



Mitsubishi Gas Chemical Company, Inc.

2025 CDP Corporate Questionnaire 2025

Word version

Important: this export excludes unanswered questions

This document is an export of your organization's CDP questionnaire response. It contains all data points for questions that are answered or in progress. There may be questions or data points that you have been requested to provide, which are missing from this document because they are currently unanswered. Please note that it is your responsibility to verify that your questionnaire response is complete prior to submission. CDP will not be liable for any failure to do so.

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Contents

C1. Introduction

(1.1) In which language are you submitting your response?

Select from:

English

(1.2) Select the currency used for all financial information disclosed throughout your response.

Select from:

JPY

(1.3) Provide an overview and introduction to your organization.

(1.3.2) Organization type

Select from:

Publicly traded organization

(1.3.3) Description of organization

Company Name: MITSUBISHI GAS CHEMICAL COMPANY, INC. • Abbreviation: MGC • Address: Mitsubishi Building, 5-2, Marunouchi 2-chome, Chiyoda-ku, Tokyo 100-8324 • Original Establishment: 1/15/1918 • Incorporation: 4/21/1951 • Capital: JPY41.97 billion (as of End of March, 2025) • Fiscal Year: Accounts closed in March • Staff: 2,523 (non-consolidated), 8,146 (consolidated) (as of End of March, 2025)
[Fixed row]

(1.4) State the end date of the year for which you are reporting data. For emissions data, indicate whether you will be providing emissions data for past reporting years.

	End date of reporting year	Alignment of this reporting period with your financial reporting period	Indicate if you are providing emissions data for past reporting years
	03/30/2025	Select from: <input checked="" type="checkbox"/> Yes	Select from: <input checked="" type="checkbox"/> No

[Fixed row]

(1.4.1) What is your organization’s annual revenue for the reporting period?

773591000000

(1.5) Provide details on your reporting boundary.

(1.5.1) Is your reporting boundary for your CDP disclosure the same as that used in your financial statements?

Select from:

No

(1.5.2) How does your reporting boundary differ to that used in your financial statement?

We use the same reporting boundary for CDP Climate Change as the boundary used in the preparation of our financial statements. For the reporting boundary throughout CDP Water Security, Biodiversity and Plastics, Mitsubishi Gas Chemical (MGC) alone (non-consolidate) is included in our disclosure.

[Fixed row]

(1.6) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?

ISIN code - bond

(1.6.1) Does your organization use this unique identifier?

Select from:

No

ISIN code - equity

(1.6.1) Does your organization use this unique identifier?

Select from:

Yes

(1.6.2) Provide your unique identifier

JP3896800004

CUSIP number

(1.6.1) Does your organization use this unique identifier?

Select from:

No

Ticker symbol

(1.6.1) Does your organization use this unique identifier?

Select from:

No

SEDOL code

(1.6.1) Does your organization use this unique identifier?

Select from:

No

LEI number

(1.6.1) Does your organization use this unique identifier?

Select from:

No

D-U-N-S number

(1.6.1) Does your organization use this unique identifier?

Select from:

No

Other unique identifier

(1.6.1) Does your organization use this unique identifier?

Select from:

Yes

(1.6.2) Provide your unique identifier

ISIN Code : JP3896800004

[Add row]

(1.7) Select the countries/areas in which you operate.

Select all that apply

China

Japan

Thailand

Indonesia

Netherlands

Taiwan, China

Republic of Korea

United States of America

Singapore

(1.8) Are you able to provide geolocation data for your facilities?

	Are you able to provide geolocation data for your facilities?	Comment
	Select from: <input checked="" type="checkbox"/> Yes, for all facilities	Latitude and longitude information can be provided.

[Fixed row]

(1.8.1) Please provide all available geolocation data for your facilities.

Row 1

(1.8.1.1) Identifier

EIWA CHEMICAL IND. CO.,LTD Kinuura Factory

(1.8.1.2) Latitude

34.890922

(1.8.1.3) Longitude

136.961918

(1.8.1.4) Comment

Location: 1-8, Nitto-cho, Handa-city, Aichi Prefecture

Row 2

(1.8.1.1) Identifier

Mizushima Factory

(1.8.1.2) Latitude

34.516074

(1.8.1.3) Longitude

133.727673

(1.8.1.4) Comment

Location: Kurashiki-shi, Okayama Prefecture Classification: Production Plant

Row 3

(1.8.1.1) Identifier

Naniwa Plant

(1.8.1.2) Latitude

34.6297

(1.8.1.3) Longitude

135.464537

(1.8.1.4) Comment

Location: Osaka-shi, Osaka Prefecture Classification: Production Plant

Row 4

(1.8.1.1) Identifier

Tokyo Research Laboratory

(1.8.1.2) Latitude

35.768494

(1.8.1.3) Longitude

139.860508

(1.8.1.4) Comment

Location: Katsushika-ku, Tokyo Classification: Laboratory

Row 5

(1.8.1.1) Identifier

Hiratsuka Research Laboratory

(1.8.1.2) Latitude

35.349734

(1.8.1.3) Longitude

139.365427

(1.8.1.4) Comment

Location: Hiratsuka-shi, Kanagawa Prefecture Classification: Laboratory

Row 6

(1.8.1.1) Identifier

Niigata Plant

(1.8.1.2) Latitude

39.961777

(1.8.1.3) Longitude

139.146215

(1.8.1.4) Comment

Location: Niigata-shi, Niigata Prefecture Classification: Production Plant

Row 7

(1.8.1.1) Identifier

QOL Innovation Center Shirakawa

(1.8.1.2) Latitude

37.161097

(1.8.1.3) Longitude

140.211086

(1.8.1.4) Comment

Location: Shirakawa-shi, Fukushima Prefecture Classification: Administrative Facility

Row 8

(1.8.1.1) Identifier

Head Office

(1.8.1.2) Latitude

35.679955

(1.8.1.3) Longitude

139.763809

(1.8.1.4) Comment

Location: Chiyoda-ku, Tokyo Classification: Office

Row 9

(1.8.1.1) Identifier

Kashima Plant

(1.8.1.2) Latitude

35.851289

(1.8.1.3) Longitude

140.706418

(1.8.1.4) Comment

Location: Kamisu-shi, Ibaraki Prefecture Classification: Production Plant

Row 10

(1.8.1.1) Identifier

Niigata Research Laboratory

(1.8.1.2) Latitude

37.960675

(1.8.1.3) Longitude

139.151903

(1.8.1.4) Comment

Location: Niigata-shi, Niigata Prefecture

Row 11

(1.8.1.1) Identifier

Yamakita Plant

(1.8.1.2) Latitude

35.348777

(1.8.1.3) Longitude

139.095233

(1.8.1.4) Comment

Location: Yamakita-machi, Kanagawa Prefecture Classification: Production Plant

Row 12

(1.8.1.1) Identifier

Saga Plant

(1.8.1.2) Latitude

33.355476

(1.8.1.3) Longitude

130.244537

(1.8.1.4) Comment

Location: Saga-shi, Saga Prefecture Classification: Production Plant

Row 13

(1.8.1.1) Identifier

Yokkaichi Plant

(1.8.1.2) Latitude

34.946506

(1.8.1.3) Longitude

136.613792

(1.8.1.4) Comment

Location: Yokkaichi-shi, Mie Prefecture Classification: Production Plant

Row 14

(1.8.1.1) Identifier

MGC ELECTROTECHNO Co., Ltd.

(1.8.1.2) Latitude

37.134639

(1.8.1.3) Longitude

140.173516

(1.8.1.4) Comment

Location: 9-41, Azasugiyama Oaza-yone nishigo-vill, Nishishirakawa-gun, Fukushima Prefecture

Row 15

(1.8.1.1) Identifier

MGC Filsheet Co., Ltd. Head Office

(1.8.1.2) Latitude

35.799175

(1.8.1.3) Longitude

139.415291

(1.8.1.4) Comment

Location: 4-2242 Mikajima, Tokorozawa-shi, Saitama Prefecture

Row 16

(1.8.1.1) Identifier

Toyo Kagaku Co., Ltd.

(1.8.1.2) Latitude

35.12132

(1.8.1.3) Longitude

137.088037

(1.8.1.4) Comment

Location: 51-497, Oaza morowa aza doudou, Togo-cho, Aichi-gun, Aichi Prefecture

Row 17

(1.8.1.1) Identifier

JAPAN FINECHEM COMPANY, INC.

(1.8.1.2) Latitude

34.323238

(1.8.1.3) Longitude

133.859053

(1.8.1.4) Comment

Location: 2-2-14, Irifune-cho, Sakaide-shi, Kagawa Prefecture

Row 18

(1.8.1.1) Identifier

Japan U-pica.co. ltd

(1.8.1.2) Latitude

34.178715

(1.8.1.3) Longitude

131.194788

(1.8.1.4) Comment

Location: 3058-21, Higashibun Ikejiri, Ohmine-cho, Mine-shi, Yamaguchi Prefecture

Row 19

(1.8.1.1) Identifier

Fudow Company Limited

(1.8.1.2) Latitude

35.286683

(1.8.1.3) Longitude

138.620881

(1.8.1.4) Comment

Location: 5747-6, Kitayama, Fujinomiya-City, Shizuoka Prefecture

Row 20

(1.8.1.1) Identifier

TOHO EARTHTECH, INC.

(1.8.1.2) Latitude

37.849257

(1.8.1.3) Longitude

138.971917

(1.8.1.4) Comment

Location: 1450, Kurotori, Nishi-ku, Niigata City

Row 21

(1.8.1.1) Identifier

MGC Woodchem Corporation

(1.8.1.2) Latitude

35.349112

(1.8.1.3) Longitude

139.365529

(1.8.1.4) Comment

Location: 5-3-4, Higashiyawata, Hiratsuka-shi, Kanagawa Prefecture

Row 22

(1.8.1.1) Identifier

Kashima Polymers Corporation

(1.8.1.2) Latitude

35.891288

(1.8.1.3) Longitude

140.706423

(1.8.1.4) Comment

Location: 35, Towada, Kamisu-shi, Ibaraki Prefecture

Row 23

(1.8.1.1) Identifier

Ageless (Thailand) Co., Ltd

(1.8.1.2) Latitude

13.434307

(1.8.1.3) Longitude

101.03078

(1.8.1.4) Comment

Amata City Chonburi Industrial Estate, 700/323 Moo 6, Tumbol Don Hua Lor, Muang Chonburi District, Chonburi 20000, Thailand

Row 24

(1.8.1.1) Identifier

MGC Advanced Polymers, Inc._

(1.8.1.2) Latitude

37.308346

(1.8.1.3) Longitude

-77.372566

(1.8.1.4) Comment

1100 Port Walthall Drive, Colonial Heights, Virginia 23834, U.S.A.

Row 25

(1.8.1.1) Identifier

MGC Electrotechno (Thailand) Co., Ltd.

(1.8.1.2) Latitude

13.05572

(1.8.1.3) Longitude

101.20854

(1.8.1.4) Comment

500/128 Moo3,Tambol Tasit,Amphur Pluak Daeng,Rayong Province 21140

Row 26

(1.8.1.1) Identifier

MGC Pure Chemicals America, Inc.

(1.8.1.2) Latitude

33.294703

(1.8.1.3) Longitude

-111.594559

(1.8.1.4) Comment

6560 South Mountain Road Mesa, Arizona 85212-9716, U.S.A.

Row 27

(1.8.1.1) Identifier

MGC Pure Chemicals Singapore Pte Ltd

(1.8.1.2) Latitude

1.33272

(1.8.1.3) Longitude

103.639813

(1.8.1.4) Comment

29 Tuas West Road Singapore 638388

Row 28

(1.8.1.1) Identifier

MGC Pure Chemicals Taiwan, Inc.

(1.8.1.2) Latitude

24.235354

(1.8.1.3) Longitude

120.511186

(1.8.1.4) Comment

No.12 Jing 1st Rd., Chung Kang Economic Processing Zone, Wuchi Dist.,

Row 29

(1.8.1.1) Identifier

PT Peroksida Indonesia Pratama

(1.8.1.2) Latitude

-6.410269

(1.8.1.3) Longitude

107.431395

(1.8.1.4) Comment

Jl.Jend.A.Yani, P.O.Box 53 Cikampek, 41373 Jawa Barat, Indonesia

Row 30

(1.8.1.1) Identifier

SAMYOUNG PURE CHEMICALS CO., LTD. Cheonan Plant

(1.8.1.2) Latitude

36.742468

(1.8.1.3) Longitude

127.251727

(1.8.1.4) Comment

22, 1-ro, 5-sandan, Seongnam-myeon, Dongnam-gu, Cheonan-si, Chungcheongnam-do, Korea,

Row 31

(1.8.1.1) Identifier

Thai Polyacetal Co., Ltd.

(1.8.1.2) Latitude

13.730401

(1.8.1.3) Longitude

100.568399

(1.8.1.4) Comment

Emporium Tower, Floor 24/4-8, 622 Sukhumvit Road, Klongton Klongtoey, Bangkok 10110, Thailand

Row 32

(1.8.1.1) Identifier

TAIXING MGC LINGSU CO., LTD.

(1.8.1.2) Latitude

31.829931

(1.8.1.3) Longitude

120.763589

(1.8.1.4) Comment

No.30, Shugang West Road, Binjiang Town, Taixing (Jiangsu)

Row 33

(1.8.1.1) Identifier

mitsubishi gas chemical shanghai commerce ltd.

(1.8.1.2) Latitude

30.819237

(1.8.1.3) Longitude

121.465229

(1.8.1.4) Comment

No 55 Mu Hua Road Shanghai Chemical Industry Park, Shanghai 201507,P,R.China

Row 34

(1.8.1.1) Identifier

MGC SPECIALTY CHEMICALS Netherlands B.V.

(1.8.1.2) Latitude

51.88616

(1.8.1.3) Longitude

4.25528

(1.8.1.4) Comment

Theemsweg 5, 3197 KM Botlek Rotterdam, The Netherlands

Row 35

(1.8.1.1) Identifier

THAI POLYCARBONATE CO., LTD

(1.8.1.2) Latitude

12.711289

(1.8.1.3) Longitude

101.128333

(1.8.1.4) Comment

Padaeng Industrial Estate, 1/1 Padaeng Road, Map-Ta-Phut, Rayong, 21150 Thailand
[Add row]

(1.14) In which part of the chemicals value chain does your organization operate?

Bulk inorganic chemicals

Ammonia

Bulk organic chemicals

Aromatics

Methanol

Polymers

Other chemicals

Specialty inorganic chemicals

Specialty organic chemicals

(1.24) Has your organization mapped its value chain?

(1.24.1) Value chain mapped

Select from:

Yes, we have mapped or are currently in the process of mapping our value chain

(1.24.2) Value chain stages covered in mapping

Select all that apply

Upstream value chain

(1.24.3) Highest supplier tier mapped

Select from:

Tier 1 suppliers

(1.24.4) Highest supplier tier known but not mapped

Select from:

- Tier 2 suppliers

(1.24.7) Description of mapping process and coverage

In order to understand our Scope 3 category 1 emissions from purchased goods and services, we conduct a survey of GHG emissions per product unit for primary suppliers of raw materials that we purchase in large quantities. As part of this survey, we have mapped our value chain.

[Fixed row]

(1.24.1) Have you mapped where in your direct operations or elsewhere in your value chain plastics are produced, commercialized, used, and/or disposed of?

	Plastics mapping	Value chain stages covered in mapping
	<p>Select from:</p> <ul style="list-style-type: none"><input checked="" type="checkbox"/> Yes, we have mapped or are currently in the process of mapping plastics in our value chain	<p>Select all that apply</p> <ul style="list-style-type: none"><input checked="" type="checkbox"/> Direct operations<input checked="" type="checkbox"/> Downstream value chain

[Fixed row]

C2. Identification, assessment, and management of dependencies, impacts, risks, and opportunities

(2.1) How does your organization define short-, medium-, and long-term time horizons in relation to the identification, assessment, and management of your environmental dependencies, impacts, risks, and opportunities?

Short-term

(2.1.1) From (years)

1

(2.1.3) To (years)

2

(2.1.4) How this time horizon is linked to strategic and/or financial planning

We define our short-term as a time horizon between one (1) and two (2) years. We can adequately predict the external environmental changes, and financial and strategic impacts in one (1) to two (2) years ahead from the present time. We formulate our strategic and financial plans for every fiscal year.

Medium-term

(2.1.1) From (years)

3

(2.1.3) To (years)

9

(2.1.4) How this time horizon is linked to strategic and/or financial planning

We define our medium-term as a time horizon between three (3) and nine (9) years. We can predict to a certain extent the external environmental changes, and

financial and strategic impacts in three (3) years ahead from the present time. We formulate a medium-term management plan every three years, which incorporates our strategic and financial plans.

Long-term

(2.1.1) From (years)

10

(2.1.2) Is your long-term time horizon open ended?

Select from:

No

(2.1.3) To (years)

30

(2.1.4) How this time horizon is linked to strategic and/or financial planning

We define our long-term as a time horizon between ten (10) to thirty (30) years. Although we cannot easily predict the external environmental changes, financial and strategic impacts beyond ten (10) years ahead from the present time, we formulate a medium-term management plan, which aims to realise MGC's long-term future vision and incorporates our strategic and financial plans.

[Fixed row]

(2.2) Does your organization have a process for identifying, assessing, and managing environmental dependencies and/or impacts?

	Process in place	Dependencies and/or impacts evaluated in this process
	Select from: <input checked="" type="checkbox"/> Yes	Select from: <input checked="" type="checkbox"/> Both dependencies and impacts

[Fixed row]

(2.2.1) Does your organization have a process for identifying, assessing, and managing environmental risks and/or opportunities?

	Process in place	Risks and/or opportunities evaluated in this process	Is this process informed by the dependencies and/or impacts process?
	Select from: <input checked="" type="checkbox"/> Yes	Select from: <input checked="" type="checkbox"/> Both risks and opportunities	Select from: <input checked="" type="checkbox"/> Yes

[Fixed row]

(2.2.2) Provide details of your organization's process for identifying, assessing, and managing environmental dependencies, impacts, risks, and/or opportunities.

Row 1

(2.2.2.1) Environmental issue

Select all that apply

- Climate change

(2.2.2.2) Indicate which of dependencies, impacts, risks, and opportunities are covered by the process for this environmental issue

Select all that apply

- Dependencies
- Impacts
- Risks
- Opportunities

(2.2.2.3) Value chain stages covered

Select all that apply

- Direct operations
- Upstream value chain
- Downstream value chain

(2.2.2.4) Coverage

Select from:

- Full

(2.2.2.5) Supplier tiers covered

Select all that apply

- Tier 1 suppliers

(2.2.2.7) Type of assessment

Select from:

- Qualitative and quantitative

(2.2.2.8) Frequency of assessment

Select from:

- More than once a year

(2.2.2.9) Time horizons covered

Select all that apply

- Short-term
- Medium-term
- Long-term

(2.2.2.10) Integration of risk management process

Select from:

- Integrated into multi-disciplinary organization-wide risk management process

(2.2.2.11) Location-specificity used

Select all that apply

- Site-specific

(2.2.2.12) Tools and methods used

Other

- Desk-based research
- External consultants
- Internal company methods
- Materiality assessment
- Scenario analysis

(2.2.2.13) Risk types and criteria considered

Acute physical

- Drought

Flood (coastal, fluvial, pluvial, ground water)

Heavy precipitation (rain, hail, snow/ice)

Chronic physical

Changing precipitation patterns and types (rain, hail, snow/ice)

Changing temperature (air, freshwater, marine water)

Heat stress

Increased severity of extreme weather events

Policy

Carbon pricing mechanisms

Market

Changing customer behavior

Reputation

Increased partner and stakeholder concern and partner and stakeholder negative feedback

Negative press coverage related to support of projects or activities with negative impacts on the environment (e.g. GHG emissions, deforestation & conversion, water stress)

Technology

Transition to lower emissions technology and products

Liability

Exposure to litigation

(2.2.2.14) Partners and stakeholders considered

Select all that apply

Customers

Employees

(2.2.2.15) Has this process changed since the previous reporting year?

Select from:

No

(2.2.2.16) Further details of process

MGC's process for identifying, assessing, and responding to climate-related risks and opportunities is integrated into the company-wide risk management process. The Sustainability Promotion Department, the Production Technology Division, and the Environmental Safety & Quality Assurance Division, in collaboration with relevant business divisions and departments, identify and assess climate-related risks and opportunities. We identify the transition risks/opportunities and physical risks/opportunities related to the MGC Group's business activities through the entire value chain, including direct operations, upstream, and downstream, on the short-, medium-/long-term time scale (incl. endogenous business risks, overseas business risk, joint venture risk, product quality risk, natural disaster and accident risks, information security risk, investment risk, currency risk, financing and interest rate risks, compliance risk, and litigation risk, etc.). In our scenario analysis aligning with the TCFD recommendation, under 4 degrees Celsius scenario where global warming is not sufficiently prevented, the result of analysis indicates that fossil resource price rise, utility cost rise, and the impact on plant operations due to severe natural disasters are likely to have impacts on our business performance. Under 2 degrees Celsius scenario, it indicates that the introduction of a carbon price for decarbonization and increased costs due to stricter GHG emission regulations are likely to have impacts on our business performance. When assessing the identified risks/opportunities, we consider both the financial impact and the probability of occurrence for all time scales: short (1 to 2 years)-, medium (3 to 9 years)-/long (10 to 30 years)-term. We assess more than once a year, and the risks/opportunities that are assessed to have a significant financial impact are deliberated with the Sustainability Promotion Council or the Internal Control & Risk Management Committee and submitted to the Board of Directors. Responses to such risks/opportunities are examined mainly by the relevant business divisions and departments. For the risks/opportunities that require detailed assessments, we conduct a scenario analysis, and examine responses based on the analysis results and execute them. MGC defines significant financial and strategic impacts as substantial and significant when they negatively effect on our production, sales, R&D, or reputation, and evaluates the financial impact (on annual sales amount) and the probability of occurrence as the magnitude of severity. We classify the financial impact into three levels: 1) an annual sales decrease of JPY10 billion or more, 2) an annual sales decrease of JPY5 billion or more, and 3) an annual sales decrease of JPY1 billion or more. If any of 1), 2) or 3) is assumed, we categorize it as a significant financial impact. We classify the probability of occurrence into three levels: 1) an occurrence at least once every 30 years, 2) an occurrence at least once every 5 years, and 3) an occurrence at least once a year.

Row 2

(2.2.2.1) Environmental issue

Select all that apply

Biodiversity

(2.2.2.2) Indicate which of dependencies, impacts, risks, and opportunities are covered by the process for this environmental issue

Select all that apply

Impacts

- Risks
- Opportunities

(2.2.2.3) Value chain stages covered

Select all that apply

- Direct operations
- Upstream value chain
- Downstream value chain

(2.2.2.4) Coverage

Select from:

- Full

(2.2.2.5) Supplier tiers covered

Select all that apply

- Tier 1 suppliers

(2.2.2.7) Type of assessment

Select from:

- Qualitative only

(2.2.2.8) Frequency of assessment

Select from:

- As important matters arise

(2.2.2.9) Time horizons covered

Select all that apply

- Short-term

(2.2.2.10) Integration of risk management process

Select from:

- A specific environmental risk management process

(2.2.2.11) Location-specificity used

Select all that apply

- Site-specific
- Local

(2.2.2.12) Tools and methods used

Commercially/publicly available tools

- Encore tool
- IBAT – Integrated Biodiversity Assessment Tool
- LEAP (Locate, Evaluate, Assess and Prepare) approach, TNFD
- TNFD – Taskforce on Nature-related Financial Disclosures

(2.2.2.13) Risk types and criteria considered

Chronic physical

- Declining ecosystem services
- Increased ecosystem vulnerability

(2.2.2.14) Partners and stakeholders considered

Select all that apply

- Local communities
- Other commodity users/producers at a local level
- Other water users at the basin/catchment level

(2.2.2.15) Has this process changed since the previous reporting year?

Select from:

No

(2.2.2.16) Further details of process

As a part of the risk assessment at each site, we assessed the ecological impacts such as water body changes, pollution, waste and disturbance, using ENCORE, based on LEAP approach recommended by TNFD. This covered MGC and the domestic MGC Group production plants, natural gas fields and geothermal power plants. We examined sensitive locations and material locations across 102 locations including consolidated subsidiaries and identified priority areas. In the case we find substantive impacts on species, we will take measures including strengthening water discharge treatment, noise control and tree planting.

Row 3

(2.2.2.1) Environmental issue

Select all that apply

Plastics

(2.2.2.2) Indicate which of dependencies, impacts, risks, and opportunities are covered by the process for this environmental issue

Select all that apply

Risks

Opportunities

(2.2.2.3) Value chain stages covered

Select all that apply

Direct operations

Upstream value chain

Downstream value chain

(2.2.2.4) Coverage

Select from:

- Full

(2.2.2.5) Supplier tiers covered

Select all that apply

- Tier 1 suppliers

(2.2.2.7) Type of assessment

Select from:

- Qualitative only

(2.2.2.8) Frequency of assessment

Select from:

- More than once a year

(2.2.2.9) Time horizons covered

Select all that apply

- Short-term

(2.2.2.10) Integration of risk management process

Select from:

- A specific environmental risk management process

(2.2.2.11) Location-specificity used

Select all that apply

- Site-specific
- Local

(2.2.2.12) Tools and methods used

Enterprise Risk Management

- Internal company methods

Databases

- Nation-specific databases, tools, or standards

Other

- External consultants

(2.2.2.13) Risk types and criteria considered

Acute physical

- Flood (coastal, fluvial, pluvial, ground water)
- Heavy precipitation (rain, hail, snow/ice)
- Pollution incident

Chronic physical

- Increased levels of macro or microplastic leakage to air, soil, freshwater and/or marine bodies
- Leaching of hazardous substances from plastics

Market

- Availability and/or increased cost of certified sustainable material

(2.2.2.14) Partners and stakeholders considered

Select all that apply

- Customers
- Employees
- Local communities
- Suppliers

(2.2.2.15) Has this process changed since the previous reporting year?

Select from:

No

(2.2.2.16) Further details of process

MGC has an internal rule which requires each of our business sites to report twice a year on internal control and risk management activities. The reports cover a wide range of issues, including loss of production opportunities caused by earthquakes, inundation and other natural disasters or ageing equipment, and information leaks. For example, at production sites handling plastics, we are required to assess and manage potential risks during production, use and storage, and if necessary, to specify a schedule of countermeasures. The next time, we self-assess the implementation of the countermeasures. At our business sites, we carry out safety patrols, warden patrols, and risk indications and countermeasures. Also, as Responsible Care audits, the Environmental Safety and Quality Assurance Division visits the production sites, verifies countermeasures of frequently occurring accidents and horizontal deployment of the countermeasures, and requires improvements if necessary. For our raw material suppliers, the Raw Materials Group conducts CSR questionnaires. For our customers in the polymer processing business, we disclose the hazards of the polymers themselves and handling risks through a safety data sheet and other means. At the production sites, there are cases of burns and falls caused by resin pellets, thus, wearing protective gear, keeping the area tidy and other common-sense measures are required when handling them.

Row 4

(2.2.2.1) Environmental issue

Select all that apply

Water

(2.2.2.2) Indicate which of dependencies, impacts, risks, and opportunities are covered by the process for this environmental issue

Select all that apply

Dependencies

Impacts

Risks

Opportunities

(2.2.2.3) Value chain stages covered

Select all that apply

Direct operations

- Upstream value chain
- Downstream value chain

(2.2.2.4) Coverage

Select from:

- Full

(2.2.2.5) Supplier tiers covered

Select all that apply

- Tier 1 suppliers

(2.2.2.7) Type of assessment

Select from:

- Qualitative and quantitative

(2.2.2.8) Frequency of assessment

Select from:

- Annually

(2.2.2.9) Time horizons covered

Select all that apply

- Short-term
- Medium-term
- Long-term

(2.2.2.10) Integration of risk management process

Select from:

- Integrated into multi-disciplinary organization-wide risk management process

(2.2.2.11) Location-specificity used

Select all that apply

- Site-specific

(2.2.2.12) Tools and methods used

Commercially/publicly available tools

- LEAP (Locate, Evaluate, Assess and Prepare) approach, TNFD
- WRI Aqueduct
- Other commercially/publicly available tools, please specify :ENCORE

Enterprise Risk Management

- Internal company methods

Other

- Desk-based research
- External consultants
- Scenario analysis

(2.2.2.13) Risk types and criteria considered

Acute physical

- Drought
- Flood (coastal, fluvial, pluvial, ground water)
- Heavy precipitation (rain, hail, snow/ice)

Chronic physical

- Change in land-use
- Changing precipitation patterns and types (rain, hail, snow/ice)
- Declining water quality
- Increased levels of environmental pollutants in freshwater bodies

- Water quality at a basin/catchment level

Policy

- Changes to national legislation

Market

- Availability and/or increased cost of raw materials
- Changing customer behavior

Reputation

- Increased partner and stakeholder concern and partner and stakeholder negative feedback

Technology

- Data access/availability or monitoring systems

Liability

- Non-compliance with regulations

(2.2.2.14) Partners and stakeholders considered

Select all that apply

- Employees
- Regulators
- Suppliers
- Water utilities at a local level
- Other water users at the basin/catchment level

(2.2.2.15) Has this process changed since the previous reporting year?

Select from:

- Yes

(2.2.2.16) Further details of process

MGC 's process for identifying, assessing, and responding to nature-related risks/opportunities is integrated into the company-wide risk management process. The Sustainability Promotion Department, the Production Technology Division, and the Environmental Safety & Quality Assurance Division, with relevant business divisions and departments, identify and assess climate-related risks/ opportunities, which involve water-related risks/opportunities. We identify the transition and physical risks/opportunities related to our business activities through the entire value chain, including direct operations, upstream, and downstream, on the short-, medium-, and long-term time scale (incl. endogenous business risks, joint venture risk, product quality risk, natural disaster and accident risks, information security risk, investment risk, currency risk, financing and interest rate risks, compliance risk, and litigation risk, etc.). In assessing our dependencies and impacts on nature, we organised the significance based on the ENCORE results and our business characteristics and created a heat map. The heat map suggested that the impacts on nature including land-use change, water and resource use, and soil pollution was significant in all businesses. The dependencies on ecosystem services related to the water and natural gas supply was also significant. Particularly regarding water resources, we use freshwater in the chemical manufacturing and recognize that it is essential to have access to sufficient high-quality freshwater for business continuity. When assessing the identified risks/opportunities, we consider both the financial impact and the probability of occurrence for all time scales: short (1 to 2 years)-, medium (3 to 9 years)-/long (10 to 30 years)-term. We assess more than once a year, and the risks/opportunities that are assessed to have a significant financial impact are deliberated with the Sustainability Promotion Council or the Internal Control & Risk Management Committee and submitted to the Board of Directors. Responses to such risks/opportunities are examined mainly by the relevant business divisions and departments. For assessing the risks/opportunities in detail, we conduct a scenario analysis, and examine responses based on the analysis results and execute them. MGC defines significant financial and strategic impacts as substantial and significant when they negatively effect on our production, sales, R&D, or reputation, and evaluates the financial impact (on annual sales amount) and the probability of occurrence as the magnitude of severity. We classify the financial impact into three levels: 1) an annual sales decrease of JPY10 billion or more, 2) an annual sales decrease of JPY5 billion or more, and 3) an annual sales decrease of JPY1 billion or more. If any of 1), 2) or 3) is assumed, we categorize it as significant. We classify the probability of occurrence into three levels: 1) an occurrence at least once every 30 years, 2) an occurrence at least once every 5 years, and 3) an occurrence at least once a year.

[Add row]

(2.2.7) Are the interconnections between environmental dependencies, impacts, risks and/or opportunities assessed?

(2.2.7.1) Interconnections between environmental dependencies, impacts, risks and/or opportunities assessed

Select from:

Yes

(2.2.7.2) Description of how interconnections are assessed

In line with TNFD's LEAP approach, we assess water resources from both environmental dependency and impact perspectives and identify risks and/or opportunities. Water resources are an important resource for the chemical industry, used for raw materials, heating, cooling, and cleaning. The impact and dependence on water resources are important factors in manufacturing. The MGC Group uses water for heating and cooling in chemical manufacturing processes as boiler water, and large quantities of high-quality freshwater for cleaning product containers. Thus, the MGC Group recognises that the use of large quantities of high-quality water is essential for continuing its business, and that water intake has a significant impact on and dependence on nature. (757/3,000)

[Fixed row]

(2.3) Have you identified priority locations across your value chain?

(2.3.1) Identification of priority locations

Select from:

- Yes, we have identified priority locations

(2.3.2) Value chain stages where priority locations have been identified

Select all that apply

- Direct operations
 Upstream value chain
 Downstream value chain

(2.3.3) Types of priority locations identified

Sensitive locations

- Areas important for biodiversity

(2.3.4) Description of process to identify priority locations

We examined sensitive locations and material locations across 102 locations including consolidated subsidiaries and identified priority areas.

(2.3.5) Will you be disclosing a list/spatial map of priority locations?

Select from:

- No, we have a list/geospatial map of priority locations, but we will not be disclosing it

[Fixed row]

(2.4) How does your organization define substantive effects on your organization?

Risks

(2.4.1) Type of definition

Select all that apply

- Qualitative
- Quantitative

(2.4.2) Indicator used to define substantive effect

Select from:

- Revenue

(2.4.3) Change to indicator

Select from:

- Absolute decrease

(2.4.5) Absolute increase/ decrease figure

1000000000

(2.4.6) Metrics considered in definition

Select all that apply

- Frequency of effect occurring
- Time horizon over which the effect occurs

(2.4.7) Application of definition

MGC defines financial and strategic impacts, including those attributable to climate change, as substantial and significant when they negatively effect on our production, sales, R&D, and/or reputation, and evaluates the financial impact (on the annual sales) and the probability of occurrence as the magnitude of severity. We classify the financial impact into three levels: 1) an annual sales decrease of JPY10 billion or more, 2) an annual sales decrease of JPY5 billion or more, and 3) an annual sales decrease of JPY1 billion or more. If any of 1), 2) or 3) is assumed, we categorize it as a significant financial impact. We classify the probability of occurrence into three levels: 1) an occurrence at least once every 30 years, 2) an occurrence at least once every 5 years, and 3) an occurrence at least once a year. Both the financial impact and the probability of occurrence are taken into account when we identify risks and conclude the magnitude of impact. We have listed endogenous business risks, overseas business risk, joint venture risk, product quality risk, natural disaster and accident risks, information security risk, investment

risk, currency risk, financing and interest rate risks, compliance risk, and litigation risk, etc. In our scenario analysis aligning with the TCFD recommendation, under 4 degrees Celsius scenario where global warming is not sufficiently prevented, the result of analysis indicates that fossil resource price rise, utility cost rise, and the impact on plant operations due to severe natural disasters are likely to have impacts on our business performance. Under 2 degrees Celsius scenario, it indicates that the introduction of a carbon price for decarbonization and increased costs due to stricter GHG emission regulations are likely to have impacts on our business performance.

Opportunities

(2.4.1) Type of definition

Select all that apply

- Qualitative
- Quantitative

(2.4.2) Indicator used to define substantive effect

Select from:

- Revenue

(2.4.3) Change to indicator

Select from:

- % increase

(2.4.4) % change to indicator

Select from:

- 11-20

(2.4.6) Metrics considered in definition

Select all that apply

- Time horizon over which the effect occurs
- Likelihood of effect occurring

(2.4.7) Application of definition

MGC defines financial and strategic impacts as substantial and significant when they positively effect on our production, sales, R&D, and/or reputation. We evaluate the financial impact (on the annual sales) and determine it as significant when an annual sales increases by 1.1 times or more from the newly calculated forecast or the most recent forecast published in the financial statements for the current consolidated fiscal year (or, if there is no such forecast, the actual sales published in the previous consolidated fiscal year).

[Add row]

(2.5) Does your organization identify and classify potential water pollutants associated with its activities that could have a detrimental impact on water ecosystems or human health?

(2.5.1) Identification and classification of potential water pollutants

Select from:

Yes, we identify and classify our potential water pollutants

(2.5.2) How potential water pollutants are identified and classified

MGC identifies the hazardous substances to human health and living environment that affect the water ecosystem as specified in Japan's Water Pollution Prevention Act, as well as potential water pollutants of Class I designated chemical substances in Japan's Act on the Assessment of Releases of Specified Chemical Substances in the Environment and the Promotion of Management Improvement (PRTR Act), based on MGC Group Declaration on Environmental Sustainability Declaration. Each production site provides its standards for identifying potential water pollutants among the substances handled and for managing them appropriately. Further, production facilities are managed based on the concept of preventive maintenance to prevent water pollution due to leakage incidents. We measure and manage pollutant content in the water discharges from the production facilities according to our voluntary effluent standards, which are stricter than the national effluent standards stipulated in Water Pollution Prevention Act. For Class I Designated Chemical Substances stipulated, we measure the concentration in discharged water, calculate the weight discharged to water per year, and report it to the government annually. An example of a potential water pollutant identified at MGC's production sites is ammonia. We identify and classify pollutants according to the uniform national effluent standards stipulated in the Act as a measurement metrics. The uniform national effluent standard for ammonia is 100 mg/L.

[Fixed row]

(2.5.1) Describe how your organization minimizes the adverse impacts of potential water pollutants on water ecosystems or human health associated with your activities.

Row 1

(2.5.1.1) Water pollutant category

Select from:

- Inorganic pollutants

(2.5.1.2) Description of water pollutant and potential impacts

An example of a potential water pollutant identified at MGC's production sites is ammonia. Ammonium hydroxide is a strong basic (alkaline) substance containing hazardous substance, ammonia which is listed in Article 2 of the Enforcement Order for Japan's Water Pollution Prevention Act. In the event of any leakages to water including rivers and lakes due to accidents or other reasons, its strong alkalinity could have the significant adverse impacts on animals and plants inhabiting in the water.

(2.5.1.3) Value chain stage

Select all that apply

- Direct operations
- Downstream value chain

(2.5.1.4) Actions and procedures to minimize adverse impacts

Select all that apply

- Beyond compliance with regulatory requirements
- Industrial and chemical accidents prevention, preparedness, and response

(2.5.1.5) Please explain

The Niigata plant, which manufactures ammonia, stipulates its standards and procedures for water discharge management in the plant rule, the 'Guidelines for Environmental Laws and Regulations'. It includes voluntary management targets which are stricter than the national effluent standards in Japan's Water Pollution Prevention Act and the regulated values in the agreement with Niigata City. The Plant discharges water treated in activated sludge wastewater treatment equipment and regularly analyses to make sure that its discharges water meets these standards and targets. To prevent toxic spill accidents into rivers, MGC measures continuously and monitors the water discharge pH at multiple locations around the Plant and establishes a system to adjust pH continuously and to maintain it at a neutral level. In the event of any abnormalities where we cannot control the water discharge quality due to abnormal pH or other reasons, the system is designed to shut off the discharge outlet and to store the abnormal water discharge in an emergency storage tank so that it prevents the water discharge outside the Plant. The success of management is assessed based on monitoring results of water quality and the reporting system for accidents and equipment malfunctions, which track

whether pollutants have been discharged into public water bodies such as rivers. Management is evaluated as successful when no such incidents occur. In the reporting year, management is evaluated as successful.

[Add row]

C3. Disclosure of risks and opportunities

(3.1) Have you identified any environmental risks which have had a substantive effect on your organization in the reporting year, or are anticipated to have a substantive effect on your organization in the future?

	Environmental risks identified
Climate change	<i>Select from:</i> <input checked="" type="checkbox"/> Yes, both in direct operations and upstream/downstream value chain
Water	<i>Select from:</i> <input checked="" type="checkbox"/> Yes, both in direct operations and upstream/downstream value chain
Plastics	<i>Select from:</i> <input checked="" type="checkbox"/> Yes, both in direct operations and upstream/downstream value chain

[Fixed row]

(3.1.1) Provide details of the environmental risks identified which have had a substantive effect on your organization in the reporting year, or are anticipated to have a substantive effect on your organization in the future.

Climate change

(3.1.1.1) Risk identifier

Select from:

Risk1

(3.1.1.3) Risk types and primary environmental risk driver

Policy

- Carbon pricing mechanisms

(3.1.1.4) Value chain stage where the risk occurs

Select from:

- Direct operations

(3.1.1.6) Country/area where the risk occurs

Select all that apply

- Japan

(3.1.1.9) Organization-specific description of risk

Our business is in the energy-intensive chemical industry, and the MGC Group emitted approx. 1.21 million tons of GHGs in FY2024. We purchase mixed xylene and separate 530,000 tons of xylene annually with our unique superacid catalyst (HF/BF₃) technology. We also have polycarbonate manufacturing sites in Japan, China and Thailand with a total capacity of just over 300,000 tons (Mitsubishi Engineering-Plastics Corporation, our consolidated subsidiary, is one of the top four distributors in the world). Thus, energy price fluctuations, renewable energy price fluctuations, energy saving, the change from the current Tax for Measures against Global Warming, Tax for Petroleum and Coal, and Surcharge for Renewable Energy to the Carbon pricing, the introduction of an emissions trading system based on GHG emissions, and laws and regulations that encourage GHG emission reductions could lead to significant risks to our profitability. In Japan, the Tax for Measures against Global Warming, Tax for Petroleum and Coal, and Surcharge for Renewable Energy have been introduced, and we annually pay approx. JPY1.8 billion for approx. 530,000 tons of our energy-derived CO₂ emissions subject to the tax. In the future, an increase in the energy and environmental taxes and the introduction of carbon pricing could lead to a risk of further increase in our indirect costs.

(3.1.1.11) Primary financial effect of the risk

Select from:

- Increased indirect [operating] costs

(3.1.1.12) Time horizon over which the risk is anticipated to have a substantive effect on the organization

Select all that apply

- Medium-term

(3.1.1.13) Likelihood of the risk having an effect within the anticipated time horizon

Select from:

Very likely

(3.1.1.14) Magnitude

Select from:

High

(3.1.1.16) Anticipated effect of the risk on the financial position, financial performance and cash flows of the organization in the selected future time horizons

The MGC Group has manufacturing and sales sites in Europe, the US and Asia, and is closely monitoring the introduction of carbon pricing by each government. In Japan, we directly and indirectly pay the Tax for Measures against Global Warming, Tax for Petroleum and Coal and Surcharge for Renewable Energy. It costs us approx. JPY1.8 billion for approx. 530,000 tons of our energy-derived CO2 emissions annually. The Japanese government has compiled the Basic Policy for the Realization of Green Transformation (GX Basic Policy) depicting a roadmap for energy and environmental policies covering the next 10 years. The GX Basic Policy envisages that JPY20 trillion redemption fund of the GX Economic Transition Bonds (excluding interests) will be financed by government revenues from the carbon tax. Calculating backwards, the carbon price is estimated to be approx. JPY2,750/tCO2e on average from 2028, when the Carbon Surcharge is introduced, to 2050, when the GX Economic Transition Bonds redemption ends. Assuming that Japan's Tax for Measures against Global Warming is revised to JPY2,750/tCO2e for 1.5 degrees Celsius scenario, and GHG emissions in the mid-term is the same as energy-derived emissions in FY2024 (approx. 530,000 tCO2e), we would have to pay additional approx. JPY1.30 billion annually (approx. 530,000 tCO2e multiplied by (JPY2,750/tCO2e minus JPY289/tCO2e)). There is a risk for us that the carbon tax payment will increase.

(3.1.1.17) Are you able to quantify the financial effect of the risk?

Select from:

Yes

(3.1.1.21) Anticipated financial effect figure in the medium-term – minimum (currency)

0

(3.1.1.22) Anticipated financial effect figure in the medium-term – maximum (currency)

3912990000

(3.1.1.25) Explanation of financial effect figure

The MGC Group has manufacturing and sales sites in Europe, the US and Asia, and is closely monitoring the introduction of carbon pricing by each government. In Japan, the Tax for Measures against Global Warming of JPY289/tCO₂e has been introduced since 2012, and we annually pay approx. JPY150 million for approx. 530,000 tons of our energy-derived CO₂ emissions subject to the tax. The Japanese government's GX Basic Policy envisages that JPY20 trillion redemption fund of the GX Economic Transition Bonds (excluding interest) will be financed by government revenues from the carbon tax. Calculating backwards, the carbon price is estimated to be approx. JPY2,750/tCO₂e on average from 2028, when the Carbon Surcharge is introduced, to 2050, when the GX Economic Transition Bonds redemption ends. Assuming Japan's Tax for Measures against Global Warming is revised from JPY289/tCO₂e to JPY2,750/tCO₂e for 1.5 degrees Celsius scenario, and GHG emissions in the mid-term is the same as energy-derived emissions in FY2024 (approx. 530,000 tCO₂e), we would have to pay additional approx. JPY1.30 billion annually (530,000 tCO₂e multiplied by (JPY2,750/tCO₂e minus JPY289/tCO₂e)). There is a risk for us that the carbon tax payment will increase. The maximum financial impact in the mid-term would be approx. JPY3.91 billion (approx. JPY1.30 billion (530,000 tCO₂e multiplied by (JPY2,750/tCO₂e minus JPY289/tCO₂e) multiplied by 3 years). The minimum financial impact would be zero (0) if the JPY2,750/tCO₂e carbon tax is not introduced and the additional cost is zero (0).

(3.1.1.26) Primary response to risk

Infrastructure, technology and spending

Increase environment-related capital expenditure

(3.1.1.27) Cost of response to risk

289552000

(3.1.1.28) Explanation of cost calculation

In FY2024, we implemented energy-saving equipment installations and upgrades, including recovery of byproduct hydrogen, renewal of waste heat recovery lines, steam trace insulation improvement, and installation of solar panels at the Niigata Plant, the Yokkaichi Plant, the Kashima Plant and the Tokyo Research Laboratory. Consequently, the total capital investment cost was JPY289.552 million, resulting in a GHG emission reduction of 5,349 tCO₂ annually.

(3.1.1.29) Description of response

· We develop and introduce new technologies that reduce GHG emissions in the manufacturing process and reduce GHG emissions in the supply chain. · We develop businesses in methanol and polycarbonate manufacturing with CCUS (especially CCS) and CO₂ as feedstock, chemical production utilizing these products, and ammonia as a hydrogen carrier and CO₂-free fuel. · We advance acquisition and horizontal deployment of energy-saving technologies and the utilization of digital technologies.

Water

(3.1.1.1) Risk identifier

Select from:

Risk2

(3.1.1.3) Risk types and primary environmental risk driver

Chronic physical

Changing precipitation patterns and types (rain, hail, snow/ice)

(3.1.1.4) Value chain stage where the risk occurs

Select from:

Direct operations

(3.1.1.6) Country/area where the risk occurs

Select all that apply

Japan

(3.1.1.7) River basin where the risk occurs

Select all that apply

Other, please specify :Kashimanada

(3.1.1.9) Organization-specific description of risk

The Kashima plant of MGC is located close to the coastal waters, Kashimanada. The production facilities for hydrogen peroxide, one of our major products, are located outdoors. The utility piping for industrial water and nitrogen for instrumentation is often made of steel to reduce costs. The Kashima plant is facing Kashimanada resulting in a high concentration of salt in the atmosphere and the rain. This causes salt to adhere to the outer surfaces of production equipment, piping and other facilities. Steel piping is corroded by the salt and there is a risk of holes developing and leading to leakage incidents. In the event of a leakage incidents in utility piping occurs in hydrogen peroxide production equipment, then the production equipment may lose control of cooling and valve opening/closing, and in the

worst-case scenario, the equipment may rupture. Thus, it is highly likely that the equipment will have to be shut down to ensure safety, and a large production opportunity would be lost, resulting in profit losses. The risk of external corrosion caused by rainfall is expected to increase due to climate change, which will require more frequent maintenance such as painting, inspections and replacement of equipment and piping.

(3.1.1.11) Primary financial effect of the risk

Select from:

- Decreased revenues due to reduced production capacity

(3.1.1.12) Time horizon over which the risk is anticipated to have a substantive effect on the organization

Select all that apply

- Medium-term

(3.1.1.13) Likelihood of the risk having an effect within the anticipated time horizon

Select from:

- Virtually certain

(3.1.1.14) Magnitude

Select from:

- Medium

(3.1.1.16) Anticipated effect of the risk on the financial position, financial performance and cash flows of the organization in the selected future time horizons

Assuming that a leakage incident occurs, MGC shuts down the production equipment, transfers the reaction liquid to make the production equipment safe, replaces the piping at the leakage point, and checks the airtightness and then the reaction is started again. Assuming that it would take one day to make the production equipment safe, three days to procure replacement pipes, one day to replace the leaking piping and to check their airtightness, and two days to resume operation until stable operation, so it would take one week from shutting down the equipment to resuming stable operation. The negative impact cost during this duration include the cost of raw materials such as the reaction liquid that had to be disposed of due to the equipment shutdown, the sales revenue for products that could not be produced due to the lost production opportunities, the cost of raw materials for the defective products that were generated between resuming operation and stable operation, and the cost of waste disposal. The total cost of the adverse impacts is estimated to be approx. JPY500 million per occurrence.

(3.1.1.17) Are you able to quantify the financial effect of the risk?

Select from:

Yes

(3.1.1.21) Anticipated financial effect figure in the medium-term – minimum (currency)

500000000

(3.1.1.22) Anticipated financial effect figure in the medium-term – maximum (currency)

1000000000

(3.1.1.25) Explanation of financial effect figure

Assuming that a leakage incident occurs, MGC shuts down the production equipment, transfers the reaction liquid to make the production equipment safe, replaces the piping at the leakage point, and checks the airtightness and then the reaction is started again. It is assumed that the leakage incident occurs twice in a medium period of time (3 to 10 years) since it is unlikely to occur every year in multiple years. Assuming the affected period takes one day to make the production equipment safe, three days to procure replacement pipes, one day to replace the leaking piping and to check their airtightness, and two days to resume operation until stable operation, it was estimated that one week is required from shutting down the equipment to resuming stable operation. The negative impact cost during this duration would cost us JPY100 million for raw materials equivalent to the reaction liquid that had to be disposed of due to the equipment shutdown, JPY200 million for lost sales revenue for products that could not be produced due to lost production opportunities, JPY100 million for raw materials for the defective products that were generated between resuming operation and stable operation, and JPY100 million for waste disposal. The total cost of the adverse impacts is estimated to be approx. JPY500-600 million ((JPY100 million for damaged raw material) plus (JPY200 million for lost sales opportunities) plus (JPY100 million for raw materials for the defective products) plus (JPY100 million for waste disposal)). This means that if it occurs once during the period, the loss will be JPY500 million, and if it occurs twice, the loss will be JPY1 billion.

(3.1.1.26) Primary response to risk

Policies and plans

Other policies or plans, please specify :“Preventive maintenance” of production facilities

(3.1.1.27) Cost of response to risk

400000000

(3.1.1.28) Explanation of cost calculation

MGC estimated the budget of response to risk in the Kashima plant to be JPY100 million for manufacturing pipes and equipment to be replaced based on the results of the previous year's inspection, JPY200 million for manufacturing pipes and equipment to be made of high-quality materials, JPY50 million for replacement work and JPY50 million for inspecting external corrosion to find areas that need replacement, thus JPY400 million in total ((JPY100 million for manufacturing pipes and equipment to be replaced) plus (JPY200 million for manufacturing pipes and equipment to be made of high-quality materials) plus (JPY50 million for replacement work) plus (JPY50 million for external corrosion inspection)).

(3.1.1.29) Description of response

As a strategy, MGC recognizes that it is a more sustainable and cheaper to invest in equipment that will prevent a leakage incident, rather than taking equipment measures after the incident has occurred due to external corrosion and other reasons. Thus, we promote “preventive maintenance”, whereby replacement and other measures, before the equipment malfunctions or failures occur. As a tactic, the Production Technology Division of MGC plays a central role in promoting “preventive maintenance”. The Division inspects the equipment in detail and verifies past maintenance records of the production equipment in each plant to identify any areas where a leakage due to corrosion and other incidents are likely to occur and replace the identified areas on a regular and planned basis before the equipment malfunctions or failures occur. As a case example, at the Kashima plant of MGC, we annually inspect mainly on steel utility pipes for industrial water, including stainless-steel equipment. Based on the inspection results, we annually apply necessary anti-corrosion coatings to pipes and equipment, and promptly replace small-diameter pipes. During the regular repair period in June 2024, as in 2023, we selectively inspected external corrosion in areas that were covered with thermal insulation so cannot be seen during daily inspections and repaired the external corrosion we identified.

Plastics

(3.1.1.1) Risk identifier

Select from:

Risk3

(3.1.1.3) Risk types and primary environmental risk driver

Chronic physical

Changing precipitation patterns and types (rain, hail, snow/ice)

(3.1.1.4) Value chain stage where the risk occurs

Select from:

Downstream value chain

(3.1.1.6) Country/area where the risk occurs

Select all that apply

Japan

(3.1.1.9) Organization-specific description of risk

There is a risk of releasing plastics into the environment by plastic leakage accidents. In this case, leaked plastics could potentially cause destruction of terrestrial and marine environment and residues in animals and fish. Further, humans may also be harmed by consuming fish affected by plastic pollution through the food chain.

(3.1.1.11) Primary financial effect of the risk

Select from:

Decreased revenues due to reduced production capacity

(3.1.1.12) Time horizon over which the risk is anticipated to have a substantive effect on the organization

Select all that apply

Medium-term

Long-term

(3.1.1.13) Likelihood of the risk having an effect within the anticipated time horizon

Select from:

Unlikely

(3.1.1.14) Magnitude

Select from:

Medium-high

(3.1.1.16) Anticipated effect of the risk on the financial position, financial performance and cash flows of the organization in the selected future time horizons

Assuming that a leakage incident occurs, MGC shuts down the production equipment, transfers the reaction liquid to make the production equipment safe, replaces

the piping at the leakage point, and checks the airtightness and then the reaction is started again. Assuming that it would take one day to make the production equipment safe, three days to procure replacement pipes, one day to replace the leaking piping and to check their airtightness, and two days to resume operation until stable operation, so it would take one week from shutting down the equipment to resuming stable operation. The negative impact cost during this duration include the cost of raw materials such as the reaction liquid that had to be disposed of due to the equipment shutdown, the sales revenue for products that could not be produced due to the lost production opportunities, the cost of raw materials for the defective products that were generated between resuming operation and stable operation, and the cost of waste disposal. The total cost of the adverse impacts is estimated to be approx. JPY500 million per occurrence.

(3.1.1.26) Primary response to risk

Policies and plans

- Participation in environmental collaborative industry frameworks, initiatives and/or commitments

(3.1.1.29) Description of response

MGC promotes biodiversity by participating in the Keidanren Nature Conservation Council. On our homepage, we disclose information based on Japan's Act on Promotion of Resource Circulation for Plastics, and state that "we are constantly trying to reduce plastic waste emissions by improving yields in manufacturing and processing and recycling resin by-products and scraps" based on our sustainability promotion policy,
[Add row]

(3.1.2) Provide the amount and proportion of your financial metrics from the reporting year that are vulnerable to the substantive effects of environmental risks.

Climate change

(3.1.2.1) Financial metric

Select from:

- OPEX

(3.1.2.2) Amount of financial metric vulnerable to transition risks for this environmental issue (unit currency as selected in 1.2)

1304330000

(3.1.2.3) % of total financial metric vulnerable to transition risks for this environmental issue

Select from:

1-10%

(3.1.2.4) Amount of financial metric vulnerable to physical risks for this environmental issue (unit currency as selected in 1.2)

0

(3.1.2.5) % of total financial metric vulnerable to physical risks for this environmental issue

Select from:

Less than 1%

(3.1.2.7) Explanation of financial figures

The MGC Group has manufacturing and sales sites in Europe, the US and Asia, and is closely monitoring the introduction of carbon pricing by each government. In Japan, the Tax for Measures against Global Warming of JPY289/tCO₂e has been introduced since 2012, and we annually pay approx. JPY150 million for approx. 530,000 tons of our energy-derived CO₂ emissions subject to the tax. The Japanese government's GX Basic Policy envisages that JPY20 trillion redemption fund of the GX Economic Transition Bonds (excluding interest) will be financed by government revenues from the carbon tax. Calculating backwards, the carbon price is estimated to be approx. JPY2,750/tCO₂e on average from 2028, when the Carbon Surcharge is introduced, to 2050, when the GX Economic Transition Bonds redemption ends. Assuming Japan's Tax for Measures against Global Warming is revised to JPY2,750/tCO₂e from JPY289/tCO₂e for 1.5 degrees Celsius scenario, and GHG emissions in the mid-term is the same as energy-derived emissions in Japan for FY2024 (approx. 530,000 tCO₂e), the MGC Group would have to pay additional approx. JPY1.30 billion annually (530,000 tCO₂e multiplied by (JPY2,750/tCO₂e minus JPY289/tCO₂e)). There is a risk for us that the carbon tax payment will increase. Therefore, in terms of transition risks, the total carbon tax payment would increase to JPY1.45 billion annually including the incremental carbon tax burden. The proportion of the increased carbon tax within MGC's FY2024 selling, general and administrative expenses (JPY113,442 million) is 1.1% ((JPY1,304 million divided by JPY113,442) multiplied by 100). We assess physical risks as zero (0) %, since the carbon tax is not relevant to them.

Water

(3.1.2.1) Financial metric

Select from:

OPEX

(3.1.2.2) Amount of financial metric vulnerable to transition risks for this environmental issue (unit currency as selected in 1.2)

1043000000

(3.1.2.3) % of total financial metric vulnerable to transition risks for this environmental issue

Select from:

1-10%

(3.1.2.4) Amount of financial metric vulnerable to physical risks for this environmental issue (unit currency as selected in 1.2)

1043000000

(3.1.2.5) % of total financial metric vulnerable to physical risks for this environmental issue

Select from:

1-10%

(3.1.2.7) Explanation of financial figures

MGC uses freshwater in the chemical manufacturing and recognises that it is essential to secure sufficient high-quality freshwater for business continuity. The main water resources purchased from external sources include surface freshwater and ground water as industrial water and tap water and purified water for raw materials as third-party water. As a water-related risk, there is a physical risk of water being unavailable for production activities in the event of a drought caused by abnormal weather conditions. In such cases, the purchase price of both industrial water and third-party water is highly likely to rise due to the supply and demand relationship. There is also a predicted reduction in the amount of water available for production activities due to climate change and other factors. This creates a potential transition risk of higher charges imposed by municipalities and businesses supplying industrial water and tap water. We calculated MGC's expenditure on purchasing water resources to estimate the current cost of water withdrawals. It considered water withdrawal volumes for industrial and third-party water in the reporting year, as well as Niigata City's metered industrial water and commercial water charges as representative examples. Thus (a) (Industrial water withdrawal volumes (surface freshwater and groundwater) of 26,361,200 m³) multiplied by (the industrial water basic rate of JPY27.3/m³) is JPY719,660,760; (b) (Third-party water withdrawal volumes (tap water and purified water for raw materials) of 1,483,440 m³) multiplied by (the tap water meter rate of JPY218/m³) is JPY323,389,920; (c) Total (JPY719,660,760 plus JPY323,389,920) is JPY1,043,050,680. Assuming that water supplies become tight and water charges double, MGC's expenditure on purchasing water resources would increase by JPY1,043 million. As for MGC non-consolidated OPEX in the reporting year, selling, general and administrative expenses in MGC Securities Reports is JPY51,961 million. It accounts for 2.0% (JPY1,043 million divided by JPY 51,961 million) multiplied by 100).

[Add row]

(3.2) Within each river basin, how many facilities are exposed to substantive effects of water-related risks, and what percentage of your total number of facilities does this represent?

Row 1

(3.2.1) Country/Area & River basin

Japan

Other, please specify :Kashimanada

(3.2.2) Value chain stages where facilities at risk have been identified in this river basin

Select all that apply

Direct operations

(3.2.3) Number of facilities within direct operations exposed to water-related risk in this river basin

1

(3.2.4) % of your organization's total facilities within direct operations exposed to water-related risk in this river basin

Select from:

1-25%

(3.2.10) % organization's total global revenue that could be affected

Select from:

Less than 1%

(3.2.11) Please explain

We estimated the financial impact on facilities at risks to be approx. JPY500 million, which is 0.12% of non-consolidated MGC sales of JPY432,839 million in the

reporting year.

Row 2

(3.2.1) Country/Area & River basin

Japan

Other, please specify :Takahashi River

(3.2.2) Value chain stages where facilities at risk have been identified in this river basin

Select all that apply

Direct operations

(3.2.3) Number of facilities within direct operations exposed to water-related risk in this river basin

1

(3.2.4) % of your organization's total facilities within direct operations exposed to water-related risk in this river basin

Select from:

1-25%

(3.2.10) % organization's total global revenue that could be affected

Select from:

Less than 1%

(3.2.11) Please explain

We estimated the financial impact on facilities at risks to be approx. JPY500 million, which is 0.12% of non-consolidated MGC sales of JPY432,839 million in the reporting year.

[Add row]

(3.3) In the reporting year, was your organization subject to any fines, enforcement orders, and/or other penalties for water-related regulatory violations?

	Water-related regulatory violations	Comment
	Select from: <input checked="" type="checkbox"/> No	MGC had no violations of water-related regulations during the reporting period, and therefore no fines, penalties and/or enforcement orders.

[Fixed row]

(3.5) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

Select from:

Yes

(3.5.1) Select the carbon pricing regulation(s) which impact your operations.

Select all that apply

Japan carbon tax

Tokyo CaT - ETS

(3.5.2) Provide details of each Emissions Trading Scheme (ETS) your organization is regulated by.

Tokyo CaT - ETS

(3.5.2.1) % of Scope 1 emissions covered by the ETS

0.5

(3.5.2.2) % of Scope 2 emissions covered by the ETS

0.35

(3.5.2.3) Period start date

03/31/2024

(3.5.2.4) Period end date

03/30/2025

(3.5.2.5) Allowances allocated

6704

(3.5.2.6) Allowances purchased

0

(3.5.2.7) Verified Scope 1 emissions in metric tons CO2e

3271

(3.5.2.8) Verified Scope 2 emissions in metric tons CO2e

5336

(3.5.2.9) Details of ownership

Select from:

Facilities we own and operate

(3.5.2.10) Comment

Tokyo Research Laboratory
[Fixed row]

(3.5.3) Complete the following table for each of the tax systems you are regulated by.

Japan carbon tax

(3.5.3.1) Period start date

03/31/2024

(3.5.3.2) Period end date

03/30/2025

(3.5.3.3) % of total Scope 1 emissions covered by tax

33

(3.5.3.4) Total cost of tax paid

274000000

(3.5.3.5) Comment

*Global Warming Tax.
[Fixed row]*

(3.5.4) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?

The Tokyo Research Laboratory (hereafter the Laboratory) is required to reduce GHG emissions by a cumulative 27% over the five-year from FY2020 to FY2024 compared to a base year under the Tokyo Metropolitan Government's ordinance on mandatory GHG emissions reduction as part of an emissions trading program (Tokyo Cat-ETS). The Laboratory is a research facility on electronic and inorganic materials development, with Scope 2 purchased electricity accounting for the majority of its GHG emissions. Since the GHG emissions from the Laboratory exceed the total emission cap, it must take measures such as upgrading energy-consuming equipment and machinery, introducing low-carbon electricity, and purchasing credits through emissions trading to comply with the reduction obligation. The Laboratory decided to reduce its Scope 2 emissions and meet Tokyo's total reduction obligation by purchasing electricity certified as "low-carbon power," which includes renewable energy sources to lower the emission factor of purchased electricity. The Laboratory concluded a contract with an electric power company supplying electricity certified as "low-carbon power" in FY 2021 and started purchasing "low-carbon power." From FY2021 to FY2024, the Laboratory purchased approx. 10,600[TdR1] MWh of "low-carbon power", achieving a reduction of 4,564 t-CO2. The Tokyo Metropolitan Government's ordinance mandates a cumulative

27% reduction in GHG emissions over the five-year period from FY2020 to FY 2024 compared to the base year. The Laboratory achieved a reduction of more than 27% in GHG emissions over the same five-year period through the purchase of “low-carbon electricity.” The Laboratory will continue to proactively promote the adoption of “low-carbon power”, thereby complying with the Tokyo Metropolitan Government’s standard while striving to reduce our GHG emissions.

(3.6) Have you identified any environmental opportunities which have had a substantive effect on your organization in the reporting year, or are anticipated to have a substantive effect on your organization in the future?

	Environmental opportunities identified
Climate change	<i>Select from:</i> <input checked="" type="checkbox"/> Yes, we have identified opportunities, and some/all are being realized
Water	<i>Select from:</i> <input checked="" type="checkbox"/> Yes, we have identified opportunities, and some/all are being realized

[Fixed row]

(3.6.1) Provide details of the environmental opportunities identified which have had a substantive effect on your organization in the reporting year, or are anticipated to have a substantive effect on your organization in the future.

Climate change

(3.6.1.1) Opportunity identifier

Select from:

Opp1

(3.6.1.3) Opportunity type and primary environmental opportunity driver

Markets

Increased brand value

(3.6.1.4) Value chain stage where the opportunity occurs

Select from:

- Direct operations

(3.6.1.5) Country/area where the opportunity occurs

Select all that apply

- Japan

(3.6.1.8) Organization specific description

MGC is engaged in the manufacturing technology development, manufacturing, sales, distribution of methanol, and its derivatives development. As a comprehensive methanol manufacturer with the largest market share in Japan (our estimated share: 40-50%), we are promoting the development and commercialization of circular carbon methanol production technology using CO₂, waste, biomass, and other materials as raw materials. We have already commenced joint feasibility studies with domestic and international companies. The produced methanol will be widely supplied to the market, and within our group, we are also exploring its use as fuel for methanol transport vessels and as a feedstock for derivatives. We are also developing methanol fuel cells that generate electricity using methanol as fuel, leveraging our catalytic technology. Furthermore, our original "MH Process" technology for producing high-purity hydrogen from methanol has already been delivered to numerous customers, and we are advancing improvements to meet a wide range of hydrogen demand. Combining these with circular carbon methanol is expected to contribute to green power supply and the hydrogen society. MGC has succeeded in developing a polycarbonate production process using CO₂ as raw material with less CO₂ emissions than conventional production method and has begun verification in a bench plant since FY2023.

(3.6.1.9) Primary financial effect of the opportunity

Select from:

- Increased revenue resulting from price premiums

(3.6.1.10) Time horizon over which the opportunity is anticipated to have a substantive effect on the organization

Select all that apply

- Medium-term

(3.6.1.11) Likelihood of the opportunity having an effect within the anticipated time horizon

Select from:

Likely (66–100%)

(3.6.1.12) Magnitude

Select from:

Medium-low

(3.6.1.14) Anticipated effect of the opportunity on the financial position, financial performance and cash flows of the organization in the selected future time horizons

As a comprehensive methanol manufacturer with the largest market share in Japan, we are promoting the development and sales operations of circular carbon methanol (made from CO₂, waste and biomass) and methanol fuel cells business in addition to the sales of conventional methanol made from natural gas. Global climate change measures would have effects on the financial performance of these businesses. Methanol fuel cells, which generate electricity from methanol and air, are a carbon-neutral source of electricity when manufactured with circular carbon methanol made from CO₂ and biomass as raw materials. Methanol fuel cells technology can supply power for a long period of time depending on the amount of methanol storage and methanol fuel cells could therefore be an emergency power source during disasters or an independent off-grid power source. For example, they could be used as an uninterruptible power supply for unmanned wireless radio base stations located deep in the mountains and inaccessible to humans and live disaster monitoring cameras, or as a permanent power supply for weather observation equipment in mountainous areas and at sea. They could also be an emergency power supply in public facilities during disasters since methanol is liquid at ambient temperature and normal pressure, easy to handle and store. In addition, we have already commercialised our original technology for producing high-purity hydrogen from methanol (MH process) and delivered to many customers in the chemical and semiconductor industries. The MH process can also produce green hydrogen when combined with circular carbon methanol and expected to contribute to a hydrogen society. Further, our studies on the manufacturing method of polycarbonate intermediates made from CO₂ were adopted as a NEDO "Green Innovation Fund Project" in February 2022. We have succeeded in developing a process with less CO₂ emissions during the manufacturing process than conventional methods and have begun verification at a bench plant in FY2023. We plan to complete constructions of and demonstrations in a pilot plant around 2030. We believe that these initiatives contribute to CO₂ reduction, and the supply of green hydrogen and the production of chemicals using CO₂ as a feedstock generate a price premium, thereby increasing our sales revenues.

(3.6.1.15) Are you able to quantify the financial effects of the opportunity?

Select from:

Yes

(3.6.1.19) Anticipated financial effect figure in the medium-term - minimum (currency)

0

(3.6.1.20) Anticipated financial effect figure in the medium-term - maximum (currency)

135000000000

(3.6.1.23) Explanation of financial effect figures

Recently, the International Maritime Organization (IMO) has tightened regulations on ship fuels to reduce GHG emissions in the shipping industry, requiring the use of low-carbon fuels, which has led to the rapid construction of dual-fuel ships with both heavy fuel oil and methanol by European shipping companies and other entities. Over 400 dual-fuel ships have been either ordered or under construction. As a result, demand for circular carbon methanol for ship fuel applications is growing rapidly and it is estimated that the market for circular carbon methanol made from CO₂, waste, biomass, and other materials will reach a scale of JPY1.5 trillion in 2030. Circular carbon methanol is also attracting attention as a raw material with less CO₂ emissions for chemical products and the market is expected to gradually develop, albeit on a small scale. MGC aims to capture 3% of the market share and sets a sales target of JPY45 billion (JPY1.5 trillion multiplied by 3%) in this market for FY2030. In launching differentiated, high-value-added products in new markets, we set the FY2030 sales target, aiming first to acquire and/or replace a 3% of the market share. The financial impact in the mid-term is estimated to reach JPY45 billion in a single year, the maximum cumulative mid-term target sales is JPY135 billion (JPY45 billion multiplied by 3 years). The minimum financial impact would be zero (0) if the market does not expand. Further, our studies on the manufacturing method of polycarbonate intermediates made from CO₂ were adopted as a NEDO "Green Innovation Fund Project" in February 2022. We have succeeded in developing a process with less CO₂ emissions during the manufacturing process than conventional methods and have begun verification at a bench plant in FY2023. We plan to complete constructions of and demonstrations in a pilot plant around 2030.

(3.6.1.24) Cost to realize opportunity

2902741000

(3.6.1.25) Explanation of cost calculation

The Ministry of Economy, Trade and Industry in Japan is advocating "carbon recycling" as an initiative to reduce CO₂ emissions by treating CO₂ as a resource and reusing it as a material or fuel and conducting R&D in global industry-academic-government cooperation to promote innovation. In order to contribute to solving climate-related issues through chemistry, as a comprehensive methanol manufacturer with the largest market share in Japan, MGC is promoting the manufacturing and sales operations of circular carbon methanol (made from CO₂, waste, biomass, and biomass) and methanol fuel cells business. Methanol fuel cells, which generate electricity from methanol and air, are a carbon-neutral source of electricity when manufactured with circular carbon methanol made from CO₂ and biomass as raw materials. Methanol fuel cells technology can supply power for a long period of time depending on the amount of methanol storage and methanol fuel cells could therefore be an emergency power source during disasters or an independent off-grid power source. They could also be an emergency power supply in public facilities during disasters since methanol is liquid at ambient temperature and normal pressure, easy to handle and store. In addition, we have already commercialised our original technology for producing high-purity hydrogen from methanol (MH process) and delivered to many customers in the chemical and semiconductor industries. Further, to promote "carbon recycling" as a chemical manufacturer, we are examining chemical manufacturing methods using CO₂ as a raw material. We plan to complete constructions of and demonstrations in a pilot plant around 2030. We are also researching and developing chemical products made from biomass that have a lower carbon footprint than existing chemicals. In FY2024 these R&D expenses were JPY 2,402.952 thousand and the capital investments were JPY499,788 thousand, for a total of JPY2,902.741 thousand.

(3.6.1.26) Strategy to realize opportunity

The Ministry of Economy, Trade and Industry in Japan is advocating "carbon recycling" as an initiative to reduce CO₂ emissions by treating CO₂ as a resource and reusing it as a material or fuel and conducting R&D in global industry-academic-government cooperation to promote innovation. In order to contribute to solving climate-related issues through chemistry, as a comprehensive methanol manufacturer with the largest market share in Japan, MGC is promoting the manufacturing and sales operations of circular carbon methanol (made from CO₂, waste, biomass, and biomass) and methanol fuel cells business. Methanol fuel cells, which generate electricity from methanol and air, are a carbon-neutral source of electricity when manufactured with circular carbon methanol made from CO₂ and biomass as raw materials. Methanol fuel cells technology can supply power for a long period of time depending on the amount of methanol storage and methanol fuel cells could therefore be an emergency power source during disasters or an independent off-grid power source. For example, they could be used as an uninterruptible power supply for unmanned wireless radio base stations located deep in the mountains and inaccessible to humans and live disaster monitoring cameras, or as a permanent power supply for weather observation equipment in mountainous areas and at sea. They could also be an emergency power supply in public facilities during disasters since methanol is liquid at ambient temperature and normal pressure, easy to handle and store. In addition, we have already commercialised our original technology for producing high-purity hydrogen from methanol (MH process) and delivered to many customers in the chemical and semiconductor industries. The MH process can also produce green hydrogen when combined with circular carbon methanol and expected to contribute to a hydrogen society. Further, to promote "carbon recycling" as a chemical manufacturer, we are examining chemical manufacturing methods using CO₂ as a raw material. Our studies on the manufacturing method of polycarbonate intermediates made from CO₂ were adopted as a NEDO "Green Innovation Fund Project" in February 2022. We have succeeded in developing a process with less CO₂ emissions during the manufacturing process than conventional methods and have begun verification at a bench plant in FY2023. We plan to complete constructions of and demonstrations in a pilot plant around 2030.

Water

(3.6.1.1) Opportunity identifier

Select from:

Opp2

(3.6.1.3) Opportunity type and primary environmental opportunity driver

Resource efficiency

Cost savings

(3.6.1.4) Value chain stage where the opportunity occurs

Select from:

Direct operations

(3.6.1.5) Country/area where the opportunity occurs

Select all that apply

- Japan

(3.6.1.6) River basin where the opportunity occurs

Select all that apply

- Other, please specify :Niigou River

(3.6.1.8) Organization specific description

MGC manufactures chemicals, and many our plants use large quantities of purified water as boiler feed water and for manufacturing process during production. Malfunctions or failures of the purified water production equipment due to the equipment being old and outdated, are not only resulting in the plant shutdowns and lost opportunities, but also in the cost increase for repairs and maintenance. Thus, MGC strategically upgrades the old and outdated purified water production equipment to high-efficiency equipment and prevents the opportunity losses due to the equipment malfunctions or failures, so that we can reduce not only the repair and maintenance cost, but also the manufacturing cost for purified water. The purified water production equipment at the Niigata plant was installed some 40 years ago, the anticipated future repair costs would be the tens or hundreds of millions annually. Furthermore, the operating efficiency had been decreased due to the complexity of chemical and operational management. We completed the upgrade in 2021 but continue to operate one line with the old equipment due to an increase in purified water consumption for preventing freezing in winter. Ultimately the cost for repairs was reduced by approx. JPY120 million. We are considering further replacements, enhancement and other measures to avoid operating the old and outdated purified water production equipment.

(3.6.1.9) Primary financial effect of the opportunity

Select from:

- Reduced direct costs

(3.6.1.10) Time horizon over which the opportunity is anticipated to have a substantive effect on the organization

Select all that apply

- Medium-term

(3.6.1.11) Likelihood of the opportunity having an effect within the anticipated time horizon

Select from:

- More likely than not (50–100%)

(3.6.1.12) Magnitude

Select from:

Medium-high

(3.6.1.14) Anticipated effect of the opportunity on the financial position, financial performance and cash flows of the organization in the selected future time horizons

Without the old and outdated purified water production equipment, we can reduce the repair costs by JPY120 million and chemical costs by JPY11 million, totalling JPY131 million annually. Thus, the anticipated financial effects in the medium-term (four years) would be between JPY131 and 524 million. This means that the anticipated financial effects would be JPY131 million if the repairs were completed within one year ((JPY120 million for repairs) plus (JPY11 million for chemicals)), or JPY524 million if the repairs could not be completed within four years (JPY131 million multiplied by four years).

(3.6.1.15) Are you able to quantify the financial effects of the opportunity?

Select from:

Yes

(3.6.1.19) Anticipated financial effect figure in the medium-term - minimum (currency)

131000000

(3.6.1.20) Anticipated financial effect figure in the medium-term - maximum (currency)

524000000

(3.6.1.23) Explanation of financial effect figures

Without the old and outdated purified water production equipment, we can reduce the repair costs by JPY120 million and chemical costs by JPY11 million, totalling JPY131 million annually. Thus, the anticipated financial effects in the medium-term (four years) would be between JPY131 and 524 million. This means that the anticipated financial effects would be JPY131 million if the repairs were completed within one year ((JPY120 million for repairs) plus (JPY11 million for chemicals)), or JPY524 million if the repairs could not be completed within four years (JPY131 million multiplied by four years).

(3.6.1.24) Cost to realize opportunity

500000000

(3.6.1.25) Explanation of cost calculation

If we assume that the aging pure water system will be decommissioned and replaced with a new pure water system, the investments would cost us JPY350 million for equipment and JPY150 million for construction, totaling JPY500 million. <Calculation > JPY350 million for equipment + JPY150 million for construction = JPY500 million in total

(3.6.1.26) Strategy to realize opportunity

*We will consider replacements, enhancement and other measures to avoid using the aging pure water system.
[Add row]*

(3.6.2) Provide the amount and proportion of your financial metrics in the reporting year that are aligned with the substantive effects of environmental opportunities.

Climate change

(3.6.2.1) Financial metric

Select from:

Revenue

(3.6.2.2) Amount of financial metric aligned with opportunities for this environmental issue (unit currency as selected in 1.2)

214300000000

(3.6.2.3) % of total financial metric aligned with opportunities for this environmental issue

Select from:

21-30%

(3.6.2.4) Explanation of financial figures

MGC has named the MGC Group's Eco-Friendly Product brand, which reduces environmental impact of society and meets societal needs using its unique and

proprietary technologies, as “Sharebeing” products. We have set and disclosed the “Sharebeing” product sales as a materiality KPI to demonstrate their contribution to the environment and society, and to share this value with our stakeholders. The sales target for FY2026 is JPY270 billion. The actual sales for FY2024 totalled JPY214.3 billion, accounting for 27.7% of the MGC Group’s total sales of JPY773.5 billion ((JPY214.3 billion divided by JPY773.5 billion) multiplied by 100).

Water

(3.6.2.1) Financial metric

Select from:

Revenue

(3.6.2.2) Amount of financial metric aligned with opportunities for this environmental issue (unit currency as selected in 1.2)

1600000000

(3.6.2.3) % of total financial metric aligned with opportunities for this environmental issue

Select from:

Less than 1%

(3.6.2.4) Explanation of financial figures

MGC has designated and named the MGC Group Eco-Friendly Product brand, which help reduce the environmental impact of society using its unique and proprietary technologies, as “Sharebeing” products. We have set and disclosed the “Sharebeing” product sales as a materiality KPI to demonstrate their contribution to the environment and society, and to share this value with our stakeholders. “Sharebeing” which specifically contributes to water environment conservation are (a) products or technologies able to reduce the amount or hazard of hazardous substances released into bodies of water, soil or groundwater and (b) products or technologies able to reduce water usage or wastewater. The FY2024 actual sales of “Sharebeing” for water environment conservation totalled JPY1.6 billion, accounting for 0.2% of the MGC Group’s total sales of JPY773.5 billion ((JPY1.6 billion divided by JPY773.5 billion) multiplied by 100).

[Add row]

C4. Governance

(4.1) Does your organization have a board of directors or an equivalent governing body?

(4.1.1) Board of directors or equivalent governing body

Select from:

Yes

(4.1.2) Frequency with which the board or equivalent meets

Select from:

More frequently than quarterly

(4.1.3) Types of directors your board or equivalent is comprised of

Select all that apply

Executive directors or equivalent

Non-executive directors or equivalent

Independent non-executive directors or equivalent

(4.1.4) Board diversity and inclusion policy

Select from:

Yes, and it is publicly available

(4.1.5) Briefly describe what the policy covers

MGC respects the individuality, personality, human rights, and diversity of our employees and ensure comfortable working environments, treating them fairly without discrimination. Moreover, we will endeavor to ensure that the behavior of all employees reflects a proper understanding of human rights and diversity.

(4.1.6) Attach the policy (optional)

(4.1.1) Is there board-level oversight of environmental issues within your organization?

	Board-level oversight of this environmental issue
Climate change	Select from: <input checked="" type="checkbox"/> Yes
Water	Select from: <input checked="" type="checkbox"/> Yes
Biodiversity	Select from: <input checked="" type="checkbox"/> Yes

[Fixed row]

(4.1.2) Identify the positions (do not include any names) of the individuals or committees on the board with accountability for environmental issues and provide details of the board's oversight of environmental issues.**Climate change****(4.1.2.1) Positions of individuals or committees with accountability for this environmental issue**

Select all that apply

 President**(4.1.2.2) Positions' accountability for this environmental issue is outlined in policies applicable to the board**

Select from:

Yes

(4.1.2.3) Policies which outline the positions' accountability for this environmental issue

Select all that apply

Board Terms of Reference

(4.1.2.4) Frequency with which this environmental issue is a scheduled agenda item

Select from:

Scheduled agenda item in some board meetings – at least annually

(4.1.2.5) Governance mechanisms into which this environmental issue is integrated

Select all that apply

- Overseeing and guiding scenario analysis
- Overseeing the setting of corporate targets
- Monitoring progress towards corporate targets
- Approving corporate policies and/or commitments
- Approving and/or overseeing employee incentives
- Overseeing and guiding major capital expenditures
- Monitoring the implementation of the business strategy
- Overseeing reporting, audit, and verification processes
- Reviewing and guiding the assessment process for dependencies, impacts, risks, and opportunities

(4.1.2.7) Please explain

The Sustainability Promotion Council, chaired by the president and composed of the board of directors (incl. outside directors), audit & supervisory board members (incl. outside members), and executive officers, approves the policies and measures to address climate-related issues and receives reports on the results of the execution of the measures. The board of directors resolves important matters to be deliberated at the Sustainability Promotion Council relating 1) the Sustainability Promotion Principle, 2) the Materiality and KPI, 3) the Sustainability management planning and its progress, and 4) matters deemed necessary by the Sustainability Promotion Council. The Environmental Safety and Quality Assurance Division and the Production Technology Division share their responsibilities for executing the measures to climate-related issues. The planning and execution of the measures taken by the two divisions are reported to the Environment and Safety Meeting and the Production Technology Meeting, respectively. The Environment and Safety Meeting is chaired by the president and attended by the board of directors (incl.

outside directors) and audit & supervisory board members (incl. outside members). The Production Technology Meeting is chaired by the president and attended by the board of directors (excl. outside directors) and audit & supervisory board members (excl. outside members).

Water

(4.1.2.1) Positions of individuals or committees with accountability for this environmental issue

Select all that apply

President

(4.1.2.2) Positions' accountability for this environmental issue is outlined in policies applicable to the board

Select from:

No

(4.1.2.4) Frequency with which this environmental issue is a scheduled agenda item

Select from:

Scheduled agenda item in some board meetings – at least annually

(4.1.2.5) Governance mechanisms into which this environmental issue is integrated

Select all that apply

Overseeing reporting, audit, and verification processes

Approving corporate policies and/or commitments

Overseeing the setting of corporate targets

(4.1.2.7) Please explain

MGC holds the “Environment and Safety Meeting” once a year, which is chaired by the president and attended by the directors, audit & supervisory board members, and those in charge of the Research Administration Division, the Green Energy & Chemicals Business Sector and the Specialty Chemicals Business Sector, the plant managers and the general manager of the Production Technology Division. We are continuously improving our Plan-Do-Check-Act (PDCA) cycle based on our Responsible Care Medium-term Plan and the annual targets. We report on the activity results including on water-related environmental issues for the past year, and propose an action plan for the following year, which is consequently approved by the President. Amendments to our water-related company rules are also approved by the President.

Biodiversity

(4.1.2.1) Positions of individuals or committees with accountability for this environmental issue

Select all that apply

President

(4.1.2.2) Positions' accountability for this environmental issue is outlined in policies applicable to the board

Select from:

No

(4.1.2.4) Frequency with which this environmental issue is a scheduled agenda item

Select from:

Scheduled agenda item in some board meetings – at least annually

(4.1.2.5) Governance mechanisms into which this environmental issue is integrated

Select all that apply

Overseeing reporting, audit, and verification processes

Approving corporate policies and/or commitments

Overseeing the setting of corporate targets

(4.1.2.7) Please explain

The Environmental Safety and Quality Assurance Division and the Sustainability Promotion Committee are responsible for the promotion biodiversity efforts. The Environment and Safety Meeting is chaired by the president and attended by the board of directors (incl. outside directors) and audit & supervisory board members (incl. outside members). Biodiversity-related matters, in conjunction with climate-related issues, are subject to the approval of policy and measures, and results of the implementation are reported. Specifically, a natural survey report was conducted for the biotope candidate site, and the decision was made to postpone the installation.

[Fixed row]

(4.2) Does your organization's board have competency on environmental issues?

Climate change

(4.2.1) Board-level competency on this environmental issue

Select from:

Yes

(4.2.2) Mechanisms to maintain an environmentally competent board

Select all that apply

- Engaging regularly with external stakeholders and experts on environmental issues
- Having at least one board member with expertise on this environmental issue

(4.2.3) Environmental expertise of the board member

Experience

- Executive-level experience in a role focused on environmental issues
- Management-level experience in a role focused on environmental issues

Water

(4.2.1) Board-level competency on this environmental issue

Select from:

Yes

(4.2.2) Mechanisms to maintain an environmentally competent board

Select all that apply

- Having at least one board member with expertise on this environmental issue

(4.2.3) Environmental expertise of the board member

Experience

- Executive-level experience in a role focused on environmental issues
- Management-level experience in a role focused on environmental issues

[Fixed row]

(4.3) Is there management-level responsibility for environmental issues within your organization?

	Management-level responsibility for this environmental issue
Climate change	Select from: <input checked="" type="checkbox"/> Yes
Water	Select from: <input checked="" type="checkbox"/> Yes
Biodiversity	Select from: <input checked="" type="checkbox"/> Yes

[Fixed row]

(4.3.1) Provide the highest senior management-level positions or committees with responsibility for environmental issues (do not include the names of individuals).

Climate change

(4.3.1.1) Position of individual or committee with responsibility

Executive level

- President

(4.3.1.2) Environmental responsibilities of this position

Dependencies, impacts, risks and opportunities

- Assessing environmental dependencies, impacts, risks, and opportunities
- Managing environmental dependencies, impacts, risks, and opportunities

Engagement

- Managing supplier compliance with environmental requirements

Policies, commitments, and targets

- Monitoring compliance with corporate environmental policies and/or commitments
- Measuring progress towards environmental corporate targets
- Measuring progress towards environmental science-based targets
- Setting corporate environmental policies and/or commitments
- Setting corporate environmental targets

Strategy and financial planning

- Developing a climate transition plan
- Implementing a climate transition plan
- Conducting environmental scenario analysis
- Managing annual budgets related to environmental issues
- Implementing the business strategy related to environmental issues
- Developing a business strategy which considers environmental issues
- Managing environmental reporting, audit, and verification processes
- Managing major capital and/or operational expenditures relating to environmental issues
- Managing priorities related to innovation/low-environmental impact products or services (including R&D)

Other

- Providing employee incentives related to environmental performance

(4.3.1.4) Reporting line

Select from:

- Reports to the board directly

(4.3.1.5) Frequency of reporting to the board on environmental issues

Select from:

- Half-yearly

(4.3.1.6) Please explain

In 2019, MGC established the CSR Council (the current Sustainability Promotion Council), chaired by the president and composed of members of the board of directors (incl. outside directors), audit & supervisory board (incl. outside members), and executive officers, as the highest decision-making body for CSR management to identify opportunities and risks from the perspective of CSR for all business activities. Important matters to be deliberated at the Sustainability Promotion Council are resolved by the Board of Directors. The president, as the chairperson of the Sustainability Promotion Council, is responsible for the Group's response to the materiality such as climate change, water, forests, biodiversity, and waste, for determining our basic policies and mid-/long-term goals and promoting environmental measures, as well as for issues to submit to the Board of Directors. The Sustainability Promotion Committee deliberates the issues submitted to the Sustainability Promotion Council. The Sustainability Promotion Committee is chaired and convened by the general manager of the CSR & IR Division. The members comprise persons designated by the chairperson and corporate heads of: the Corporate Planning Division, the Administrative & Personnel Division, the Finance & Accounting Division, the Information Systems Division, the Research & Development Division, the Intellectual Infrastructure Center, the Purchasing & Logistics Division, the Environmental Safety & Quality Assurance Division, the Production Technology Division, the Internal Audit Division, and the Business Administrative Division.

Water

(4.3.1.1) Position of individual or committee with responsibility

Committee

- Safety, Health, Environment and Quality committee

(4.3.1.2) Environmental responsibilities of this position

Dependencies, impacts, risks and opportunities

- Managing environmental dependencies, impacts, risks, and opportunities

Policies, commitments, and targets

- Monitoring compliance with corporate environmental policies and/or commitments
- Measuring progress towards environmental corporate targets
- Setting corporate environmental targets

Strategy and financial planning

- Implementing the business strategy related to environmental issues

(4.3.1.4) Reporting line

Select from:

- Other, please specify :We report to the Director and Managing Executive Officer.

(4.3.1.5) Frequency of reporting to the board on environmental issues

Select from:

- Half-yearly

(4.3.1.6) Please explain

MGC holds the Environment and Safety Manager Meeting three times a year as stipulated by the company rule, deliberates on the management and operational status of the environment and safety including practical measures for water-related issues and implements a PDCA cycle. The Meeting is composed of and attended by the directors in charge as we described in question 4.1.2, managers of environmental and safety departments of each plant and laboratory and the general manager and employees of the Environmental Safety & Quality Assurance Division at the head office. The directors in charge are in a managerial position, the managers of the environmental safety departments of each plant and laboratory are responsible for promoting practices, and the Environment, Safety and Quality Assurance Department at the head office is responsible for promoting our Group-wide water-related practices. Based on our Responsible Care Medium-Term Plan provided by the Environment, Safety and Quality Assurance Department at the head office, the managers of the environmental safety departments of each plant and laboratory make management and operation plans for water-related issues as a part of their Responsible Care Annual Plan, monitor the progress of the annual targets, and report an annual summary to the directors in charge. The directors in charge assess water-related risks and opportunities from a managerial perspective and provide inputs and directions. The Environment and Safety Manager Meeting compiles and reports the management and operational status on water-related issues to the Environment and Safety Meeting, which is a deemed executive officer meeting chaired by the president and which makes resolutions to approve annual activities related to the environment and safety. Ultimately the management and operational status on water-related issues is approved by the president.

Biodiversity

(4.3.1.1) Position of individual or committee with responsibility

Executive level

President

(4.3.1.2) Environmental responsibilities of this position

Dependencies, impacts, risks and opportunities

- Assessing environmental dependencies, impacts, risks, and opportunities
- Assessing future trends in environmental dependencies, impacts, risks, and opportunities
- Managing environmental dependencies, impacts, risks, and opportunities

Policies, commitments, and targets

- Monitoring compliance with corporate environmental policies and/or commitments
- Measuring progress towards environmental corporate targets
- Measuring progress towards environmental science-based targets
- Setting corporate environmental policies and/or commitments
- Setting corporate environmental targets

Strategy and financial planning

- Developing a climate transition plan
- Implementing a climate transition plan
- Conducting environmental scenario analysis
- Managing annual budgets related to environmental issues
- Implementing the business strategy related to environmental issues
- Developing a business strategy which considers environmental issues
- Managing environmental reporting, audit, and verification processes
- Managing major capital and/or operational expenditures relating to environmental issues
- Managing priorities related to innovation/low-environmental impact products or services (including R&D)

Other

- Providing employee incentives related to environmental performance

(4.3.1.4) Reporting line

Select from:

- Reports to the board directly

(4.3.1.5) Frequency of reporting to the board on environmental issues

Select from:

- Half-yearly

(4.3.1.6) Please explain

Based on our Responsible Care Medium-Term Plan provided by the Environment, Safety and Quality Assurance Department at the head office, the managers of the environmental safety departments of each plant and laboratory make management and operation plans for biodiversity-related issues as a part of their Responsible Care Annual Plan for each business site. They monitor the progress of the annual plans and targets and report an annual summary to the directors in charge. The directors in charge assess biodiversity from a management perspective, express opinions on assessments of environmental dependencies, impacts, risks, and opportunities, and give directions. The management and operational status on biodiversity-related issues compiled by the Environment and Safety Manager Meeting is reported to the Environment and Safety Meeting, which is a deemed executive officer meeting chaired by the President, and which approves and resolves annual activities related to the environment and safety. Ultimately the management and operational status on biodiversity -related issues is approved by the president.
[Add row]

(4.5) Do you provide monetary incentives for the management of environmental issues, including the attainment of targets?

Climate change

(4.5.1) Provision of monetary incentives related to this environmental issue

Select from:

- No, but we plan to introduce them in the next two years

(4.5.3) Please explain

MGC has set the "GHG emissions reduction rate" as a materiality KPI concerning climate change issues, helping as a tool to help directors engage more proactively in environmental matters and advance sustainable management. From FY2025, we will introduce non-financial (ESG) metrics as a consideration factor in the

performance-based compensation component of our directors' annual remuneration, serving as an incentive for addressing key environmental, social, and governance (ESG) issues.

Water

(4.5.1) Provision of monetary incentives related to this environmental issue

Select from:

No, but we plan to introduce them in the next two years

(4.5.3) Please explain

MGC has set non-financial KPIs associated with water-related issues. This will encourage the board of directors to engage further with one of our materialities "Proactive response to environmental problems", thereby contributing to the sustainable management that meets our stakeholder expectations.

[Fixed row]

(4.6) Does your organization have an environmental policy that addresses environmental issues?

	Does your organization have any environmental policies?
	Select from: <input checked="" type="checkbox"/> Yes

[Fixed row]

(4.6.1) Provide details of your environmental policies.

Row 1

(4.6.1.1) Environmental issues covered

Select all that apply

- Climate change

(4.6.1.2) Level of coverage

Select from:

- Organization-wide

(4.6.1.3) Value chain stages covered

Select all that apply

- Direct operations
- Upstream value chain
- Downstream value chain

(4.6.1.4) Explain the coverage

· For Scope 1 and 2 emissions, MGC establishes reduction targets and ensures to achieve them through planning, implementation, monitoring and review. · For Scope 3 emissions, MGC assesses, manages, monitors, proactively discloses it, and promotes initiatives in collaboration with the supply chain. As stated, we initiate Scope 3 emissions reduction not only in our direct operations, but also in the upstream and downstream value chains.

(4.6.1.5) Environmental policy content

Environmental commitments

- Commitment to a circular economy strategy
- Commitment to comply with regulations and mandatory standards
- Commitment to take environmental action beyond regulatory compliance
- Commitment to stakeholder engagement and capacity building on environmental issues

Climate-specific commitments

- Commitment to net-zero emissions

Additional references/Descriptions

- Description of renewable electricity procurement practices

- Reference to timebound environmental milestones and targets

(4.6.1.6) Indicate whether your environmental policy is in line with global environmental treaties or policy goals

Select all that apply

- Yes, in line with the Paris Agreement

(4.6.1.7) Public availability

Select from:

- Publicly available

(4.6.1.8) Attach the policy

MGC グループ 環境サステナビリティ宣言.docx

Row 2

(4.6.1.1) Environmental issues covered

Select all that apply

- Climate change
- Water
- Biodiversity

(4.6.1.2) Level of coverage

Select from:

- Organization-wide

(4.6.1.3) Value chain stages covered

Select all that apply

- Direct operations

(4.6.1.4) Explain the coverage

The scope of "The MGC Group Declaration on Environmental Sustainability" is MGC itself and its group companies. The declaration commits to taking action by listing environmental initiatives.

(4.6.1.5) Environmental policy content

Environmental commitments

- Commitment to comply with regulations and mandatory standards
- Commitment to take environmental action beyond regulatory compliance
- Commitment to No Net Loss

Climate-specific commitments

- Commitment to net-zero emissions

Water-specific commitments

- Commitment to control/reduce/eliminate water pollution
- Commitment to the conservation of freshwater ecosystems
- Commitment to water stewardship and/or collective action

(4.6.1.6) Indicate whether your environmental policy is in line with global environmental treaties or policy goals

Select all that apply

- Yes, in line with the Paris Agreement
- Yes, in line with the Kunming-Montreal Global Biodiversity Framework
- Yes, in line with Sustainable Development Goal 6 on Clean Water and Sanitation

(4.6.1.7) Public availability

Select from:

- Publicly available

(4.6.1.8) Attach the policy

MGC グループ 環境サステナビリティ宣言.docx

[Add row]

(4.10) Are you a signatory or member of any environmental collaborative frameworks or initiatives?

(4.10.1) Are you a signatory or member of any environmental collaborative frameworks or initiatives?

Select from:

Yes

(4.10.2) Collaborative framework or initiative

Select all that apply

- International Sustainability & Carbon Certification (ISCC)
- Task Force on Climate-related Financial Disclosures (TCFD)
- UN Global Compact
- Other, please specify :Japan Chemical Industry Association

(4.10.3) Describe your organization's role within each framework or initiative

MGC is a board member of the Japan Chemical Industry Association (JCIA) which is an industry association of chemical companies in Japan. As discussions on global warming countermeasures advance worldwide, there is a strong demand for concrete actions to reduce GHG emissions. Chemistry is a field that can convert various substances, some of which may be harmful to the environment and people, into useful substances. The chemical industry can manifest the potential of chemistry and should play a central role in the innovation to solve global issues. Accordingly, in 2017 the Technical Affairs Committee of JCIA had launched the Working Group for Review of Long-Term Strategy on Global Warming (the WG) with the participation of its member organizations and experts. The purpose of the WG is to provide "Chemical Industry's Vision on Global Warming Countermeasures" in 2050 and beyond, and to propose the long-term strategy for the chemical industry to build a sustainable society. In 2021, in response to the Japanese government's declaration on realizing "Carbon Neutrality by 2050", JCIA examined what the chemical industry could contribute and published "the Chemical Industry's Stance on Carbon Neutrality." It is a position paper that identifies the mechanisms of GHG emissions in the chemical industry and explains JCIA's concept of GHG emission reduction efforts in production and contribution to GHG reduction through products and services. It is also a request to the government for the completion of innovation and social implementation. JCIA is working to solve Global Warming, and MGC and JCIA share the consensus on climate change. The President of MGC is JCIA's board member and has influence over the JCIA's scheme design related to GHG reduction targets, carbon pricing, emissions trading etc. and climate change policy such as GHG reduction targets. We also dispatch our general managers of the Environmental Safety & Quality Assurance Division and the Production Technology Division as members of JCIA's Environment and Safety

Committee, the Responsible Care Committee, and the Technical Affairs Committee, and participate in climate-related activities of JCIA. In MGC, the Environmental Safety & Quality Assurance Division and the Production Technology Division attend to JCIA's general meetings, committees, and briefings, and take the lead in sharing JCIA's strategies and in making sure there is no conflict with our own strategies.

[Fixed row]

(4.11) In the reporting year, did your organization engage in activities that could directly or indirectly influence policy, law, or regulation that may (positively or negatively) impact the environment?

(4.11.1) External engagement activities that could directly or indirectly influence policy, law, or regulation that may impact the environment

Select all that apply

Yes, we engaged indirectly through, and/or provided financial or in-kind support to a trade association or other intermediary organization or individual whose activities could influence policy, law, or regulation

(4.11.2) Indicate whether your organization has a public commitment or position statement to conduct your engagement activities in line with global environmental treaties or policy goals

Select from:

Yes, we have a public commitment or position statement in line with global environmental treaties or policy goals

(4.11.3) Global environmental treaties or policy goals in line with public commitment or position statement

Select all that apply

Paris Agreement

Sustainable Development Goal 6 on Clean Water and Sanitation

Another global environmental treaty or policy goal, please specify :Realizing a Hydrogen Society

(4.11.4) Attach commitment or position statement

210329e.pdf

(4.11.5) Indicate whether your organization is registered on a transparency register

Select from:

Yes

(4.11.6) Types of transparency register your organization is registered on

Select all that apply

Mandatory government register

(4.11.7) Disclose the transparency registers on which your organization is registered & the relevant ID numbers for your organization

The German Transparency Register : EKRN:DE965895927860

(4.11.8) Describe the process your organization has in place to ensure that your external engagement activities are consistent with your environmental commitments and/or transition plan

MGC participates in the Japan Hydrogen Association (JH2A) as a board member and involves in information collection and policy proposals that are in line with our strategy. The President of MGC participates in JH2A as a board member, and the general manager of the Production Technology Division participates as a subcommittee member. They collect and share information and policy proposals with the Sustainability Promotion Department, the Environmental Safety and Quality Assurance Division, the Corporate Planning Division, and other relevant business divisions and departments of MGC. If the information and policy proposals would have any impacts on the Paris Agreement, SDGs and other international principles as well as MGC's climate-related initiatives or transition plan, the Sustainability Promotion Committee will share them and discuss measures. The Sustainability Promotion Committee is comprised of the heads of: the Corporate Planning Division, the Administration & Personnel Division, the Finance & Accounting Division, the Information Systems Division, the Research & Development Division, the Intellectual Infrastructure Center, the Purchasing & Logistics Division, the Environmental Safety & Quality Assurance Division, the Production Technology Division, the Internal Audit Division, and the Business Administrative Division. The Sustainability Promotion Committee collects information, examines the measures, and discusses matters related to advancing sustainability, including addressing climate change-related issues. This encompasses determining the Group's responses to the materialities such as climate change, water, forests, biodiversity and waste, as well as its basic policies and mid-/long-term goals and environmental measures. We have established a sustainability governance that is consistent with our climate initiatives and climate-related transition plan.

[Fixed row]

(4.11.2) Provide details of your indirect engagement on policy, law, or regulation that may (positively or negatively) impact the environment through trade associations or other intermediary organizations or individuals in the reporting year.

Row 1

(4.11.2.1) Type of indirect engagement

Select from:

- Indirect engagement via a trade association

(4.11.2.4) Trade association

Asia and Pacific

- Japan Chemical Industry Association

(4.11.2.5) Environmental issues relevant to the policies, laws, or regulations on which the organization or individual has taken a position

Select all that apply

- Climate change
- Water

(4.11.2.6) Indicate whether your organization's position is consistent with the organization or individual you engage with

Select from:

- Consistent

(4.11.2.7) Indicate whether your organization attempted to influence the organization or individual's position in the reporting year

Select from:

- Yes, we publicly promoted their current position

(4.11.2.8) Describe how your organization's position is consistent with or differs from the organization or individual's position, and any actions taken to influence their position

MGC is as a board member of the Japan Chemical Industry Association (JCIA) which is an industry association of chemical companies in Japan. In 2021, in response to the Japanese government's declaration on realizing "Carbon Neutrality by 2050", JCIA examined what the chemical industry could contribute and published "the

Chemical Industry's Stance on Carbon Neutrality." It is a position paper that identifies the mechanisms of GHG emissions in the chemical industry and explains JCIA's concept of GHG emission reduction efforts in production and contribution to GHG reduction through products and services. It is also a request to the government for the completion of innovation and social implementation. JCIA is working to solve Global Warming, and MGC and JCIA share the consensus on climate change. Water resources are an extremely important resource for the chemical industry. Member companies are committed to significantly reducing water pollutant discharge. They not only comply with legal limits but also abide by agreements with local governments and establish even stricter voluntary management standards, continuously working to reduce water pollutant emissions. JCIA is working to conserve water resources, and MGC and JCIA share the consensus on water resource conservation. The President of MGC is JCIA's board member and has influence over the JCIA's scheme design related to GHG reduction targets, carbon pricing, emissions trading, water resource conservation etc. and policy on reducing environmental impact such as target setting values. MGC also dispatches its general managers of the Environmental Safety & Quality Assurance Division and the Production Technology Division as members of JCIA's Environment and Safety Committee, the Responsible Care Committee, and the Technical Affairs Committee, and engages in JCIA's activities on climate change and water resource conservation. In MGC, the Production Technology Division and the Environmental Safety & Quality Assurance Division attend to JCIA's general meetings, committees, and briefings, and take the lead in sharing JCIA's strategies and in making sure there is no conflict with its own strategies.

(4.11.2.9) Funding figure your organization provided to this organization or individual in the reporting year (currency)

1320000

(4.11.2.10) Describe the aim of this funding and how it could influence policy, law or regulation that may impact the environment

The funds provided in the reporting year were membership fees for the Responsible Care Committee of the Japan Chemical Industry Association, a general incorporated association, totaling JPY1,320 thousand annually.

(4.11.2.11) Indicate if you have evaluated whether your organization's engagement is aligned with global environmental treaties or policy goals

Select from:

Yes, we have evaluated, and it is aligned

(4.11.2.12) Global environmental treaties or policy goals aligned with your organization's engagement on policy, law or regulation

Select all that apply

Paris Agreement

Sustainable Development Goal 6 on Clean Water and Sanitation

[Add row]

(4.12) Have you published information about your organization’s response to environmental issues for this reporting year in places other than your CDP response?

Select from:

- Yes

(4.12.1) Provide details on the information published about your organization’s response to environmental issues for this reporting year in places other than your CDP response. Please attach the publication.

Row 1

(4.12.1.1) Publication

Select from:

- In mainstream reports, in line with environmental disclosure standards or frameworks

(4.12.1.2) Standard or framework the report is in line with

Select all that apply

- GRI
- TCFD
- Other, please specify :Guidance for Collaborative Value Creation 2.0, SASB

(4.12.1.3) Environmental issues covered in publication

Select all that apply

- Climate change
- Water
- Biodiversity

(4.12.1.4) Status of the publication

Select from:

Complete

(4.12.1.5) Content elements

Select all that apply

- Governance
- Risks & Opportunities
- Strategy
- Emission targets

(4.12.1.6) Page/section reference

Pages 14 to 20 of the Annual Securities Report 2025 describe our group's Approach and initiatives for sustainability. It covers governance, risks and opportunities, strategy, metrics and targets related to climate change.

(4.12.1.7) Attach the relevant publication

2025_4.pdf

(4.12.1.8) Comment

Annual Securities Report 2025

Row 2

(4.12.1.1) Publication

Select from:

In voluntary communications

(4.12.1.3) Environmental issues covered in publication

Select all that apply

Climate change

(4.12.1.4) Status of the publication

Select from:

Complete

(4.12.1.5) Content elements

Select all that apply

Strategy

Content of environmental policies

Governance

Emission targets

Emissions figures

Risks & Opportunities

(4.12.1.6) Page/section reference

MGC Report 2024 (Integrated Report) describes targets, results, policies, management systems, and other aspects related to climate change, water conservation, and biodiversity conservation on page 33 to 34 (Materiality), 41 to 42 (Response to Climate-Related Risks (Disclosure Based on TCFD Recommendations)), and 79 to 80 (Performance Data).

(4.12.1.7) Attach the relevant publication

MGC_Report-2024E-A3.pdf

(4.12.1.8) Comment

MGC Report 2024 (Integrated Report)

[Add row]

C5. Business strategy

(5.1) Does your organization use scenario analysis to identify environmental outcomes?

Climate change

(5.1.1) Use of scenario analysis

Select from:

Yes

(5.1.2) Frequency of analysis

Select from:

Every three years or less frequently

Water

(5.1.1) Use of scenario analysis

Select from:

Yes

(5.1.2) Frequency of analysis

Select from:

Every three years or less frequently

[Fixed row]

(5.1.1) Provide details of the scenarios used in your organization's scenario analysis.

Climate change

(5.1.1.1) Scenario used

Physical climate scenarios

- RCP 8.5

(5.1.1.2) Scenario used SSPs used in conjunction with scenario

Select from:

- No SSP used

(5.1.1.3) Approach to scenario

Select from:

- Qualitative and quantitative

(5.1.1.4) Scenario coverage

Select from:

- Organization-wide

(5.1.1.5) Risk types considered in scenario

Select all that apply

- Acute physical

(5.1.1.6) Temperature alignment of scenario

Select from:

- 4.0°C and above

(5.1.1.7) Reference year

2023

(5.1.1.8) Timeframes covered

Select all that apply

- 2030
- 2050

(5.1.1.9) Driving forces in scenario

Local ecosystem asset interactions, dependencies and impacts

- Climate change (one of five drivers of nature change)

Direct interaction with climate

- On asset values, on the corporate

(5.1.1.10) Assumptions, uncertainties and constraints in scenario

Flood: Pessimistic scenario: RCP8.5 Storm surge: Pessimistic scenario: RCP8.5 Drought: Pessimistic scenario: RCP8.5

(5.1.1.11) Rationale for choice of scenario

MGC conducted the scenario analysis to understand the possibility of flood, storm surge, and drought at each of our business offices under the severe conditions of a 4 degrees Celsius rise in RCP8.5 scenario. The RCP8.5 scenario is in line with international agreements.

Water

(5.1.1.1) Scenario used

Physical climate scenarios

- RCP 8.5

(5.1.1.2) Scenario used SSPs used in conjunction with scenario

Select from:

No SSP used

(5.1.1.3) Approach to scenario

Select from:

Qualitative

(5.1.1.4) Scenario coverage

Select from:

Business activity

(5.1.1.5) Risk types considered in scenario

Select all that apply

Acute physical

(5.1.1.6) Temperature alignment of scenario

Select from:

4.0°C and above

(5.1.1.7) Reference year

2020

(5.1.1.8) Timeframes covered

Select all that apply

2050

2100

Other, please specify :2085

(5.1.1.9) Driving forces in scenario

Local ecosystem asset interactions, dependencies and impacts

Climate change (one of five drivers of nature change)

(5.1.1.10) Assumptions, uncertainties and constraints in scenario

MGC assessed the frequency of flooding and storm surge inundation hazards up to the end of the 21st century according to RCP 2.6 and RCP 8.5 for our seven plants and the expected annual direct losses by anticipated scenario (baseline, 2050, 2085 (flooding) and 2100 (storm surge)).

(5.1.1.11) Rationale for choice of scenario

MGC conducted the scenario analysis to understand the possibility of flooding, storm surge, and drought at each of our business sites under the severe conditions of a 4°C rise according to RCP8.5 scenario. The RCP8.5 scenario is in line with international agreements.

Climate change

(5.1.1.1) Scenario used

Climate transition scenarios

IEA SDS

(5.1.1.3) Approach to scenario

Select from:

Qualitative and quantitative

(5.1.1.4) Scenario coverage

Select from:

Organization-wide

(5.1.1.5) Risk types considered in scenario

Select all that apply

- Policy
- Market
- Technology

(5.1.1.6) Temperature alignment of scenario

Select from:

- 1.6°C - 1.9°C

(5.1.1.7) Reference year

2020

(5.1.1.8) Timeframes covered

Select all that apply

- 2030
- 2050

(5.1.1.9) Driving forces in scenario

Stakeholder and customer demands

- Consumer attention to impact

Regulators, legal and policy regimes

- Global regulation
- Political impact of science (from galvanizing to paralyzing)
- Level of action (from local to global)
- Global targets
- Methodologies and expectations for science-based targets

Macro and microeconomy

- Domestic growth

- Globalizing markets

(5.1.1.10) Assumptions, uncertainties and constraints in scenario

The impact of the introduction of carbon pricing on our operation costs would depend on our Scope 1 and 2 GHG emissions. Our business falls into the energy-intensive chemical industry. Thus, we estimated the financial impact based on our future GHG emission forecast by taking into account changes in the emission factors for the electricity and heat sectors in the IEA SDS and IEA STEPS and our payment imposed by regulations such as carbon pricing. We also estimated the financial impact on our operation cost due to the fossil resource and electricity price increase based on future energy prices in the IEA SDS and IEA STEPS. Since we are implementing measures to reduce GHG emissions in order to achieve carbon neutrality by 2050, we also estimated the extent to which we would be able to mitigate the financial impact with our reduction measures compared to the case where no reduction measures are implemented. As a result, as of 2030, in the IEA SDS without our reduction measures, the carbon price cost would increase more compared to the IEA STEPS, but some of our energy costs which depend heavily on gas, steam and other fossil fuels would decrease, thus the overall financial impact in the IEA SDS would be JPY1.0 billion less than that in the IEA STEPS. Furthermore, it was found that with the reduction measures, the financial impact could be reduced by JPY1.3 to 1.8 billion in the IEA SDS. As of 2050, in the IEA SDS without the reduction measures, our carbon pricing cost would still increase more compared to the IEA STEPS, but even after taking into account the decrease in some of our energy costs which are heavily dependent on gas, steam and other fossil fuels, the overall financial impact in the IEA SDS would be JPY0.9 billion higher than that in the IEA STEPS. However, it was found that with the reduction measures, the financial impact could be reduced by JPY2.3 to 3.4 billion in the IEA SDS.

(5.1.1.11) Rationale for choice of scenario

The impact of the introduction of carbon pricing on our operation costs would depend on our Scope 1 and 2 GHG emissions. Thus, we estimated the financial impact on our operation cost due to the fossil resource and electricity price increase based on future energy prices in the IEA SDS and IEA STEPS.

[Add row]

(5.1.2) Provide details of the outcomes of your organization's scenario analysis.

Climate change

(5.1.2.1) Business processes influenced by your analysis of the reported scenarios

Select all that apply

- Risk and opportunities identification, assessment and management
- Strategy and financial planning
- Resilience of business model and strategy
- Target setting and transition planning

(5.1.2.2) Coverage of analysis

Select from:

- Organization-wide

(5.1.2.3) Summarize the outcomes of the scenario analysis and any implications for other environmental issues

The impact of the introduction of carbon pricing on our operation costs is expected to depend on Scope 1 and 2 GHG emissions. Since our business falls into the energy-intensive chemical industry and our group-wide GHG emissions in FY2024 was approx. 1.21 million tons, it is highly likely that our business will be significantly affected. Thus, we estimated the financial impact based on our future GHG emission forecast by taking into account changes in the emission factors for the electricity and heat sectors in the IEA SDS and IEA STEPS and our payment imposed by regulations such as carbon pricing. We also estimated the financial impact on our operation cost due to the fossil resource and electricity price increase based on future energy prices in the IEA SDS and IEA STEPS. Since we are implementing measures to reduce GHG emissions in order to achieve carbon neutrality by 2050, we also estimated the extent to which we would be able to mitigate the financial impact with our reduction measures compared to the case where no reduction measures are implemented. As a result, as of 2030, in the IEA SDS without our reduction measures, the carbon price cost would increase more compared to the IEA STEPS, but some of our energy costs which depend heavily on gas, steam and other fossil fuels would decrease, thus the overall financial impact in the IEA SDS would be JPY1.0 billion less than that in the IEA STEPS. Furthermore, it was found that with the reduction measures, the financial impact could be reduced by JPY1.3 to 1.8 billion in the IEA SDS. As of 2050, in the IEA SDS without the reduction measures, our carbon pricing cost would still increase more compared to the IEA STEPS, but even after taking into account the decrease in some of our energy costs which are heavily dependent on gas, steam and other fossil fuels, the overall financial impact in the IEA SDS would be JPY0.9 billion higher than that in the IEA STEPS. However, it was found that with the reduction measures, the financial impact could be reduced by JPY2.3 to 3.4 billion in the IEA SDS. Since the result of the scenario analysis indicated that the financial impact could be reduced with the GHG reduction measures, MGC continues to work on reducing GHG emissions to achieve carbon neutrality by 2050. In this fiscal year, MGC reviewed its GHG emissions reduction targets, and set the MGC Group's target for FY2026 at 33% reduction compared to FY2013 to a more ambitious goal (FY2024 results were 33%) and for FY2030 at a 39% reduction compared to FY2013 (previous target was 36% reduction).

Water

(5.1.2.1) Business processes influenced by your analysis of the reported scenarios

Select all that apply

- Risk and opportunities identification, assessment and management
- Strategy and financial planning

(5.1.2.2) Coverage of analysis

Select from:

- Business activity

(5.1.2.3) Summarize the outcomes of the scenario analysis and any implications for other environmental issues

The outcomes of the scenario analysis indicated the impacts of flooding and storm surges. In the past, MGC has formulated business continuity plans (BCPs) for each of our business site based on hazard maps and other information published by the local governments where the business sites are located and implemented measures to prevent inundation and to mitigate damages. This time, we assessed the inundation risk using the scenario analysis, and identified that the adverse impacts on our future business could increase due to the increase in the flooding frequency at the Niigata plant, the Yokkaichi plant, and Yamakita plant, and due to the increase in damages from storm surges at the Mizushima plant, the Yokkaichi plant and the Naniwa plant. In the future, MGC will implement additional measures to mitigate the impacts of inundation and storm surges as a part of risk managements, since the relocation of plants could be an excessive response for us considering the size of the plants and the difficulty of the damage control. To mitigate damages from inundation, we began to carefully examine what measures would be necessary in the reporting year and will implement priority measures. Regarding the impacts of flooding, we found that the flooding frequency would increase as of 2085 at our three plants out of seven. The three, the Niigata plant, the Yokkaichi plant and the Yamakita plant are located along the Niigou River, the Tenpakugawa River and the Sakawagawa River respectively. Thus, there is a risk of production downtime due to inundation and flooding. Regarding the impacts of storm surge, we found that the damage from storm surge would increase due to sea level rise as of 2100 at our three plants out of seven. The three, the Mizushima plant, the Yokkaichi plant and the Naniwa plant are located along the Seto Inland Sea, the Ise Bay and the Osaka Bay respectively. Thus, if storm surges occur frequently, there is a risk of leakage incidents and production downtime caused by equipment corrosion salt damage.

[Fixed row]

(5.2) Does your organization's strategy include a climate transition plan?

(5.2.1) Transition plan

Select from:

- Yes, but we have a climate transition plan with a different temperature alignment

(5.2.2) Temperature alignment of transition plan

Select from:

- 2°C aligned

(5.2.3) Publicly available climate transition plan

Select from:

Yes

(5.2.4) Plan explicitly commits to cease all spending on, and revenue generation from, activities that contribute to fossil fuel expansion

Select from:

No, and we do not plan to add an explicit commitment within the next two years

(5.2.6) Explain why your organization does not explicitly commit to cease all spending on and revenue generation from activities that contribute to fossil fuel expansion

The use of hydrogen is essential to abandon all expenditures and sales that contribute to the expansion of fossil fuels. Hydrogen only emits water and no CO2 when it is burned, so it is considered a promising next-generation fuel in a decarbonized society. It is used to power fuel cell vehicles and is expected to become more widely used as an alternative to fossil fuels. Hydrogen can be produced by electrolyzing water or by separating it from fossil fuels. Currently, the latter is common, but in the future, electrolysis is expected to become mainstream since it leads to decarbonization. In Japan, the public and private sectors have been working on research, development, and demonstration on hydrogen for a long time, but the infrastructure for social implementation is insufficient, the supply cost is high compared to existing fuels, and the market is immature. Hydrogen is abundant and does not emit greenhouse gases. It is also used in many industries, but in order to achieve full-scale societal implementation, disruptive innovation is necessary.

(5.2.7) Mechanism by which feedback is collected from shareholders on your climate transition plan

Select from:

We have a different feedback mechanism in place

(5.2.8) Description of feedback mechanism

On our roadmap and scenario analysis for achieving carbon neutrality in 2050, MGC exchanges views and receives feedback from institutional investors through carbon neutrality strategy briefings and ESG interviews. In addition, we have established FY2026 and FY2030 targets of "Reduction in GHG emissions" as materiality KPIs and disclose our efforts to achieve these KPIs every year.

(5.2.9) Frequency of feedback collection

Select from:

More frequently than annually

(5.2.10) Description of key assumptions and dependencies on which the transition plan relies

MGC will reduce its GHG emissions between 2023 and 2026 by 1) 230,000 tons through merger and abolition of manufacturing sites and shutdown of facilities; 2) 19,000 tons through upgrading to highly efficient facilities and promoting energy conservation; 3) 11,000 tons through switching fuel and 4) 15,000 tons through introducing renewable energy and transitional energy. MGC will reduce its GHG emissions between 2027 and 2030 by 1) 26,000 tons through merger and abolition of manufacturing sites and shutdown of facilities; 2) 26,000 tons through upgrading to highly efficient facilities and promoting energy conservation; 3) 23,000 tons through introducing renewable energy and transitional energy and 4) 24,000 tons through collaborating with energy suppliers. MGC will reduce its GHG emissions between 2031 and 2050 by 1) 469,000 tons through merger and abolition of manufacturing sites and shutdown of facilities; 2) 100,000 tons through upgrading to highly efficient facilities and promoting energy conservation; 3) 305,000 tons through introducing renewable energy and transition energy and 4) 216,000 tons through collaborating with energy suppliers.

(5.2.11) Description of progress against transition plan disclosed in current or previous reporting period

The MGC Group has reduced its GHG emissions by 570,000tCO₂e by FY2024 from the base year FY2013. In FY2024, MGC alone (non-consolidate) introduced 36% of its purchased electricity from renewable energy and reduced its GHG emissions by 32% compared to FY2013.

(5.2.13) Other environmental issues that your climate transition plan considers

Select all that apply

- Water
- Biodiversity

(5.2.14) Explain how the other environmental issues are considered in your climate transition plan

· For water, we have conducted research on the acute physical risks. · For biodiversity, we have plan to researched on the impacts and dependencies with the LEAP approach.

(5.2.15) Primary reason for not having a climate transition plan that aligns with a 1.5°C world

Select from:

- No standardized procedure

(5.2.16) Explain why your organization does not have a climate transition plan that aligns with a 1.5°C world

We could not find a 1.5 degrees Celsius scenario when we conducted a scenario analysis initially. We plan to conduct scenario analysis with the 1.5 degrees Celsius scenario from the next fiscal year.

[Fixed row]

(5.3) Have environmental risks and opportunities affected your strategy and/or financial planning?

(5.3.1) Environmental risks and/or opportunities have affected your strategy and/or financial planning

Select from:

- Yes, both strategy and financial planning

(5.3.2) Business areas where environmental risks and/or opportunities have affected your strategy

Select all that apply

- Products and services
- Upstream/downstream value chain
- Investment in R&D
- Operations

[Fixed row]

(5.3.1) Describe where and how environmental risks and opportunities have affected your strategy.

Products and services

(5.3.1.1) Effect type

Select all that apply

- Risks
- Opportunities

(5.3.1.2) Environmental issues relevant to the risks and/or opportunities that have affected your strategy in this area

Select all that apply

- Climate change

- Water

(5.3.1.3) Describe how environmental risks and/or opportunities have affected your strategy in this area

MGC is required to ensure that end-use products of our customers utilizing our products contribute to address environmental challenges such as climate change, water resources, and biodiversity including reducing greenhouse gas (GHG) emissions and improving GHG emission intensity. This requirement impacts our business, product, and service strategies. The most significant strategic decision was setting MGC Group Eco-Friendly Product sales as a materiality KPI, and the FY2026 target sales is JPY 270 billion (FY2024 actual sales were JPY214.3 billion). MGC Group Eco-Friendly Products are products and technologies that we designate as contributing to reducing environmental impact including GHG emission reduction, efficient water use, waste reduction, and plastic recycling. One of such products is hydrogen peroxide, a chlorine-free bleaching agent for paper that requires less wastewater treatment. MGC is considering producing chemical products made from CO₂ as a feedstock. We started in July 2021 and completed in 2022 demonstration tests on the methanol production made from CO₂ and hydrogen at the small methanol production facilities in the Niigata Plant. We also have launched an environmental recycling platform (Carbopath™), in which CO₂, plastic waste, biomass and other raw materials are converted into methanol, and recycled to chemical products, fuels and power generation applications, and are now working on further technological demonstrations for cross-industry partnerships. In 2023, MGC has completed the development of production technology for methanol from diverse gases, using recycled plastic waste and biomass, and is currently exploring the social implementation of chemical recycling with waste recycling companies and others. In parallel, MGC is exploring the local production for local consumption of the biomass methanol. In 2024, we begun producing bio-methanol from digester gas (biomethane) generated from sewage treatment plants. For customers with no experience in chemical plant operations, we have developed automatic operation and remote monitoring technologies, aiming to expand the number of customers. Our aim is to commercialize 100,000 tons per year of environmentally recyclable methanol by FY2030 and 1 million tons per year after FY2030 by utilizing these unique technologies. In addition, as a polycarbonate manufacturer with the largest market share in Japan, MGC is working to investigate manufacturing methods for polycarbonate intermediates (Diphenyl Carbonate: DPC) made from CO₂ as a starting material. These studies on the manufacturing method of polycarbonate intermediates made from CO₂ were adopted as a NEDO "Green Innovation Fund Project" in February 2022. We have succeeded in developing a process with less CO₂ emissions during the manufacturing process than conventional methods and have begun verification at a bench plant in FY2023. MGC plans to complete constructions of and demonstrations at a pilot plant around 2030.

Upstream/downstream value chain

(5.3.1.1) Effect type

Select all that apply

- Risks
- Opportunities

(5.3.1.2) Environmental issues relevant to the risks and/or opportunities that have affected your strategy in this area

Select all that apply

- Climate change

- Water

(5.3.1.3) Describe how environmental risks and/or opportunities have affected your strategy in this area

Since 1957, MGC has been producing ammonia from the company-owned natural gas at the Niigata Plant and has produced many derivatives from ammonia. The Niigata Plant emitted such a huge amount of greenhouse gas (GHG) emissions that accounted for 40% of our total GHG emissions in FY2014, and also emitted a large amount of nitrogen in its wastewater. The deterioration of the ammonia production equipment was limiting its efficiency and energy-saving effects, so we considered shutting down the ammonia production equipment. The switch from in-house production to external procurement of raw materials requires adapting transportation equipment and storage facilities to comply with various laws and regulations within the supply chain. The most significant strategic decision to date was the shutdown of an aging ammonia equipment with a production capacity of 130,000 tons/year in 2015. Then a new steam turbine generator was installed to make effective use of the high-pressure steam used for ammonia production, and the self-generation system was upgraded to allow the plant to flexibly demand for electricity, steam, and others. These measures optimized the capacity of utility facilities that supply electricity and steam, thus enabling effective use of energy in the plant that was not fully utilized in the past. We implemented these measures and resulted in GHG emission reduction of 40% compared to the previous year, energy savings of approx. 10,000 kilolitres of crude oil equivalent per year, and an annual cost reduction of JPY600 million. Furthermore, nitrogen emissions into wastewater from ammonia production were reduced to zero, thereby mitigating environmental burden that contributes to eutrophication. Although it was decided to switch from in-house production to external procurement of ammonia, we were able to procure ammonia without any problems in procurement due to the accumulation of experience in production and storage technologies and legal compliance, and no disruption occurred in the supply chain.

Investment in R&D

(5.3.1.1) Effect type

Select all that apply

- Risks
- Opportunities

(5.3.1.2) Environmental issues relevant to the risks and/or opportunities that have affected your strategy in this area

Select all that apply

- Climate change
- Water

(5.3.1.3) Describe how environmental risks and/or opportunities have affected your strategy in this area

In the transition to a low-carbon and decarbonized society, there is a need for new products that are lightweight, strong, durable, and reliable. Climate-related issues are significantly impacting our increased investment in research and development, especially in our mid- and long-term business strategy. In "Grow UP 2026"

(FY2024 to FY2026), MGC's medium-term management plan, one of our strategies is to "Accelerate initiatives for realizing carbon neutrality" and one of our materialities is "Promotion of innovative R&D". As a materiality KPI for "Promotion of innovative R&D", we have set "Percentage of research personnel contributing to solving climate change issues". The most significant strategic decision to date was to set the FY2026 target at 25% or higher (the FY2024 actual figure was 33%). The FY2030 target is 25% or higher, and it is lower than the FY2024 actual figure, due to the fact that we intend to increase the number of research personnel in the mid-term management period. The R&D for solving energy and climate-related issues include manufacturing method for methanol and polycarbonate intermediates (Diphenyl Carbonate) made from CO₂ as a feedstock, development of cellulose fiber composite materials and solid electrolytes, research of carbon fiber composite materials, and development of methanol fuel cells. We started in July 2021 and completed in 2022 demonstration tests on the methanol production made from CO₂ and hydrogen at the small methanol production facilities in the Niigata Plant. In 2023, MGC completed the development of production technology for methanol from diverse gases, using plastic waste and biomass as recycled raw materials, and is currently exploring the social implementation of chemical recycling with waste recycling companies and others. In parallel, MGC is exploring the local production for local consumption of the biomass methanol using biomass as a raw material. In 2024, we begun producing bio-methanol from digester gas (biomethane) generated from sewage treatment plants. Currently we are designing a commercial-scale plant for a social implementation. We are also developing automatic operation and remote monitoring technologies, aiming to expand the number of customers. Further, we are researching and developing MGC Group Eco-Friendly Products that are our products and technologies contributing to reducing environmental impact including GHG emission reduction, efficient water use, waste reduction, and plastic recycling. In FY2024, the R&D expenses for the products contributing to environmental impact reduction was JPY2,987 million, while the capital investment was JPY808 million.

Operations

(5.3.1.1) Effect type

Select all that apply

- Risks
- Opportunities

(5.3.1.2) Environmental issues relevant to the risks and/or opportunities that have affected your strategy in this area

Select all that apply

- Climate change
- Water

(5.3.1.3) Describe how environmental risks and/or opportunities have affected your strategy in this area

The most significant strategic decision our company has made to date is the business portfolio reform. The issue area having the greatest impact on this is climate change, which is influencing our efforts to reduce greenhouse gas (GHG) emissions at production sites in the short to medium term. We are entering an era in which we will not be highly valued by our customers unless we have functions and solutions that other companies' products do not have, based on our original technologies, and unless our entire value chains, incl. logistics and quality assurance, are differentiated from theirs. The MGC Group already offers numbers of one-of-a-kind, niche-top products to the global market. Our differentiated products feature low GHG emissions, low GHG emission intensity, and reduce environmental impacts such

as water pollution, thereby delivering significant value to customers. Under our medium-term management plan "Grow UP 2026", we are targeting operating profit from such differentiated products (Uniqueness & Presence (U&P) business) to exceed JPY70 billion in FY2026 (FY2024 actual: JPY 51.5 billion). As part of our business portfolio reform, we stopped production of trimethylolpropane at the Mizushima Plant in FY2021, and halted production of formalin at the Yokkaichi Plant and production of formalin, paraform, and hexamine at the Niigata Plant by FY2021. Furthermore, as competition for commodity products is intensifying global competition, we are reducing GHG emissions and improving water use efficiency while optimizing the steam and power balance at our plants as another part of our business portfolio reform. As "Smart-MGC," the MGC Group is working together to reduce GHG emissions by utilizing the latest IT technologies and linking data from various systems. For example, we shut down the ammonia production facilities at the Niigata Plant in FY2015 and installed a new steam turbine generator in 2016 to effectively use the high-pressure steam that was used for the ammonia production, resulting in an annual energy savings of 10,000 kiloliters of crude oil equivalent per year and a 40% GHG emission reduction compared to the previous year. Through these measures, we were able to reduce costs by JPY600 million per year. In March 2024, we set targets of our GHG emission reduction as results of various efforts: · Reduce by 33% compared to FY2013 by FY2026 · Reduce by 39% compared to FY2013 by FY2030 · Carbon neutrality by FY2050
[Add row]

(5.3.2) Describe where and how environmental risks and opportunities have affected your financial planning.

Row 1

(5.3.2.1) Financial planning elements that have been affected

Select all that apply

- Revenues

(5.3.2.2) Effect type

Select all that apply

- Risks
- Opportunities

(5.3.2.3) Environmental issues relevant to the risks and/or opportunities that have affected these financial planning elements

Select all that apply

- Climate change
- Water

(5.3.2.4) Describe how environmental risks and/or opportunities have affected these financial planning elements

MGC believes that offering solutions to societal challenges, such as reducing emissions of environmentally harmful substances and cutting CO2 emissions, which only a chemical manufacturer can achieve, not only contributes to society's sustainable growth but also presents an opportunity for our own sustainable growth. If we do not proactively conduct R&D on CO2 emission reduction, we may lose our customers or have reputational risks. In order to promote existing businesses and the launch of new businesses that contribute to solving energy and environmental issues using our proprietary technologies, in the medium-term management plan "Grow UP 2026" that started in FY2024, we set a KPI of JPY 270 billion in sales for the MGC Group Eco-Friendly Product in FY2026 (the FY2024 actual sales were JPY214.3 billion). We are continuously engaged in catalyst and process development as we believe that utilizing our technology and knowledge to develop methanol production methods using CO2, waste, biomass and other sustainable raw materials will contribute not only to environmental protection but also to the sustainable growth of our company. MGC started in July 2021 and completed in 2022 demonstration tests on the methanol production made from CO2 and hydrogen at the small methanol production facilities in the Niigata Plant. We also have launched an environmental recycling platform (Carbopath™), in which CO2, plastic waste, and biomass are converted into methanol, and recycled to chemical products, fuels and power generation applications, and are now working on further technological demonstrations for cross-industry partnerships. In 2023, we have completed the development of production technology for methanol from diverse gases, using plastic waste and biomass as recycled raw materials, and is currently exploring the social implementation with waste recycling companies and others. In parallel, MGC is exploring the local production for local consumption of the biomass methanol using biomass as a raw material. In 2024, we begun producing bio-methanol from digester gas (biomethane) generated from sewage treatment plants. For customers with no experience in chemical plant operations, we have developed automatic operation and remote monitoring technologies, aiming to expand the number of customers. Our aim is to commercialize 100,000 tons per year of environmentally recyclable methanol by FY2030 and 1 million tons per year after FY2030 by utilizing these unique technologies.

[Add row]

(5.4) In your organization's financial accounting, do you identify spending/revenue that is aligned with your organization's climate transition?

	Identification of spending/revenue that is aligned with your organization's climate transition	Methodology or framework used to assess alignment with your organization's climate transition
	Select from: <input checked="" type="checkbox"/> Yes	Select all that apply <input checked="" type="checkbox"/> Other methodology or framework

[Fixed row]

(5.4.1) Quantify the amount and percentage share of your spending/revenue that is aligned with your organization's climate transition.

Row 1

(5.4.1.1) Methodology or framework used to assess alignment

Select from:

Other, please specify :R&D expenditure ratio for products contributing to a decarbonized and low-carbon society toward achieving a 1.5°C world

(5.4.1.5) Financial metric

Select from:

OPEX

(5.4.1.6) Amount of selected financial metric that is aligned in the reporting year (currency)

18009000000

(5.4.1.7) Percentage share of selected financial metric aligned in the reporting year (%)

69

(5.4.1.8) Percentage share of selected financial metric planned to align in 2025 (%)

60

(5.4.1.9) Percentage share of selected financial metric planned to align in 2030 (%)

60

(5.4.1.12) Details of the methodology or framework used to assess alignment with your organization's climate transition

MGC is committed to developing products that contribute to a decarbonized and low-carbon society toward realizing a World with the 1.5 degrees Celsius target. In our medium-term management plan, "Grow UP 2026", as other materiality KPI for "Promotion of innovative R&D", we set "Percentage of R&D cost contributing to increased resilience of business portfolio". The FY2026 target is 60% or higher (the FY2024 actual figure was 69%). MGC develops manufacturing method for methanol and polycarbonate intermediates (Diphenyl Carbonate) made from CO₂ as a feedstock; researching & developing, producing, selling thermoplastic polyamide (MX-Nylon), thermoplastic polyimide (Therplim™), curing agents for thermosetting resins (MXDA, 1,3-BAC), and monomers for thermosetting resins (Cyanate) which are Carbon Fiber Reinforced Plastics (CFRP) for the mobility weight reduction in such as aircraft, trains, and automobiles; studying the production of

hydrogen and the themes of hydrogen-related business, chemical recycling, biomass, clean power generation, and energy intensity improvement, etc. We defined such product development as a ratio of R&D spending that contributes to the resilience of our business portfolio, contributing to a decarbonized and low-carbon society toward the realization of a World with the 1.5 degrees Celsius target.

[Add row]

(5.5) Does your organization invest in research and development (R&D) of low-carbon products or services related to your sector activities?

(5.5.1) Investment in low-carbon R&D

Select from:

Yes

(5.5.2) Comment

MGC is committed to developing products that contribute to a decarbonized and low-carbon society toward realizing a World with the 1.5 degrees Celsius target. In our medium-term management plan, “Grow UP 2026”, as other materiality KPI for “Promotion of innovative R&D”, we set “Percentage of R&D cost contributing to increased resilience of business portfolio”. The FY2026 target is 60% or higher (the FY2024 actual figure was 69%). MGC develops manufacturing method for methanol and polycarbonate intermediates (Diphenyl Carbonate) made from CO₂ as a feedstock; researching & developing, producing, selling thermoplastic polyamide (MX-Nylon), thermoplastic polyimide (Therplim™), curing agents for thermosetting resins (MXDA, 1,3-BAC), and monomers for thermosetting resins (Cyanate) which are Carbon Fiber Reinforced Plastics (CFRP) for the mobility weight reduction in such as aircraft, trains, and automobiles; studying the production of hydrogen and the themes of hydrogen-related business, chemical recycling, biomass, clean power generation, and energy intensity improvement, etc. We defined such product development as a ratio of R&D spending that contributes to the resilience of our business portfolio, contributing to a decarbonized and low-carbon society toward the realization of a World with the 1.5 degrees Celsius target.

[Fixed row]

(5.5.3) Provide details of your organization’s investments in low-carbon R&D for chemical production activities over the last three years.

Row 1

(5.5.3.1) Technology area

Select from:

Unable to disaggregate by technology area

(5.5.3.3) Average % of total R&D investment over the last 3 years

7

(5.5.3.5) Average % of total R&D investment planned over the next 5 years

14

(5.5.3.6) Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

MGC develops manufacturing method for methanol and polycarbonate intermediates (Diphenyl Carbonate) made from CO₂ as a feedstock; researching & developing, producing, selling thermoplastic polyamide (MX-Nylon), thermoplastic polyimide (Therplim™), curing agents for thermosetting resins (MXDA, 1,3-BAC), and monomers for thermosetting resins (Cyanate) which are Carbon Fiber Reinforced Plastics (CFRP) for the mobility weight reduction in such as aircraft, trains, and automobiles; studying the production of hydrogen and the themes of hydrogen-related business, chemical recycling, biomass, clean power generation, and energy intensity improvement, etc.

[Add row]

(5.9) What is the trend in your organization's water-related capital expenditure (CAPEX) and operating expenditure (OPEX) for the reporting year, and the anticipated trend for the next reporting year?

(5.9.1) Water-related CAPEX (+/- % change)

-48.9

(5.9.2) Anticipated forward trend for CAPEX (+/- % change)

0

(5.9.3) Water-related OPEX (+/- % change)

(5.9.4) Anticipated forward trend for OPEX (+/- % change)

0

(5.9.5) Please explain

MGC treats costs classified as water pollution prevention in the Environmental Accounting Guidelines as water-related CAPEX and OPEX. The purposes of CAPEX in the reporting year were for the renewal of aeration tank diffusers and automatic pH meter cleaning, and the amount was JPY56 million, a decrease of 48.90% compared with the previous reporting year. The purposes of OPEX in the reporting year were mainly for activated sludge treatment facilities management and plant wastewater treatments costs, and the amount was JPY1,533 million, an increase of 18.56% compared with the previous reporting year. The increase in OPEX is due to the increased costs for water discharge treatment. Both CAPEX and OPEX for the next reporting period are also expected to be equivalent to the reporting period. CAPEX and OPEX are utilized for the purpose of quantitatively evaluating the costs for environmental conservation and the effects obtained from these activities, and disclosing this information.

[Fixed row]

(5.10) Does your organization use an internal price on environmental externalities?

	Use of internal pricing of environmental externalities	Environmental externality priced
	Select from: <input checked="" type="checkbox"/> Yes	Select all that apply <input checked="" type="checkbox"/> Carbon

[Fixed row]

(5.10.1) Provide details of your organization's internal price on carbon.**Row 1****(5.10.1.1) Type of pricing scheme**

Select from:

- Shadow price

(5.10.1.2) Objectives for implementing internal price

Select all that apply

- Navigate regulations
- Drive energy efficiency
- Drive low-carbon investment
- Conduct cost-benefit analysis
- Identify and seize low-carbon opportunities
- Influence strategy and/or financial planning
- Incentivize consideration of climate-related issues in decision making
- Incentivize consideration of climate-related issues in risk assessment

(5.10.1.3) Factors considered when determining the price

Select all that apply

- Alignment to international standards
- Alignment with the price of a carbon tax
- Benchmarking against peers
- Scenario analysis

(5.10.1.4) Calculation methodology and assumptions made in determining the price

Internal Carbon Pricing (ICP) is a voluntary initiative within companies, and they set their own CO₂ prices. In many cases, companies in countries and regions that have already introduced Carbon Pricing have ICP prices equal to or higher than the carbon price. On the other hand, companies in countries and regions that have not yet introduced Carbon Pricing set their prices referring to the procuring cost for renewable energy and the price level of other companies in the same industry. Although most of the regulated carbon price in place worldwide are below USD30/t-CO₂, it is difficult to achieve net zero emissions by 2050. The carbon price required to achieve the Paris target are: • USD40 to 80/tCO₂e in 2020; USD50 to 100/tCO₂e in 2030 (According to a study by the High-Level Commission on Carbon Price); • USD75 to 100/tCO₂e in 2030; USD125 to 140/tCO₂e in 2040 (IEA World Energy Outlook); Thus, we have concluded that USD100/tCO₂e is reasonable as our internal carbon price for achieving our target of 2050 carbon neutrality.

(5.10.1.5) Scopes covered

Select all that apply

- Scope 1

Scope 2

(5.10.1.6) Pricing approach used – spatial variance

Select from:

Uniform

(5.10.1.8) Pricing approach used – temporal variance

Select from:

Evolutionary

(5.10.1.9) Indicate how you expect the price to change over time

The carbon price required to achieve the Paris target are: • USD40 to 80/tCO₂e in 2020; USD50 to 100/tCO₂e in 2030 (According to a study by the High-Level Commission on Carbon Price); • USD75 to 100/tCO₂e in 2030; USD125 to 140/tCO₂e in 2040 (IEA World Energy Outlook);.

(5.10.1.10) Minimum actual price used (currency per metric ton CO₂e)

10000

(5.10.1.11) Maximum actual price used (currency per metric ton CO₂e)

10000

(5.10.1.12) Business decision-making processes the internal price is applied to

Select all that apply

Capital expenditure

Operations

Risk management

Opportunity management

(5.10.1.13) Internal price is mandatory within business decision-making processes

Select from:

Yes, for all decision-making processes

(5.10.1.14) % total emissions in the reporting year in selected scopes this internal price covers

100

(5.10.1.15) Pricing approach is monitored and evaluated to achieve objectives

Select from:

Yes

(5.10.1.16) Details of how the pricing approach is monitored and evaluated to achieve your objectives

Our business is in the energy-intensive chemical industry, and the MGC Group emitted approx. 1.21 million tons of GHGs in FY2024. We separate 530,000 tons of xylene annually with our unique superacid catalyst (HF/BF₃) technology. We also have polycarbonate manufacturing sites in Japan, China and Thailand with a total capacity of just over 300,000 tons (Mitsubishi Engineering-Plastics Corporation, our consolidated subsidiary, is one of the top four distributors in the world). Thus, energy price fluctuations, renewable energy price fluctuations, energy saving, and laws and regulations that encourage GHG emission reductions could lead to significant risks to our profitability. Since April 2021, we have introduced an internal carbon pricing system with an initial price of JPY10,000/tCO₂e. As a chemical manufacturer, we use a large amount of electricity and steam in our production, so own self-generation and cogeneration systems. In some cases, we use heavy oil as fuel, but by taking into account the annual carbon price burden under the internal carbon pricing system, it clearly brought cost saving and running cost saving even if new capital investment is made to convert fuels to LNG. Thus, we confirmed that the financial advantage of fuel conversion is significant. Further, the introduction of internal carbon pricing system is expected to have the outcomes such as: 1) clearer awareness of the cost and future reduction targets by converting CO₂ emissions from business activities into monetary values; 2) economic incentives to contribute to GHG emission reduction, and drafting and commercialization promoted by evaluating research themes and capital investment projects based on their contribution to CO₂ emissions, and 3) a quantitative understanding of climate-related risks becomes possible, and through appropriate information disclosure, this leads to enhanced external appeal. We are considering further use of internal carbon pricing to contribute to achieving the carbon neutrality by 2050. In Japan, the Tax for Measures against Global Warming, Tax for Petroleum and Coal, and Surcharge for Renewable Energy have been introduced, and we annually pay approx. JPY1.8 billion for approx. 530,000 tons of our energy-derived CO₂ emissions subject to the tax. In the future, an increase in the energy and environmental taxes and the introduction of carbon pricing could lead to a risk of further increase in our indirect costs.

[Add row]

(5.11) Do you engage with your value chain on environmental issues?

Suppliers

(5.11.1) Engaging with this stakeholder on environmental issues

Select from:

Yes

(5.11.2) Environmental issues covered

Select all that apply

Climate change

Plastics

Customers

(5.11.1) Engaging with this stakeholder on environmental issues

Select from:

Yes

(5.11.2) Environmental issues covered

Select all that apply

Climate change

Investors and shareholders

(5.11.1) Engaging with this stakeholder on environmental issues

Select from:

No, but we plan to within the next two years

(5.11.3) Primary reason for not engaging with this stakeholder on environmental issues

Select from:

No standardized procedure

(5.11.4) Explain why you do not engage with this stakeholder on environmental issues

MGC is exploring options to collaborate with investors and shareholders in our distinctive business.

Other value chain stakeholders

(5.11.1) Engaging with this stakeholder on environmental issues

Select from:

No, but we plan to within the next two years

(5.11.3) Primary reason for not engaging with this stakeholder on environmental issues

Select from:

No standardized procedure

(5.11.4) Explain why you do not engage with this stakeholder on environmental issues

The difficulty of handling chemical products varies greatly depending on their type and properties. Highly toxic and hazardous chemicals are particularly challenging to manage and necessitate specialized knowledge, equipment, and protective gear. Some chemicals have a risk of explosion, fire, poisoning and environmental pollution, so proper management and safety measures are essential. For this reason, we can only engage with stakeholders who have knowledge of chemistry and equipment, as well as legal expertise.

[Fixed row]

(5.11.1) Does your organization assess and classify suppliers according to their dependencies and/or impacts on the environment?

	Assessment of supplier dependencies and/or impacts on the environment
Climate change	Select from:

	Assessment of supplier dependencies and/or impacts on the environment
	<input checked="" type="checkbox"/> No, we do not currently assess the dependencies and/or impacts of our suppliers, but we plan to do so within the next two years
Plastics	<i>Select from:</i> <input checked="" type="checkbox"/> No, we do not currently assess the dependencies and/or impacts of our suppliers, but we plan to do so within the next two years

[Fixed row]

(5.11.2) Does your organization prioritize which suppliers to engage with on environmental issues?

Climate change

(5.11.2.1) Supplier engagement prioritization on this environmental issue

Select from:

No, we do not prioritize which suppliers to engage with on this environmental issue

(5.11.2.3) Primary reason for no supplier prioritization on this environmental issue

Select from:

We engage with all suppliers

(5.11.2.4) Please explain

The MGC Group aims to realize carbon neutrality by 2050, and it is essential to engage with all stakeholders, not just in the MGC Group. It means we have no prioritization.

Plastics

(5.11.2.1) Supplier engagement prioritization on this environmental issue

Select from:

- No, we do not prioritize which suppliers to engage with on this environmental issue

(5.11.2.3) Primary reason for no supplier prioritization on this environmental issue

Select from:

- We engage with all suppliers

(5.11.2.4) Please explain

Currently MGC requests our raw material suppliers to complete a CSR questionnaire.

[Fixed row]

(5.11.5) Do your suppliers have to meet environmental requirements as part of your organization's purchasing process?

Climate change

(5.11.5.1) Suppliers have to meet specific environmental requirements related to this environmental issue as part of the purchasing process

Select from:

- Yes, suppliers have to meet environmental requirements related to this environmental issue, but they are not included in our supplier contracts

(5.11.5.2) Policy in place for addressing supplier non-compliance

Select from:

- Yes, we have a policy in place for addressing non-compliance

(5.11.5.3) Comment

MGC is engaging with our suppliers to promote CSR procurement. As part of this effort, we conduct surveys of our suppliers on important raw materials using the CSR Procurement Self-Assessment Tool (SAQ) developed by the Supply Chain Working Group of the Global Compact Network Japan. We also require our suppliers

(5.11.6) Provide details of the environmental requirements that suppliers have to meet as part of your organization's purchasing process, and the compliance measures in place.

Climate change

(5.11.6.1) Environmental requirement

Select from:

- Environmental disclosure through a public platform

(5.11.6.2) Mechanisms for monitoring compliance with this environmental requirement

Select all that apply

- Grievance mechanism/ Whistleblowing hotline
- Supplier self-assessment

(5.11.6.3) % tier 1 suppliers by procurement spend required to comply with this environmental requirement

Select from:

- 100%

(5.11.6.4) % tier 1 suppliers by procurement spend in compliance with this environmental requirement

Select from:

- 100%

(5.11.6.7) % tier 1 supplier-related scope 3 emissions attributable to the suppliers required to comply with this environmental requirement

Select from:

100%

(5.11.6.8) % tier 1 supplier-related scope 3 emissions attributable to the suppliers in compliance with this environmental requirement

Select from:

100%

(5.11.6.12) Comment

MGC is engaging with our suppliers to promote CSR procurement. As part of this effort, we conduct surveys of our suppliers on important raw materials using the CSR Procurement Self-Assessment Tool (SAQ) developed by the Supply Chain Working Group of the Global Compact Network Japan. We also require our suppliers to agree to the Mitsubishi Gas Chemical CSR Procurement Guidelines.

[Add row]

(5.11.7) Provide further details of your organization's supplier engagement on environmental issues.

Climate change

(5.11.7.2) Action driven by supplier engagement

Select from:

Adaptation to climate change

(5.11.7.3) Type and details of engagement

Innovation and collaboration

Collaborate with suppliers on innovations to reduce environmental impacts in products and services

(5.11.7.4) Upstream value chain coverage

Select all that apply

Tier 1 suppliers

(5.11.7.5) % of tier 1 suppliers by procurement spend covered by engagement

Select from:

Less than 1%

(5.11.7.6) % of tier 1 supplier-related scope 3 emissions covered by engagement

Select from:

Less than 1%

(5.11.7.9) Describe the engagement and explain the effect of your engagement on the selected environmental action

Appi Geothermal Energy Corporation (AGE), which is a joint venture company with Mitsubishi Materials Corporation (MMC), Mitsubishi Gas Chemical Company (MGC), and Electric Power Development (J-POWER), started commercial operation of the Appi Geothermal Power Plant (the Plant) on 1st March, 2024. MMC and J-POWER are joint venturers as well as MGC's primary suppliers. MGC has strengths in extraction technology, and by collaborating with the two companies that have strengths in resource development of geothermal power generation, we will be able to stably operate the geothermal power generation project. The construction of the Plant had been underway since August 2019 in order to contribute to the reduction of CO2 emissions and the stable supply of electricity in Japan. The Plant is located at an altitude of approximately 1,130 meters and operates at an output capacity of 14,900 kW utilizing promising geothermal resources in the Hachimantai region of Iwate Prefecture. This is the first time in 28 years that a geothermal power plant with an output of over 10,000 kW has operated in Iwate Prefecture. All the electricity generated will be supplied to society under the Feed-In Tariff (FIT) system for renewable energy. The Plant is the second geothermal power plant jointly operated by MMC, MGC, and J-POWER, following the Wasabizawa Geothermal Power Plant (Yuzawa-city, Akita Prefecture). This project is supported by Japan Organization for Metals and Energy Security, applying a debt guarantee project for geothermal resource development funding. AGE, MMC, MGC, and J-POWER will contribute to the expansion of renewable energy through the stable operation of the Plant. The quantitative threshold of success is to start commercial operation in March 2024 and to reach the output capacity of 14,900 kW. The engagement of the three companies will enable to stably operate the geothermal power plant and supply 14,900 kW of renewable energy to the society.

(5.11.7.10) Engagement is helping your tier 1 suppliers meet an environmental requirement related to this environmental issue

Select from:

Yes, please specify the environmental requirement :We are helping to expand the use of renewable energy through the stable operation of the geothermal power plant.

(5.11.7.11) Engagement is helping your tier 1 suppliers engage with their own suppliers on the selected action

Select from:

Yes

Water

(5.11.7.10) Engagement is helping your tier 1 suppliers meet an environmental requirement related to this environmental issue

Select from:

No, this engagement is unrelated to meeting an environmental requirement

Plastics

(5.11.7.2) Action driven by supplier engagement

Select from:

Circular economy

(5.11.7.3) Type and details of engagement

Innovation and collaboration

Collaborate with suppliers on innovations to reduce environmental impacts in products and services

(5.11.7.4) Upstream value chain coverage

Select all that apply

Tier 1 suppliers

(5.11.7.5) % of tier 1 suppliers by procurement spend covered by engagement

Select from:

Unknown

(5.11.7.11) Engagement is helping your tier 1 suppliers engage with their own suppliers on the selected action

Select from:

Yes

[Add row]

(5.11.9) Provide details of any environmental engagement activity with other stakeholders in the value chain.

Climate change

(5.11.9.1) Type of stakeholder

Select from:

Customers

(5.11.9.2) Type and details of engagement

Innovation and collaboration

Collaborate with stakeholders on innovations to reduce environmental impacts in products and services

(5.11.9.3) % of stakeholder type engaged

Select from:

Less than 1%

(5.11.9.4) % stakeholder-associated scope 3 emissions

Select from:

Less than 1%

(5.11.9.5) Rationale for engaging these stakeholders and scope of engagement

MGC engages with our stakeholders on innovations to reduce the environmental impact of our products and services.

(5.11.9.6) Effect of engagement and measures of success

Appi Geothermal Energy Corporation (AGE), which is a joint venture company with Mitsubishi Materials Corporation (MMC), Mitsubishi Gas Chemical Company (MGC), and Electric Power Development (J-POWER), started commercial operation of the Appi Geothermal Power Plant (the Plant) on 1st March, 2024. Our customers are businesses and general consumers that use renewable energy. The construction of the Plant had been underway since August 2019 in order to contribute to the reduction of CO2 emissions and the stable supply of electricity in Japan. The Plant is located at an altitude of approximately 1,130 meters and operates at an output capacity of 14,900 kW utilizing promising geothermal resources in the Hachimantai region of Iwate Prefecture. This is the first time in 28 years that a geothermal power plant with an output of over 10,000 kW has operated in Iwate Prefecture. All the electricity generated will be supplied to society under the Feed-In Tariff (FIT) system for renewable energy. AGE, MMC, MGC, and J-POWER will contribute to the expansion of renewable energy through the stable operation of the Plant. The quantitative threshold of success is to start commercial operation in March 2024 and to reach the output capacity of 14,900 kW. We can supply 14,900 kW of renewable energy to customers, that are businesses and general consumers, requiring renewable energy.

[Add row]

(5.13) Has your organization already implemented any mutually beneficial environmental initiatives due to CDP Supply Chain member engagement?

	<p>Environmental initiatives implemented due to CDP Supply Chain member engagement</p>
	<p>Select from:</p> <p><input checked="" type="checkbox"/> No, and we do not plan to within the next two years</p>

[Fixed row]

C6. Environmental Performance - Consolidation Approach

(6.1) Provide details on your chosen consolidation approach for the calculation of environmental performance data.

Climate change

(6.1.1) Consolidation approach used

Select from:

Financial control

(6.1.2) Provide the rationale for the choice of consolidation approach

The calculation of environmental performance data includes MGC alone (non-consolidate) and its consolidated subsidiaries.

Water

(6.1.1) Consolidation approach used

Select from:

Other, please specify :MGC (non-consolidated)

(6.1.2) Provide the rationale for the choice of consolidation approach

We have been responding to CDP water security questions as non-consolidated in the past and we continue to do so in the reporting year.

Plastics

(6.1.1) Consolidation approach used

Select from:

Other, please specify :三菱ガス化学株式会社単体

(6.1.2) Provide the rationale for the choice of consolidation approach

We have been responding to CDP plastic questions as non-consolidated for the previous reporting year and we continue to do so in the reporting year.

Biodiversity

(6.1.1) Consolidation approach used

Select from:

Other, please specify :三菱ガス化学株式会社単体

(6.1.2) Provide the rationale for the choice of consolidation approach

We have been responding to CDP biodiversity questions as non-consolidated for the previous reporting year and we continue to do so in the reporting year.
[Fixed row]

C7. Environmental performance - Climate Change

(7.1) Is this your first year of reporting emissions data to CDP?

Select from:

No

(7.1.1) Has your organization undergone any structural changes in the reporting year, or are any previous structural changes being accounted for in this disclosure of emissions data?

(7.1.1.1) Has there been a structural change?

Select all that apply

Yes, an acquisition

Yes, a divestment

(7.1.1.2) Name of organization(s) acquired, divested from, or merged with

Cultivecs Inc, JSP Corporation, KP Corporation, Mirax Corporation, Hokuryou EPS Corporation, JSP Molding Corporation, Sansho Foam Tech Corporation, Seihoku Package Corporation, JSP Advanced Materials(Wuxi)Co.,LTD. JSP Advanced Materials(Dongguan)Co.,LTD. JSP Advanced Materials(Wuhan)Co.,LTD. JSP Seihoku Material Technology (Kunshan) Co.,LTD. KOSPA Corporation, JSP Foam Products, PTE. LTD. JSP Foam Products (Thailand) Co.,LTD. JSP Brasil Industria de Plásticos LTDA., seven other companies

(7.1.1.3) Details of structural change(s), including completion dates

The purchase of shares increased our control over Cultivecs Inc, and therefore made it a consolidated subsidiary. The sale of shares reduced our control over JSP Corporation and its 21 consolidated subsidiaries, and therefore made them non-consolidated subsidiaries. These changes are treated as joining or leaving the scope of performance data effective April 1, 2024.

[Fixed row]

(7.1.2) Has your emissions accounting methodology, boundary, and/or reporting year definition changed in the reporting year?

	Change(s) in methodology, boundary, and/or reporting year definition?
	<i>Select all that apply</i> <input checked="" type="checkbox"/> No

[Fixed row]

(7.1.3) Have your organization's base year emissions and past years' emissions been recalculated as a result of any changes or errors reported in 7.1.1 and/or 7.1.2?

(7.1.3.1) Base year recalculation

Select from:

Yes

(7.1.3.2) Scope(s) recalculated

Select all that apply

Scope 1

Scope 2, location-based

Scope 2, market-based

(7.1.3.3) Base year emissions recalculation policy, including significance threshold

We will recalculate the base year emissions when structural changes could result in a significant change in base year emissions for any of the scopes.

(7.1.3.4) Past years' recalculation

Select from:

No

[Fixed row]

(7.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

Select all that apply

ISO 14064-1

The Tokyo Cap-and Trade Program

The Greenhouse Gas Protocol: Scope 2 Guidance

The Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Standard

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

Japan Ministry of the Environment, Law Concerning the Promotion of the Measures to Cope with Global Warming, Superseded by Revision of the Act on Promotion of Global Warming Countermeasures (2005 Amendment)

(7.3) Describe your organization's approach to reporting Scope 2 emissions.

	Scope 2, location-based	Scope 2, market-based
	Select from: <input checked="" type="checkbox"/> We are reporting a Scope 2, location-based figure	Select from: <input checked="" type="checkbox"/> We are reporting a Scope 2, market-based figure

[Fixed row]

(7.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1, Scope 2 or Scope 3 emissions that are within your selected reporting boundary which are not included in your disclosure?

Select from:

- Yes

(7.4.1) Provide details of the sources of Scope 1, Scope 2, or Scope 3 emissions that are within your selected reporting boundary which are not included in your disclosure.

Row 1

(7.4.1.1) Source of excluded emissions

Consolidated subsidiaries that do not manufacture products and those that only perform administrative tasks are excluded from the calculation.

(7.4.1.2) Scope(s) or Scope 3 category(ies)

Select all that apply

- Scope 1
- Scope 2 (market-based)
- Scope 3: Capital goods
- Scope 2 (location-based)
- Scope 3: Business travel
- Scope 3: Waste generated in operations
- Scope 3: End-of-life treatment of sold products
- Scope 3: Upstream transportation and distribution
- Scope 3: Downstream transportation and distribution
- Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2)
- Scope 3: Employee commuting
- Scope 3: Use of sold products
- Scope 3: Upstream leased assets
- Scope 3: Downstream leased assets
- Scope 3: Purchased goods and services

(7.4.1.3) Relevance of Scope 1 emissions from this source

Select from:

- Emissions are not relevant

(7.4.1.4) Relevance of location-based Scope 2 emissions from this source

Select from:

Emissions are not relevant

(7.4.1.5) Relevance of market-based Scope 2 emissions from this source

Select from:

Emissions are not relevant

(7.4.1.6) Relevance of Scope 3 emissions from this source

Select from:

Emissions are not relevant

(7.4.1.8) Estimated percentage of total Scope 1+2 emissions this excluded source represents

0.1

(7.4.1.9) Estimated percentage of total Scope 3 emissions this excluded source represents

0.1

(7.4.1.10) Explain why this source is excluded

The Scope 1 and 2 emissions of the excluded organizations consist primarily of electricity and gas usage at their offices, and are considered to represent an extremely small proportion of the MGC group's total Scope 1 and 2 emissions. Since the excluded organizations are either sales companies or companies performing only administrative functions, the vast majority of their Scope 3 emissions are accounted for as Scope 3 emissions of the companies conducting manufacturing or transportation activities. Therefore, their impact on MGC group's total Scope 3 emissions is considered to be extremely small.

(7.4.1.11) Explain how you estimated the percentage of emissions this excluded source represents

Scope 1, 2, and 3 emissions were estimated from the emissions per person of organizations that have already been calculated and perform similar work to the excluded organization.

[Add row]

(7.5) Provide your base year and base year emissions.

Scope 1

(7.5.1) Base year end

03/31/2014

(7.5.2) Base year emissions (metric tons CO2e)

936313

(7.5.3) Methodological details

The scope of calculation included MGC and its consolidated subsidiaries. Calculations were based on fuel consumption measured by flow meters and other instruments and 6.5 gas emissions activities. Although flow meters and other instruments are not necessarily certified, they are used in the day-to-day management of chemical production and have a certain degree of reliability. We use emission factors that are defined mainly by the Energy Conservation Law and the Act on Promotion of Global Warming Countermeasures. For MGC's proprietary fuels such as by-product fuels, for example, coefficients are set based on the results of component analysis.

Scope 2 (location-based)

(7.5.1) Base year end

03/30/2014

(7.5.2) Base year emissions (metric tons CO2e)

842128

(7.5.3) Methodological details

The scope of calculation included MGC and its consolidated subsidiaries. Scope 2 includes electricity supplied by other companies and steam supplied by other companies. Data on supply volume was provided by electricity and steam suppliers, and Scope2 emissions were calculated based on these values. Although the closing date for a small number of data differs from the MGC calculation period, the data provided was adopted as is after confirming that the total of the period was one year. Emission factors used were those provided by electricity and steam suppliers or public agencies.

Scope 2 (market-based)

(7.5.1) Base year end

03/31/2014

(7.5.2) Base year emissions (metric tons CO2e)

840881

(7.5.3) Methodological details

The scope of calculation included MGC and its consolidated subsidiaries. Scope 2 includes electricity supplied by other companies and steam supplied by other companies. Data on supply volume was provided by electricity and steam suppliers, and Scope2 emissions were calculated based on these values. Although the closing date for a small number of data differs from the MGC calculation period, the data provided was adopted as is after confirming that the total of the period was one year. Emission factors used were those provided by electricity and steam suppliers or public agencies.

Scope 3 category 1: Purchased goods and services

(7.5.1) Base year end

03/31/2021

(7.5.2) Base year emissions (metric tons CO2e)

6100000.0

(7.5.3) Methodological details

We are considering setting Scope 3 reduction targets.

Scope 3 category 2: Capital goods

(7.5.1) Base year end

03/31/2021

(7.5.2) Base year emissions (metric tons CO2e)

110000.0

(7.5.3) Methodological details

We are considering setting Scope 3 reduction targets.

Scope 3 category 3: Fuel-and-energy-related activities (not included in Scope 1 or 2)

(7.5.1) Base year end

03/31/2021

(7.5.2) Base year emissions (metric tons CO2e)

240000

(7.5.3) Methodological details

We are considering setting Scope 3 reduction targets.

Scope 3 category 4: Upstream transportation and distribution

(7.5.1) Base year end

03/31/2021

(7.5.2) Base year emissions (metric tons CO2e)

640000.0

(7.5.3) Methodological details

We are considering setting Scope 3 reduction targets.

Scope 3 category 5: Waste generated in operations

(7.5.1) Base year end

03/31/2021

(7.5.2) Base year emissions (metric tons CO2e)

6000.0

(7.5.3) Methodological details

We are considering setting Scope 3 reduction targets.

Scope 3 category 6: Business travel

(7.5.1) Base year end

03/31/2021

(7.5.2) Base year emissions (metric tons CO2e)

1000.0

(7.5.3) Methodological details

We are considering setting Scope 3 reduction targets.

Scope 3 category 7: Employee commuting

(7.5.1) Base year end

03/31/2021

(7.5.2) Base year emissions (metric tons CO2e)

1000.0

(7.5.3) Methodological details

We are considering setting Scope 3 reduction targets.

Scope 3 category 8: Upstream leased assets

(7.5.1) Base year end

03/31/2021

(7.5.2) Base year emissions (metric tons CO2e)

7000.0

(7.5.3) Methodological details

We are considering setting Scope 3 reduction targets.

Scope 3 category 9: Downstream transportation and distribution

(7.5.1) Base year end

03/31/2021

(7.5.2) Base year emissions (metric tons CO2e)

210000.0

(7.5.3) Methodological details

We are considering setting Scope 3 reduction targets.

Scope 3 category 11: Use of sold products

(7.5.1) Base year end

03/31/2022

(7.5.2) Base year emissions (metric tons CO2e)

75000.0

(7.5.3) Methodological details

We are considering setting Scope 3 reduction targets.

Scope 3 category 12: End of life treatment of sold products

(7.5.1) Base year end

03/31/2021

(7.5.2) Base year emissions (metric tons CO2e)

1800000.0

(7.5.3) Methodological details

We are considering setting Scope 3 reduction targets.

Scope 3 category 13: Downstream leased assets

(7.5.1) Base year end

03/31/2021

(7.5.2) Base year emissions (metric tons CO2e)

26000.0

(7.5.3) Methodological details

We are considering setting Scope 3 reduction targets.

[Fixed row]

(7.6) What were your organization's gross global Scope 1 emissions in metric tons CO2e?

Reporting year

(7.6.1) Gross global Scope 1 emissions (metric tons CO2e)

619492

(7.6.3) Methodological details

Calculations were based on fuel consumption measured by flow meters and other instruments and 6.5 gas emissions activities. Although flow meters and other instruments are not necessarily certified, they are used in the day-to-day management of chemical production and have a certain degree of reliability. We use emission factors that are defined mainly by the Energy Conservation Law and the Act on Promotion of Global Warming Countermeasures. For MGC's proprietary fuels such as by-product fuels, for example, coefficients are set based on the results of component analysis, and these coefficients are included in the scope of third-party verification.

[Fixed row]

(7.7) What were your organization's gross global Scope 2 emissions in metric tons CO2e?

Reporting year

(7.7.1) Gross global Scope 2, location-based emissions (metric tons CO2e)

639116

(7.7.2) Gross global Scope 2, market-based emissions (metric tons CO2e)

586067

(7.7.4) Methodological details

Scope 2 includes electricity supplied by other companies and steam supplied by other companies. Data on supply volume was provided by electricity and steam suppliers, and Scope2 emissions were calculated based on these values. Although the closing date for a small number of data differs from the MGC calculation period, the data provided was adopted as is after confirming that the total of the period was one year. Emission factors used were those provided by electricity and steam suppliers or public agencies.

[Fixed row]

(7.8) Account for your organization's gross global Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

(7.8.1) Evaluation status

Select from:

Relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

6000000

(7.8.3) Emissions calculation methodology

Select all that apply

Average data method

(7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

38

(7.8.5) Please explain

We use the amount of purchased raw materials as activity data. Emission intensity was calculated based on data obtained from suppliers or from IDEA v3.5.1. Emissions calculations were made as purchased volume x emissions intensity per volume.

Capital goods

(7.8.1) Evaluation status

Select from:

Relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

240000

(7.8.3) Emissions calculation methodology

Select all that apply

Average spend-based method

(7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

(7.8.5) Please explain

The activity data was based on the values reported in the Securities Report for the FY ending March 2025. For emission intensity, we use the values described in SC-DBver3.5. Emissions calculations were made as expenditures from fixed asset acquisitions x emissions intensity.

Fuel-and-energy-related activities (not included in Scope 1 or 2)

(7.8.1) Evaluation status

Select from:

Relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

410000

(7.8.3) Emissions calculation methodology

Select all that apply

Average data method

(7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

(7.8.5) Please explain

The amount of fuel used and the amount of electricity and steam procured were used as activity data. Emission intensity was obtained from the supplier, SC-DBVer3.5 or IDEAv3.5.1. Emissions were calculated as procurement volume x emissions intensity.

Upstream transportation and distribution

(7.8.1) Evaluation status

Select from:

Relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

550000

(7.8.3) Emissions calculation methodology

Select all that apply

Distance-based method

(7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

(7.8.5) Please explain

The transported weight of the transported raw material or product and the transported distance were used as activity data. Emission intensity (based on weight and distance transferred) was obtained from IDEAv3.5.1. Emissions were calculated as: transported weight x transported distance x emission intensity.

Waste generated in operations

(7.8.1) Evaluation status

Select from:

Not relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

35000

(7.8.3) Emissions calculation methodology

Select all that apply

Average data method

(7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

(7.8.5) Please explain

Category 5 emissions are estimated less than 0.1% of Scope 3 emissions based on our waste material volume.

Business travel

(7.8.1) Evaluation status

Select from:

Not relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

1000

(7.8.3) Emissions calculation methodology

Select all that apply

Spend-based method

(7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

(7.8.5) Please explain

Category 6 emissions are estimated less than 0.1% of Scope 3 emissions based on our travel expenses.

Employee commuting

(7.8.1) Evaluation status

Select from:

Not relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

1000

(7.8.3) Emissions calculation methodology

Select all that apply

Spend-based method

(7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

(7.8.5) Please explain

Category 7 emissions are estimated less than 0.1% of Scope 3 emissions based on our commuting allowance.

Upstream leased assets

(7.8.1) Evaluation status

Select from:

Not relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

4000

(7.8.3) Emissions calculation methodology

Select all that apply

Average data method

(7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

(7.8.5) Please explain

Based on the floor area of the rented building and the volume of the rented tank, Category 8 emissions were estimated to be less than 0.1% of Scope 3 emissions.

Downstream transportation and distribution

(7.8.1) Evaluation status

Select from:

Relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

(7.8.3) Emissions calculation methodology*Select all that apply* Distance-based method**(7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners**

0

(7.8.5) Please explain

The transported weight of the transported raw material or product and the transported distance were used as activity data. Emission intensity (based on weight and distance transferred) was obtained from IDEAv3.5.1. Emissions were calculated as: transported weight x transported distance x emission intensity.

Processing of sold products**(7.8.1) Evaluation status***Select from:* Not relevant, explanation provided**(7.8.5) Please explain**

Our major products are intermediate chemical materials. Then, we have difficulty to obtain the reliable information about final products and its usage from the customers. Regarding this subject, it shows "Chemical companies are not required to report scope 3, category 10 emissions, since reliable figures are difficult to obtain due to the diverse application and customer structure." on page 32 of "Guidance for Accounting & Reporting Corporate GHG Emissions in the Chemical Sector Value Chain" by WBCSD chemicals. Therefore, we understand the necessity of "Evaluation" for this category is "Not relevant" for us.

Use of sold products**(7.8.1) Evaluation status***Select from:* Relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

460000

(7.8.3) Emissions calculation methodology

Select all that apply

Average data method

(7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

(7.8.5) Please explain

We reported emissions from our sold products which directly emit GHG at the stage of use according to WBCSD chemicals' Guidance for Accounting & Reporting Corporate GHG Emissions in the Chemical Sector Value Chain.

End of life treatment of sold products

(7.8.1) Evaluation status

Select from:

Relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

2700000

(7.8.3) Emissions calculation methodology

Select all that apply

Average data method

(7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

(7.8.5) Please explain

The volume of product sales by disposal method was used as activity data. Emission intensity was obtained from SC-DBVer3.5 or IDEAv3.5.1. Emissions were calculated as sales volume x emissions intensity.

Downstream leased assets

(7.8.1) Evaluation status

Select from:

Not relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

20000

(7.8.3) Emissions calculation methodology

Select all that apply

Average data method

(7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

(7.8.5) Please explain

The floor space of the leased building and the energy usage of the leased equipment were used as activity data. Emission intensity was obtained from SC-DB Ver. 3.5, or emission factors from the Energy Conservation Law and the Act on Promotion of Global Warming Countermeasures were used. Emissions were calculated as floor area x emission intensity or energy use x emission factor.

Franchises

(7.8.1) Evaluation status

Select from:

Not relevant, explanation provided

(7.8.5) Please explain

We do not conduct franchise business. Thus, this category is "Not relevant".

Investments

(7.8.1) Evaluation status

Select from:

Not relevant, explanation provided

(7.8.5) Please explain

Our company does not conduct investment management business Thus this category is Not relevant.

[Fixed row]

(7.9) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	Select from: <input checked="" type="checkbox"/> Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Select from: <input checked="" type="checkbox"/> Third-party verification or assurance process in place
Scope 3	Select from:

	Verification/assurance status
	<input checked="" type="checkbox"/> Third-party verification or assurance process in place

[Fixed row]

(7.9.1) Provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements.

Row 1

(7.9.1.1) Verification or assurance cycle in place

Select from:

Annual process

(7.9.1.2) Status in the current reporting year

Select from:

Underway but not complete for reporting year – previous statement of process attached

(7.9.1.3) Type of verification or assurance

Select from:

Limited assurance

(7.9.1.4) Attach the statement

Verification_Statement_2023_EN.pdf

(7.9.1.5) Page/section reference

(7.9.1.6) Relevant standard

Select from:

ISO14064-3

(7.9.1.7) Proportion of reported emissions verified (%)

85

[Add row]

(7.9.2) Provide further details of the verification/assurance undertaken for your Scope 2 emissions and attach the relevant statements.

Row 1

(7.9.2.1) Scope 2 approach

Select from:

Scope 2 market-based

(7.9.2.2) Verification or assurance cycle in place

Select from:

Annual process

(7.9.2.3) Status in the current reporting year

Select from:

Underway but not complete for reporting year – previous statement of process attached

(7.9.2.4) Type of verification or assurance

Select from:

- Limited assurance

(7.9.2.5) Attach the statement

Verification_Statement_2023_EN.pdf

(7.9.2.6) Page/ section reference

All Pages

(7.9.2.7) Relevant standard

Select from:

- ISO14064-3

(7.9.2.8) Proportion of reported emissions verified (%)

24

[Add row]

(7.9.3) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.

Row 1

(7.9.3.1) Scope 3 category

Select all that apply

- Scope 3: Capital goods
- Scope 3: Business travel
- Scope 3: Employee commuting
- Scope 3: Use of sold products
- Scope 3: Downstream leased assets
- Scope 3: Purchased goods and services
- Scope 3: Waste generated in operations
- Scope 3: End-of-life treatment of sold products

Scope 3: Upstream leased assets

Scope 3: Upstream transportation and distribution

Scope 3: Downstream transportation and distribution

Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2)

(7.9.3.2) Verification or assurance cycle in place

Select from:

Annual process

(7.9.3.3) Status in the current reporting year

Select from:

Underway but not complete for reporting year – previous statement of process attached

(7.9.3.4) Type of verification or assurance

Select from:

Limited assurance

(7.9.3.5) Attach the statement

Verification_Statement_2023_EN.pdf

(7.9.3.6) Page/section reference

All Pages

(7.9.3.7) Relevant standard

Select from:

ISO14064-3

(7.9.3.8) Proportion of reported emissions verified (%)

[Add row]

(7.10) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Select from:

Decreased

(7.10.1) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.

Change in renewable energy consumption

(7.10.1.1) Change in emissions (metric tons CO2e)

4128

(7.10.1.2) Direction of change in emissions

Select from:

Decreased

(7.10.1.3) Emissions value (percentage)

0.3

(7.10.1.4) Please explain calculation

Approximately 35,000 MWh of renewable electricity was additionally introduced in the reporting year. The emission reduction effect of this was 4,128 t-CO2e. Scope 1 and 2 emissions in FY2023 were 1,396,467 t-CO2e. Therefore, the emission reduction rate is $(4,128 \div 1,396,467) \times 100 = 0.3\%$.

Other emissions reduction activities

(7.10.1.1) Change in emissions (metric tons CO2e)

30415

(7.10.1.2) Direction of change in emissions

Select from:

Decreased

(7.10.1.3) Emissions value (percentage)

2.2

(7.10.1.4) Please explain calculation

GHG emission reductions from other emission reduction activities were 30,415 t-CO₂, and Scope 1 and 2 emissions in FY2023 were 1,396,467 t-CO₂e. Therefore, the emission reduction rate is $(30,415 \div 1,396,467) \times 100 = 2.2\%$.

Divestment

(7.10.1.1) Change in emissions (metric tons CO₂e)

195190

(7.10.1.2) Direction of change in emissions

Select from:

Decreased

(7.10.1.3) Emissions value (percentage)

1.4

(7.10.1.4) Please explain calculation

As a result of the sale of shares, 22 companies were removed from the boundary, resulting in a reduction in emissions of 195,190 t-CO₂e. Scope 1 and 2 emissions in FY2023 were 1,396,467 t-CO₂e. Therefore, the emission reduction rate is $195,190 \div 1,396,467 = 14\%$.

Acquisitions

(7.10.1.1) Change in emissions (metric tons CO2e)

1471

(7.10.1.2) Direction of change in emissions

Select from:

Increased

(7.10.1.3) Emissions value (percentage)

12

(7.10.1.4) Please explain calculation

One new company was added to the boundary as a result of the stock purchase. The resulting increase in emissions was 1,471 t-CO2e. Scope 1 and 2 emissions in FY2023 were 1,396,467 t-CO2e. Thus, the growth rate of emissions is $(1,471 \div 1,396,467) \times 100 = 0.1\%$.

Mergers

(7.10.1.1) Change in emissions (metric tons CO2e)

0

(7.10.1.2) Direction of change in emissions

Select from:

No change

(7.10.1.3) Emissions value (percentage)

0

(7.10.1.4) Please explain calculation

No mergers causing the change of GHG emissions in the reporting year.

Change in output

(7.10.1.1) Change in emissions (metric tons CO2e)

37355

(7.10.1.2) Direction of change in emissions

Select from:

Increased

(7.10.1.3) Emissions value (percentage)

2.7

(7.10.1.4) Please explain calculation

GHG emission reductions due to changes in production were 38,227 t-CO2e, and Scope 1 and 2 emissions in FY2023 were 1,396,467 t-CO2. Therefore, the growth rate of emissions is $(38,227 \div 1,396,467) \times 100 = 2.7\%$.

Change in methodology

(7.10.1.1) Change in emissions (metric tons CO2e)

0

(7.10.1.2) Direction of change in emissions

Select from:

No change

(7.10.1.3) Emissions value (percentage)

0

(7.10.1.4) Please explain calculation

No calculation change affecting GHG emissions in the reporting year.

Change in boundary

(7.10.1.1) Change in emissions (metric tons CO2e)

0

(7.10.1.2) Direction of change in emissions

Select from:

No change

(7.10.1.3) Emissions value (percentage)

0

(7.10.1.4) Please explain calculation

No change in boundary.

Change in physical operating conditions

(7.10.1.1) Change in emissions (metric tons CO2e)

0

(7.10.1.2) Direction of change in emissions

Select from:

No change

(7.10.1.3) Emissions value (percentage)

0

(7.10.1.4) Please explain calculation

No change in physical operating conditions.

Unidentified

(7.10.1.1) Change in emissions (metric tons CO2e)

0

(7.10.1.2) Direction of change in emissions

Select from:

No change

(7.10.1.3) Emissions value (percentage)

0

(7.10.1.4) Please explain calculation

No other factor identified.

[Fixed row]

(7.10.2) Are your emissions performance calculations in 7.10 and 7.10.1 based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Select from:

Market-based

(7.12) Are carbon dioxide emissions from biogenic carbon relevant to your organization?

Select from:

Yes

(7.12.1) Provide the emissions from biogenic carbon relevant to your organization in metric tons CO2.

	CO2 emissions from biogenic carbon (metric tons CO2)
	22

[Fixed row]

(7.15) Does your organization break down its Scope 1 emissions by greenhouse gas type?

Select from:

Yes

(7.15.1) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used global warming potential (GWP).

Row 1

(7.15.1.1) Greenhouse gas

Select from:

CO2

(7.15.1.2) Scope 1 emissions (metric tons of CO2e)

606896

(7.15.1.3) GWP Reference

Select from:

IPCC Fifth Assessment Report (AR5 – 100 year)

Row 2

(7.15.1.1) Greenhouse gas

Select from:

CH4

(7.15.1.2) Scope 1 emissions (metric tons of CO2e)

4642

(7.15.1.3) GWP Reference

Select from:

IPCC Fifth Assessment Report (AR5 – 100 year)

Row 3

(7.15.1.1) Greenhouse gas

Select from:

N2O

(7.15.1.2) Scope 1 emissions (metric tons of CO2e)

4451

(7.15.1.3) GWP Reference

Select from:

IPCC Fifth Assessment Report (AR5 – 100 year)

Row 4

(7.15.1.1) Greenhouse gas

Select from:

HFCs

(7.15.1.2) Scope 1 emissions (metric tons of CO2e)

3498

(7.15.1.3) GWP Reference

Select from:

IPCC Fifth Assessment Report (AR5 – 100 year)

Row 5

(7.15.1.1) Greenhouse gas

Select from:

SF6

(7.15.1.2) Scope 1 emissions (metric tons of CO2e)

5

(7.15.1.3) GWP Reference

Select from:

IPCC Fifth Assessment Report (AR5 – 100 year)

[Add row]

(7.16) Break down your total gross global Scope 1 and 2 emissions by country/area.

China

(7.16.1) Scope 1 emissions (metric tons CO2e)

643

(7.16.2) Scope 2, location-based (metric tons CO2e)

101886

(7.16.3) Scope 2, market-based (metric tons CO2e)

101833

Indonesia

(7.16.1) Scope 1 emissions (metric tons CO2e)

207

(7.16.2) Scope 2, location-based (metric tons CO2e)

8939

(7.16.3) Scope 2, market-based (metric tons CO2e)

8939

Japan

(7.16.1) Scope 1 emissions (metric tons CO2e)

575799

(7.16.2) Scope 2, location-based (metric tons CO2e)

248190

(7.16.3) Scope 2, market-based (metric tons CO2e)

196507

Netherlands

(7.16.1) Scope 1 emissions (metric tons CO2e)

0

(7.16.2) Scope 2, location-based (metric tons CO2e)

0

(7.16.3) Scope 2, market-based (metric tons CO2e)

0

Republic of Korea

(7.16.1) Scope 1 emissions (metric tons CO2e)

5275

(7.16.2) Scope 2, location-based (metric tons CO2e)

4979

(7.16.3) Scope 2, market-based (metric tons CO2e)

4754

Singapore

(7.16.1) Scope 1 emissions (metric tons CO2e)

112

(7.16.2) Scope 2, location-based (metric tons CO2e)

1381

(7.16.3) Scope 2, market-based (metric tons CO2e)

1381

Taiwan, China

(7.16.1) Scope 1 emissions (metric tons CO2e)

1955

(7.16.2) Scope 2, location-based (metric tons CO2e)

3143

(7.16.3) Scope 2, market-based (metric tons CO2e)

3143

Thailand

(7.16.1) Scope 1 emissions (metric tons CO2e)

34063

(7.16.2) Scope 2, location-based (metric tons CO2e)

263264

(7.16.3) Scope 2, market-based (metric tons CO2e)

263264

United States of America

(7.16.1) Scope 1 emissions (metric tons CO2e)

1438

(7.16.2) Scope 2, location-based (metric tons CO2e)

7334

(7.16.3) Scope 2, market-based (metric tons CO2e)

6246

[Fixed row]

(7.17) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

Select all that apply

By facility

(7.17.2) Break down your total gross global Scope 1 emissions by business facility.

Row 1

(7.17.2.1) Facility

Niigata Research Laboratory(Located in Niigata Plant. Scope1 is recorded in Niigata Plant)

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

0

(7.17.2.3) Latitude

37.9612

(7.17.2.4) Longitude

139.1479

Row 2

(7.17.2.1) Facility

Domestic consolidated subsidiaries

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

51944

(7.17.2.3) Latitude

35.6767

(7.17.2.4) Longitude

139.7626

Row 3

(7.17.2.1) Facility

Yokkaichi Plant

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

46355

(7.17.2.3) Latitude

34.9472

(7.17.2.4) Longitude

136.6113

Row 4

(7.17.2.1) Facility

Saga Plant

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

2

(7.17.2.3) Latitude

33.3554

(7.17.2.4) Longitude

130.2445

Row 5

(7.17.2.1) Facility

Niigata Plant

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

241915

(7.17.2.3) Latitude

37.9612

(7.17.2.4) Longitude

139.1479

Row 6

(7.17.2.1) Facility

Hiratsuka Research Laboratory

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

1

(7.17.2.3) Latitude

35.3497

(7.17.2.4) Longitude

139.3653

Row 7

(7.17.2.1) Facility

QOL Innovation Center

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

33

(7.17.2.3) Latitude

37.1611

(7.17.2.4) Longitude

149.2111

Row 8

(7.17.2.1) Facility

Kashima Plant

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

6227

(7.17.2.3) Latitude

35.8898

(7.17.2.4) Longitude

140.7006

Row 9

(7.17.2.1) Facility

Yamakita Plant

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

4862

(7.17.2.3) Latitude

35.3487

(7.17.2.4) Longitude

139.0963

Row 10

(7.17.2.1) Facility

Training institute

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

11

(7.17.2.3) Latitude

35.6376

(7.17.2.4) Longitude

139.7163

Row 11

(7.17.2.1) Facility

Headquarters office

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

0

(7.17.2.3) Latitude

35.6799

(7.17.2.4) Longitude

139.7635

Row 12

(7.17.2.1) Facility

Naniwa Plant

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

9958

(7.17.2.3) Latitude

34.6297

(7.17.2.4) Longitude

135.4644

Row 13

(7.17.2.1) Facility

Shanghai office

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

0

(7.17.2.3) Latitude

31.2295

(7.17.2.4) Longitude

121.4569

Row 14

(7.17.2.1) Facility

Mizushima Plant

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

211369

(7.17.2.3) Latitude

34.515

(7.17.2.4) Longitude

133.7315

Row 15

(7.17.2.1) Facility

Tokyo Research Laboratory

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

3122

(7.17.2.3) Latitude

35.7709

(7.17.2.4) Longitude

139.8602

Row 16

(7.17.2.1) Facility

Taiwan office

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

0

(7.17.2.3) Latitude

25.0486

(7.17.2.4) Longitude

121.5168

Row 17

(7.17.2.1) Facility

Overseas consolidated subsidiaries

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

43693

(7.17.2.3) Latitude

30.8193

(7.17.2.4) Longitude

121.4653

[Add row]

(7.19) Break down your organization's total gross global Scope 1 emissions by sector production activity in metric tons CO2e.

	Gross Scope 1 emissions, metric tons CO2e
Chemicals production activities	598598

[Fixed row]

(7.20) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

Select all that apply

By facility

(7.20.2) Break down your total gross global Scope 2 emissions by business facility.

Row 1

(7.20.2.1) Facility

Taiwan office

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

0

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

0

Row 2

(7.20.2.1) Facility

Saga Plant

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

531

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

0

Row 3

(7.20.2.1) Facility

Yamakita Plant

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

11081

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

8865

Row 4

(7.20.2.1) Facility

Shanghai office

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

1

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

1

Row 5

(7.20.2.1) Facility

Training institute

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

159

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

162

Row 6

(7.20.2.1) Facility

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

2041

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

1357

Row 7

(7.20.2.1) Facility

Overseas consolidated subsidiaries

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

390924

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

389558

Row 8

(7.20.2.1) Facility

Tokyo Research Laboratory

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

4537

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

2047

Row 9

(7.20.2.1) Facility

Kashima Plant

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

107029

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

92213

Row 10

(7.20.2.1) Facility

Yokkaichi Plant

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

6819

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

6068

Row 11

(7.20.2.1) Facility

Naniwa Plant

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

4457

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

0

Row 12

(7.20.2.1) Facility

Niigata Plant

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

21975

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

0

Row 13

(7.20.2.1) Facility

QOL Innovation Center

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

127

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

125

Row 14

(7.20.2.1) Facility

Domestic consolidated subsidiaries

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

59351

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

56967

Row 15

(7.20.2.1) Facility

Headquarters office

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

473

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

554

Row 16

(7.20.2.1) Facility

Mizushima Plant

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

29611

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

28150

Row 17

(7.20.2.1) Facility

Niigata Research Laboratory(Located in Niigata Plant. Scope2 is recorded in Niigata Plant)

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

0

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

0

[Add row]

(7.21) Break down your organization's total gross global Scope 2 emissions by sector production activity in metric tons CO2e.

	Scope 2, location-based, metric tons CO2e	Scope 2, market-based (if applicable), metric tons CO2e
Chemicals production activities	624423	575086

[Fixed row]

(7.22) Break down your gross Scope 1 and Scope 2 emissions between your consolidated accounting group and other entities included in your response.

Consolidated accounting group

(7.22.1) Scope 1 emissions (metric tons CO2e)

619492

(7.22.2) Scope 2, location-based emissions (metric tons CO2e)

639116

(7.22.3) Scope 2, market-based emissions (metric tons CO2e)

586067

(7.22.4) Please explain

All organizations included in the calculation belong to the consolidated accounting group.

All other entities

(7.22.1) Scope 1 emissions (metric tons CO2e)

0

(7.22.2) Scope 2, location-based emissions (metric tons CO2e)

0

(7.22.3) Scope 2, market-based emissions (metric tons CO2e)

0

(7.22.4) Please explain

*There are no organizations in this group because all organizations included in the calculation belong to the consolidated accounting group.
[Fixed row]*

(7.23) Is your organization able to break down your emissions data for any of the subsidiaries included in your CDP response?

Select from:

Yes

(7.23.1) Break down your gross Scope 1 and Scope 2 emissions by subsidiary.

Row 1

(7.23.1.1) Subsidiary name

MGC Filsheet Co., Ltd.

(7.23.1.2) Primary activity

Select from:

Plastic products

(7.23.1.3) Select the unique identifier you are able to provide for this subsidiary

Select all that apply

No unique identifier

(7.23.1.12) Scope 1 emissions (metric tons CO2e)

1387

(7.23.1.13) Scope 2, location-based emissions (metric tons CO2e)

5879

(7.23.1.14) Scope 2, market-based emissions (metric tons CO2e)

5896

[Add row]

(7.25) Disclose the percentage of your organization's Scope 3, Category 1 emissions by purchased chemical feedstock.

Row 1

(7.25.1) Purchased feedstock

Select from:

Methanol

(7.25.2) Percentage of Scope 3, Category 1 tCO2e from purchased feedstock

36

(7.25.3) Explain calculation methodology

Calculated based on the amount of activity obtained from suppliers.

Row 2

(7.25.1) Purchased feedstock

Select from:

Aromatics extraction

(7.25.2) Percentage of Scope 3, Category 1 tCO2e from purchased feedstock

2

(7.25.3) Explain calculation methodology

Calculated from purchased volume and IDEA v3.5.1 emission factors.

Row 3

(7.25.1) Purchased feedstock

Select from:

Ammonia

(7.25.2) Percentage of Scope 3, Category 1 tCO2e from purchased feedstock

3

(7.25.3) Explain calculation methodology

Calculated from purchased volume and IDEA v3.5.1 emission factors.

[Add row]

(7.25.1) Disclose sales of products that are greenhouse gases.

Carbon dioxide (CO2)

(7.25.1.1) Sales, metric tons

0

(7.25.1.2) Comment

We do not sell CO2 as a product.

Methane (CH4)

(7.25.1.1) Sales, metric tons

149116

(7.25.1.2) Comment

We sold a portion of the natural gas extracted or procured.

Nitrous oxide (N2O)

(7.25.1.1) Sales, metric tons

0

(7.25.1.2) Comment

We do not sell N2O as a product.

Hydrofluorocarbons (HFC)

(7.25.1.1) Sales, metric tons

0

(7.25.1.2) Comment

We do not sell HFC as a product.

Perfluorocarbons (PFC)

(7.25.1.1) Sales, metric tons

0

(7.25.1.2) Comment

We do not sell PFC as a product.

Sulphur hexafluoride (SF6)

(7.25.1.1) Sales, metric tons

0

(7.25.1.2) Comment

We do not sell SF6 as a product.

Nitrogen trifluoride (NF3)

(7.25.1.1) Sales, metric tons

0

(7.25.1.2) Comment

We do not sell NF3 as a product.

[Fixed row]

(7.27) What are the challenges in allocating emissions to different customers, and what would help you to overcome these challenges?

Row 1

(7.27.1) Allocation challenges

Select from:

Managing the different emission factors of diverse and numerous geographies makes calculating total footprint difficult

(7.27.2) Please explain what would help you overcome these challenges

The same product is manufactured at multiple factories, and the CFP for the same product varies by factory. Therefore, it is difficult to reflect the information for each manufacturing factory of the products shipped to the user. In this response, the CFP value of the representative factory was adopted.
[Add row]

(7.28) Do you plan to develop your capabilities to allocate emissions to your customers in the future?

(7.28.1) Do you plan to develop your capabilities to allocate emissions to your customers in the future?

Select from:

No

(7.28.3) Primary reason for no plans to develop your capabilities to allocate emissions to your customers

Select from:

Judged to be unimportant or not relevant

(7.28.4) Explain why you do not plan to develop capabilities to allocate emissions to your customers

Uncertainty caused by the challenge Q7.26 is much smaller than total emission.

[Fixed row]

(7.29) What percentage of your total operational spend in the reporting year was on energy?

Select from:

More than 5% but less than or equal to 10%

(7.30) Select which energy-related activities your organization has undertaken.

	Indicate whether your organization undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Select from: <input checked="" type="checkbox"/> Yes
Consumption of purchased or acquired electricity	Select from: <input checked="" type="checkbox"/> Yes
Consumption of purchased or acquired heat	Select from: <input checked="" type="checkbox"/> No
Consumption of purchased or acquired steam	Select from: <input checked="" type="checkbox"/> Yes
Consumption of purchased or acquired cooling	Select from: <input checked="" type="checkbox"/> No
Generation of electricity, heat, steam, or cooling	Select from: <input checked="" type="checkbox"/> Yes

[Fixed row]

(7.30.1) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

Consumption of fuel (excluding feedstock)

(7.30.1.1) Heating value

Select from:

HHV (higher heating value)

(7.30.1.2) MWh from renewable sources

(7.30.1.3) MWh from non-renewable sources

2777763

(7.30.1.4) Total (renewable + non-renewable) MWh

2777858.00

Consumption of purchased or acquired electricity**(7.30.1.1) Heating value***Select from:* HHV (higher heating value)**(7.30.1.2) MWh from renewable sources**

109654

(7.30.1.3) MWh from non-renewable sources

723845

(7.30.1.4) Total (renewable + non-renewable) MWh

833499.00

Consumption of purchased or acquired steam**(7.30.1.1) Heating value***Select from:* HHV (higher heating value)

(7.30.1.2) MWh from renewable sources

0

(7.30.1.3) MWh from non-renewable sources

1276573

(7.30.1.4) Total (renewable + non-renewable) MWh

1276573.00

Consumption of self-generated non-fuel renewable energy

(7.30.1.1) Heating value

Select from:

HHV (higher heating value)

(7.30.1.2) MWh from renewable sources

1975

(7.30.1.4) Total (renewable + non-renewable) MWh

1975.00

Total energy consumption

(7.30.1.1) Heating value

Select from:

HHV (higher heating value)

(7.30.1.2) MWh from renewable sources

111724

(7.30.1.3) MWh from non-renewable sources

4778181

(7.30.1.4) Total (renewable + non-renewable) MWh

4889905.00

[Fixed row]

(7.30.3) Report your organization's energy consumption totals (excluding feedstocks) for chemical production activities in MWh.

Consumption of fuel (excluding feedstocks)

(7.30.3.1) Heating value

Select from:

HHV (higher heating value)

(7.30.3.2) MWh consumed from renewable sources inside chemical sector boundary

95

(7.30.3.3) MWh consumed from non-renewable sources inside chemical sector boundary (excluding recovered waste heat/gases)

2684395

(7.30.3.4) MWh consumed from waste heat/gases recovered from processes using fuel feedstocks inside chemical sector boundary

0

(7.30.3.5) Total MWh (renewable + non-renewable + MWh from recovered waste heat/gases) consumed inside chemical sector boundary

2684490.00

Consumption of purchased or acquired electricity

(7.30.3.1) Heating value

Select from:

HHV (higher heating value)

(7.30.3.2) MWh consumed from renewable sources inside chemical sector boundary

100443

(7.30.3.3) MWh consumed from non-renewable sources inside chemical sector boundary (excluding recovered waste heat/gases)

698438

(7.30.3.4) MWh consumed from waste heat/gases recovered from processes using fuel feedstocks inside chemical sector boundary

0

(7.30.3.5) Total MWh (renewable + non-renewable + MWh from recovered waste heat/gases) consumed inside chemical sector boundary

798881.00

Consumption of purchased or acquired steam

(7.30.3.1) Heating value

Select from:

HHV (higher heating value)

(7.30.3.2) MWh consumed from renewable sources inside chemical sector boundary

0

(7.30.3.3) MWh consumed from non-renewable sources inside chemical sector boundary (excluding recovered waste heat/gases)

1276145

(7.30.3.4) MWh consumed from waste heat/gases recovered from processes using fuel feedstocks inside chemical sector boundary

0

(7.30.3.5) Total MWh (renewable + non-renewable + MWh from recovered waste heat/gases) consumed inside chemical sector boundary

1276145.00

Consumption of self-generated non-fuel renewable energy

(7.30.3.1) Heating value

Select from:

HHV (higher heating value)

(7.30.3.2) MWh consumed from renewable sources inside chemical sector boundary

1951

(7.30.3.5) Total MWh (renewable + non-renewable + MWh from recovered waste heat/gases) consumed inside chemical

sector boundary

1951.00

Total energy consumption

(7.30.3.1) Heating value

Select from:

HHV (higher heating value)

(7.30.3.2) MWh consumed from renewable sources inside chemical sector boundary

102489

(7.30.3.3) MWh consumed from non-renewable sources inside chemical sector boundary (excluding recovered waste heat/gases)

4658978

(7.30.3.4) MWh consumed from waste heat/gases recovered from processes using fuel feedstocks inside chemical sector boundary

0

(7.30.3.5) Total MWh (renewable + non-renewable + MWh from recovered waste heat/gases) consumed inside chemical sector boundary

4761467.00

[Fixed row]

(7.30.6) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	Select from: <input checked="" type="checkbox"/> No
Consumption of fuel for the generation of heat	Select from: <input checked="" type="checkbox"/> Yes
Consumption of fuel for the generation of steam	Select from: <input checked="" type="checkbox"/> Yes
Consumption of fuel for the generation of cooling	Select from: <input checked="" type="checkbox"/> No
Consumption of fuel for co-generation or tri-generation	Select from: <input checked="" type="checkbox"/> Yes

[Fixed row]

(7.30.7) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Sustainable biomass

(7.30.7.1) Heating value

Select from:

HHV

(7.30.7.2) Total fuel MWh consumed by the organization

95

(7.30.7.4) MWh fuel consumed for self-generation of heat

(7.30.7.5) MWh fuel consumed for self-generation of steam

0

(7.30.7.7) MWh fuel consumed for self- cogeneration or self-trigeneration

0

Other biomass

(7.30.7.1) Heating value

Select from:

HHV

(7.30.7.2) Total fuel MWh consumed by the organization

0

(7.30.7.4) MWh fuel consumed for self-generation of heat

0

(7.30.7.5) MWh fuel consumed for self-generation of steam

0

(7.30.7.7) MWh fuel consumed for self- cogeneration or self-trigeneration

0

Other renewable fuels (e.g. renewable hydrogen)

(7.30.7.1) Heating value

Select from:

HHV

(7.30.7.2) Total fuel MWh consumed by the organization

0

(7.30.7.4) MWh fuel consumed for self-generation of heat

0

(7.30.7.5) MWh fuel consumed for self-generation of steam

0

(7.30.7.7) MWh fuel consumed for self- cogeneration or self-trigeneration

0

Coal

(7.30.7.1) Heating value

Select from:

HHV

(7.30.7.2) Total fuel MWh consumed by the organization

0

(7.30.7.4) MWh fuel consumed for self-generation of heat

0

(7.30.7.5) MWh fuel consumed for self-generation of steam

0

(7.30.7.7) MWh fuel consumed for self- cogeneration or self-trigeneration

0

Oil

(7.30.7.1) Heating value

Select from:

HHV

(7.30.7.2) Total fuel MWh consumed by the organization

121315

(7.30.7.4) MWh fuel consumed for self-generation of heat

53382

(7.30.7.5) MWh fuel consumed for self-generation of steam

831

(7.30.7.7) MWh fuel consumed for self- cogeneration or self-trigeneration

67103

Gas

(7.30.7.1) Heating value

Select from:

HHV

(7.30.7.2) Total fuel MWh consumed by the organization

2474147

(7.30.7.4) MWh fuel consumed for self-generation of heat

873320

(7.30.7.5) MWh fuel consumed for self-generation of steam

72208

(7.30.7.7) MWh fuel consumed for self- cogeneration or self-trigeneration

1528618

Other non-renewable fuels (e.g. non-renewable hydrogen)

(7.30.7.1) Heating value

Select from:

HHV

(7.30.7.2) Total fuel MWh consumed by the organization

182302

(7.30.7.4) MWh fuel consumed for self-generation of heat

152968

(7.30.7.5) MWh fuel consumed for self-generation of steam

0

(7.30.7.7) MWh fuel consumed for self- cogeneration or self-trigeneration

29334

Total fuel

(7.30.7.1) Heating value

Select from:

HHV

(7.30.7.2) Total fuel MWh consumed by the organization

2777859

(7.30.7.4) MWh fuel consumed for self-generation of heat

1079765

(7.30.7.5) MWh fuel consumed for self-generation of steam

73039

(7.30.7.7) MWh fuel consumed for self- cogeneration or self-trigeneration

1625055

[Fixed row]

(7.30.9) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.

Electricity

(7.30.9.1) Total Gross generation (MWh)

259306

(7.30.9.2) Generation that is consumed by the organization (MWh)

233098

(7.30.9.3) Gross generation from renewable sources (MWh)

2003

(7.30.9.4) Generation from renewable sources that is consumed by the organization (MWh)

1975

Heat

(7.30.9.1) Total Gross generation (MWh)

1079765

(7.30.9.2) Generation that is consumed by the organization (MWh)

1079765

(7.30.9.3) Gross generation from renewable sources (MWh)

95

(7.30.9.4) Generation from renewable sources that is consumed by the organization (MWh)

95

Steam

(7.30.9.1) Total Gross generation (MWh)

792294

(7.30.9.2) Generation that is consumed by the organization (MWh)

752560

(7.30.9.3) Gross generation from renewable sources (MWh)

0

(7.30.9.4) Generation from renewable sources that is consumed by the organization (MWh)

0

Cooling

(7.30.9.1) Total Gross generation (MWh)

0

(7.30.9.2) Generation that is consumed by the organization (MWh)

0

(7.30.9.3) Gross generation from renewable sources (MWh)

0

(7.30.9.4) Generation from renewable sources that is consumed by the organization (MWh)

0

[Fixed row]

(7.30.11) Provide details on electricity, heat, steam, and cooling your organization has generated and consumed for chemical production activities.

Electricity

(7.30.11.1) Total gross generation inside chemicals sector boundary (MWh)

236544

(7.30.11.2) Generation that is consumed inside chemicals sector boundary (MWh)

210361

(7.30.11.3) Generation from renewable sources inside chemical sector boundary (MWh)

1978

(7.30.11.4) Generation from waste heat/gases recovered from processes using fuel feedstocks inside chemical sector boundary (MWh)

0

Heat

(7.30.11.1) Total gross generation inside chemicals sector boundary (MWh)

1059401

(7.30.11.2) Generation that is consumed inside chemicals sector boundary (MWh)

1059401

(7.30.11.3) Generation from renewable sources inside chemical sector boundary (MWh)

95

(7.30.11.4) Generation from waste heat/gases recovered from processes using fuel feedstocks inside chemical sector boundary (MWh)

0

Steam

(7.30.11.1) Total gross generation inside chemicals sector boundary (MWh)

782358

(7.30.11.2) Generation that is consumed inside chemicals sector boundary (MWh)

742623

(7.30.11.3) Generation from renewable sources inside chemical sector boundary (MWh)

0

(7.30.11.4) Generation from waste heat/gases recovered from processes using fuel feedstocks inside chemical sector boundary (MWh)

0

Cooling

(7.30.11.1) Total gross generation inside chemicals sector boundary (MWh)

0

(7.30.11.2) Generation that is consumed inside chemicals sector boundary (MWh)

0

(7.30.11.3) Generation from renewable sources inside chemical sector boundary (MWh)

0

(7.30.11.4) Generation from waste heat/gases recovered from processes using fuel feedstocks inside chemical sector boundary (MWh)

0

[Fixed row]

(7.30.14) Provide details on the electricity, heat, steam, and/or cooling amounts that were accounted for at a zero or near-zero emission factor in the market-based Scope 2 figure reported in 7.7.

Row 1

(7.30.14.1) Country/area

Select from:

Japan

(7.30.14.2) Sourcing method

Select from:

Retail supply contract with an electricity supplier (retail green electricity)

(7.30.14.3) Energy carrier

Select from:

Electricity

(7.30.14.4) Low-carbon technology type

Select from:

Renewable energy mix, please specify :Not designated

(7.30.14.5) Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

12909

(7.30.14.6) Tracking instrument used

Select from:

Contract

(7.30.14.7) Country/area of origin (generation) of the low-carbon energy or energy attribute

Select from:

Japan

(7.30.14.8) Are you able to report the commissioning or re-powering year of the energy generation facility?

Select from:

No

Row 2

(7.30.14.1) Country/area

Select from:

Japan

(7.30.14.2) Sourcing method

Select from:

Retail supply contract with an electricity supplier (retail green electricity)

(7.30.14.3) Energy carrier

Select from:

Electricity

(7.30.14.4) Low-carbon technology type

Select from:

Large hydropower (>25 MW)

(7.30.14.5) Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

11165

(7.30.14.6) Tracking instrument used

Select from:

Contract

(7.30.14.7) Country/area of origin (generation) of the low-carbon energy or energy attribute

Select from:

Japan

(7.30.14.8) Are you able to report the commissioning or re-powering year of the energy generation facility?

Select from:

No

Row 3

(7.30.14.1) Country/area

Select from:

Japan

(7.30.14.2) Sourcing method

Select from:

Purchase from an on-site installation owned by a third party (on-site PPA)

(7.30.14.3) Energy carrier

Select from:

Electricity

(7.30.14.4) Low-carbon technology type

Select from:

Solar

(7.30.14.5) Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

14

(7.30.14.6) Tracking instrument used

Select from:

Contract

(7.30.14.7) Country/area of origin (generation) of the low-carbon energy or energy attribute

Select from:

Japan

(7.30.14.8) Are you able to report the commissioning or re-powering year of the energy generation facility?

Select from:

No

Row 4

(7.30.14.1) Country/area

Select from:

United States of America

(7.30.14.2) Sourcing method

Select from:

Retail supply contract with an electricity supplier (retail green electricity)

(7.30.14.3) Energy carrier

Select from:

Electricity

(7.30.14.4) Low-carbon technology type

Select from:

Renewable energy mix, please specify :Not designated

(7.30.14.5) Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

2578

(7.30.14.6) Tracking instrument used

Select from:

Contract

(7.30.14.7) Country/area of origin (generation) of the low-carbon energy or energy attribute

Select from:

United States of America

(7.30.14.8) Are you able to report the commissioning or re-powering year of the energy generation facility?

Select from:

No

Row 5

(7.30.14.1) Country/area

Select from:

Republic of Korea

(7.30.14.2) Sourcing method

Select from:

- Retail supply contract with an electricity supplier (retail green electricity)

(7.30.14.3) Energy carrier

Select from:

- Electricity

(7.30.14.4) Low-carbon technology type

Select from:

- Renewable energy mix, please specify :Not designated

(7.30.14.5) Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

534

(7.30.14.6) Tracking instrument used

Select from:

- Contract

(7.30.14.7) Country/area of origin (generation) of the low-carbon energy or energy attribute

Select from:

- Republic of Korea

(7.30.14.8) Are you able to report the commissioning or re-powering year of the energy generation facility?

Select from:

- No

Row 6

(7.30.14.1) Country/area

Select from:

Japan

(7.30.14.2) Sourcing method

Select from:

Unbundled procurement of energy attribute certificates (EACs)

(7.30.14.3) Energy carrier

Select from:

Electricity

(7.30.14.4) Low-carbon technology type

Select from:

Geothermal

(7.30.14.5) Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

82393

(7.30.14.6) Tracking instrument used

Select from:

Contract

(7.30.14.7) Country/area of origin (generation) of the low-carbon energy or energy attribute

Select from:

Japan

(7.30.14.8) Are you able to report the commissioning or re-powering year of the energy generation facility?

Select from:

No

Row 7

(7.30.14.1) Country/area

Select from:

Japan

(7.30.14.2) Sourcing method

Select from:

Unbundled procurement of energy attribute certificates (EACs)

(7.30.14.3) Energy carrier

Select from:

Electricity

(7.30.14.4) Low-carbon technology type

Select from:

Renewable energy mix, please specify :Not designated

(7.30.14.5) Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

61

(7.30.14.6) Tracking instrument used

Select from:

Contract

(7.30.14.7) Country/area of origin (generation) of the low-carbon energy or energy attribute

Select from:

Japan

(7.30.14.8) Are you able to report the commissioning or re-powering year of the energy generation facility?

Select from:

No

[Add row]

(7.30.16) Provide a breakdown by country/area of your electricity/heat/steam/cooling consumption in the reporting year.

China

(7.30.16.1) Consumption of purchased electricity (MWh)

112111

(7.30.16.2) Consumption of self-generated electricity (MWh)

0

(7.30.16.4) Consumption of purchased heat, steam, and cooling (MWh)

221027

(7.30.16.5) Consumption of self-generated heat, steam, and cooling (MWh)

0

(7.30.16.6) Total electricity/heat/steam/cooling energy consumption (MWh)

333138.00

Indonesia

(7.30.16.1) Consumption of purchased electricity (MWh)

9295

(7.30.16.2) Consumption of self-generated electricity (MWh)

0

(7.30.16.4) Consumption of purchased heat, steam, and cooling (MWh)

22272

(7.30.16.5) Consumption of self-generated heat, steam, and cooling (MWh)

0

(7.30.16.6) Total electricity/heat/steam/cooling energy consumption (MWh)

31567.00

Japan

(7.30.16.1) Consumption of purchased electricity (MWh)

427820

(7.30.16.2) Consumption of self-generated electricity (MWh)

224600

(7.30.16.4) Consumption of purchased heat, steam, and cooling (MWh)

344739

(7.30.16.5) Consumption of self-generated heat, steam, and cooling (MWh)

748398

(7.30.16.6) Total electricity/heat/steam/cooling energy consumption (MWh)

1745557.00

Netherlands

(7.30.16.1) Consumption of purchased electricity (MWh)

0

(7.30.16.2) Consumption of self-generated electricity (MWh)

0

(7.30.16.4) Consumption of purchased heat, steam, and cooling (MWh)

0

(7.30.16.5) Consumption of self-generated heat, steam, and cooling (MWh)

0

(7.30.16.6) Total electricity/heat/steam/cooling energy consumption (MWh)

0.00

Republic of Korea

(7.30.16.1) Consumption of purchased electricity (MWh)

10509

(7.30.16.2) Consumption of self-generated electricity (MWh)

684

(7.30.16.4) Consumption of purchased heat, steam, and cooling (MWh)

372

(7.30.16.5) Consumption of self-generated heat, steam, and cooling (MWh)

0

(7.30.16.6) Total electricity/heat/steam/cooling energy consumption (MWh)

11565.00

Singapore

(7.30.16.1) Consumption of purchased electricity (MWh)

3311

(7.30.16.2) Consumption of self-generated electricity (MWh)

0

(7.30.16.4) Consumption of purchased heat, steam, and cooling (MWh)

0

(7.30.16.5) Consumption of self-generated heat, steam, and cooling (MWh)

0

(7.30.16.6) Total electricity/heat/steam/cooling energy consumption (MWh)

3311.00

Taiwan, China

(7.30.16.1) Consumption of purchased electricity (MWh)

6362

(7.30.16.2) Consumption of self-generated electricity (MWh)

8569

(7.30.16.4) Consumption of purchased heat, steam, and cooling (MWh)

0

(7.30.16.5) Consumption of self-generated heat, steam, and cooling (MWh)

0

(7.30.16.6) Total electricity/heat/steam/cooling energy consumption (MWh)

14931.00

Thailand

(7.30.16.1) Consumption of purchased electricity (MWh)

247894

(7.30.16.2) Consumption of self-generated electricity (MWh)

1221

(7.30.16.4) Consumption of purchased heat, steam, and cooling (MWh)

688162

(7.30.16.5) Consumption of self-generated heat, steam, and cooling (MWh)

0

(7.30.16.6) Total electricity/heat/steam/cooling energy consumption (MWh)

937277.00

United States of America

(7.30.16.1) Consumption of purchased electricity (MWh)

16197

(7.30.16.2) Consumption of self-generated electricity (MWh)

0

(7.30.16.4) Consumption of purchased heat, steam, and cooling (MWh)

0

(7.30.16.5) Consumption of self-generated heat, steam, and cooling (MWh)

4162

(7.30.16.6) Total electricity/heat/steam/cooling energy consumption (MWh)

20359.00

[Fixed row]

(7.31) Does your organization consume fuels as feedstocks for chemical production activities?

Select from:

Yes

(7.31.1) Disclose details on your organization's consumption of feedstocks for chemical production activities.

Row 1

(7.31.1.1) Fuels used as feedstocks

Select from:

Natural gas

(7.31.1.2) Total consumption

1000

(7.31.1.3) Total consumption unit

Select from:

thousand cubic metres

(7.31.1.4) Inherent carbon dioxide emission factor of feedstock, metric tons CO2 per consumption unit

1.96

(7.31.1.5) Heating value of feedstock, MWh per consumption unit

10.7

(7.31.1.6) Heating value

Select from:

HHV

(7.31.1.7) Comment

Used for preparing intermediate raw material synthesis gas

Row 2

(7.31.1.1) Fuels used as feedstocks

Select from:

Other, please specify :Methanol

(7.31.1.2) Total consumption

300000

(7.31.1.3) Total consumption unit

Select from:

thousand liters

(7.31.1.4) Inherent carbon dioxide emission factor of feedstock, metric tons CO2 per consumption unit

1.08

(7.31.1.5) Heating value of feedstock, MWh per consumption unit

4.97

(7.31.1.6) Heating value

Select from:

HHV

(7.31.1.7) Comment

Used for preparing intermediate raw materials such as formaldehyde

[Add row]

(7.31.2) State the percentage, by mass, of primary resource from which your chemical feedstocks derive.

Oil

(7.31.2.1) Percentage of total chemical feedstock (%)

0

(7.31.2.2) Direction of change in percentage of total chemical feedstock from previous year

Select from:

No change

Natural Gas

(7.31.2.1) Percentage of total chemical feedstock (%)

100

(7.31.2.2) Direction of change in percentage of total chemical feedstock from previous year

Select from:

No change

Coal

(7.31.2.1) Percentage of total chemical feedstock (%)

0

(7.31.2.2) Direction of change in percentage of total chemical feedstock from previous year

Select from:

No change

Biomass

(7.31.2.1) Percentage of total chemical feedstock (%)

0

(7.31.2.2) Direction of change in percentage of total chemical feedstock from previous year

Select from:

No change

Waste (non-biomass)

(7.31.2.1) Percentage of total chemical feedstock (%)

0

(7.31.2.2) Direction of change in percentage of total chemical feedstock from previous year

Select from:

No change

Fossil fuel (where coal, gas, oil cannot be distinguished)

(7.31.2.1) Percentage of total chemical feedstock (%)

0

(7.31.2.2) Direction of change in percentage of total chemical feedstock from previous year

Select from:

No change

Unknown source or unable to disaggregate

(7.31.2.1) Percentage of total chemical feedstock (%)

0

(7.31.2.2) Direction of change in percentage of total chemical feedstock from previous year

Select from:

No change

[Fixed row]

(7.39) Provide details on your organization's chemical products.

Row 1

(7.39.1) Output product

Select from:

Other base chemicals

(7.39.2) Production (metric tons)

30000

(7.39.3) Capacity (metric tons)

79000

(7.39.4) Direct emissions intensity (metric tons CO2e per metric ton of product)

0.03

(7.39.5) Electricity intensity (MWh per metric ton of product)

0.04

(7.39.6) Steam intensity (MWh per metric ton of product)

0.03

(7.39.7) Steam/ heat recovered (MWh per metric ton of product)

0.55

[Add row]

(7.45) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Row 1

(7.45.1) Intensity figure

0.00000156

(7.45.2) Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

1205559

(7.45.3) Metric denominator

Select from:

unit total revenue

(7.45.4) Metric denominator: Unit total

773591000000

(7.45.5) Scope 2 figure used

Select from:

Market-based

(7.45.6) % change from previous year

7.9

(7.45.7) Direction of change

Select from:

Decreased

(7.45.8) Reasons for change

Select all that apply

Divestment

Change in renewable energy consumption

Acquisitions

Change in output

Change in revenue

Other emissions reduction activities

(7.45.9) Please explain

We introduced renewable energy. We conducted emissions reduction initiatives such as aggregation of boilers, review of gas generator operation, and other energy saving improvements. All these initiatives contributed to reduce our GHG emissions per unit of sales. Changes in boundaries and sales revenue due to the sale and purchase of shares also had an impact.

Row 2

(7.45.1) Intensity figure

2.73

(7.45.2) Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

1205559

(7.45.3) Metric denominator

Select from:

- metric ton of product

(7.45.4) Metric denominator: Unit total

440807

(7.45.5) Scope 2 figure used

Select from:

- Market-based

(7.45.6) % change from previous year

18

(7.45.7) Direction of change

Select from:

- Decreased

(7.45.8) Reasons for change

Select all that apply

- Change in renewable energy consumption
- Other emissions reduction activities
- Divestment
- Acquisitions
- Change in output

(7.45.9) Please explain

Since the MGC Group manufactures a wide variety of products, GHG emissions per product weight are not very effective as a per-unit indicator. We conducted emissions reduction initiatives, including aggregation of boilers, review of gas generator operation, and other energy saving improvements. These results contributed to the reduction of GHG emissions.

[Add row]

(7.53) Did you have an emissions target that was active in the reporting year?

Select all that apply

Absolute target

(7.53.1) Provide details of your absolute emissions targets and progress made against those targets.

Row 1

(7.53.1.1) Target reference number

Select from:

Abs 1

(7.53.1.2) Is this a science-based target?

Select from:

No, and we do not anticipate setting one in the next two years

(7.53.1.5) Date target was set

03/28/2021

(7.53.1.6) Target coverage

Select from:

Organization-wide

(7.53.1.7) Greenhouse gases covered by target

Select all that apply

- Methane (CH4)
- Nitrous oxide (N2O)
- Carbon dioxide (CO2)
- Perfluorocarbons (PFCs)
- Hydrofluorocarbons (HFCs)

- Sulphur hexafluoride (SF6)
- Nitrogen trifluoride (NF3)

(7.53.1.8) Scopes

Select all that apply

- Scope 1
- Scope 2

(7.53.1.9) Scope 2 accounting method

Select from:

- Market-based

(7.53.1.11) End date of base year

03/30/2014

(7.53.1.12) Base year Scope 1 emissions covered by target (metric tons CO2e)

936313

(7.53.1.13) Base year Scope 2 emissions covered by target (metric tons CO2e)

840881

(7.53.1.31) Base year total Scope 3 emissions covered by target (metric tons CO2e)

0.000

(7.53.1.32) Total base year emissions covered by target in all selected Scopes (metric tons CO2e)

1777194.000

(7.53.1.33) Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1

100

(7.53.1.34) Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2

100

(7.53.1.53) Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes

100

(7.53.1.54) End date of target

03/30/2031

(7.53.1.55) Targeted reduction from base year (%)

39

(7.53.1.56) Total emissions at end date of target covered by target in all selected Scopes (metric tons CO2e)

1084088.340

(7.53.1.57) Scope 1 emissions in reporting year covered by target (metric tons CO2e)

619492

(7.53.1.58) Scope 2 emissions in reporting year covered by target (metric tons CO2e)

586067

(7.53.1.77) Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)

(7.53.1.78) Land-related emissions covered by target

Select from:

No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

(7.53.1.79) % of target achieved relative to base year

82.47

(7.53.1.80) Target status in reporting year

Select from:

Revised

(7.53.1.81) Explain the reasons for the revision, replacement, or retirement of the target

The sale or acquisition of shares resulted in 21 consolidated subsidiaries becoming non-consolidated and one becoming consolidated. Consequently, GHG emissions decreased significantly compared to the previous fiscal year. Due to the substantial change in GHG emissions caused by the organizational restructuring, the baseline emissions were recalculated. The target reduction rate remains unchanged.

(7.53.1.82) Explain target coverage and identify any exclusions

Emissions from all MGC Group are subject to our reduction targets.

(7.53.1.83) Target objective

To demonstrate MGC's willingness to take action on climate change, GHG emission reduction targets were set and used as indicators to manage progress. The new target values were set considering the realization capacity of individual companies belonging to the MGC group.

(7.53.1.84) Plan for achieving target, and progress made to the end of the reporting year

We are actively promoting the introduction of renewable energy sources. In addition to expanding existing businesses such as geothermal power generation and ammonia business, MGC is working on the environmentally recyclable methanol concept (Carbopath™), methanol/polycarbonate production technology using CCU, consideration of CCS business, and development of DAC technology. We will achieve our goals by these activities and contribute to solutions to climate-related

issues.

(7.53.1.85) Target derived using a sectoral decarbonization approach

Select from:

No

[Add row]

(7.54) Did you have any other climate-related targets that were active in the reporting year?

Select all that apply

Net-zero targets

(7.54.3) Provide details of your net-zero target(s).

Row 1

(7.54.3.1) Target reference number

Select from:

NZ1

(7.54.3.2) Date target was set

03/28/2021

(7.54.3.3) Target Coverage

Select from:

Organization-wide

(7.54.3.4) Targets linked to this net zero target

Select all that apply

Abs1

(7.54.3.5) End date of target for achieving net zero

03/30/2051

(7.54.3.6) Is this a science-based target?

Select from:

No, and we do not anticipate setting one in the next two years

(7.54.3.8) Scopes

Select all that apply

Scope 1

Scope 2

(7.54.3.9) Greenhouse gases covered by target

Select all that apply

Methane (CH₄)

Nitrous oxide (N₂O)

Carbon dioxide (CO₂)

Perfluorocarbons (PFCs)

Hydrofluorocarbons (HFCs)

Sulphur hexafluoride (SF₆)

Nitrogen trifluoride (NF₃)

(7.54.3.10) Explain target coverage and identify any exclusions

Emissions from all MGC Group are subject to our reduction targets.

(7.54.3.11) Target objective

In order to demonstrate MGC's willingness to take action on climate change, we have set GHG emission reduction targets. We contribute to the maintenance of the global environment by achieving our goals.

(7.54.3.12) Do you intend to neutralize any residual emissions with permanent carbon removals at the end of the target?

Select from:

Yes

(7.54.3.13) Do you plan to mitigate emissions beyond your value chain?

Select from:

No, we do not plan to mitigate emissions beyond our value chain

(7.54.3.14) Do you intend to purchase and cancel carbon credits for neutralization and/or beyond value chain mitigation?

Select all that apply

No, we do not plan to purchase and cancel carbon credits for neutralization and/or beyond value chain mitigation

(7.54.3.15) Planned milestones and/or near-term investments for neutralization at the end of the target

MGC is working on the environmentally recyclable methanol concept (Carbopath™), methanol/polycarbonate production technology using CCU, consideration of CCS business, and development of DAC technology.

(7.54.3.17) Target status in reporting year

Select from:

Underway

(7.54.3.19) Process for reviewing target

Our net zero target is not certified by SBTi at this time. However, in setting our target, we refer to the SBTi approach and will review our target periodically and revise it upward if necessary

[Add row]

(7.55) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.

Select from:

Yes

(7.55.1) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e
Under investigation	20	<i>Numeric input</i>
To be implemented	1	0
Implementation commenced	21	0
Implemented	49	30415
Not to be implemented	5	<i>Numeric input</i>

[Fixed row]

(7.55.2) Provide details on the initiatives implemented in the reporting year in the table below.

Row 1

(7.55.2.1) Initiative category & Initiative type

Energy efficiency in production processes

Process optimization

(7.55.2.2) Estimated annual CO2e savings (metric tonnes CO2e)

22200

(7.55.2.3) Scope(s) or Scope 3 category(ies) where emissions savings occur

Select all that apply

Scope 1

(7.55.2.4) Voluntary/Mandatory

Select from:

Voluntary

(7.55.2.5) Annual monetary savings (unit currency – as specified in 1.2)

510000000

(7.55.2.6) Investment required (unit currency – as specified in 1.2)

1200000000

(7.55.2.7) Payback period

Select from:

1-3 years

(7.55.2.8) Estimated lifetime of the initiative

Select from:

16-20 years

(7.55.2.9) Comment

By consolidating boilers, we have improved operational efficiency and reduced fuel consumption. The new equipment can burn not only conventional fossil fuels but also various by-product fuels, effectively promoting efficient resource utilization.

Row 2

(7.55.2.1) Initiative category & Initiative type

Energy efficiency in production processes

Combined heat and power (cogeneration)

(7.55.2.2) Estimated annual CO2e savings (metric tonnes CO2e)

3846

(7.55.2.3) Scope(s) or Scope 3 category(ies) where emissions savings occur

Select all that apply

Scope 1

(7.55.2.4) Voluntary/Mandatory

Select from:

Voluntary

(7.55.2.5) Annual monetary savings (unit currency – as specified in 1.2)

120000000

(7.55.2.6) Investment required (unit currency – as specified in 1.2)

0

(7.55.2.7) Payback period

Select from:

<1 year

(7.55.2.8) Estimated lifetime of the initiative

Select from:

11-15 years

(7.55.2.9) Comment

We reviewed the operation of the gas engine generator and improved the overall operating efficiency of the cogeneration system. This resulted in reduced fuel consumption.

Row 3

(7.55.2.1) Initiative category & Initiative type

Energy efficiency in production processes

Process optimization

(7.55.2.2) Estimated annual CO2e savings (metric tonnes CO2e)

4369

(7.55.2.3) Scope(s) or Scope 3 category(ies) where emissions savings occur

Select all that apply

Scope 1

Scope 2 (market-based)

(7.55.2.4) Voluntary/Mandatory

Select from:

Voluntary

(7.55.2.5) Annual monetary savings (unit currency – as specified in 1.2)

270000000

(7.55.2.6) Investment required (unit currency – as specified in 1.2)

440000000

(7.55.2.7) Payback period

Select from:

1-3 years

(7.55.2.8) Estimated lifetime of the initiative

Select from:

6-10 years

(7.55.2.9) Comment

We have implemented 47 process optimizations other than those listed above. The totals are listed here.
[Add row]

(7.55.3) What methods do you use to drive investment in emissions reduction activities?

Row 1

(7.55.3.1) Method

Select from:

Dedicated budget for energy efficiency

(7.55.3.2) Comment

MGC has a dedicated budget for energy conservation, GHG emission reduction, and CFC emission suppression.
[Add row]

(7.73) Are you providing product level data for your organization's goods or services?

Select from:

- Yes, I will provide data through the CDP questionnaire

(7.73.5) Have any of the initiatives described in 7.73.4 been driven by requesting CDP Supply Chain members?

Select from:

- No

(7.74) Do you classify any of your existing goods and/or services as low-carbon products?

Select from:

- Yes

(7.74.1) Provide details of your products and/or services that you classify as low-carbon products.

Row 1

(7.74.1.1) Level of aggregation

Select from:

- Product or service

(7.74.1.2) Taxonomy used to classify product(s) or service(s) as low-carbon

Select from:

- Other, please specify :Based on our own standards.

(7.74.1.3) Type of product(s) or service(s)

Power

- Geothermal electricity

(7.74.1.4) Description of product(s) or service(s)

MGC has been participating in geothermal power generation projects since 1995. We started commercial operation of Appi geothermal power plant (power output: 14,900 kW) in Hachimantai, Iwate Prefecture, in 2024. This is the first time in 28 years that a geothermal power plant with an output of over 10,000 kW has operated in Iwate Prefecture. We will contribute to expanding the supply of renewable energy and reducing greenhouse gas emissions through stable operation of this geothermal power plant.

(7.74.1.5) Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

Select from:

Yes

(7.74.1.6) Methodology used to calculate avoided emissions

Select from:

Other, please specify :Based on our own standards.

(7.74.1.7) Life cycle stage(s) covered for the low-carbon product(s) or services(s)

Select from:

Gate-to-gate

(7.74.1.8) Functional unit used

Electricity from geothermal power generation 1MWh

(7.74.1.9) Reference product/service or baseline scenario used

Conventional Electricity in Japan 1MWh

(7.74.1.10) Life cycle stage(s) covered for the reference product/service or baseline scenario

Select from:

Gate-to-gate

(7.74.1.11) Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario

0.422

(7.74.1.12) Explain your calculation of avoided emissions, including any assumptions

Since geothermal generation emits near zero GHGs during the generation, Gate to Gate GHG emissions were assumed to be zero. Avoided emissions were calculated as difference between these emissions and the published values for the conventional electricity mix in Japan.

(7.74.1.13) Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

0.1

Row 2

(7.74.1.1) Level of aggregation

Select from:

Product or service

(7.74.1.2) Taxonomy used to classify product(s) or service(s) as low-carbon

Select from:

Other, please specify :Based on our own standards.

(7.74.1.3) Type of product(s) or service(s)

Power

Other, please specify :Biomass power generation

(7.74.1.4) Description of product(s) or service(s)

In 2022, MGC commenced commercial operation of the Abashiri Biomass Power Plant in Abashiri, Hokkaido. The plant uses only wood chips as fuel and will

contribute to GHG reduction not only by supplying renewable energy, but also by promoting the forestry industry, forest maintenance and thereby maintaining and promoting CO2 absorption by forest.

(7.74.1.5) Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

Select from:

Yes

(7.74.1.6) Methodology used to calculate avoided emissions

Select from:

Other, please specify :Based on our own standards.

(7.74.1.7) Life cycle stage(s) covered for the low-carbon product(s) or services(s)

Select from:

Gate-to-gate

(7.74.1.8) Functional unit used

Electricity from biomass power generation 1MWh

(7.74.1.9) Reference product/service or baseline scenario used

Conventional Electricity in Japan 1MWh

(7.74.1.10) Life cycle stage(s) covered for the reference product/service or baseline scenario

Select from:

Gate-to-gate

(7.74.1.11) Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario

0.422

(7.74.1.12) Explain your calculation of avoided emissions, including any assumptions

Since biomass generation emits near zero GHGs during the generation, Gate to Gate GHG emissions were assumed to be zero. Avoided emissions were calculated as difference between these emissions and the published values for the conventional electricity mix in Japan.

(7.74.1.13) Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

0.1

[Add row]

(7.79) Has your organization retired any project-based carbon credits within the reporting year?

Select from:

Yes

(7.79.1) Provide details of the project-based carbon credits retired by your organization in the reporting year.

Row 1

(7.79.1.1) Project type

Select from:

Methane avoidance

(7.79.1.2) Type of mitigation activity

Select from:

Emissions reduction

(7.79.1.3) Project description

By treating landfill gas, which is a gas produced when organic waste decomposes in landfills, the gas can be used as an energy source and the global warming effect caused by the release of methane into the atmosphere can be reduced.

(7.79.1.4) Credits retired by your organization from this project in the reporting year (metric tons CO2e)

377

(7.79.1.5) Purpose of retirement

Select from:

Voluntary offsetting

(7.79.1.6) Are you able to report the vintage of the credits at retirement?

Select from:

No

(7.79.1.8) Were these credits issued to or purchased by your organization?

Select from:

Purchased

(7.79.1.9) Carbon-crediting program by which the credits were issued

Select from:

VCS/Verra (Verified Carbon Standard)

(7.79.1.10) Method the program uses to assess additionality for this project

Select all that apply

Not assessed

(7.79.1.11) Approaches by which the selected program requires this project to address reversal risk

Select all that apply

No requirements

[Add row]

C9. Environmental performance - Water security

(9.1) Are there any exclusions from your disclosure of water-related data?

Select from:

Yes

(9.1.1) Provide details on these exclusions.

Row 1

(9.1.1.1) Exclusion

Select from:

Water aspects

(9.1.1.2) Description of exclusion

The seawater withdrawal and discharge volumes at the Naniwa plant

(9.1.1.3) Reason for exclusion

Select from:

Other, please specify :The estimated volumes are low.

(9.1.1.7) Percentage of water volume the exclusion represents

Select from:

Less than 1%

(9.1.1.8) Please explain

At the Naniwa plant, seawater is passed through the plant for the purpose of cleaning the inside side ditches and is discharged directly into the sea. The water

withdrawals total volumes for MGC in the reporting year were 27,845 ML. The seawater withdrawal volumes at the Naniwa plant were 1000 L per day, and 0.365 ML per year which are estimates since we only measure them visually and are sufficiently small (0.0013%) compared with the water withdrawals total volumes. Further it is not consumed but only passes through at the Naniwa plant. Thus, we excluded the seawater from the calculations.
[Add row]

(9.2) Across all your operations, what proportion of the following water aspects are regularly measured and monitored?

Water withdrawals – total volumes

(9.2.1) % of sites/facilities/operations

Select from:

100%

(9.2.2) Frequency of measurement

Select from:

Daily

(9.2.3) Method of measurement

MGC calculates the water withdrawals total volumes based on flow measurements by flow meters.

(9.2.4) Please explain

MGC measures the water withdrawals at all our business sites in the reporting boundary by flow meters daily or monthly. At the Niigata plant, one of our major plants, we measure the amount of water intake from industrial water supplied by Niigata Prefecture and river water daily by flow meters. We aggregate the drinking water supply from Niigata City by the flow meter of the Niigata City Waterworks Bureau monthly.

Water withdrawals – volumes by source

(9.2.1) % of sites/facilities/operations

Select from:

100%

(9.2.2) Frequency of measurement

Select from:

Daily

(9.2.3) Method of measurement

MGC calculates the water withdrawal by source based on flow measurements by flow meters.

(9.2.4) Please explain

MGC measures the water withdrawal by source at all our business sites in the reporting boundary by flow meters daily or monthly. At the Niigata plant, one of our major plants, we measure the amount of water intake from industrial water supplied by Niigata Prefecture and river water daily by flow meters. We aggregate the drinking water supply from Niigata City by flow meters of the Niigata City Waterworks Bureau monthly. At the Kashima plant, another major plant, we measure the purified water, which we receive from outside by flow meters daily.

Water withdrawals quality

(9.2.1) % of sites/facilities/operations

Select from:

100%

(9.2.2) Frequency of measurement

Select from:

Daily

(9.2.3) Method of measurement

MGC uses an electrical conductivity meter to measure electrical conductivity and quantifies a salinity with the Mohr method.

(9.2.4) Please explain

MGC measures the water quality at all our business sites in the reporting boundary by electrical conductivity meters and thermometers daily. At some sites, analysis companies analyze it monthly with the Japanese Industrial Standards (JIS) methodology. At the Niigata plant, one of our major plants, we withdraw industrial water

from Niigata Prefecture. And the Niigata City Waterworks Bureau analyses the quality of our industrial water with JIS methodology for the items specified under the Japan's Water Supply Law, and we receive the analysis results monthly. We measure the electrical conductivity of the river water continuously (daily 24 hours) by electrical conductivity meters at the Niigata plant. Further we measure the salinity weekly with the Mohr method. We supply our drinking water from Niigata City. And an analysis company analyses our drinking water monthly with JIS methodology for the items specified under the Japan's Water Supply Law.

Water discharges – total volumes

(9.2.1) % of sites/facilities/operations

Select from:

100%

(9.2.2) Frequency of measurement

Select from:

Daily

(9.2.3) Method of measurement

MGC calculates the water discharge total volumes based on flow measurements by the discharge flow meters. At our laboratories and business offices discharging the domestic sewage to the public sewage system, we calculate the water discharges assuming it is equivalent to the water withdrawals measured by flow meters.

(9.2.4) Please explain

At most of our business sites we measure the water discharge total volumes by flow meters daily. At some sites, we measure the water discharge daily as the water withdrawal total volumes measured by flow meters, adjusting with the estimated evaporations in the manufacturing process and the water consumptions for the products, etc.

Water discharges – volumes by destination

(9.2.1) % of sites/facilities/operations

Select from:

100%

(9.2.2) Frequency of measurement

Select from:

Daily

(9.2.3) Method of measurement

MGC calculates the water discharge total volumes by destination based on flow measurements by the discharge flow meters. At our laboratories and business offices discharging the domestic sewage to the public sewage system, we calculate the water discharges assuming it is equivalent to the water withdrawals measured by flow meters.

(9.2.4) Please explain

Most of our business sites have a single discharge destination per site and measure the water discharges daily by flow meters. At some sites, we measure the water discharges based on the water withdrawals by flow meters daily by adjusting with the estimated evaporations in the manufacturing process and the water consumptions for the products, etc. The Saga plant has multiple discharge destinations, including the public sewage system and freshwater bodies. Thus, we measure the water discharges by destination by flow meters monthly.

Water discharges – volumes by treatment method

(9.2.1) % of sites/facilities/operations

Select from:

100%

(9.2.2) Frequency of measurement

Select from:

Daily

(9.2.3) Method of measurement

MGC calculates the water discharge total volumes by treatment method based on flow measurements by the discharge flow meters. At our laboratories and business offices discharging the domestic sewage to the public sewage system, we calculate the water discharges assuming it is equivalent to the water withdrawals measured by flow meters.

(9.2.4) Please explain

MGC measures the water discharges separately, with activated sludge treatments in the plants, and without activated sludge treatments in the plants such as the domestic sewage to the public sewage. Many of our plants measure the water discharges daily by flow meters. At the Niigata Plant, one of our major plants, we measure and calculate the water discharges with activated sludge treatments daily, based on the wastewater from the manufacturing process to the activated sludge treatment facility. On the other hand, at facilities such as our business offices and laboratories, discharging the domestic sewage to the public sewage system, we may not measure the water discharges. In that case, we assume the water discharge is equivalent to the water withdrawals.

Water discharge quality – by standard effluent parameters

(9.2.1) % of sites/facilities/operations

Select from:

100%

(9.2.2) Frequency of measurement

Select from:

Continuously

(9.2.3) Method of measurement

MGC measures pH with pH meters continuously. MGC measures BOD with BOD analyzers. MGC measures COD with COD analyzers. MGC measures SS with absorption photometry.

(9.2.4) Please explain

MGC measures the hazardous substances and living environment items in our water discharges such as continuously or six-monthly, as specified in Japan's Water Pollution Prevention Act. So, we only discharge the water that satisfies the national effluent standards. MGC measures pH of the water discharges with pH meters continuously. MGC measures BOD, COD and SS of the water discharges regularly, albeit with difference between continuously at some production plants and six-monthly at some laboratories. At the Niigata Plant, we measure the water discharge pH with pH meter, BOD with an automatic BOD analyzer and SS with absorption photometry continuously. An outsourced company analyses other substances required by laws and regulations with the Japanese Industrial Standards methodology monthly.

Water discharge quality – emissions to water (nitrates, phosphates, pesticides, and/or other priority substances)

(9.2.1) % of sites/facilities/operations

Select from:

100%

(9.2.2) Frequency of measurement

Select from:

Continuously

(9.2.3) Method of measurement

MGC measures total nitrogen using ultraviolet absorption spectrophotometry (JIS K0102). MGC measures total phosphorus using potassium peroxodisulfate decomposition method (JIS K0102).

(9.2.4) Please explain

MGC measures the hazardous substances and living environment items in our water discharges continuously or monthly, as specified in Japan's Water Pollution Prevention Act. So, we only discharge the water that satisfies the national effluent standards. MGC measures the nitrogen content in wastewater as total nitrogen, which is measured by the total amount of nitrogen in the inorganic dissolved in the water and the organic nitrogen compounds. MGC measures the phosphorus content in wastewater as total phosphorus, which is measured by the total amount of phosphorus in the inorganic dissolved in the water and the organic phosphorus. MGC calculates our nitrate and phosphate emissions based on nitrogen and phosphorus we measure. MGC does not monitor pesticides since we do not spray pesticides large or concentrated enough to be detected in the waste discharges at any of our business sites.

Water discharge quality – temperature

(9.2.1) % of sites/facilities/operations

Select from:

76-99

(9.2.2) Frequency of measurement

Select from:

Continuously

(9.2.3) Method of measurement

MGC measures the temperature with thermometers.

(9.2.4) Please explain

Many of our business sites discharging the water after treatment such as plants, measure the water discharge temperature by thermometers continuously. On the other hand, our laboratories, business offices and other business sites discharging the domestic sewage into the public sewage system may not measure the temperature. Thus, we selected 76-99% as a proportion of the facilities. Among the sites discharging the water to the sewage system, the Kashima plant located in the Kashima Coastal Industrial Zone, sends the water to the Kashima Rinkai Specific Public Sewage and Fukashiba Sewage Treatment Plant for treatment. The Kashima plant discharges wastewater that has been adjusted to below the inflow standards of the sewage treatment plant. We measure the water discharge temperature with thermometers continuously and monitor it the central management room.

Water consumption – total volume

(9.2.1) % of sites/facilities/operations

Select from:

100%

(9.2.2) Frequency of measurement

Select from:

Yearly

(9.2.3) Method of measurement

MGC calculates its water consumption by subtracting the water discharge total volumes which are measured by flow meters daily, from the water withdrawal total volumes which are measured by flow meters monthly.

(9.2.4) Please explain

MGC measures and aggregates the information at many of our business sites monthly or at some other sites annually.

Water recycled/reused

(9.2.1) % of sites/facilities/operations

Select from:

100%

(9.2.2) Frequency of measurement

Select from:

Monthly

(9.2.3) Method of measurement

MGC measures the water recycled volumes as the sum of the cooling tower circulating water, the boiler water recycled and the cooling water recycled. We calculate the cooling tower circulating water based on the circulating pump delivery capacity and its operating hours.

(9.2.4) Please explain

MGC measures and aggregates the information at many of our business sites monthly and at some other sites annually.

The provision of fully-functioning, safely managed WASH services to all workers

(9.2.1) % of sites/facilities/operations

Select from:

100%

(9.2.2) Frequency of measurement

Select from:

Monthly

(9.2.3) Method of measurement

An analysis companies analyze MGC's water quality of the drinking water supply monthly for the items specified in the Japan's Water Supply Act with methodology prescribed by law.

(9.2.4) Please explain

MGC provides all employees at all our business sites with access to safe and controlled water supply, sewage, sanitation, and hygiene (WASH) services, including the monthly water quality analysis. At the Niigata plant, our major plant, an analysis company analyzes MGC's water quality of the drinking water supply monthly for the items specified in the Japan's Water Supply Act with methodology prescribed by law.

[Fixed row]

(9.2.2) What are the total volumes of water withdrawn, discharged, and consumed across all your operations, how do they compare to the previous reporting year, and how are they forecasted to change?

Total withdrawals

(9.2.2.1) Volume (megaliters/year)

27844.65

(9.2.2.2) Comparison with previous reporting year

Select from:

About the same

(9.2.2.3) Primary reason for comparison with previous reporting year

Select from:

Other, please specify :Our production volumes were almost equivalent.

(9.2.2.4) Five-year forecast

Select from:

About the same

(9.2.2.5) Primary reason for forecast

Select from:

Other, please specify :Since MGC forecasts no significant changes in our production volumes.

(9.2.2.6) Please explain

MGC assesses water volumes as 'About the same' when the increase/decrease is less than $\pm 10\%$ compared with the previous reporting year, as 'Higher/Lower' when the increase/decrease is $\pm 10\%$ or more but less than $\pm 50\%$, and as 'Much higher/Much lower' when the increase/decrease is $\pm 50\%$ or more. MGC assessed the total water withdrawal volumes for the reporting year (28,744 ML) as 'About the same', since it was 97.8% (268 ML increase) compared with the previous reporting year (28,476ML) and the increase was less than $\pm 10\%$. It was because our production volumes were almost equivalent to those in the previous reporting year. MGC forecasts the company-wide water withdrawal total volumes to be about the same as the reporting year, since we have no recent plans to construct new or additional facilities nor existing facility closures. In the future, MGC forecasts the water withdrawal total volumes to be 'About the same' in the medium term, although some uncertainties including the facility closure/expansion remain. (1018/2000)

Total discharges

(9.2.2.1) Volume (megaliters/year)

24696.48

(9.2.2.2) Comparison with previous reporting year

Select from:

About the same

(9.2.2.3) Primary reason for comparison with previous reporting year

Select from:

Other, please specify :Our production volumes were almost equivalent.

(9.2.2.4) Five-year forecast

Select from:

About the same

(9.2.2.5) Primary reason for forecast

Select from:

Other, please specify :Since MGC forecasts no significant changes in our production volumes.

(9.2.2.6) Please explain

MGC assesses water volumes as 'About the same' when the increase/decrease is less than $\pm 10\%$ compared with the previous reporting year, as 'Higher/Lower' when the increase/decrease is $\pm 10\%$ or more but less than $\pm 50\%$, and as 'Much higher/Much lower' when the increase/decrease is $\pm 50\%$ or more. MGC assessed the total water discharge volumes for the reporting year (24,696 ML) as 'About the same', since it was 97.8% (433 ML decrease) compared with the previous reporting year (25,129ML) and the decrease was less than $\pm 10\%$. It was because our production volumes were almost equivalent to those in the previous reporting year. MGC forecasts the company-wide water discharge total volumes to be about the same as the reporting year, since we have no recent plans to construct new or additional facilities nor existing facility closures. In the future, MGC forecasts the water discharge total volumes to be 'About the same' in the medium term, although some uncertainties including the facility closure/expansion remain. (1015/2000)

Total consumption

(9.2.2.1) Volume (megaliters/year)

3148.16

(9.2.2.2) Comparison with previous reporting year

Select from:

About the same

(9.2.2.3) Primary reason for comparison with previous reporting year

Select from:

Other, please specify :Our production volumes were almost equivalent.

(9.2.2.4) Five-year forecast

Select from:

About the same

(9.2.2.5) Primary reason for forecast

Select from:

Other, please specify :Since MGC forecasts no significant changes in our production volumes.

(9.2.2.6) Please explain

MGC assesses water volumes as 'About the same' when the increase/decrease is less than $\pm 10\%$ compared with the previous reporting year, as 'Higher/Lower' when the increase/decrease is $\pm 10\%$ or more but less than $\pm 50\%$, and as 'Much higher/Much lower' when the increase/decrease is $\pm 50\%$ or more. MGC calculated the total water consumption volumes by subtracting the total water discharge volumes from the total water withdrawal volumes. MGC assessed the total water consumption volumes for the reporting year (3,148ML) as 'About the same', since it was 94.1% (199ML decrease) compared with the previous reporting year (3,347ML) and the decrease was less than $\pm 10\%$. It was because our production volumes were almost equivalent to those in the previous reporting year. MGC forecasts the company-wide water consumption total volumes to be about the same as the reporting year, since we have no recent plans to construct new or additional facilities nor existing facility closures. In the future, MGC forecasts the water consumption total volumes to be 'About the same' in the medium term, although some uncertainties including the facility closure/expansion remain. (1158/2000)

[Fixed row]

(9.2.4) Indicate whether water is withdrawn from areas with water stress, provide the volume, how it compares with the previous reporting year, and how it is forecasted to change.

(9.2.4.1) Withdrawals are from areas with water stress

Select from:

No

(9.2.4.8) Identification tool

Select all that apply

WRI Aqueduct

(9.2.4.9) Please explain

With external consultants, MGC obtained drought risk information for all our business sites from WRI Aqueduct Water Risk Atlas and assessed the risk grade based on the drought risk in the Physical Risks Quantity. The results of the drought risk baseline assessment showed Medium (0.4-0.6) or Low-Medium (0.2-0.4) for all our business sites. Thus, MGC concluded that we had no water withdrawals from water stress areas. (418/5000)

[Fixed row]

(9.2.7) Provide total water withdrawal data by source.

Fresh surface water, including rainwater, water from wetlands, rivers, and lakes

(9.2.7.1) Relevance

Select from:

Relevant

(9.2.7.2) Volume (megaliters/year)

26146.86

(9.2.7.3) Comparison with previous reporting year

Select from:

About the same

(9.2.7.4) Primary reason for comparison with previous reporting year

Select from:

Other, please specify :Our production volumes were almost equivalent.

(9.2.7.5) Please explain

MGC uses large quantities of freshwater directly for our products or heating boilers and as cooling water. The fresh surface water is relevant since it accounts for more than 90% of MGC's total withdrawal volumes. MGC assesses water volumes as 'About the same' when the increase/decrease is less than $\pm 10\%$ compared with the previous reporting year, as 'Higher/Lower' when the increase/decrease is $\pm 10\%$ or more but less than $\pm 50\%$, and as 'Much higher/Much lower' when the increase/decrease is $\pm 50\%$ or more. MGC assessed the total water withdrawal volumes from fresh surface water for the reporting year (26,146ML) as 'About the same', since it was 97.7% compared with the previous reporting year (26,768ML). It was because our production volumes were almost equivalent to those in the previous reporting year. In the future, MGC forecasts the withdrawal volumes to be 'About the same' in the medium term, although some uncertainties including the facility closure/expansion remain.

Brackish surface water/Seawater

(9.2.7.1) Relevance

Select from:

Not relevant

(9.2.7.5) Please explain

We selected 'not relevant' since we do not use the brackish surface water/seawater other than the seawater passing through the Naniwa plant, which was excluded in question 9.1.1.

Groundwater – renewable

(9.2.7.1) Relevance

Select from:

Relevant

(9.2.7.2) Volume (megaliters/year)

214.34

(9.2.7.3) Comparison with previous reporting year

Select from:

About the same

(9.2.7.4) Primary reason for comparison with previous reporting year

Select from:

Other, please specify :Our production volumes were almost equivalent.

(9.2.7.5) Please explain

It is relevant since MGC uses renewable groundwater as cooling water for heat exchangers and other purposes. MGC assesses water volumes as 'About the same' when the increase/decrease is less than $\pm 10\%$ compared with the previous reporting year, as 'Higher/Lower' when the increase/decrease is $\pm 10\%$ or more but less

than $\pm 50\%$, and as 'Much higher/Much lower' when the increase/decrease is $\pm 50\%$ or more. MGC assessed the total water withdrawal volumes from renewable groundwater for the reporting year (214ML) as 'About the same', since it was 92.3% compared with the previous reporting year (232ML). It was because our production volumes were almost equivalent to those in the previous reporting year. In the future, MGC forecasts the withdrawal volumes to be 'About the same' in the medium term, since we expect no significant changes in our business after the reporting year although the water withdrawals may significantly depend on the nature of our business.

Groundwater – non-renewable

(9.2.7.1) Relevance

Select from:

Not relevant

(9.2.7.5) Please explain

It is not relevant since MGC has no need to use non-renewable groundwater and has no plans to do so in the future because all our business sites have sufficient water availability from rivers, third party sources and renewable groundwater.

Produced/Entrained water

(9.2.7.1) Relevance

Select from:

Not relevant

(9.2.7.5) Please explain

It is not relevant since MGC has no need to use produced/entrained water and has no plans to do so in the future because all our business sites have sufficient water availability from rivers, third party sources and renewable groundwater.

Third party sources

(9.2.7.1) Relevance

Select from:

Relevant

(9.2.7.2) Volume (megaliters/year)

1483.44

(9.2.7.3) Comparison with previous reporting year

Select from:

About the same

(9.2.7.4) Primary reason for comparison with previous reporting year

Select from:

Other, please specify :Our production volumes were almost equivalent.

(9.2.7.5) Please explain

Third-party source usage at MGC is concentrated at the Kashima plant, which accounts for approximately two-thirds of the total. The Kashima plant uses third-party sources as purified water in manufacturing processes. MGC assesses water volumes as 'About the same' when the increase/decrease is less than $\pm 10\%$ compared with the previous reporting year, as 'Higher/Lower' when the increase/decrease is $\pm 10\%$ or more but less than $\pm 50\%$, and as 'Much higher/Much lower' when the increase/decrease is $\pm 50\%$ or more. MGC assessed the total tap water and purified water withdrawal volumes for the reporting year as 'About the same', since it was 100.5% compared with the previous reporting year. It was because our production volumes of products using the third-party water sources were about the same at the Kashima plant as the previous year. MGC forecasts the water volumes to be 'About the same' in the medium term, since we expect no significant changes in our production at the Kashima plant.

[Fixed row]

(9.2.8) Provide total water discharge data by destination.

Fresh surface water

(9.2.8.1) Relevance

Select from:

Relevant

(9.2.8.2) Volume (megaliters/year)

15355.3

(9.2.8.3) Comparison with previous reporting year

Select from:

About the same

(9.2.8.4) Primary reason for comparison with previous reporting year

Select from:

Other, please specify :Our production volumes were almost equivalent.

(9.2.8.5) Please explain

It is relevant since MGC discharges the water after treatment into rivers at our six business sites. MGC assesses water volumes as 'About the same' when the increase/decrease is less than $\pm 10\%$ compared with the previous reporting year, as 'Higher/Lower' when the increase/decrease is $\pm 10\%$ or more but less than $\pm 50\%$, and as 'Much higher/Much lower' when the increase/decrease is $\pm 50\%$ or more. MGC assessed the total water discharge volumes to freshwater bodies for the reporting year (15,355ML) as 'About the same', since it was 103.4% compared with the previous reporting year (14,847ML). It is because our production volumes were almost equivalent to those in the previous reporting year. In the future, MGC forecasts the discharge volumes to be 'About the same' in the medium term, since we expect no significant changes in our business after the reporting year although the water discharge may significantly depend on the nature of our business. (949/1000)

Brackish surface water/seawater

(9.2.8.1) Relevance

Select from:

Relevant

(9.2.8.2) Volume (megaliters/year)

7285.64

(9.2.8.3) Comparison with previous reporting year

Select from:

Lower

(9.2.8.4) Primary reason for comparison with previous reporting year

Select from:

Increase/decrease in business activity

(9.2.8.5) Please explain

It is relevant since MGC discharges the water after treatment into the sea at the Mizushima plant. MGC assesses water volumes as 'About the same' when the increase/decrease is less than $\pm 10\%$ compared with the previous reporting year, as 'Higher/Lower' when the increase/decrease is $\pm 10\%$ or more but less than $\pm 50\%$, and as 'Much higher/Much lower' when the increase/decrease is $\pm 50\%$ or more. MGC assessed the total water discharge volumes to the sea for the reporting year as 'Lower', since it was 87.2% compared with the previous reporting year. It is because our production volumes decreased at the Mizushima plant, and the water discharge volumes decreased accordingly. In the future, MGC forecasts the discharge volumes to be 'About the same' in the medium term, since we expect no significant changes in our business after the reporting year although the water discharge may significantly depend on the nature of our business. (930/1000)

Groundwater

(9.2.8.1) Relevance

Select from:

Not relevant

(9.2.8.5) Please explain

It is not relevant since MGC discharges the water to river bodies, the sea and third-party destinations, not to groundwater or soil. We had no problems with the water discharges at all our business sites. We believe we can continue our current water discharges as it is and expect no water discharges to groundwater in the future. (330/1000)

Third-party destinations

(9.2.8.1) Relevance

Select from:

Relevant

(9.2.8.2) Volume (megaliters/year)

2055.55

(9.2.8.3) Comparison with previous reporting year

Select from:

About the same

(9.2.8.4) Primary reason for comparison with previous reporting year

Select from:

Other, please specify :Our production volumes were almost equivalent.

(9.2.8.5) Please explain

It is relevant since MGC discharges the water into third-party destinations such as the public or communal sewage systems. MGC assesses water volumes as 'About the same' when the increase/decrease is less than $\pm 10\%$ compared with the previous reporting year, as 'Higher/Lower' when the increase/decrease is $\pm 10\%$ or more but less than $\pm 50\%$, and as 'Much higher/Much lower' when the increase/decrease is $\pm 50\%$ or more. MGC assessed the total water discharge volumes into sewage systems for the reporting year as 'About the same', since it was 106.4% compared with the previous reporting year. It was because our production volumes of products relating to the water discharges into sewage systems were about the same at the Kashima plant, which accounts for about 95% of MGC's total volumes into sewage systems. In the future, MGC forecasts the discharge volumes to be 'About the same' in the medium term, due to no significant changes in our business at the Kashima plant. (967/1000)

[Fixed row]

(9.2.9) Within your direct operations, indicate the highest level(s) to which you treat your discharge.

Tertiary treatment

(9.2.9.1) Relevance of treatment level to discharge

Select from:

Relevant

(9.2.9.2) Volume (megaliters/year)

(9.2.9.3) Comparison of treated volume with previous reporting year

Select from:

- About the same

(9.2.9.4) Primary reason for comparison with previous reporting year

Select from:

- Other, please specify :Our production volumes were almost equivalent.

(9.2.9.5) % of your sites/facilities/operations this volume applies to

Select from:

- 11-20

(9.2.9.6) Please explain

It is relevant since MGC discharges the water after tertiary treatment at the Niigata plant and the Mizushima plant. The tertiary treatment neutralizes the water and treats it with activated sludge and then flocculates and precipitates with a flocculating agent before discharging the water into rivers or the sea. We confirm that the discharged water satisfies our voluntary effluent standards, which are stricter than the national effluent standards. These plants require the tertiary treatment to satisfy the standards since the discharged water is highly polluted. MGC assesses water volumes as 'About the same' when the increase/decrease is less than $\pm 10\%$ compared with the previous reporting year, as 'Higher/Lower' when the increase/decrease is $\pm 10\%$ or more but less than $\pm 50\%$, and as 'Much higher/Much lower' when the increase/decrease is $\pm 50\%$ or more. MGC assessed the total water discharge volumes after tertiary treatment for the reporting year (12,826ML) as 'About the same', since it was 92.1% compared with the previous reporting year (13,923ML). It was because our production volumes were about the same at the Niigata plant and the Mizushima plant compared with the previous reporting year. In the future, MGC forecasts the total discharge volumes to be 'About the same' in the medium term, although it may significantly depend on the production volumes. (1370/2,000)

Secondary treatment**(9.2.9.1) Relevance of treatment level to discharge**

Select from:

- Relevant

(9.2.9.2) Volume (megaliters/year)

3999.3

(9.2.9.3) Comparison of treated volume with previous reporting year

Select from:

About the same

(9.2.9.4) Primary reason for comparison with previous reporting year

Select from:

Other, please specify :Our production volumes were almost equivalent.

(9.2.9.5) % of your sites/facilities/operations this volume applies to

Select from:

31-40

(9.2.9.6) Please explain

It is relevant since MGC discharges the water after secondary treatment at the Yokkaichi plant, the Naniwa plant and the QOL Innovation Center Shirakawa. We confirm that the discharged water satisfies our voluntary effluent standards, which are stricter than the national effluent standards. These plants and the Center require the secondary treatment but not tertiary treatment since the secondary treatment is sufficient enough for them to satisfy the standards. At the Yokkaichi plant and the Naniwa plant, we discharge the supernatant liquid of the water into rivers or the sea after we neutralize the waste and treat it with activated sludge. At the QOL Innovation Center Shirakawa, we discharge the water into rivers after we only neutralize the water since the Center is not a manufacturing site but management facility. MGC assesses water volumes as 'About the same' when the increase/decrease is less than $\pm 10\%$ compared with the previous reporting year, as 'Higher/Lower' when the increase/decrease is $\pm 10\%$ or more but less than $\pm 50\%$, and as 'Much higher/Much lower' when the increase/decrease is $\pm 50\%$ or more. MGC assessed the total water discharge volumes after the secondary treatment for the reporting year (3,999ML) as 'About the same', since it was 89% compared with the previous reporting year (4,350ML). It was because the production volumes were about the same at the Yokkaichi plant, which accounts for about 98% of MGC's total volumes after secondary treatment. In the future, MGC forecasts the total discharge volumes to be 'About the same' in the medium term, although it may significantly depend on the production volumes at the site. (1658/2000)

Primary treatment only

(9.2.9.1) Relevance of treatment level to discharge

Select from:

Not relevant

(9.2.9.6) Please explain

All wastewater from MGC's manufacturing processes requires advanced treatment such as secondary or tertiary treatment, and we discharge the water either to the natural environment or to third parties that conduct the treatment after advanced treatment. It is not relevant since MGC does not discharge the water for its manufacturing processes, which require primary treatment only. A very small part, at the Naniwa plant and the Saga plant, we do not recycle/reuse rainwater but discharge it through dedicated channels and drains, with filters installed at the outlets to prevent the release of larger dust. However, we selected "not relevant" overall since it is completely unrelated to our production activities. (714/2000)

Discharge to the natural environment without treatment

(9.2.9.1) Relevance of treatment level to discharge

Select from:

Relevant

(9.2.9.2) Volume (megaliters/year)

5816

(9.2.9.3) Comparison of treated volume with previous reporting year

Select from:

Higher

(9.2.9.4) Primary reason for comparison with previous reporting year

Select from:

Increase/decrease in business activity

(9.2.9.5) % of your sites/facilities/operations this volume applies to

Select from:

(9.2.9.6) Please explain

It is relevant since MGC withdraws the water from the Sakawagawa River at the Yamakita plant for indirect cooling of equipment and discharges it into the river without treatment. MGC uses the river water for indirect cooling of the equipment, there are no factors that could change the water quality due to mixing of components on the manufacturing process. Also, since it is closed cooling system, there is no mixing of dust or impurities, so does not change the water quality. For the river water withdrawals, we concluded a contract with a Garaze water association, an organisation that uses river water. The contract does not stipulate the effluent standards for individual substance in the discharged water, and the water is to be returned to the river with the same quality as withdrawn. Thus, we discharge the water without treatment to maintain the water quality as withdrawn. MGC assesses water volumes as 'About the same' when the increase/decrease is less than $\pm 10\%$ compared with the previous reporting year, as 'Higher/Lower' when the increase/decrease is $\pm 10\%$ or more but less than $\pm 50\%$, and as 'Much higher/Much lower' when the increase/decrease is $\pm 50\%$ or more. MGC assessed the total water discharge volumes without treatment for the reporting year (5,816ML) as 'Higher', since it was 118.1% compared with the previous reporting year (4,925ML). It was because our production volumes were increased at the Yamakita plant. In the future, the increase/decrease in the indirect cooling water volumes may depend on increase/decrease in the equipment which use cooling water. In the medium term, MGC forecasts the water volumes to be 'About the same' for the time being, since we expect no significant changes in the equipment which use cooling water. (1760/2000)

Discharge to a third party without treatment

(9.2.9.1) Relevance of treatment level to discharge

Select from:

Relevant

(9.2.9.2) Volume (megaliters/year)

2055.55

(9.2.9.3) Comparison of treated volume with previous reporting year

Select from:

About the same

(9.2.9.4) Primary reason for comparison with previous reporting year

Select from:

Other, please specify :Our production volumes were almost equivalent.

(9.2.9.5) % of your sites/facilities/operations this volume applies to

Select from:

31-40

(9.2.9.6) Please explain

It is relevant since MGC discharges the water to sewages at the Kashima plant, part of the Saga plant, the Tokyo Research Laboratory, the Hiratsuka Research Laboratory, and the Head office. The water can be discharged to sewages without higher treatments beyond primary treatment because we can comply with the effluent standards required by the sewage treatment operator with only minor adjustments. The Kashima plant, which accounts for 90% of MGC's total water discharge volumes to the third parties, is located in the Kashima Coastal Industrial Zone. It manages the water to comply with the effluent standards required by the sewage treatment operator and then discharges the water to the Kashima Rinkai Specific Public Sewage and Fukashiba Sewage Treatment Plant. At the Treatment Plant, they treat the water using activated sludge treatment and sodium hypochlorite disinfection before discharging it to the coastal waters, Kashimanada. MGC assesses water volumes as 'About the same' when the increase/decrease is less than $\pm 10\%$ compared with the previous reporting year, as 'Higher/Lower' when the increase/decrease is $\pm 10\%$ or more but less than $\pm 50\%$, and as 'Much higher/Much lower' when the increase/decrease is $\pm 50\%$ or more. MGC assessed the total water discharge volumes to the third parties for the reporting year (2,056ML) as 'About the same', since it was 106.4% compared with the previous reporting year (1,931ML). It was because our production volumes of the products that have a significant impact on the water discharge volumes to sewages were about the same at the Kashima plant. In the future, MGC forecasts the water volumes to be 'About the same' in the medium term, although the increase/decrease in the water discharge volumes may significantly depend on the production volumes at the Kashima plant, which accounts for a large portion. (1859/2000)

Other

(9.2.9.1) Relevance of treatment level to discharge

Select from:

Not relevant

(9.2.9.6) Please explain

It is not relevant since MGC has no water discharges to 'other' destinations. In near future (several years), MGC has no plans to add new water discharge destinations.

[Fixed row]

(9.2.10) Provide details of your organization’s emissions of nitrates, phosphates, pesticides, and other priority substances to water in the reporting year.

(9.2.10.1) Emissions to water in the reporting year (metric tons)

1373

(9.2.10.2) Categories of substances included

Select all that apply

Nitrates

Phosphates

(9.2.10.4) Please explain

Japan's Water Pollution Prevention Act establishes effluent standards for hazardous substances and living environment parameters such as nitrogen and phosphorus content in wastewater. We discharge wastewater that complies with the required standards. 1) MGC measures the nitrogen content as total nitrogen, which is equivalent to the total amount of nitrogen in the inorganic nitrogen compounds in the water and in the organic nitrogen compounds, and then calculates the nitrates by converting the measured total nitrogen to nitrate ion (NO₃⁻). The Niigata plant manufactures many products containing nitrogen atoms such as amines, so has relatively higher total nitrogen in the water discharges compared with other plants. It discharges the water using activated sludge treatment to satisfy the effluent standards. 2) MGC measures the phosphate content as total phosphorus, which is equivalent to the total amount of phosphates in the inorganic phosphate compounds in the water and in the organic phosphate compounds, and then calculates the phosphates by converting the measured total phosphorus to phosphate ion (PO₄³⁻). The Kashima plant uses phosphate as a neutralizing agent in the manufacturing process, so has relatively higher total phosphorus in the water discharges compared with other plants. It discharges the water into the Kashima Rinkai Specific Public Sewerage and the Fukashiba Treatment Plant which treats the water and discharges it to the coastal waters, Kashimanada.

[Fixed row]

(9.3) In your direct operations and upstream value chain, what is the number of facilities where you have identified substantive water-related dependencies, impacts, risks, and opportunities?

Direct operations

(9.3.1) Identification of facilities in the value chain stage

Select from:

No, we have not assessed this value chain stage for facilities with water-related dependencies, impacts, risks, and opportunities, but we are planning to do so in the next 2 years

(9.3.4) Please explain

MGC conducts CSR surveys by the Raw Material Group, which cover all our suppliers, more than 200, every three years. We conducted the survey in December 2024 and are currently compiling the suppliers' responses.

Upstream value chain

(9.3.1) Identification of facilities in the value chain stage

Select from:

No, we have not assessed this value chain stage for facilities with water-related dependencies, impacts, risks, and opportunities, but we are planning to do so in the next 2 years

(9.3.4) Please explain

MGC conducts CSR surveys by the Raw Material Group, which cover all our suppliers, more than 200, every three years. We conducted the survey in December 2024 and are currently compiling the suppliers' responses.

[Fixed row]

(9.4) Could any of your facilities reported in 9.3.1 have an impact on a requesting CDP supply chain member?

Select from:

We do not have this data but we intend to collect it within two years

(9.5) Provide a figure for your organization's total water withdrawal efficiency.

(9.5.1) Revenue (currency)

(9.5.2) Total water withdrawal efficiency

14395871.38

(9.5.3) Anticipated forward trend

MGC anticipates non-consolidated full-year sales of JPY420,000 million for FY2025 in its Quarterly Financial Reports for FY2025. We expect the total water withdrawal volumes (27492.49ML) will continue to be about the same as the reporting year, since we have no recent plans to construct major new or additional facilities nor existing facility closures. If so, the total water withdrawal efficiency is anticipated to be 15,276,899 in the next reporting year.
[Fixed row]

(9.6) Do you calculate water intensity for your activities in the chemical sector?

Select from:

 Yes

(9.6.1) For your top five products by production weight/volume, provide the following water intensity information associated with your activities in the chemical sector.

Row 1**(9.6.1.1) Product type**

Other chemicals

 Specialty organic chemicals**(9.6.1.2) Product name**

All products (including bulk organic chemicals, bulk inorganic chemicals, special organic chemicals and special inorganic chemicals)

(9.6.1.3) Water intensity value (m3/denominator)

(9.6.1.4) Numerator: water aspect

Select from:

- Total water withdrawals

(9.6.1.5) Denominator

Select from:

- Other, please specify :MGC non-consolidated sales of JPY432,839 million

(9.6.1.6) Comparison with previous reporting year

Select from:

- About the same

(9.6.1.7) Please explain

MGC calculated water intensity for all products instead of per product, since we do not have the water information for each product. The denominator is MGC non-consolidated sales of the reporting year. MGC assesses the water intensity as 'About the same' when the increase/decrease is less than $\pm 10\%$ compared with the previous reporting year, as 'Higher/Lower' when the increase/decrease is $\pm 10\%$ or more but less than $\pm 50\%$, and as 'Much higher/Much lower' when the increase/decrease is $\pm 50\%$ or more. MGC assessed the water intensity for the reporting year as 'About the same' (Water intensity of 64.3m³/JPY million; total water withdrawal volumes of 27,844,646m³; non-consolidate sales of JPY432,839 million), since it was 90.5% compared with the previous reporting year (Water intensity of 71.0m³/JPY million; total water withdrawal volumes of 28,476,691m³; non-consolidate sales of JPY400,848 million). This was because production volume remained approximately the same as the previous year, so both water withdrawal and sales stayed at similar levels. MGC forecasts non-consolidated full-year sales of JPY460,000 million for FY2025, ended March 2026 in its Quarterly Financial Reports for FY2024, ended March 2025. It is a 15% increase compared with the reporting year (JPY432,839 million). We anticipate the water withdrawals per unit of sales would be 'Lower' assuming the total water withdrawal volumes remain the same as in the reporting year. In order to reduce the total water withdrawal intensity, MGC will identify products that use large quantities of water for the manufacturing process, and improve the water use efficiency through brushing up and improving the manufacturing process. MGC uses this metric to visualize the correlation between the water withdrawals and the sales to show the status changes both internally and externally. Internally, we report the water intensity information to the Environment and Safety Manager Meeting/Environment and Safety Meeting as inputs to improve our Plan-Do-Check-Act (PDCA) cycle. Externally, we disclose the information on the environmental page of MGC website. (2120/2500)

Row 2

(9.6.1.1) Product type

Other chemicals

- Specialty organic chemicals

(9.6.1.2) Product name

All products (including bulk organic chemicals, bulk inorganic chemicals, special organic chemicals and special inorganic chemicals)

(9.6.1.3) Water intensity value (m³/denominator)

7.3

(9.6.1.4) Numerator: water aspect

Select from:

- Total water consumption

(9.6.1.5) Denominator

Select from:

- Other, please specify :MGC non-consolidated sales of JPY432,839 million

(9.6.1.6) Comparison with previous reporting year

Select from:

- Lower

(9.6.1.7) Please explain

MGC calculated water intensity for all products instead of per product, since we do not have the water information for each product. The denominator is MGC non-consolidated sales of the reporting year. MGC assesses the water intensity as 'About the same' when the increase/decrease is less than ±10% compared with the previous reporting year, as 'Higher/Lower' when the increase/decrease is ±10% or more but less than ±50%, and as 'Much higher/Much lower' when the increase/decrease is ±50% or more. MGC assessed the water intensity for the reporting year as 'Lower' (Water intensity of 7.3m³/JPY million; total water consumption volumes of 3,148,161m³; non-consolidate sales of JPY432,839 million), since it was 88% (an 12% decrease) compared with the previous reporting year

(Water intensity of 8.3m³/JPY million; total water consumption volumes of 3,347,000m³; non-consolidate sales of JPY400,848 million). It was because that the total water consumption volumes decreased by 6% (though this is assessed as 'About the same' as the decrease was less than ±10%) due to water-saving efforts, and non-consolidate sales increased by 8% due to strong sales performance and other factors compared with the previous year. MGC forecasts non-consolidated full-year sales of JPY460,000 million for FY2025, ended March 2026 in its Quarterly Financial Reports for FY2024, ended March 2025. It is a 15% increase compared with the reporting year (JPY432,839 million). We anticipate the water consumption per unit of sales would be 'Lower' assuming the total water consumption volumes remain the same as in the reporting year. In order to reduce the total water consumption intensity, MGC will identify products that use large quantities of water in the manufacturing process, and improve the water use efficiency through brushing up and improving the manufacturing process. MGC uses this metric to visualize the correlation between the water consumptions and the sales to show the status changes both internally and externally. Internally, we report the water intensity information to the Environment and Safety Manager Meeting/Environment and Safety Meeting as inputs to improve our Plan-Do-Check-Act (PDCA) cycle. Externally, we disclose the information on the environmental page of MGC website. (2284/2500)

[Add row]

(9.12) Provide any available water intensity values for your organization's products or services.

Row 1

(9.12.1) Product name

All products (including bulk organic chemicals, bulk inorganic chemicals, special organic chemicals and special inorganic chemicals)

(9.12.2) Water intensity value

64.3

(9.12.3) Numerator: Water aspect

Select from:

Water withdrawn

(9.12.4) Denominator

MGC non-consolidated sales of JPY432,839 million

(9.12.5) Comment

本設問では製品ごとの水原単位を問うているが、MGCでは、製品ごとの水情報を把握していないため全製品を包括した水原単位を算出することとした。また、分

母には報告年度における MGC 単体の売上高を採用した。増減の判断基準は、前期間比で増減が±10%未満の場合は「ほぼ同じ」、±10%以上 50%未満を「多い／少ない」、±50%以上の場合を「大幅に多い／大幅に少ない」と評価する。前期間の総取水量は 28,476,691m³、単体売上高は 400,848 百万円、取水量原単位 71.0(m³/百万円)であった。これに対し、報告期間の総取水量は 27,844,646m³、単体売上高は 432,839 百万円、取水量原単位 64.3(m³/百万円)で、原単位は前期間比約 90.5%であったため「ほぼ同じ」と評価した。報告年度においては、生産量が前年度とほぼ同じであったため、取水量も売上高もほぼ同じレベルの変化となり、結果として原単位変化も「ほぼ同じ」の評価となった。将来の予測は、MGC の 2025 年 3 月期決算短信において、次年度の単体通期売上高は 460,000 百万円と、報告年度の 432,839 百万円に比べて 15%程度改善すると予想している。次期間の総取水量が報告期間レベルを維持するならば、総体的に見て総取水量の売上高原単位は「少ない」の評価になると予測される。＜水原単位削減戦略＞総取水量原単位を削減するため、製造時に水を多く使用する製品を特定したのちに、生産工程のブラッシュアップや改善を通じて水使用の効率改善を図り、原単位の削減に取り組んでいく。本指標は、売上高に対する取水量の相関の推移を視覚化することで、状況の変化を社内外に示すために活用している。社内的には、水原単位に関する情報を環境保安室長会議／環境安全会議にて報告して、PDCA サイクルのためのインプットとしている。対外的には MGC ホームページの環境ページにて開示している。

Row 2

(9.12.1) Product name

All products (including bulk organic chemicals, bulk inorganic chemicals, special organic chemicals and special inorganic chemicals)

(9.12.2) Water intensity value

7.3

(9.12.3) Numerator: Water aspect

Select from:

Water consumed

(9.12.4) Denominator

MGC non-consolidated sales of JPY432,839 million

(9.12.5) Comment

本設問では製品ごとの水原単位を問うているが、MGC では、製品ごとの水情報を把握していないため全製品を包括した水原単位を算出することとした。また、分母には報告年度における MGC 単体の売上高を採用した。増減の判断基準は、前期間比で増減が±10%未満の場合は「ほぼ同じ」、±10%以上 50%未満を「多い／少ない」、±50%以上の場合を「大幅に多い／大幅に少ない」と評価する。前期間の水総消費量は 3,347,000m³、単体売上高は 400,848 百万円、水総消費量原単位

8.3(m3/百万円)であったのに対し、報告期間の水総消費量は3,148,161m3、単体売上高は432,839百万円、水総消費量原単位7.3(m3/百万円)で、原単位は前期間比88%であったため「少ない」と評価した。報告年度においては、水総消費量は、節水効果等の理由により前期間比6%の減少（但し評価上は10%未満なので「ほぼ同じ」）、売上高は、売り上げ好調等の理由により前期間比8%の増加で、計算上原単位は前期間比12%の減少となったため、「少ない」の評価であった。将来の予測は、三菱ガス化学の2025年3月期決算短信において、次年度の単体通期売上高は460,000百万円と、報告年度の432,839百万円に比べて15%程度改善すると予想している。次期間の水総消費量が報告期間レベルを維持するならば、総体的に見て水総消費量の売上高原単位は「少ない」の評価になると予測される。水総消費量原単位を削減するための戦略として、製造時に水を多く使用する製品を特定したのちに、生産工程のブラッシュアップや改善を通じて水使用の効率改善を図り、原単位の削減に取り組んでいく。本指標は、売上高に対する水総消費量の相関の推移を視覚化することで、状況の変化を社内外に示すために活用している。社内的には、水原単位に関する情報を環境保安室長会議／環境安全会議にて報告し、PDCAサイクルのためのインプットとしている。対外的には三菱ガス化学ホームページの環境ページにて開示している。

[Add row]

(9.13) Do any of your products contain substances classified as hazardous by a regulatory authority?

	Products contain hazardous substances
	Select from: <input checked="" type="checkbox"/> Yes

[Fixed row]

(9.13.1) What percentage of your company's revenue is associated with products containing substances classified as hazardous by a regulatory authority?

Row 1

(9.13.1.1) Regulatory classification of hazardous substances

Select from:

Water Pollution Prevention Act (Japan Regulation)

(9.13.1.2) % of revenue associated with products containing substances in this list

Select from:

Less than 10%

(9.13.1.3) Please explain

MGC classifies hazardous substances as those specified in Article 2 of the enforcement order of Japan's Water Pollution Prevention Act. In the article, there is a section titled "26 Ammonia, ammonium compounds, nitrous acid compounds, and nitric acid compounds". MGC sells ammonia itself as a product, including ammonia, ammonium hydroxide and super-pure ammonium hydroxide. Thus, we sell products containing substances classified as hazardous. MGC began producing ammonia from natural gas in 1957, during the time of its ancestor, the former Japan Gas Chemical Co., Inc. It has been our product to the present day. Our ammonia sales accounted for less than 10% of MGC's non-consolidated sales in the reporting year. Ammonia products are demanded by customers and MGC cannot replace it by other substances. In the future if customers replace ammonia with other substances, the demand may decline, and the percentage of our revenue may fall.

(941/1500)

[Add row]

(9.14) Do you classify any of your current products and/or services as low water impact?

(9.14.1) Products and/or services classified as low water impact

Select from:

No, and we do not plan to address this within the next two years

(9.14.3) Primary reason for not classifying any of your current products and/or services as low water impact

Select from:

Lack of internal resources

(9.14.4) Please explain

MGC does not currently have the internal structures or resources to address products and/or services classified as low water impact, nor have plan to address this within the next two years.

[Fixed row]

(9.15) Do you have any water-related targets?

Select from:

Yes

(9.15.1) Indicate whether you have targets relating to water pollution, water withdrawals, WASH, or other water-related categories.

Water pollution

(9.15.1.1) Target set in this category

Select from:

Yes

Water withdrawals

(9.15.1.1) Target set in this category

Select from:

No, and we do not plan to within the next two years

(9.15.1.2) Please explain

In Japan, the authorities responsible for water resources specify a water withdrawal quota from river and other water resources for a company. If we set a water withdrawal reduction target and achieve it, the water withdrawal quota would also be reduced. Once the quota is reduced, it is extremely difficult to restore it regardless of the reason. MGC is continuously striving to improve the water use efficiency and to reduce the water use cost. However, MGC strategically does not have the water withdrawal reduction targets considering our production and business continuity, since publicly announcing and achieving water withdrawal reduction targets could lead to a reduction in our water withdrawal quota, creating a risk that we may not be able to secure the necessary water when production increases. (807/1000)

Water, Sanitation, and Hygiene (WASH) services

(9.15.1.1) Target set in this category

Select from:

- No, but we plan to within the next two years

(9.15.1.2) Please explain

MGC believes we provide 100% of required WASH services. However, we have not yet verified the sufficiency. Japan's Industrial Safety and Health Act stipulates the number of WASH services to be provided per number of employees. Based on this, MGC plans to verify that WASH services are sufficient and set targets with indicators for maintaining 100% sufficiency. (361/1000)

Other

(9.15.1.1) Target set in this category

Select from:

- Yes

[Fixed row]

(9.15.2) Provide details of your water-related targets and the progress made.

Row 1

(9.15.2.1) Target reference number

Select from:

- Target 1

(9.15.2.2) Target coverage

Select from:

- Business activity

(9.15.2.3) Category of target & Quantitative metric

Water recycling/reuse

Increase in water use met through recycling/reuse

(9.15.2.4) Date target was set

03/30/2025

(9.15.2.5) End date of base year

03/30/2025

(9.15.2.6) Base year figure

94

(9.15.2.7) End date of target year

03/30/2027

(9.15.2.8) Target year figure

95

(9.15.2.9) Reporting year figure

94.2

(9.15.2.10) Target status in reporting year

Select from:

Underway

(9.15.2.11) % of target achieved relative to base year

20

(9.15.2.12) Global environmental treaties/initiatives/ frameworks aligned with or supported by this target

Select all that apply

- Sustainable Development Goal 6

(9.15.2.13) Explain target coverage and identify any exclusions

The target coverage scope is MGC non-consolidated. No exclusions.

(9.15.2.14) Plan for achieving target, and progress made to the end of the reporting year

The chemical industry uses a significant proportion of water for cooling applications, which normally circulates through cooling towers to lower the water temperature. While without circulating the cooling water but only one-pass may reduce the electricity consumption of circulation pumps, the water withdrawals and discharges may be dozens of times larger. To reduce the water withdrawals, MGC has set a water recycling/reuse rate target of 95% or higher according to our 2026 Responsible Care Medium-term Plan (April 2024 - March 2027) MGC measures or calculates the water withdrawal and recycling/reuse volumes, calculating the actual water recycling/reuse rate for the reporting year as 94.2%. ((the water recycling/reuse volumes) divided by ((the water withdrawal volumes) plus (the water recycling/reuse volumes)) multiplied by 100)). This 94.2% is calculated as 20% achievement relative to the base year using the target figure of 95% and base year figure of 94%.

(9.15.2.16) Further details of target

No further details.

Row 2

(9.15.2.1) Target reference number

Select from:

- Target 2

(9.15.2.2) Target coverage

Select from:

- Organization-wide (direct operations only)

(9.15.2.3) Category of target & Quantitative metric

Water pollution

Other water pollution, please specify :Maintain zero water pollution incidents caused by serious accidents.

(9.15.2.4) Date target was set

03/30/2024

(9.15.2.5) End date of base year

03/30/2024

(9.15.2.6) Base year figure

0.0

(9.15.2.7) End date of target year

03/30/2025

(9.15.2.8) Target year figure

0

(9.15.2.9) Reporting year figure

0

(9.15.2.10) Target status in reporting year

Select from:

Achieved and maintained

(9.15.2.12) Global environmental treaties/initiatives/ frameworks aligned with or supported by this target

Select all that apply

(9.15.2.13) Explain target coverage and identify any exclusions

The target coverage scope is MGC non-consolidated. No exclusions.

(9.15.2.15) Actions which contributed most to achieving or maintaining this target

Preemptive prevention of accidents based on stable operations.

(9.15.2.16) Further details of target

Accidents in the chemical industry include fires, explosions and leaks. In chemical plants, a serious accident can cause water and other environmental pollution in the local area or threaten to third parties. Therefore, it is important to prevent serious accidents from occurring, considering the reduction of the environment impact, protection of brand value and impact on business continuity. Thus, MGC has set the target of zero serious accidents as a materiality KPI, and zero water pollution incidents caused by serious accidents as a quantitative water-related target. The target is to achieve zero serious accidents between FY2024 and FY2026 (April 2024-March 2027) MGC assesses the target achievement as 100% when zero water pollution incidents occur caused by serious accidents for each fiscal year up to the end of the target year, and as 0% when a serious accident occurs. MGC achieved zero serious accidents in the reporting year as in the previous reporting year, thus, the achievement was 100%. (1007/1500)

[Add row]

C10. Environmental performance - Plastics

(10.1) Do you have plastics-related targets, and if so what type?

(10.1.1) Targets in place

Select from:

Yes

(10.1.2) Target type and metric

Plastic polymers

- Reduce the total weight of virgin content in plastic polymers produced and/or sold
- Reduce or eliminate the use of hazardous substances

Plastic packaging

- Eliminate single-use plastic packaging
- Increase the proportion of plastic packaging that is reusable

(10.1.3) Please explain

In FY2023, MGC achieved zero waste emissions of 0.13% (non-consolidated MGC) and produced 762t of waste plastic emissions (0.82 times lower than the previous year). To further reduce waste, MGC has set the targets of zero waste emissions of 0.2% or less (non-consolidated MGC) and 1.2% or less (domestic MGC Group), and waste plastic emission reduction by 10% from the previous year in our 2026 Responsible Care Medium-term Plan. MGC has made improvements by processing waste that used to be landfilled as valuable resources, recycling containers and replacing them with flexible container bags, and is working to develop technology to recycle used plastic into resources. We also use plant-derived raw materials and promote recycling. Our ISCC PLUS-certified products includes bio polycarbonate and MX nylon.

[Fixed row]

(10.2) Indicate whether your organization engages in the following activities.

Production/commercialization of plastic polymers (including plastic converters)

(10.2.1) Activity applies

Select from:

Yes

(10.2.2) Comment

MGC manufactures and sells various polymers, including Nylon-MXD6, polycarbonate resin, modified polyphenylene ether resin, polyacetal resin, high performance polyamide resin and optical resin polymer.

Production/commercialization of durable plastic goods and/or components (including mixed materials)

(10.2.1) Activity applies

Select from:

Yes

(10.2.2) Comment

MGC manufactures and sells engineering plastics, including polycarbonate resin, modified polyphenylene ether resin, polyacetal resin and high-performance polyamide resin.

Usage of durable plastics goods and/or components (including mixed materials)

(10.2.1) Activity applies

Select from:

Yes

(10.2.2) Comment

MGC uses engineering plastics at our plants and laboratories for pipes and valves of production facilities and experimental equipment.

Production/commercialization of plastic packaging

(10.2.1) Activity applies

Select from:

Yes

(10.2.2) Comment

MGC sells oxygen absorber products that are external plastic packaging and absorb oxygen and moisture, namely AGELESS OMAC (film type), OxyBarrier (multilayer barrier bottle type) and PharmaKeep (canister type).

Production/commercialization of goods/products packaged in plastics

(10.2.1) Activity applies

Select from:

Yes

(10.2.2) Comment

MGC sells its oxygen absorber products in packages with superior gas-barrier properties, either individually or in rolls.

Provision/commercialization of services that use plastic packaging (e.g., food services)

(10.2.1) Activity applies

Select from:

Yes

(10.2.2) Comment

MGC offers a rental service to customers of automatic inserters and automatic laminators for its oxygen absorber products. These machines cut the product from continuous rolls to individual packages and inserts.

Provision of waste management and/or water management services

(10.2.1) Activity applies

Select from:

No

Provision of financial products and/or services for plastics-related activities

(10.2.1) Activity applies

Select from:

No

Other activities not specified

(10.2.1) Activity applies

Select from:

No

[Fixed row]

C11. Environmental performance - Biodiversity

(11.2) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments?

(11.2.1) Actions taken in the reporting period to progress your biodiversity-related commitments

Select from:

Yes, we are taking actions to progress our biodiversity-related commitments

(11.2.2) Type of action taken to progress biodiversity- related commitments

Select all that apply

Land/water protection

Land/water management

Species management

Law & policy

[Fixed row]

(11.3) Does your organization use biodiversity indicators to monitor performance across its activities?

	Does your organization use indicators to monitor biodiversity performance?
	Select from: <input checked="" type="checkbox"/> No

[Fixed row]

(11.4) Does your organization have activities located in or near to areas important for biodiversity in the reporting year?

Legally protected areas

(11.4.1) Indicate whether any of your organization's activities are located in or near to this type of area important for biodiversity

Select from:

No

(11.4.2) Comment

MGC determined no proximity based on Google map and IBAT tool.

UNESCO World Heritage sites

(11.4.1) Indicate whether any of your organization's activities are located in or near to this type of area important for biodiversity

Select from:

No

(11.4.2) Comment

MGC determined no proximity based on Google map and IBAT tool.

UNESCO Man and the Biosphere Reserves

(11.4.1) Indicate whether any of your organization's activities are located in or near to this type of area important for biodiversity

Select from:

No

(11.4.2) Comment

MGC determined no proximity based on Google map and IBAT tool.

Ramsar sites

(11.4.1) Indicate whether any of your organization's activities are located in or near to this type of area important for biodiversity

Select from:

Yes

(11.4.2) Comment

Our Niigata plant is approx.30 km away in a straight line from Sakata. Since MGC is not involved in its management or operation, we have not assessed the effect.

Key Biodiversity Areas

(11.4.1) Indicate whether any of your organization's activities are located in or near to this type of area important for biodiversity

Select from:

Yes

(11.4.2) Comment

Our Niigata plant is approx.12 km away in a straight line from Fukushima. Since MGC is not involved in its management or operation, we have not assessed the effect.

Other areas important for biodiversity

(11.4.1) Indicate whether any of your organization's activities are located in or near to this type of area important for biodiversity

Select from:

Yes

(11.4.2) Comment

Our Niigata plant is approx.2 km away from Hyotan Pond. Since MGC is not involved in its management or operation, we have not assessed the effect.
[Fixed row]

(11.4.1) Provide details of your organization's activities in the reporting year located in or near to areas important for biodiversity.

Row 1

(11.4.1.2) Types of area important for biodiversity

Select all that apply

Ramsar sites

(11.4.1.4) Country/area

Select from:

Japan

(11.4.1.5) Name of the area important for biodiversity

Sakata

(11.4.1.6) Proximity

Select from:

Up to 50 km

(11.4.1.8) Briefly describe your organization's activities in the reporting year located in or near to the selected area

Our Niigata plant is approx.30 km away in a straight line from Sakata. Since MGC is not involved in its management or operation, we have not assessed the effect.

(11.4.1.9) Indicate whether any of your organization's activities located in or near to the selected area could negatively affect biodiversity

Select from:

Not assessed

Row 2

(11.4.1.2) Types of area important for biodiversity

Select all that apply

Key Biodiversity Areas

(11.4.1.4) Country/area

Select from:

Japan

(11.4.1.5) Name of the area important for biodiversity

Fukushimagata

(11.4.1.6) Proximity

Select from:

Up to 25 km

(11.4.1.8) Briefly describe your organization's activities in the reporting year located in or near to the selected area

Our Niigata plant is approx.12 km away in a straight line from Fukushimagata. Since MGC is not involved in its management or operation, we have not assessed the effect.

(11.4.1.9) Indicate whether any of your organization's activities located in or near to the selected area could negatively

affect biodiversity

Select from:

Not assessed

Row 3

(11.4.1.2) Types of area important for biodiversity

Select all that apply

Other areas important for biodiversity

(11.4.1.4) Country/area

Select from:

Japan

(11.4.1.5) Name of the area important for biodiversity

Hyotan Pond

(11.4.1.6) Proximity

Select from:

Up to 5 km

(11.4.1.8) Briefly describe your organization's activities in the reporting year located in or near to the selected area

Our Niigata plant is approx.2 km away from Hyotan Pond. Since MGC is not involved in its management or operation, we have not assessed the effect.

(11.4.1.9) Indicate whether any of your organization's activities located in or near to the selected area could negatively affect biodiversity

Select from:

Not assessed

[Add row]

C13. Further information & sign off

(13.1) Indicate if any environmental information included in your CDP response (not already reported in 7.9.1/2/3, 8.9.1/2/3/4, and 9.3.2) is verified and/or assured by a third party?

	Other environmental information included in your CDP response is verified and/or assured by a third party
	Select from: <input checked="" type="checkbox"/> Yes

[Fixed row]

(13.1.1) Which data points within your CDP response are verified and/or assured by a third party, and which standards were used?

Row 1

(13.1.1.1) Environmental issue for which data has been verified and/or assured

Select all that apply

Climate change

(13.1.1.2) Disclosure module and data verified and/or assured

Environmental performance – Climate change

Year on year change in absolute emissions (Scope 1 and 2)

(13.1.1.3) Verification/assurance standard

Climate change-related standards

ISO 14064-3

(13.1.1.4) Further details of the third-party verification/assurance process

Yearly changes in Scope 1 and 2 emissions were verified. Comparisons with emission reduction targets are not subject to the verification.
[Add row]

(13.3) Provide the following information for the person that has signed off (approved) your CDP response.

(13.3.1) Job title

Director, Senior Managing Executive Officer

(13.3.2) Corresponding job category

Select from:

Director on board

[Fixed row]

(13.4) Please indicate your consent for CDP to share contact details with the Pacific Institute to support content for its Water Action Hub website.

Select from:

No

