

E Policies and activities-environmental aspects

Realization of a decarbonized society

FY2023 results

☑ Indicators for fiscal 2023 with this icon are externally assured by KPMG AZSA Sustainability Co., Ltd. See p.82 of this Integrated Report for Independent Assurance Report. > p.82
 Relevant laws are shown in abbreviated form, e.g., Act on the Rational Use of Energy (Energy Conservation Act)

Data aggregation period: (Domestic) April 1, 2022 - March 31, 2023 (Overseas) January 1, 2022 - December 31, 2022

	FY2023 results	Calculation methods
Scope 1	☑ 712 thousand t-CO ₂	In accordance with the GHG Protocol, we include GHG emissions, calculated by converting the quantity of energy required to produce electricity or steam sold to other companies. GHG emissions with non-energy origins are calculated for Toyobo (non-consolidated) only. The factors shown below are used in the respective calculations. ■ CO ₂ emission factors for purchased electricity: (Domestic) Adjusted emission factor for each electric power service provider listed in "Emission Factors by Electric Utility (for Use in Calculating Greenhouse Gas Emissions of Specific Emitters), FY2022 Results," Ministry of the Environment. (In cases where the emission factor of a given utility was unknown, the "national average factor" was used.) (Overseas) Factors for 2019 listed by country "Emission Factors 2021" (2021), IEA ■ CO ₂ emission factors other than for purchased electricity: "Greenhouse Gas Emissions Calculation and Reporting Manual (v4.8)" (2022), Ministry of the Environment and Ministry of Economy, Trade and Industry (used for both domestic and overseas subjects).
Scope 2	☑ 182 thousand t-CO ₂	
Energy consumption	☑ 2,937 GWh	In accordance with the GHG Protocol, the quantity of energy required to produce electricity or steam sold to other companies is not deducted. The values from Energy Conservation Act are used in showing the unit calorific value of fuel as a higher calorific value.

Boundary of aggregated data: Toyobo group (TOYOBO CO., LTD. [non-consolidated] with domestic and overseas group companies)

Scope 3 Categories	FY2023 emissions	Calculation methods
1. Purchased goods and services	2,055 thousand t-CO ₂	The total value obtained by multiplying the quantity of activity (the amount of purchases of raw materials, services, etc., during one year) by the emissions intensity (Ministry of the Environment DB) ^{*1}
2. Capital goods	55 thousand t-CO ₂	The total value obtained from multiplying the amount of activity (the book value of capital goods purchased during one year) by emissions intensity (Ministry of the Environment DB) ^{*1}
3. Fuel- and energy-related activities (not included in scope 1 or scope 2)	☑ 113 thousand t-CO ₂	The total value obtained from multiplying the amount of activity (the amount of fuel and electricity purchased during one year) by the respective emissions intensities of fuel and electricity (Ministry of the Environment DB, IDE A)
4. Upstream transportation and distribution	50 thousand t-CO ₂	The total value obtained from multiplying the amount of activity (the distance and weight of upstream transportation during one year) by emissions intensity (Ministry of the Environment DB) ^{*1}
5. Waste generated in operations	53 thousand t-CO ₂	The total value obtained from multiplying the amount of activity (waste generated in business activities during one year) by the respective emissions intensities of each waste category (Ministry of the Environment DB, IDE A) ^{*1}
6. Business travel	7 thousand t-CO ₂	The total value obtained from multiplying the amount of activity (annual employee business travel expenses by transportation organization used) by the respective emissions intensities of each transportation organization (Ministry of the Environment DB) ^{*1}
7. Employee commutings	6 thousand t-CO ₂	The total value obtained from multiplying the amount of activity (the scale of the city in which the business site or plant is located, the number of employees, and the days of business operation per year) by the respective emissions intensities of each form of work and city size class (Ministry of the Environment DB) ^{*1}
8. Upstream leased assets	—	Toyobo group does not perform calculations for upstream leased assets because they are not pertinent.
9. Downstream transportation and distribution	—	The basic practice of Toyobo group is for our company to serve as the cargo owner for transportation to the shipment destination, so that emissions associated with these shipments are calculated in Category 4.
10. Processing of sold products	—	At Toyobo group, we have wide-ranging and diverse array of procedures for processing beyond shipment destinations, which makes it impossible to determine all GHG profiles or perform reasonable calculations. The information therefore is not disclosed.
11. Use of sold products	☑ 2,745 thousand t-CO ₂	The total value obtained from multiplying the amount of activity (the amount of electric, steam, cold water and other utilities consumed during the use of final products sold annually) by emissions intensity, years of service life, and operating rate. Our company uses a unique emissions intensity unit, which is calculated from the Ministry of the Environment DB, IDE A, IEA, and the product specifications of equipment used in generating each utility. We perform calculations for VOC recovery equipment, urine sediment testing equipment, and fully automated gene analysis systems.
12. End-of-life treatment of sold products	207 thousand t-CO ₂	The total value obtained by multiplying the amount of activity (assuming the disposal of the total one-year sales volume) by the respective emissions intensities of each material used in the items sold (Ministry of the Environment DB) ^{*1}
13. Downstream leased assets	—	Toyobo group does not perform calculations for downstream leased assets because they are not pertinent.
14. Franchises	—	Toyobo group does not engage in franchise activities, and therefore does not perform calculations for them because they are not pertinent.
15. Investments	—	Toyobo group's emissions from investments are extremely small, and we therefore do not disclose them.
Total	5,290 thousand t-CO ₂	

Boundary of aggregated data: Toyobo group (TOYOBO CO., LTD. [non-consolidated] with domestic and overseas group companies.)

*1 Calculations are made using weighted averages for some subsidiary and affiliated companies, according to ratios of sales, sales volume, and number of employees.

Referenced Guidelines

- (1) In making the calculations, we referred to "Corporate Value Chain (Scope 3) Accounting and Reporting Standard" and its evaluation guidelines from the GHG Protocol: "Guidance for Accounting & Reporting Corporate GHG Emissions in the Chemical Sector Value Chain" from the WBCSD; and various sources of information on the Green Value Chain Platform.
- (2) With regard to emission intensity, we referred to the following database as of March 2023.
 - "Emission Intensity Database for Calculating Greenhouse Gas Emissions by Organizations Throughout Supply Chains ver. 3.3" (March 2023), Ministry of the environment. Cited as "Ministry of the Environment DB."
 - "IDEA (Inventory Database for Environmental Analysis) ver2.3" (December 2019), National Institute of Advanced Industrial Science and Technology/Sustainable Management Promotion Organization. Cited as "IDEA."
 - "Emission Factors 2022" (September 2022), International Energy Agency (IEA). Cited as "IEA."