

Fiscal 2022 Data Sheet

(Aggregation period: April 1–March 31 of each fiscal year, and March 31 of each fiscal year)

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Environmental Data

Boundary of data aggregation:

The data covers MCC, MTPC, LSII, and NSHD as well as their domestic and overseas Group companies. The fiscal 2022 data coverage represents 84.7% of the Mitsubishi Chemical Group's revenue.

Indicators with this icon have been assured by KPMG AZSA Sustainability Co., Ltd. for fiscal 2022. For the Independent Assurance Report, please see page 6 in this data sheet.

	FY2020	FY2021	FY2022 (Year on year)
Greenhouse gasses (GHG)			
<input checked="" type="checkbox"/> GHG emissions (thousand metric tons-CO ₂ e)	67,255	69,716	63,345 (91%)
<input checked="" type="checkbox"/> Scope 1+2 ^{*1, *2}	15,325	16,079	14,369 (89%)
<input checked="" type="checkbox"/> Scope 1	7,786	7,829	6,685 (85%)
<input checked="" type="checkbox"/> Scope 2	7,540	8,250	7,685 (93%)
<input checked="" type="checkbox"/> Scope 3 ^{*3}	51,930	53,637	48,976 (91%)
Category 1 Purchased goods and services	17,580	20,007	17,912 (90%)
Category 2 Capital goods	720	695	809 (116%)
Category 3 Fuel- and energy-related activities not included in Scope 1 or Scope 2	2,370	2,557	2,462 (96%)
Category 4 Upstream transportation and distribution (including distribution services whose cost was borne by the Group)	280	290	270 (93%)
Category 5 Waste generated in operations	80	80	68 (85%)
Category 6 Business travel	20	24	27 (113%)
Category 7 Employee commuting	120	118	117 (99%)
Category 8 Upstream leased assets	N/A	N/A	N/A (N/A)
Category 9 Downstream transportation and distribution	0	0	0 (N/A)
Category 10 Processing of sold products	N/A	N/A	N/A (N/A)
Category 11 Use of sold products	20,210	18,637	17,161 (92%)
Category 12 End-of-life treatment of sold products	9,050	9,754	8,639 (89%)
Category 13 Downstream leased assets	N/A	N/A	N/A (N/A)
Category 14 Franchises	N/A	N/A	N/A (N/A)
Category 15 Investments	1,500	1,475	1,511 (102%)

Energy consumption			
<input checked="" type="checkbox"/> Energy consumption (GWh) ^{*1, *4}	47,335	48,425	43,190 (89%)
Coal (GWh)	3,359	3,591	3,089 (86%)
Oil (GWh)	4,310	3,231	2,830 (88%)
Gas (GWh)	5,735	7,000	5,803 (83%)
By-product gas and by-product oil (GWh)	15,630	14,492	12,735 (88%)
Purchased electricity (GWh)	13,730	15,154	14,214 (94%)
Purchased steam (GWh)	4,571	4,957	4,518 (91%)

*1 Based on the GHG protocol, energy used to produce electricity and steam sold externally and the resulting CO₂ emissions are not excluded. The data includes half of energy consumption and GHG emissions by the domestic joint operation.

*2 For the calculation of emissions in Japan, the base emission factors of individual electric power specified in the Act on Promotion of Global Warming Countermeasures are used basically and alternative emission factor is used in case the specific emission factor is unavailable. GHG emissions that are not subject to reporting under the Act are mostly calculated based on the mass balance of chemical reactions. Overseas Scope 1 emissions are calculated with the emission factors specified in the Act on Promotion of Global Warming Countermeasures, and overseas Scope 2 emissions are calculated with power company-specific emission factors or country level emission factors for electricity published by the IEA.

*3 For the calculation method for Scope 3 GHG emissions, see page 3 of this data sheet.

*4 The unit higher heating values for fuels specified in the Act on the Rational Use of Energy are used.

Environmental Data

Boundary of data aggregation:

The data covers MCC, MTPC, LSII, and NSHD as well as their domestic and overseas Group companies. The fiscal 2022 data coverage represents 84.7% of the Mitsubishi Chemical Group's revenue.

✓ Indicators with this icon have been assured by KPMG AZSA Sustainability Co., Ltd. for fiscal 2022. For the Independent Assurance Report, please see page 6 in this data sheet.

	FY2020	FY2021	FY2022
Environmental Impact			
✓ NOx emissions (thousand metric tons)	7.94	7.91	6.81
✓ SOx emissions (thousand metric tons)	3.23	3.08	2.31
✓ Particulate emissions (thousand metric tons)	0.2	0.2	0.2
✓ VOC emissions (thousand metric tons)*1	6.06	5.87	4.53
✓ COD (thousand metric tons)*2	1.68	1.70	1.48
✓ Total nitrogen load (thousand metric tons)*2	4.87	4.85	4.40
✓ Total phosphorous load (thousand metric tons)*2	0.10	0.09	0.04
✓ PRTR chemical substance emissions (thousand metric tons)*3	1.23	0.96	0.92

*1 VOC: Chemicals subject to domestic data collection are VOCs included in the Japanese pollutant release and transfer register (PRTR) Law and in the PRTR chemical survey of the Japan Chemical Industry Association, as well as ethylene, propylene and ethanol. Overseas, in addition to those substances, VOCs specified by the laws and regulations of each country are included.

*2 COD, total nitrogen load and total phosphorous load each show total quantity of pollutants discharged into rivers, lakes and oceans. Pollutants discharged into sewage systems and off-site wastewater treatment plants are excluded.

*3 PRTR chemical substance emissions: The boundary of data aggregation covers four operating companies and their domestic Group companies' operating sites.

Water Withdrawal/Discharge			
✓ Water withdrawal (million m ³) (excluding seawater)	216	222	212
✓ Water withdrawal in Water risk regions (million m ³) (excluding seawater)*4	23	23	24
✓ Water discharge (million m ³) (excluding seawater)	172	172	168
Water discharge into oceans (million m ³) (excluding seawater)	72	71	70
Water discharge into lakes and rivers (million m ³)	79	78	74
Water discharge into sewers and off-site wastewater treatment plants (million m ³)	20	23	22
✓ Water discharge in Water risk regions (million m ³) (excluding seawater)*4	19	18	17

*4 Water risk regions are the Okayama, Kagawa and Kakogawa plants in Japan and two factories in Merak, Indonesia.

Waste			
✓ Waste generated (thousand metric tons)*5	431(13)	421(11)	372(12)
✓ Landfill disposal (thousand metric tons)*6	29(1.7)	26(2.6)	24(3.9)
✓ Hazardous waste discharged (thousand metric tons)*7	52	46	47

*5 Figures in parentheses denote quantity of waste generated from the waste treatment business (not included). The figures for FY2021 have been retroactively adjusted.

*6 Figures in parentheses denote quantity of landfill disposal from the waste treatment business (not included).

*7 Hazardous waste discharged: The data covers MCC, MTPC, LSII, and NSHD as well as their domestic and overseas Group companies. Definitions of Hazardous waste are based on regulations in the countries where they are generated. The figures for FY2021 have been retroactively adjusted.

Environmental Accounting*8			
Environmental protection cost			
Investment amount (million yen)	9,781	8,343	8,314
Expense amount (million yen)	36,764	34,238	39,973
Economic benefit of environmental protection measures (million yen)	1,184	1,236	1,777

*8 Boundary of data aggregation: The data aggregation covers MCC (non-consolidated), MTPC (non-consolidated) and its domestic group companies, and NSHD (non-consolidated) and its certain domestic group companies.

There were no significant environmental accidents water-related accidents, or leaks and no hazardous wastes as defined by the Basel Convention were transported.

Environmental Data

Calculation Method for Scope 3 GHG Emissions

Referenced Guidelines

Our Scope 3 GHG emissions are calculated with reference to the Corporate Value Chain (Scope 3) Accounting and Reporting Standard and its technical guidance issued by the GHG Protocol, the Guidance for Accounting & Reporting Corporate GHG Emissions in the Chemical Sector Value Chain issued by the World Business Council for Sustainable Development (WBCSD), and the Green Value Chain Platform initiated by the Japanese government.

Especially, for the emission factors for greenhouse gas (GHG) emissions, we use data available in the Green Value Chain Platform and information provided by IDEA v2.3 a life cycle assessment database developed by the Japan Environmental Management Association for Industry and the National Institute of Advanced Industrial Science and Technology.

Boundary of data aggregation:

The data covers MCC, MTPC, LSII, and NSHD as well as their domestic and overseas Group companies.

Calculation Method by Category

Category 1 Purchased goods and services	Calculated by multiplying the amounts of raw materials and services in physical or monetary units purchased by Group companies from outside the Mitsubishi Chemical Group by the respective emission factor for each type of raw material or service.
Category 2 Capital goods	Calculated by multiplying the amounts invested in capital goods during the year by an emission factor per unit of investment amount.
Category 3 Fuel- and energy-related activities not included in Scope 1 or Scope 2	This category includes emissions associated with the extraction, production, and transportation of purchased fuels and those consumed in the production of electricity and steam that are purchased by the Mitsubishi Chemical Group. Fuel: calculated by multiplying the amount purchased during the year by an emission factor for each fuel type. Electricity and steam: calculated by multiplying the amount purchased from outside the Group by the upstream emission factor for each purchased energy reflecting T&D loss.
Category 4 Upstream transportation and distribution (including distribution services whose cost was borne by the Group)	This category includes GHG emissions generated during the international transportation of coal derived products, olefins, and methanol, which have significant transport weight. (Raw materials whose GHG emissions from transportation are included in Category 1 are not included in the scope of calculation for this category). Transportation and distribution of products for which the Group bears the cost are included in this category. The emissions related to international transportation of exported goods are calculated by focusing on large transportation volume for petrochemical products and coal products. The emissions are calculated by multiplying transportation volume (ton-kilometer) by the emission factor for each mode of transportation, where the transportation volume is calculated by multiplying the freight volume by the transportation distance.
Category 5 Waste generated in operations	This category includes GHG emissions generated during the incineration, landfill disposal, and recycling of waste discharged from production sites. Waste that is incinerated or landfilled includes items such as sludge and plastic, and the GHGs that are released during incineration are calculated by multiplying the amount of waste by a corresponding emission factor.
Category 6 Business travel	The amount of business travel expenses for two Group companies for a year is calculated, and the ratio to revenue for these amounts is used as the representative figure for the Mitsubishi Chemical Group (business travel expense ratio). The business travel expenses for the entire Mitsubishi Chemical Group are estimated by multiplying the revenue for the Mitsubishi Chemical Group by the business travel expense ratio. GHG emissions are calculated by multiplying this amount by an emission factor calculated based on each business trip's details in a certain Group company and the emission factors for each transportation mode.
Category 7 Employee commuting	In Japan, the number of employees at each worksite is multiplied by the ratios of transportation modes used for commuting in each prefecture (according to a national survey in 2010) to estimate the number of employees using each mode of transportation for the entire Mitsubishi Chemical Group in Japan. Commute distances are calculated using the national statistics for Japan, and these are multiplied by the emission factor for each mode of transportation. Overseas, the emissions are estimated based on the assumptions of the WBCSD guidelines.
Category 8 Upstream leased assets	Since the amount of applicable lease assets is negligible, this category is not estimated.
Category 9 Downstream transportation and distribution	The emissions associated with the transportation of sold products fall within Category 4 as the Group basically bears the cost of transporting products.
Category 10 Processing of sold products	The Mitsubishi Chemical Group's main product group is raw materials products, and since these products can be processed into many types of products it is difficult to rationally calculate the GHG emissions associated with the products' processing. Therefore, in accordance with the WBCSD calculation guidance for the chemical industry, we exclude this category from the scope of calculation.
Category 11 Use of sold products	The amount of GHG emissions generated from combustion of fuel products sold outside of the Mitsubishi Chemical Group (coke, coke oven gas, etc.) is calculated by multiplying the amount of each type of fuel sold by an emission factor. CO2 emissions generated from the products NSHD sold, such as propane gas and dry ice, and from operation of the air separation units (ASU) it sold (calculated for the number of years of depreciation in accounting treatment), have been added to the calculations.
Category 12 End-of-life treatment of sold products	The final disposal location (Japan or overseas) is estimated for each type of the product sold that is used as raw materials, and the emissions are calculated by multiplying the disposal amount for each location by the emission factor for each final product and the disposal method for each location. The disposal method for final products overseas is estimated to be 20% incineration and 80% landfill disposal.
Category 13 Downstream leased assets	Since the amount of applicable lease assets is negligible, this category is not estimated.
Category 14 Franchises	As the Group does not have any businesses in this format, there are no emissions in this category.
Category 15 Investment	The amount of GHG emissions related to investments are calculated for the 9 main investee companies in which Mitsubishi Chemical Group Corporation held special investment shares (shareholding ratios of 20-50%) and for the 8 domestic affiliates engaged in gas production of NSHD by multiplying the emissions of these companies by Mitsubishi Chemical Group Corporation's shareholding ratio (number of shares held by Mitsubishi Chemical Group Corporation/total number of issued shares) and for NSHD's affiliates by multiplying by NSHD's shareholding ratio. The investee companies' GHG emissions are based on figures published in accordance with the Act on Promotion of Global Warming Countermeasures. However, since the actual figures for fiscal 2022 have yet to be announced, the most recently published figures are substituted. Actual fiscal 2022 emissions data is used for Kashima Kita Electric Power Corporation and the main affiliates of NSHD, which have significant amount of emissions.

Social Data

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		FY2020	FY2021	FY2022
Basic Information				
Number of employees		23,147	22,739	22,325
Number of employees by gender	Male	19,429	18,934	18,545
	Female	3,718	3,805	3,780
Number of employees by age group	20s or younger	2,856	2,864	2,689
	30s	5,167	4,954	4,705
	40s	7,059	6,697	6,303
	50s or older*1	8,065	8,224	8,628
Average age		43.1	43.0	43.5
Number of new employees*2		895	815	515
	Percentage of female in total number of new employees(%)*3		21.6	20.6
	Percentage of female in total number of career-track hires(%)*3		27.6	28
Number of employee turnover*4		735	1,228	734
	Voluntary turnover rate(%)*5		1.52	1.68
Number of unionized employees		15,913	15,706	15,339
Percentage of unionized employees		69.0	69.4	69.0
Number of layoffs*6		1	4	4

Boundary of data aggregation: The figures show those employed by the four operating companies (MCC, MTPC, LSII, and TNSC), including those seconded to other companies but excluding those seconded from other companies and workers in fixed-term employment.

*1 MCC has set the retirement age to 65 years old from April 2022, so there are no new rehires from the company.(Out of 8,628 people over 50s or older, 369 people were between 60 and 65)

*2 The figures for FY2021 have been retroactively adjusted to improve the accuracy of the data.

*3 New disclosure items for FY2022

*4 The number of turnover includes due to business restructuring (transfers out side the group).

*5 Ratio of the number of voluntary turnover in the current fiscal year divided by the number of employees at the end of previous fiscal year

New disclosure items for FY2022

*6 People leaving at the company's behest (including disciplinary dismissal)

Diversity				
Percentage of female employees		16.1	16.7	16.9
Percentage of female managers - Assistant manager level or above		9.3	10.2	10.6
Percentage of female managers - Manager level or above*7			5.4	5.6
Percentage of employees with disabilities		2.3	2.5	2.5
Number of employees rehired post-retirement*8		989	967	932

Boundary of data aggregation: The figures show those employed by the four operating companies (MCC, MTPC, LSII, and TNSC), including those seconded to other companies but excluding those seconded from other companies. Indicators other than the number of employees rehired post-retirement do not include workers in fixed-term employment. Employees of a special subsidiary and affiliates of MTPC that are certified under the Act on Promotion of Employment of Persons with Disabilities are included in the calculation of percentage of employees with disabilities.

*7 New disclosure items for FY2022

*8 MCC has set the retirement age to 65 years old from April 2022, so there are no new rehires from the company.

Work-Life Balance				
Childcare leave utilization rate(%)	Male*9		45	65
	Female*9		100	100
Number of employees taking childcare leave	Total	419	518	623
	Male	200	285	387
	Female	219	233	236
Number of employees taking family care leave		52	52	54
Paid leave utilization rate(%)*10		71.0	73.8	77.3

Boundary of data aggregation: The figures show those employed by the four operating companies (MCC, MTPC, LSII, and TNSC), including those seconded to other companies but excluding those seconded from other companies and workers in fixed-term employment.

*9 The childcare leave utilization rate is calculated using the formula: Number of employees who started childcare leave ÷ People who gave birth (spouse gave birth) × 100. The number of employees who started childcare leave is counted based on the start date of the leave, and those who gave birth (spouse giving birth) are counted based on the date of birth, so the childcare leave take rate may exceed 100%.

New disclosure items for FY2022

*10 The denominator is the number of days newly granted and the numerator is the number of days acquired in the reporting fiscal year. The denominator does not include the number of days carried over from the previous fiscal year.

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	FY2020	FY2021	FY2022
Occupational Safety			
☑ Lost-time injuries frequency rate (LTIFR) ^{*1}	1.18	1.23	0.89
☑ Lost-time occupational illness frequency rate ^{*2}	0.00	0.03	0.00
Stress check examination rate(%) ^{*3}	87.8	90.6	92.1
High stress rate(%) ^{*4}	7.9	9.3	9.5
☑ Tier 1 Process Safety Event Rate (PSE1R) ^{*5}	0.08	0.10	0.07
☑ Number of fatalities ^{*6}	1	1	0

*1 The LTIFR is the number of lost-time injuries and fatalities per million hours worked. Heat stroke and lower back pain are classified as injury.
Boundary of data aggregation: The data covers the four operating companies (MCC, MTPC, LSII, and NSHD) and their domestic and overseas Group companies with worksite operation units.

*2 Lost-time occupational illness frequency rate is the number of occupational illness with lost workdays occurred in the reporting year per one million working hours.
Boundary of data aggregation: The figures show those employed by the three operating companies (MCC, LSII, and TNSC) and employees (includes temporary employees, and excludes those seconded from the three operating companies.) who work for MTPC and its Group companies in Japan. However employees of LSII who work outside its Headquarter are excluded from the reporting boundary.
The figures for FY2021 have been retroactively adjusted.

*3 Percentage of people who took the stress check among the number of people eligible for the stress check
Boundary of data aggregation:

MCC, MTPC, LSII: Employees belonging to each company (including rehired, contracted, part-time and temporary employees) (including those accept to be seconded, excluding those seconded outside the company)

TNSC: Those employed by TNSC (including those seconded from other companies but excluding those seconded to other companies and workers in fixed-term employment) + temporary employees of logistics site.

New disclosure items for FY2022

*4 Percentage of people judged to be under high stress through stress checks (judgment criteria vary by company)
New disclosure items for FY2022

*5 The PSE1R is the number of PSE Tier 1 per million hours worked.

The definition of PSE Tier1 by the Center for Chemical Process Safety (CCPS) is applied.

When determining a Tier 1 PSE by comparing released material amount with Tier 1 Threshold Quantity, the duration of this release is assumed to be 1 hour.

Boundary of data aggregation: The data covers the four operating companies (MCC, MTPC, LSII, and NSHD) and their domestic and overseas Group companies with worksite operation units.

*6 Number of fatalities is the total number of occupational accident fatalities for employees.

Boundary of data aggregation: The data covers the four operating companies (MCC, MTPC, LSII, and NSHD) and their domestic and overseas Group companies with worksite operation units.

Other			
☑ Number of employees taking volunteer leave ^{*7}	8	5	4
Charitable contributions (million yen) ^{*8}	1,396	1,691	1,091
Political contributions (million yen) ^{*8}	19	17	17

*7 Boundary of data aggregation: The figures show those employed by the four operating companies (MCC, MTPC, LSII, and TNSC), including those seconded to other companies but excluding those seconded from other companies and workers in fixed-term employment.

*8 Boundary of data aggregation: Figures from the four operating companies (MCC, MTPC, LSII and NSHD).

Independent Assurance Report

Independent Assurance Report

To the President and CEO of Mitsubishi Chemical Group Corporation

We were engaged by Mitsubishi Chemical Group Corporation (the “Company”) to undertake a limited assurance engagement of the environmental and social performance indicators marked with (the “Indicators”) for the period from April 1, 2022 to March 31, 2023 included in its Fiscal 2022 Data Sheet (the “Data sheet”) for the fiscal year ended March 31, 2023.

The Company's Responsibility

The Company is responsible for the preparation of the Indicators in accordance with its own reporting criteria (the “Company’s reporting criteria”), as described in the Data sheet.

Our Responsibility

Our responsibility is to express a limited assurance conclusion on the Indicators based on the procedures we have performed. We conducted our engagement in accordance with the ‘International Standard on Assurance Engagements (ISAE) 3000, Assurance Engagements other than Audits or Reviews of Historical Financial Information’ and the ‘ISAE 3410, Assurance Engagements on Greenhouse Gas Statements’ issued by the International Auditing and Assurance Standards Board. The limited assurance engagement consisted of making inquiries, primarily of persons responsible for the preparation of information presented in the Data sheet, and applying analytical and other procedures, and the procedures performed vary in nature from, and are less in extent than for, a reasonable assurance engagement. The level of assurance provided is thus not as high as that provided by a reasonable assurance engagement. Our assurance procedures included:

- Interviewing the Company’s responsible personnel to obtain an understanding of its policy for preparing the Data sheet and reviewing the Company’s reporting criteria.
- Inquiring about the design of the systems and methods used to collect and process the Indicators.
- Performing analytical procedures on the Indicators.
- Examining, on a test basis, evidence supporting the generation, aggregation and reporting of the Indicators in conformity with the Company’s reporting criteria, and recalculating the Indicators.
- Visiting the Company’s Kyushu Plant (Kumamoto Area) and the Lemont 2 Plant of Matheson Tri-Gas, Inc. selected on the basis of a risk analysis.
- Evaluating the overall presentation of the Indicators.

Conclusion

Based on the procedures performed, as described above, nothing has come to our attention that causes us to believe that the Indicators in the Data sheet are not prepared, in all material respects, in accordance with the Company’s reporting criteria as described in the Data sheet.

Our Independence and Quality Management

We have complied with the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which includes independence and other requirements founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior. In accordance with International Standard on Quality Management 1, we design, implement and operate a system of quality management including policies or procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

/s/ Kazuhiko Saito

Kazuhiko Saito, Partner, Representative Director

KPMG AZSA Sustainability Co., Ltd.

Tokyo, Japan

September 28, 2023

Notes to the Reader of Independent Assurance Report:

This is a copy of the Independent Assurance Report and the original copies are kept separately by the Company and KPMG AZSA Sustainability Co., Ltd