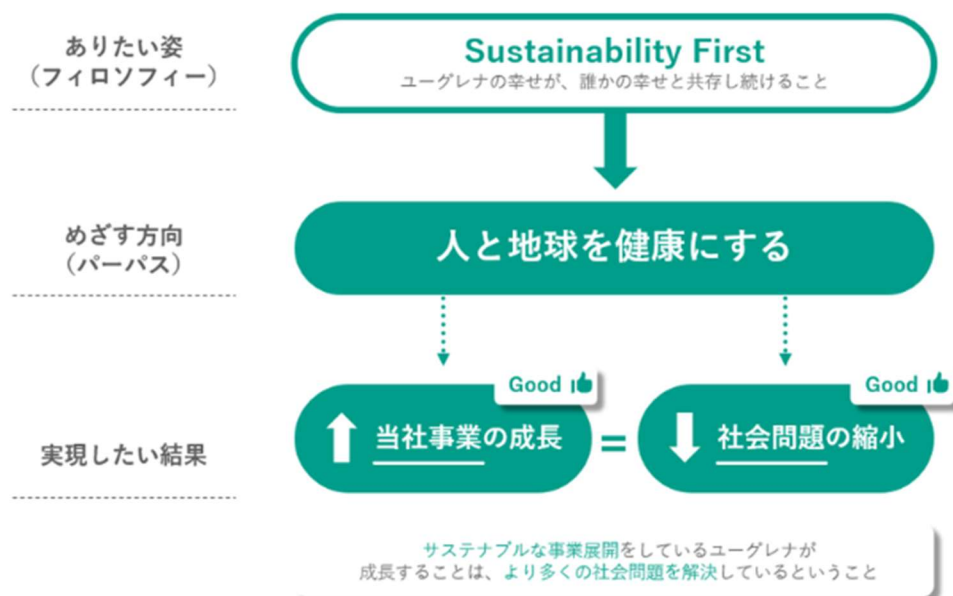


FY2025 TCFD Report

Toward a world with net-zero greenhouse gas emissions by 2050

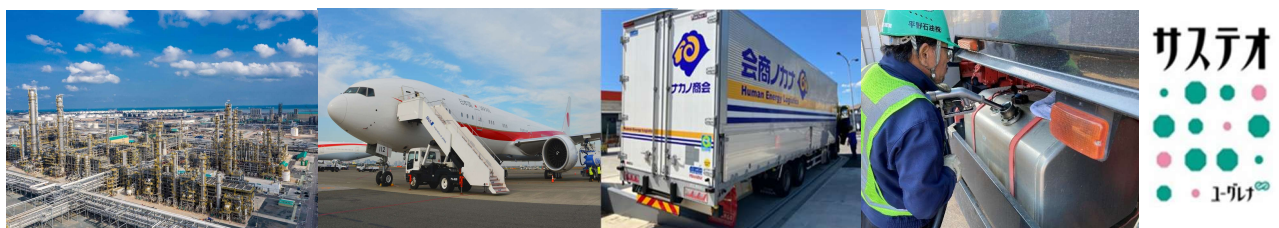
Under our Euglena Philosophy of “Sustainability First,” we believe we have a responsibility to leave a nature-rich planet for the next generation through environmentally conscious business activities. Since our founding in 2005, we have continuously worked to create innovative technologies and businesses that provide solutions to a wide range of social issues, including global environmental challenges, thereby contributing to the development of a sustainable society. Recognizing climate change as a critical issue that presents both business opportunities and risks for our Group, we will further promote the reduction of environmental impact through the Euglena Group’s businesses toward a world with net-zero greenhouse gas emissions by 2050, and we will also contribute to reducing society-wide CO₂ emissions through the wider adoption of biofuels.



● Development and Production of Biofuels

As an important business opportunity in addressing climate change, we are engaged in the development, manufacturing, and sales of “SUSTEO,” a next-generation biofuel made from waste cooking oil and other feedstocks. To date, we have completed the development of next-generation biodiesel fuel and sustainable aviation fuel (SAF), and have advanced demonstration and rollout

efforts across land, sea, and air transportation. We are now focusing on establishing a stable, commercial-scale supply system as the next stage in accelerating the social implementation of biofuels. A core initiative in this effort is the biofuel commercial plant project in Malaysia. This project is being promoted in collaboration with Malaysia's PetroliaM Nasional Berhad (PETRONAS) and Italy's Eni S.p.A (Eni). We made the final investment decision in July 2024, and have completed a 15% equity investment. While taking into account various assumptions and changes in the external environment, we are working with our partner companies to commercialize the project, targeting the start of operations by the second half of 2028. Through this project, we aim to expand our biofuel supply capacity and strengthen our business foundation, thereby contributing to the reduction of greenhouse gas emissions across society.



Related Links

- Energy / environment business introduction
[Euglena Co., Ltd. | Euglena 's business introduction \(euglena.jp\)](#)
- Euglena culture demonstration for biofuels
[vol.14 Cultivate Euglena with Japanese original technology. | Sustainable Times by euglena | Sustainable Times by euglena](#)
- Euglena Co., Ltd. Completes 15% Investment in Biorefinery JVCo in Malaysia Marks a Major Milestone Toward Commercialization; Enabling Annual Handling of 100,000KL of Biofuels
[Euglena Co., Ltd. Completes 15% Investment in Biorefinery JVCo in Malaysia](#)

● Participation in and Endorsement of Industry Initiatives

We have expressed our support for domestic and international industry initiatives that are leading efforts toward a world with net-zero greenhouse gas emissions by 2050. In addition, as a participating company, we are strengthening our efforts to achieve carbon neutrality. We also regularly review the consistency between each initiative's climate-change policies and our Group's climate change response policy, and, as necessary, we make policy recommendations.

Example

Supporting TCFD*¹

We expressed our support in May 2019 for the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD1: *Task Force on Climate-related Financial Disclosures*), which call for the disclosure of climate-related financial information, and we joined the TCFD Consortium*², which was established to promote these recommendations. Based on the TCFD recommendations, we are strengthening our disclosure regarding climate-related risks and business opportunities, as well as our governance framework.

*1 **TCFD**: A task force established by the Financial Stability Board (FSB), an international organization that seeks to stabilize the financial system. Its purpose is to support companies in disclosing information related to climate change and to help stabilize financial markets by enabling a smooth transition to a low-carbon society.

*2 **TCFD Consortium**: Established in Japan in May 2019 to discuss initiatives that promote effective corporate disclosure and the use of disclosed information by financial institutions and others in making appropriate investment decisions. Any company or institution that supports the TCFD can join.

Example

Endorsement of the Ministry of Economy, Trade and Industry's "GX League Basic Concept"*³

With the aim of promoting social transformation and creating new markets toward carbon neutrality, we have expressed our support for the "GX League Basic Concept," launched by Japan's Ministry of Economy, Trade and Industry (METI) in February 2022, and we are participating in the GX League as an endorsing company.

*3 **GX League Basic Concept**: A framework launched by METI in April 2022 in which companies that set ambitious carbon-reduction targets invest to reduce emissions while conducting voluntary emissions trading to achieve their goals. It aims to create an environment in which Japanese companies taking on the challenge of carbon neutrality can lead the transformation of the entire economic and social system, create new markets, and remain competitive internationally. As of January 2023, more than 670 companies had expressed their support, and the GX League began full-scale operation in April 2023.

Initiatives and Disclosures Based on the TCFD Recommendations

Governance Structure for Addressing Climate Change

To accelerate initiatives to address global challenges including climate change, the Group established a Sustainability Committee in February 2023 to promote activities toward achieving sustainability. The Sustainability Committee is positioned as an advisory body to the Board of Directors and is established directly under the Board, promoting sustainability initiatives across the entire Euglena Group. The Committee deliberates various policies, targets, strategies, and measures to drive Group-wide sustainability activities and ESG management aimed at realizing our “Sustainability First” commitment.

To promote sustainability activities across the Group—including responses to climate-related risks and opportunities and the reduction of CO₂ emissions—we establish, as needed under the Sustainability Committee, theme-based working groups comprised of business leaders and other personnel from the Company and Group companies. These working groups identify issues and consider specific countermeasures.

We will continue to advance initiatives to further accelerate sustainability management across the Group, including our response to climate change, while proactively enhancing sustainability-related disclosures for all stakeholders, including shareholders and investors and customers. Through these efforts, we aim to achieve sustainable growth aligned with ESG considerations and contribute to the realization of a sustainable society.

Scenario Analysis of the Impacts of Climate Change

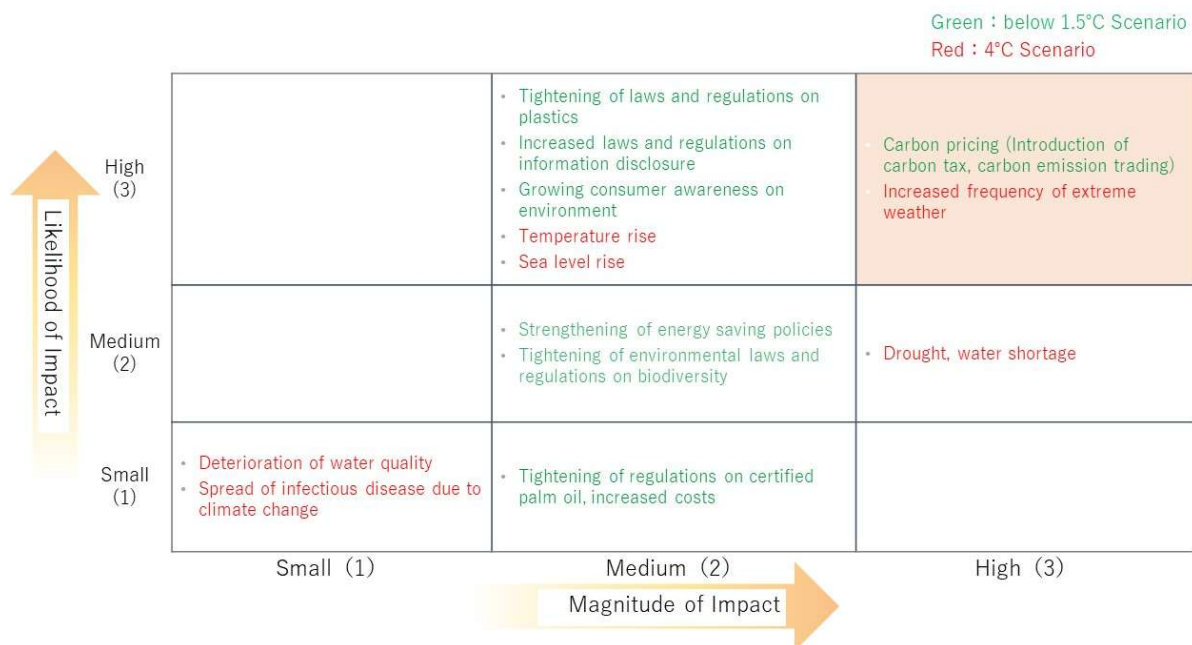
In this scenario analysis, with a view to achieving the Paris Agreement goal of “holding the increase in the global average temperature to well below 2° C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5° C,” and to realizing a decarbonized society, we examined a below-1.5° C scenario. At the same time, assuming a case in which climate change measures do not progress sufficiently worldwide, we also examined a 4° C scenario. In addition, we set 2030 as the target year for analysis, as a time horizon within which we can reasonably assess the likelihood of our businesses.

As the businesses in scope, we selected the healthcare business and biofuel business of Euglena Co., Ltd., and organized the potential impacts of climate change on the Group. For the scenario analysis, we referred to sources including the IEA SDS, IPCC RCP2.6 and SR1.5, and WRI Aqueduct Optimistic for the below-1.5° C scenario, and the IEA STEPS, IPCC RCP8.5, and WRI Aqueduct BaU for the 4° C scenario.

Analysis of Key Climate-Related Opportunities and Risks

Based on the assumed worldviews under each scenario, as a first step, we comprehensively listed risk and opportunity items for the in-scope businesses selected during the preparation phase. As a second step, using the likelihood of occurrence and the magnitude of business impact should the risks/opportunities materialize as axes, we conducted a qualitative preliminary assessment of the materiality of the risks (Figure 1). In the final step, based on discussions with executive officers and relevant department personnel, we assessed—both qualitatively and quantitatively—the degree of impact on the business and the likelihood of occurrence for each risk and opportunity, and classified them into three levels: low, medium, and high.

Materiality Assessment of Risk and Opportunity Items (Healthcare Business)



As a result, we organized the climate-related risks and opportunities assumed for each business as shown in the following charts and identified the key risks and opportunities.

Key Climate-Related Risks and Opportunities in the Healthcare Business

Risks

Climate events and its likelihood			Expected risks and magnitude of impact	
Below 1.5°C Scenario	Introduction of carbon pricing	High	- Increased capital investment related to CO2 emissions reduction efforts - Increased raw materials cost on heavy oil, gas, and electricity	High
			Increased cost on logistics and shipping	
	Tightening of laws on plastics	High	Increased cost on bioplastics use and container recycling etc.	High
	Increased laws on information disclosure	High	Increased burdens due to disclosure and regulatory requirements	Medium
	Strengthening of energy saving policies	Medium	Increase in capital investment cost for improving energy efficiency	High
	Tightening of laws and regulations on biodiversity	Medium	Increase in capital investment cost due to stricter regulations on water emissions and wastewater	Medium
Climate events and its likelihood			Expected risks and magnitude of impact	
4 °C Scenario	Increased frequency of extreme weather events	High	Sales decrease due to capital damages and disruption to production and manufacturing factories, and supplier factories, and increased cost to respond to such damages	High
			Sales decrease due to disruption of logistics and shipping routes	
	Sea level rise	High	Increased cost due to damages to equipment in production and manufacturing factories	Medium
	Temperature rise	High	Reduced or delayed productivity of field workers	Medium
			Increased temperature control cost for Euglena culture facilities	
			Increased cost of required investments in production equipment and consumables	
			Increased risk of mutation in cultured organisms and emergence of hostile viruses	Low
			Decrease in yield and quality of ingredients other than Euglena (green barley leaves, kale etc.) resulting in lower product quality and higher procurement cost	
	Drought, Water shortage	Medium	Suspension of Euglena culture due to lack of water supply	High
			Increased culture cost due to changes in water properties	
			Increase in water bills and raw material cost due to lack of water supply	Medium
			Decrease in Euglena culture volume due to heat waves and drought	Low

- Damage to production sites and logistics functions due to the intensification of extreme weather under the 4° C scenario
- Capital expenditures and raw material procurement costs resulting from the introduction of carbon pricing under the below-1.5° C scenario

We identified these as risk factors that require particular attention and conducted a quantitative assessment of their impact on our business. Going forward, we will conduct more detailed risk analyses and strive to strengthen comprehensive risk management.

Example

Shutdown of Production and Logistics Sites Due to Flooding and Storm Surges

We assessed the potential impact of extreme weather events such as flooding and storm surges on the Group's logistics sites. For each production and logistics site, we used hazard maps and flood inundation forecast maps issued by local governments in our assessment. For each logistics site, with reference to the Ministry of Land, Infrastructure, Transport and Tourism's "Flood Control Economic Survey Manual (Draft)," we estimated lost sales attributable to site shutdowns based on the assumed number of days of business suspension and reduced operations. As a result, as of 2030, the decrease in sales due to an inability to supply products resulting from the inundation of logistics sites is expected to be limited under our current assumptions, and we assessed this risk as being within a manageable range. Going forward, we will implement measures such as developing a business continuity plan (BCP) for flooding and improving inundation forecasting, and we will strive to mitigate and eliminate these risks.

Example

Impacts on Ishigaki Island Euglena Production Due to Rising Temperatures and Water Scarcity

Because Ishigaki Island *Euglena* / Yaeyama *Chlorella* must be cultivated within an appropriate temperature range, if temperatures rise as assumed under the 4° C scenario, temperature-control costs for cultivation may increase. In addition, although the likelihood is relatively low, drought-related water scarcity risks could arise; if securing the water required for cultivation becomes difficult, this may affect *Euglena* / *chlorella* production. Going forward, we will implement measures aimed at avoiding or reducing these risks, including capital investment in temperature-control equipment.

● Opportunities

Climate events and its likelihood			Expected opportunities and magnitude of impact	
Below 1.5°C Scenario	Increased consumer awareness on environment	High	• Increased sales due to market expansion of environmentally friendly products	High
	Decreased renewable energy prices	High	• Cost reduction by using renewable energy	Low
4 °C Scenario	Increased frequency of extreme weather events	High	• Growing demand for supplements for emergency stocks	Low
	Temperature rise	High	• Expansion of areas where Euglena can be produced due to temperature rise	Low
		High	• Decreased crop and procurement cost due to rising average temperature	Low
		High	• Generation of Euglena strains with excellent production efficiency due to temperature rise	Low
	Degradation of marine ecosystems, rise in seawater temperature	Medium	• Occurrence of alternative demand for fishery resources due to reduced fish catches	Medium

Under the below-1.5° C scenario, in which efforts to address climate change progress, consumer awareness that places greater emphasis on environmental and social considerations is expected to rise further. As a result, in addition to product quality and functionality, factors such as the sustainability of ingredients and the low environmental impact of manufacturing and supply processes are likely to become more important criteria in purchasing decisions.

In our healthcare business, we have promoted the provision of products and services that consider environmental and social impacts by selecting sustainable ingredients and materials and engaging in business activities that prioritize reducing environmental burdens. We recognize that these initiatives will contribute to enhancing evaluations of the value and reliability of our products in a social environment where climate-change measures continue to advance.

Going forward, we will continue to develop and provide products and services that take sustainability into account, while responding to changes in consumer values and market conditions, with the aim of capturing mid- to long-term business opportunities and achieving sustainable growth in the healthcare business.

Key Climate-Related Risks and Opportunities in the Biofuel Business

As with the healthcare business, we conducted both qualitative and quantitative assessments of the magnitude of business impact and likelihood of occurrence for risks and opportunities in the biofuel business. However, because this business is still in a phase prior to full-scale commercialization and there are aspects that make an appropriate assessment difficult at this time, we have primarily disclosed the results of our qualitative analysis of risks and opportunities.

We position the biofuel business as a business with significant growth opportunities, while also requiring a response to transition risks associated with achieving a decarbonized society. Under the below-1.5° C scenario, progress in carbon-neutral policies in each country and the introduction of allocation systems and carbon pricing are expected to improve biofuels' price competitiveness relative to fossil fuels, leading to an expansion in biofuel demand.

In particular, the accelerated adoption of sustainable aviation fuel (SAF) in the aviation sector represents an important business opportunity, and mid- to long-term demand growth is expected in the domestic market as well, supported by adoption targets and support measures set by the Japanese government and relevant ministries and agencies. In addition, as policies toward realizing green transformation (GX) advance, the investment environment for next-generation fuels—including SAF—is gradually being established.

At the same time, risks are anticipated, including fluctuations in feedstock procurement prices and impacts on manufacturing and logistics caused by extreme weather associated with climate change. To reduce these risks, we are advancing the development of a distributed business model by examining multiple feedstock and supply schemes and collaborating with overseas partners.

Climate risks and opportunities

Below 1.5°C Scenario	Risk	Increased manufacturing cost due to the introduction of carbon pricing
		Increased prices of biofuel raw materials
	Opportunities	Increase in product added value (sales price) due to the introduction of carbon pricing
		Tightening of laws and regulations to promote the use of biofuels
4 °C Scenario	Risk	Damage to manufacturing and distribution functions due to extreme weather
		Increased biomass raw material cost due to changing climate patterns

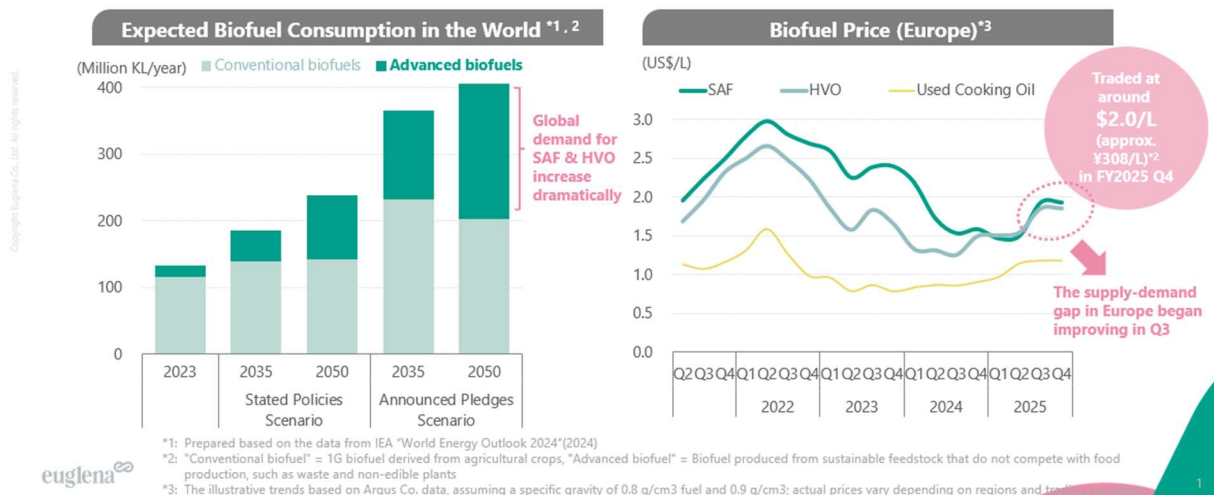
Example

Expansion of Business Opportunities Driven by the Progress of Policies and Regulatory Frameworks to Promote Biofuel Adoption

Global Biofuel Market Trend

Biofuel prices began rising in FY2025 Q3, driven by SAF mandates in the EU and UK

Stronger SAF mandates and incentives are anticipated, supporting medium-term growth in biofuel demand



Toward the realization of carbon neutrality across society, biofuels are positioned as an effective option for the transport sector, which has traditionally been considered difficult to decarbonize, and demand is expected to expand globally. As institutional frameworks such as mandates, quota/allocation schemes, and carbon pricing advance in each country, biofuels' relative competitiveness compared with fossil fuels is expected to increase, and the market is expected to grow over the mid to long term.

In particular, while biofuel adoption is expected to proceed in stages across land, sea, and air transportation—such as road transport, shipping, and aviation—the supply of biofuels produced from sustainable feedstocks remains limited, and supply shortages are regarded as a challenge. Under these circumstances, we believe business opportunities will expand for companies working to increase production capacity and establish stable supply systems.

In Japan, the introduction of sustainable aviation fuel (SAF) is being promoted by policy measures, particularly in the aviation sector, and the Ministry of Land, Infrastructure, Transport and Tourism has set a target for 2030 to replace a certain proportion of fuel used by domestic airlines with SAF. In addition, in various policies aimed at realizing green transformation (GX) and in the Strategic Energy Plan approved by the Cabinet in February 2025, the Japanese government positions next-generation fuels, including SAF, as an important element of the energy transition.

Against this backdrop of policy developments, public- and private-sector initiatives are progressing in areas such as SAF manufacturing technology development, large-scale demonstrations, and capital investment. We recognize that, while closely monitoring these policy trends and the development of the market, these developments will lead to an expansion of mid- to long-term business opportunities for our biofuel business.

Our Group's Strategy and Initiatives to Address Climate Change

● Biofuel Business Contributing to Climate Change Mitigation

We position our biofuel business as one that directly contributes to reducing greenhouse gas emissions across society. “SUSTEO” has already been introduced by many companies and organizations, and we have steadily accumulated demonstration and use-case results. Going forward, with a view to operating a commercial plant, we will work to establish a stable supply system and further expand adoption. Through the full-scale supply of next-generation biodiesel fuel and sustainable aviation fuel (SAF), we will support decarbonization across a wide range of mobility sectors—including automobiles, ships, and aircraft—and contribute to realizing a below-1.5° C scenario and achieving carbon neutrality by 2050.

● Initiatives Through Our Healthcare Business

As a specific example, together with Sagawa Express Co., Ltd., a member of the SG Holdings Group, we implemented the “Sustainable Delivery Project.” To reduce greenhouse gas emissions toward the realization of a sustainable society, three parties—customers (individuals), the shipper (our Company), and the carrier (Sagawa Express)—worked together to use trucks fueled with “SUSTEO,” a next-generation biodiesel fuel, for part of the deliveries in our e-commerce business. From June 26, 2023 through the end of that year, we solicited support from customers who agreed with this project to help cover the cost of introducing “SUSTEO.” We then contributed the same amount as the total customer support, and Sagawa Express also contributed an equal amount. As a result, approximately 8,000 liters of “SUSTEO” were used in about 100 vehicles at Sagawa Express’ s Hamamatsu Sales Office, reducing CO2 emissions by the equivalent of 4.11 tons. In addition, within the Qsai Group, we changed the regular delivery schedule for our flagship product from monthly delivery to delivery every other month (covering two months at a time), thereby reducing the number of deliveries and working to reduce CO2 emissions. We will continue to promote initiative to reduce our environmental impact.



佐川急便のトラックに「サステオ」を給油している様子



Example

Initiatives by Group Company Qsai

At Qsai’s Fukuoka Kounominato Plant, we have been operating a solar power generation system since 2014 as part of our environmental conservation activities. A total of 868 solar panels have been installed on the plant’s rooftop, generating 249,361 kWh annually (January–December 2025).

In addition, for Qsai’s healthcare products, we use plant-derived materials for part of our product packaging to reduce plastic waste. We are also promoting initiatives to reduce environmental impact, including the implementation of environmentally friendly agriculture and the recycling of recyclable waste.



Risk Management

After identifying company-wide material risks, the Group continues to systematize and enhance its existing risk management framework. Risk-related information within the Group is reported to the Board of Directors through the responsible departments, and we receive feedback. We also position sustainability-related risks—including climate change—as one of the company-wide material risks; as necessary, these matters are brought to the Sustainability Committee, where response measures are discussed.

Goals and Indicators

Based on the results of our scenario analysis of climate-related risks and opportunities, we completed the calculation of CO₂ emissions for Scope 1 and Scope 2 for the domestic Euglena Group starting in FY2022 and have disclosed the results.

In April 2024, we established a target to achieve carbon neutrality^{*1} for Scope 1 and Scope 2 emissions by the end of 2030. Specifically, we will work to conserve electricity in our offices, adopt energy-saving technologies such as LED lighting, switch to electricity derived from renewable energy sources, improve production efficiency at our plants to reduce energy consumption, and replace equipment with more energy-efficient alternatives. In addition, as a company that upholds “Sustainability First” as our Euglena Philosophy, we will steadily advance self-help efforts toward achieving this target while enhancing awareness of CO₂ reduction and team building among colleagues at each Group company and site. We will also consider purchasing carbon credits, using profits generated by our biofuel business and agri-business that contribute to reducing CO₂ emissions in society, as well as initiatives to generate carbon credits ourselves.

With respect to our Group’s response to climate change, including initiatives to reduce CO₂ emissions, initiatives will be overseen by the Representative Director and President, who serves as Chair of the Sustainability Committee. As necessary, matters will be discussed by the Sustainability Committee, and we will also work to further motivate our colleagues toward achieving our targets.

^{*1} As of January 2024, wholly owned subsidiaries (100%-owned companies)

FY2025 (January–December 2025) CO₂ Emissions Results*¹

Unit: tons

Scope	Category		FY2023	FY2024	FY2025
Scope 1 *2	Gas		1,572	1,362	1,499
Scope 2 *2	Electricity	Market-based*3	3,318	3,122	2,933
		Location-based*4	2,975	2,912	2,960
Total (sum of Scope 1 and Scope 2 market-based values)			4,890	4,484	4,432

*¹ Scope of coverage: Euglena headquarters; the Qsai Group; Yaeyama Shokusan; LIGUNA (covered through FY2023); epauler; Tsurumi demonstration plant (terminated in Jan. 2024); R&D laboratory; Daikyo Hiryo; and the Satis Pharmaceutical Group (covered from FY2024). For the Saticine Pharmaceutical Group, figures include one full fiscal year, including the period prior to consolidation.

*² Scope 1 and Scope 2 CO₂ emissions have obtained third-party verification by SGS Japan Inc. (FY2022–FY2024).

*³ Calculated on a market-based basis (using greenhouse gas emission factors specific to each electricity supplier).

*⁴ Calculated on a location-based basis (using the average greenhouse gas emission factor of the regional electricity grid).

In addition, we will formulate response measures in collaboration with our businesses and further integrate them into our management and business plans. We will continuously promote initiatives to mitigate physical risks from climate change and to capture related opportunities.

Related Links

- [Climate Change Response](#)