

ESG

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 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, TAIYO YUDEN thoroughly promotes 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 Science Based Targets (SBT) initiative. We aim to contribute to the achievement of the international goals and are taking steps to reduce our emissions in collaboration with a wide range of stakeholders.

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, sets key issues as materiality, shares issues, and deliberates measures to resolve them, reporting to

the Board of Directors. In addition, the Environmental Promotion Committee, a sub-committee of the Sustainability Committee, monitors steps taken against quantitative targets for climate change and the status of their achievement. If 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 them, qualitatively evaluated their characteristics, and conducted scenario analysis. Moving forward, we will analyze these risks and opportunities we have identified.

Division	Assumed items	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	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

(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 / Opportunities

Target business / Analysis theme

Common to all businesses	Financial impact of introducing carbon prices on operating costs
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External information referred to in the analysis

	1.5°C scenario	4°C scenario
Key reference scenarios*1	SDS (Sustainable Development Scenario)	STEPS (Stated Policies Scenario)
View of the world	<ul style="list-style-type: none"> As of mid- 2021, each country had achieved their Net 0 commitments, and the average global temperature rose between 1.5°C and 1.65°C around 2100 compared to before the industrial revolution. As each country shifts to renewable energy, prices of fossil resources tend to decrease. 	<ul style="list-style-type: none"> As of mid- 2021, each country had partially carried out policies and implementation measures 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 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)
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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)*2,3	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.

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(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 13,200 yen will be imposed on each ton of GHG emissions in 2030 and 22,000 yen in 2050, we forecast the effects on carbon prices. Carbon prices are set based on IEA World Energy Outlook 2021 (Sustainable Development Scenario, Stated Policies Scenario).
Analysis result	<p>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 5.1 billion yen as of 2030 and by 16.4 billion yen as of 2050 compared with the scenario where no measures are taken (see G1). Even if the power is 100% renewable energy, the remaining SCOPE 1 in the 1.5°C scenario is 260 kt-CO₂e (see G2), and the effect of carbon prices is estimated to be about 5.4 billion yen.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>G1: Carbon Price Effect</p> </div> <div style="text-align: center;"> <p>G2: GHG Emissions Trends</p> </div> </div>
Strategy	In order to reduce energy consumption, we believe that it is necessary to improve production efficiency by reviewing our production processes, focusing on our core products, along with promoting the introduction of renewable energy. In addition, we plan to consider measures to reduce the remaining SCOPE 1 toward the achievement of carbon neutrality in 2050.

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	<p>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 midcentury or end-of-century grades based on the RCP2.6 and RCP8.5 climate scenarios.</p> <p>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.</p> <div style="display: flex; justify-content: space-around;"> <table border="1" style="font-size: small;"> <thead> <tr> <th rowspan="3">Flood risk</th> <th colspan="5">Number of Sites Rated as Major Hazard (Grade A)</th> </tr> <tr> <th colspan="2">2005</th> <th colspan="2">2050</th> <th>2085</th> </tr> <tr> <th>–</th> <th>RCP2.6</th> <th>RCP8.5</th> <th>RCP2.6</th> <th>RCP8.5</th> </tr> </thead> <tbody> <tr> <td>Japan (18 sites)</td> <td>1 site</td> <td>1 site</td> <td>1 site</td> <td>1 site</td> <td>1 site</td> </tr> <tr> <td>Outside Japan (7 sites)</td> <td>1 site</td> <td>1 site</td> <td>1 site</td> <td>1 site</td> <td>1 site</td> </tr> </tbody> </table> <table border="1" style="font-size: small;"> <thead> <tr> <th rowspan="3">Storm Surges risk</th> <th colspan="5">Number of Sites Rated as Major Hazard (Grade A)</th> </tr> <tr> <th>2010</th> <th colspan="2">2050</th> <th colspan="2">2090</th> </tr> <tr> <th>–</th> <th>RCP2.6</th> <th>RCP8.5</th> <th>RCP2.6</th> <th>RCP8.5</th> </tr> </thead> <tbody> <tr> <td>Japan (18 sites)</td> <td>0 site</td> <td>0 site</td> <td>0 site</td> <td>0 site</td> <td>0 site</td> </tr> <tr> <td>Outside Japan (7 sites)</td> <td>0 site</td> <td>1 site</td> <td>1 site</td> <td>1 site</td> <td>1 site</td> </tr> </tbody> </table> </div>	Flood risk	Number of Sites Rated as Major Hazard (Grade A)					2005		2050		2085	–	RCP2.6	RCP8.5	RCP2.6	RCP8.5	Japan (18 sites)	1 site	1 site	1 site	1 site	1 site	Outside Japan (7 sites)	1 site	1 site	1 site	1 site	1 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 (18 sites)	0 site	0 site	0 site	0 site	0 site	Outside Japan (7 sites)	0 site	1 site	1 site	1 site	1 site
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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.																																																								

Risk Management

TAIYO YUDEN has assigned the Director and Executive Vice President in charge of safety and environmental affairs to be responsible for climate-related risks, who 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 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

TAIYO YUDEN 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 ³ t-CO ₂ e)	484 (Reference year)	459 (Compared to FY2020 ▲5.2%)	281 (Compared to FY2020 ▲42%)

*SCOPE 1+SCOPE 2

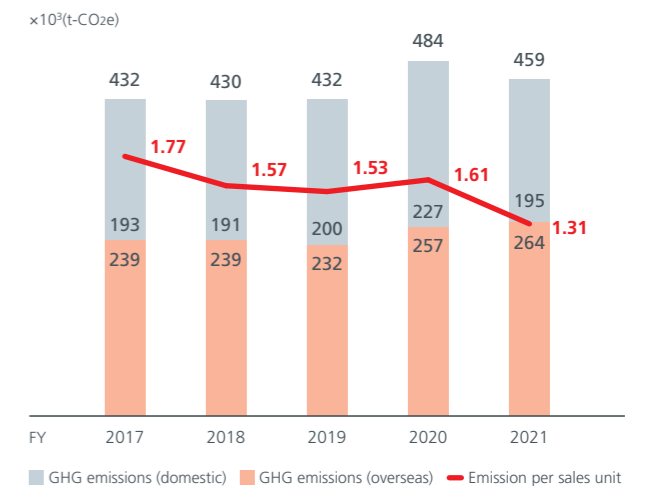
Results of Efforts to Reduce Greenhouse Gases and Energy Consumption

In FY2021, the amount of GHGs emitted by the entire TAIYO YUDEN Group decreased by 25,000 t-CO₂e compared to FY2020. Although our domestic sites reduced their emissions, our overseas sites increased theirs. The amount of energy used by the entire TAIYO YUDEN Group was 265,000 kL crude oil equivalent.

We will continue to review our production processes, with a focus on our core products, to further improve production efficiency and reduce energy use. Furthermore, we have been promoting the incorporation of renewable energy as part of 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.

G1: GHG Emissions (calculated from total energy consumption)



GHG Emissions (x10 ³ t-CO ₂ e)	
SCOPE 1	44
SCOPE 2	415

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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.

(unit: t-CO ₂ e)			(unit: t-CO ₂ e)		
category1	Purchased Goods and Services	379,879	category9	Transportation and delivery (downstream)	Not applicable
category2	Capital goods	83,697	category10	Processing of sold products	17
category3	Fuel- and energy-related activities (not included in SCOPE 1 or SCOPE 2)	75,642	category11	Use of sold products	Not applicable
category4	Upstream transportation and distribution	47,668	category12	End-of-life treatment of sold products	244
category5	Waste generated in operations	21,235	category13	Leased assets (downstream)	Not applicable
category6	Business travel	570 domestic sites	category14	Franchise	Not applicable
category7	Employee commuting	9,060 domestic sites	category15	Investments	Not applicable
category8	Upstream leased assets	0 Included in SCOPE2			

Use of Renewable Energy

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 2013, others have been built as well, and there are currently six power-generating sites in Japan and overseas.



FUKUSHIMA TAIYO YUDEN



WAKAYAMA TAIYO YUDEN



TAIYO YUDEN Mobile Technology



TAIYO YUDEN (PHILIPPINES)



Hongo Photovoltaic Power Plant



ELNA