fifth building at the Tamamura Plant. This plant is the site for MLCC development and mass-production, and we have obtained environmentally friendly ZEB Ready certification for the new building. Going forward, we will contribute to evolving the field of electronics and development in society by developing high-performance electronic components.

Tamamura Plant Building No. 5
(Tamamura-machi, Sawa-gun, Gunma)

Selected as CDP's "Climate Change A List" Company and Supplier Engagement Leader for third consecutive year

TAIYO YUDEN was selected as an A List Company, the highest rating in the climate change category, for the third consecutive year in recognition of our efforts to combat climate change. This list is compiled by the international environmental non-profit organization CDP* from among approximately 22,700 companies it evaluates. We have also retained our rating as a Supplier Engagement Leader in recognition of our engagement efforts in the supply chain.

TAIYO YUDEN aims to achieve carbon neutrality and has established the strengthening of measures to address climate change as one of the materiality items. In addition, we endorse the TCFD recommendations, identify risks and opportunities related to climate change, and develop strategies based on scenario analysis, including financial impact. We will continue to promote activities to reduce GHG and energy consumption, focusing on the thorough implementation of measures in the areas of energy conservation, energy creation, and utilization of renewable energy.

Climate CDP A List 2024

* CDP is a non-governmental organization (NGO) managed by a British charitable organization, established in 2000. It operates a global information disclosure system for investors, companies, countries, regions, and cities to manage environmental impacts including reducing their own greenhouse gas emissions, protecting water resources, and protecting forests

Initiatives in FY2025

TAIYO YUDEN obtained SBTi* certification that its target for reducing the amount of GHG emissions by FY2030 has scientific grounding. Based on the medium-term management plan 2025, we will promote the switch to renewable energy and the execution of energy-saving measures, while continuing to aim to enhance our corporate value and contribute to society through our response to climate change.

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

* SBTi (Science Based Targets initiative): The SBTi is a joint initiative by WWF, CDP, the World Resources Institute (WRI), and the UN Global Compact (UNGC). It supports and certifies companies in setting science-based targets (SBTs) that align with scientific knowledge on how much and by when they need to reduce greenhouse gas emissions.