Climate Change

Material Impacts, Risks and Opportunities (IROs)

Climate Change Mitigation

IRO		Value chain			Time horizon		
I (P/N)	RO	Upstream	Internal	Downstream	Short-term	Mid-term	Long-term
N		●	●	●			●

The impact on climate change from emitted greenhouse gases includes the fact that Greenhouse Gas (GHG) emissions caused by the operation of facilities using fossil fuels exacerbate global warming and extreme weather events. As for risks, suppliers and business partners using fossil fuels may contribute to similar warming effects, potentially resulting in the spread of infectious diseases and adverse impacts on public health.

Processes to Identify Impacts, Risks and Opportunities

In FY2021, we established a cross-departmental task team and conducted study sessions for relevant departments covering an overview of scenario analysis and net-zero scenarios published by the IEA (International Energy Agency) and IPCC (Intergovernmental Panel on Climate Change), examining business risks and opportunities from 2030 onwards. Using scenarios from the IEA (IEA SDS (WEO2021), IEA NZE 2050) and IPCC (RCP8.m5), we identified risks and opportunities across the entire value chain for both “transition” and “physical” aspects. The identified risks and opportunities were deliberated, evaluated, and approved by the EHS Management Committee in FY2022. Specifically, we identified risks and opportunities from the perspectives of “procurement,” “direct operations,” and “product and service demand,” and classified them into six categories. We selected the IEA and IPCC decarbonization scenario (1.5°C) and the scenario where decarbonization is not achieved (4°C) because we determined it was important to anticipate and prepare for extreme cases in both physical risks and transition risks. For each scenario, we organized the potential business impacts and resilience from the perspectives of “frequency of occurrence,” “business impact,” and “presence of investor interest,” and conducted a comprehensive risk and opportunity assessment targeting 2030 and 2050, adding investor perspectives to the financial impacts.

Policies, Actions and Performance for Material IROs

Climate Change Mitigation

Policies

The Daiichi Sankyo Group recognizes environmental issues such as global warming or extreme weather which have impact on our work and lives. Under the Daiichi Sankyo Group Corporate Conduct Charter and the Daiichi Sankyo Group EHS Policy, we are promoting environmental management and practicing responsible corporate activities to mitigate climate change and other environmental challenges. We expressed our support for the recommendations of the TCFD (Task Force on Climate-related Financial Disclosures)[*1] in May 2019, and disclosed information such as governance and results of scenario analysis in accordance with the TCFD disclosure framework in 2020. In addition, we will disclose information in accordance with the TCFD recommendations revised in October 2021, and aim to further strengthen our climate change-related governance and business strategies to proactively respond to climate change, which is a global issue.

Based on “Promoting Environmental Management,” which is a material issue (materiality) for our Group, we deliberate and report on plans and progress at the Sustainability Committee. This committee discusses a wide range of environmental issues including climate change with an outlook to achieving carbon neutrality by 2050, safe chemical substance management, water resources, and biodiversity. Additionally, we deliberate and report from a global perspective on engagement with business partners aimed at reducing environmental impact across the entire supply chain.

Through these deliberations and reports, we monitor the progress of KPIs linked to materiality and operate a PDCA cycle toward achieving targets, thereby enhancing the effectiveness of environmental management. Important matters deliberated are reported to the Board of Directors through the EMC and are subject to appropriate oversight.

We strive to identify risks that may force changes to business activities, such as climate change and water-related risks, and implement countermeasures as part of our Group’s risk management system. The Sustainability Committee plays an important role in evaluating and managing the financial impact of how climate change impacts present risks and opportunities to our business, and in enhancing resilience. When there are concerns about significant risks, they are reported to the Board of Directors and integrated into comprehensive risk management. Additionally, we deliberate and decide on medium-term and short-term targets and implementation plans with the aim of achieving long-term carbon neutrality transition.

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As environmental burden on the earth increases, corporate activities cannot be sustained without achieving a sustainable society. Particularly for pharmaceuticals, which are life-related products, supply chain disruptions and reduced pharmaceutical supply capacity due to intensifying weather disasters represent significant business risks as well as social risks. Therefore, we believe it is important to promote decarbonization and reduce the environmental impact of our business operations, while also advancing decarbonization across the entire supply chain through collaboration with business partners, thereby achieving carbon neutrality and mitigating physical impacts.

A characteristic of our CO_2 emissions is that Scope 1 and Scope 2 emissions directly generated from business activities are small, while Scope 3 emissions from the supply chain account for the majority. Based on this recognition, we conducted scenario analysis to understand the impact of climate change on our business and clarify resilience.

*1 A task force established in December 2015 by the Financial Stability Board (FSB), an international organization comprising central banks and financial regulatory authorities from major countries

Risk

1.5°C Scenario	Introduction of carbon taxes, increased costs for introducing renewable energy facilities, and reputational risk attributable to insufficient disclosure
4°C Scenario	Supply chain disruption, temporary suspension of operations at company sites, increased air conditioning costs due to rising temperatures, and difficulty in operation due to water withdrawal risk, and reduced productivity of products derived from natural compounds

Opportunity

1.5°C Scenario	Measures to achieve Science Based Targets (SBTs)
4°C Scenario	The climate with increase will that diseases to Contributio

Actions Including Transition Plan for Climate Change Mitigation

We recognize that direct transition risks to business activities are limited, but for the supply chain, cost increases from carbon taxes and transition measures are considered potential risks going forward. Regarding physical risks, there are concerns about stable supply due to the intensification of weather disasters and other factors. Based on these analysis results, for transition risks, in addition to promoting energy-saving measures as we have done previously, we will create cost reduction opportunities through burden avoidance of carbon taxes and other costs by utilizing renewable energy, introducing decarbonization technologies, and collaborating with business partners. For physical risks, we will implement measures including deepening Business Continuity Plans (BCP) that includes flood countermeasures, implementing preventive measures to enhance supply chain stability, and securing diversity, support measures, and alternative measures, thereby avoiding damage to our Group and aiming for sustainable corporate value enhancement. Important risk countermeasures evaluated and identified through scenario analysis will be subject to progress management and supervision across the entire Group by the Sustainability Committee and the Board of Directors.

As responsible corporate activities for climate change, we have set CO_2 emissions targets approved by the Science Based Targets (SBT) Initiative*2, which are aligned with the goals of the Paris Agreement (limiting the increase in global average temperature to 1.5°C compared to pre-industrial levels): a CO_2 emissions target of -42% compared to FY2015 levels for FY2025, and a CO_2 emissions target of -63% compared to FY2015 levels by 2030.

At Daiichi Sankyo Europe's Pfaffenhofen plant, a biomass boiler using wood chips as fuel has been operational since April 2024, contributing to the reduction of GHG emissions in Scope 1 (direct emissions). Additionally, at Japanese and overseas locations, we continue to advance the installation of charging facilities for electric vehicles (EVs) and the introduction of EVs and fuel-efficient vehicles as company cars. Furthermore, switching to electricity derived from renewable energy sources is being promoted at each location as an ongoing initiative. We are advancing the decarbonization of electricity usage through reviewing electricity contracts and utilizing renewable energy certificates.

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Performance

KPI and Target as of FY2025	FY2024 Results
Reduction of CO_2 emissions Scope 1 + Scope 2 by 42% from FY2015	42.7% reduction from FY2015
Reduction of CO_2 emissions intensity based on sales (Scope 3, Cat1) by 15% from FY2020	2.4% reduction from FY2020
At least 70% of business partners (as procurement amount) set targets at the SBT level (1.5°C target)	Business partners with 1.5°C level targets: 43.1%
Renewable electricity utilization rate more than 60%	79.9%

CO_2 emissions for FY2024 were 116,312 t-CO_2 (-42.7% compared to FY2015 levels). We are working on both aspects of "mitigation" through CO_2 emissions reductions and "adaptation" to unavoidable impacts. As "mitigation" measures, we are promoting GHG emissions reductions aligned with SBTi 1.5°C targets and the introduction of renewable energy, while as "adaptation" measures, we are strengthening supply chain resilience through the development of BCP for flood damage and other initiatives.

Regarding disclosure of CO_2 removal and storage amounts, there are no applicable activities.

Regarding internal carbon pricing, we are considering a change from the current cost-effectiveness verification system using virtual carbon prices (which considers running costs, power consumption, CO_2 emissions, carbon taxes, etc., targeting facilities at Japanese group companies where particularly significant energy-saving effects can be expected) to a new, more effective system aimed at further enhancing emissions reduction incentives for each department.

Regarding the anticipated financial impacts from physical risks, transition risks, and potential climate-related opportunities, we are currently examining calculation processes that are consistent with financial statements in collaboration with relevant departments.

As indicators and targets for evaluating and managing potential business impacts and climate-related risks and opportunities for each value chain, we have established KPIs and environmental targets in our current 5-year business plan. Based on the progress of the current 5-year business plan, we reviewed climate change-related KPIs in FY2021. As a result, we raised the target levels for Scope 1 and Scope 2 to correspond to a 1.5°C world, and also updated Scope 3 as a supplier engagement target, changing our request for CO_2 emissions reductions to 70% of suppliers to a "1.5°C level" target. In June 2023, we obtained "1.5°C target" certification from the SBT Initiative.

*2 An international initiative by CDP, the UN Global Compact, the World Resources Institute (WRI), and the World Wildlife Fund (WWF). It defines and promotes best practices for emissions reductions and net-zero targets aligned with climate science.

Energy consumption and mix

	Unit	FY2022	FY2023	FY2024
Total energy consumption related to own operations	MWh	680,723	736,789	719,671
Percentage of fossil sources in total energy consumption	%	72	70	68
Percentage of renewable sources in total energy consumption	%	28	30	32
Energy intensity (total energy MWh/consumption per net revenue)	MWh/ 100Mil.Yen	53.2	46.1	38.1

Renewable Enegy Usage and Breakdown

Types of Renewable Energy	Energy Usage (MWh)	Remarks
Solar energy generation	5,480	Electricity generated as sites in Japan, Germany and China
Non-fossil Certificate	205,416	Purchased in our group companies in Japan, Europe and Brazil
Biomass heat	8,416	Purchased by our group company in Germany
Other renewable energy	11,685	Fuels used for biomass boilers in Germany and for biofuel vehicles in Brazil

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(Methodology)

Scope 1 CO_2 emissions are calculated using either the emission factors stipulated under the Act on Promotion of Global Warming Countermeasures in Japan or country-specific regulatory factors. Energy conversion factors are mainly based on heat values per unit defined by the U.S. Environmental Protection Agency (EPA).

Scope 2 CO_2 emissions reporting represents indirect CO_2 emissions from electricity, heat, and steam purchased and consumed by Daiichi Sankyo Group Location-based emissions are calculated based on average emission factors for regional/national power grids as defined by the IEA. Market-based Scope 2 emissions refer to indirect greenhouse gas emissions associated with electricity, heat, and steam procured through energy attribute certificates and power purchase agreements sourced from renewable energy sources such as wind, hydro, solar, and biomass. For sites where contracts/attribute certificates are not available or where supplier-specific emission factors are unavailable, national average emission factors are applied.

Scope 3 CO_2 emissions reporting represents indirect greenhouse gas (GHG) emissions from our value chain. Of the 15 Scope 3 emissions categories defined by the GHG Protocol, we identified Category 1* as significant since the majority originates from this category. The remaining 14 categories are either not applicable to Daiichi Sankyo Group are very small compared to Category 1, and therefore are not reported individually. As the source of emission factors for Scope 3 Category 1 CO_2 emissions, we use "Emission Intensity Database for Calculating Greenhouse Gas Emissions of Organizations through Supply Chains" provided by Ministry of the Environment.

* Emissions related to all expenditures for purchased goods and services from external suppliers (excluding business travel, transportation, capital investments, etc. that are included in other categories). Purchased goods and services primarily consist of raw materials for products, marketing, packaging materials, and consumables for laboratory and IT office equipment. Calculations are performed by multiplying expenditures by coefficients from the emission intensity database.

Scope 1, Scope 2, and Scope 3 CO_2 emissions

	Unit	FY2022	FY2023	FY2024
Scope 1 CO_2 emissions	1,000 t-CO_2	86	85	92
Percentage of scope 1 CO_2 emissions from regulated emission trading schemes %	%	–	–	0
Biogenic emissions (Out-of-scope emissions) scope 1	1,000 t-CO_2	–	–	0
Scope 2 CO_2 emissions – location-based	1,000 t-CO_2	–	–	111
Scope 2 CO_2 emissions – market-based	1,000 t-CO_2	24	24	24
Biogenic emissions (Out-of-scope emissions) scope 2	1,000 t-CO_2	–	–	0
Scope 1 and 2 (market-based) CO_2 emissions	1,000 t-CO_2	110	109	116
Scope 3 CO_2 emissions	1,000 t-CO_2e	3,163	4,408	4,160
Scope 3 Category 1: Purchased goods and services	1,000 t-CO_2e	1,809	3,888	3,549
Percentage of scope 3 CO_2 emissions calculated using primary data %	%	–	–	–
Total CO_2 emissions – location-based	1,000 t-CO_2	–	–	4,360
CO_2 emissions intensity, location-based (total CO_2 emissions per net revenue)	t-CO_2/100Mil.Yen	–	–	231.2
Total CO_2 emissions – market-based	1,000 t-CO_2	3,273	4,518	4,276
CO_2 emission intensity, market-based (total CO_2 emissions per net revenue)	t-CO_2/100Mil.Yen	256.0	282.1	226.7

Pollution

Material Impacts, Risks and Opportunities (IROs)

Handling of Substances of Concern/High Concern

IRO		Value chain			Time horizon		
I (P/N)	RO	Upstream	Internal	Downstream	Short-term	Mid-term	Long-term
N	R	●	●	●	●	●	●

Pollution of Soil

IRO		Value chain			Time horizon		
I (P/N)	RO	Upstream	Internal	Downstream	Short-term	Mid-term	Long-term
N	R		●		●	●	●

The Daiichi Sankyo Group uses many chemical substances in pharmaceutical manufacturing and research and development, including substances that raise concerns about adverse effects on the environment and health. If inappropriate management or accidents occur and disasters occur, there is a possibility of causing serious impacts on ecosystems through water and soil contamination from chemical substance spillage into the environment, as well as health hazards to employees and local residents from exposure to chemical substances. Regarding the release of active pharmaceutical ingredients (APIs) into the environment, there are also concerns about impacts on ecosystems and human health. Moreover, these risks apply not only to direct operations but also to upstream supply chains, as we outsource the manufacturing of some of the pharmaceuticals we sell to suppliers.

Policies, Actions and Performance for Material IROs

Handling of Substances of Concern/High Concern

Policies

We have established “appropriate management of chemical substances” in our EHS Basic Policy. For targets through FY2025, we have set “monitoring and continuous reduction of pollutant emissions to air and water,” “hazardous waste emissions: 10% reduction compared to FY2020,” and “education and awareness-raising to prevent environmental accidents,” working to minimize the impact of chemical substance contamination across the entire supply chain.

Actions

Initiatives at the Product Design Stage

For environmental impact assessment of manufacturing processes, it is important to consider and evaluate from a broad perspective that includes not only quality and cost but also environmental impact during the research and development stage. This is because changes to pharmaceutical manufacturing processes after production requires significant time and effort due to pharmaceutical regulatory constraints, and may also expand the risk of chemical substance contamination. When designing manufacturing processes for new products, our Group uses LIME (Life-cycle Impact assessment Method based on Endpoint modeling), a type of LCA (Life Cycle Assessment), to conduct quantitative evaluations at each stage of process development (e.g., early development, investigational drug, and commercialization stages). In doing so, we integrate toxic and hazardous substances used during manufacturing, energy consumption during manufacturing, waste emitted during manufacturing, and other factors into a single evaluation criterion to calculate an evaluation value. This LCA evaluation targets new products, and all or part of the evaluation has been conducted for two-thirds of all new products developed since 2020. This method is an initiative based on the concept of environmentally conscious “green chemistry,” aiming for manufacturing processes that consider the sustainability of the global environment by developing new synthetic reactions to prevent environmental pollution and reduce consumption of raw materials and energy.

Pollution

Initiatives at Factories and Research Facilities

For chemical substances that may have harmful effects on human health and ecosystems, we conduct appropriate management based on the PRTR system (Pollutant Release and Transfer Register) under the Law concerning PRTR. Additionally, there is no transboundary movement (transport, import, export, treatment) of hazardous waste as defined in Annexes I, II, III, and VIII of the Basel Convention, and no waste has been transported internationally.

To prevent water pollution, factories and research facilities of Japanese Group companies have established voluntary management standard values stricter than legal regulations and implement appropriate management through monitoring. Similarly, overseas Group company factories such as Daiichi Sankyo Pharmaceutical (Shanghai), Daiichi Sankyo Europe (Germany), and Daiichi Sankyo Brasil Farmaceutica also conduct regular monitoring to comply with laws and regulations in their respective countries and regions. Additionally, to evaluate the impact on ecosystems from many chemical substances not covered by effluent regulations in various countries and regions, including APIs, and from complex interactions, we conduct WET tests (Whole Effluent Toxicity tests, which evaluate the comprehensive toxic effects of effluent using biological responses of fish, water fleas, and algae). Following last year, in FY2024 we conducted environmental impact assessments using WET tests at all Japanese Group factories and research facilities (7 facilities). As a result, we confirmed that the impact on aquatic life in rivers and other water bodies is not at a level of concern. In FY2025 as well, we will continue to conduct WET tests once a year at all Japanese factories and research facilities as usual, striving for appropriate effluent management and water quality improvement.

Regarding information disclosure, based on GHS (Globally Harmonized System, a framework for internationally standardizing and providing hazard information related to chemical substances), we plan to classify the total amount of substances of concern that we generated, used, or procured during manufacturing by major hazard classification categories and disclose this information regularly. Furthermore, we recognize the need to similarly record and disclose the total amount of substances of concern released off-site as products or as part of products. We believe this will enable us to implement measures to reduce impacts on ecosystems and health risks to employees and local residents. Regarding hazard classification by GHS, we will begin this initiative in FY2025, advance frameworks and data compilation for each region, and work toward phased disclosure starting from FY2026.

Other Initiatives

For raw material manufacturers, we require submission of SDS (Safety Data Sheets) when concluding quality contracts, confirm information about chemical substances in raw materials (properties, hazards, and handling procedures), and share this information with departments that use these materials to prevent accidents.

Additionally, we share SDS (Safety Data Sheets) with drivers who transport products and business partners to ensure safe handling of products.

Pollution

Performance

- Hazardous waste emissions (FY2024): 3,148t (43.9% reduction from FY2020)
  *Scope: Global (Plants and research facilities)

- WET test implementation rate (FY2024): 100%
  *Scope: All Japanese Group factories and research facilities: 7 facilities

FY2024 PRTR-Designated Substance Emissions and Transfers (Domestic Group Factories and Research Facilities)

(Dioxins: mg, Mercury: kg, Other chemical substances: t)

Substance (Annual handling amount of 1 or more metric tons)	Handling Amount	Emissions (except for emission into soil)		Transfer Amount	
		Air	Public Water	Sewerage	Out of Offices
Chloroform	6.3	0.3	0.0	0.0	6.0
Toluene	470.7	0.4	0.0	0.0	212.2
N,N-Dimethylacetamide	13.7	0.0	0.0	0.0	13.7
Triethylamine	58.8	0.2	0.0	0.0	58.6
Hexane	10.0	0.7	0.0	0.0	8.4
Methylene chloride	11.9	0.8	0.0	0.0	11.1
Tetrahydrofuran	250.0	0.1	0.0	0.0	110.0
Methyl isobutyl ketone	2.2	0.0	0.0	0.0	0.0
Total	**823.6**	**2.6**	**0.0**	**0.0**	**419.9**
Dioxins	–	0.002	0.000	0.000	0.000
Mercury	–	0.001	0.000	0.017	0.000

Pollution of Soil

Policies

The Group makes efforts to prevent soil and groundwater contamination at plants and research centers. In Japan, when an investigation is required based on the Soil Contamination Countermeasures Act and related prefectural ordinance, we conduct the appropriate investigation according to the laws and regulations on discussion with the governmental offices.

If contamination occurs, we report it to the related government offices and properly disclose information to members of the surrounding community, and take appropriate measures, such as prevention of diffusion and purification according to the extent of contamination.

Actions

Soil Contamination Countermeasures at the Former Yasugawa Plant (Yasu City, Shiga Prefecture)

We confirmed the presence of mercury used as a material for pesticides that exceeded environmental standards on the grounds of the former plant site in 1993. Since then, we have installed a robust underground storage facility in adherence to regulatory guidance to manage the soil appropriately. Although there have been no reports of leakage or health issues to date, we decided to remove the storage facility in view of increasing safety and security in the region and in response to requests from the local community. We issued a press release announcing our decision in April 2020, and we are conducting removal work in consultation and coordination with all concerned parties. Of the two storage facilities, the removal work for the northern storage facility was completed at the end of FY2024, and we are currently beginning removal work for the southern storage facility. While continuously monitoring the groundwater since we completed on-site environmental improvement work in 2006, soil investigation around areas not meeting standards revealed soil contamination in some areas including embankments adjacent to the site. After consultation with administrative authorities, we began soil remediation work. We will implement all soil remediation work, including soil remediation work within the site, to resolve the soil contamination issues at this former plant site.

Performance

In FY2024, there were no reports of leakage or health damage incidents.