MITSUBISHI GAS CHEMICAL COMPANY, INC.

2023 MGC REPORT

Integrated Report

Contents

Editorial Policy

MGC Report 2023 was compiled as an integrated report with a focus on our medium- and long-term growth strategies as well as stories of how we have been creating value. In producing the report, we referred to "Integrated Reporting" by the International Integrated Reporting Council and "Guidance for Integrated Corporate Disclosure and Company-Investor Dialogues for Collaborative Value Creation" by the Ministry of Economy, Trade and Industry, putting priority on the connectivity and clarity of the information. We established a company-wide system under the leadership of the CSR & IR Division to compile and share information, and worked to provide a broad variety of quality content that we hope will help our diverse stakeholders deepen their understanding of the MGC Group.

Reporting Period
April 1, 2022–March 31, 2023 (fiscal 2022)
Note: Some activities taking place before or immediately after the fiscal year are also noted.

Report Scope
Mitsubishi Gas Chemical Company, Inc. and the MGC Group
Note: Where the scope of reporting differs, it is noted in the data.

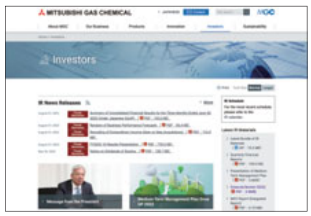
In Charge of Publishing
Motoyasu Kitagawa
Director, Managing Executive Officer
In charge of CSR & IR Division

Published
October 2023

Disclaimer
Plans, goals, and other forward-looking statements included in this report are determined based on information available to MGC as of the end of the consolidated fiscal year under review, as well as on certain assumptions MGC has judged to be reasonable, and may include uncertainties. Actual results may differ significantly from these forward-looking statements due to a variety of factors.

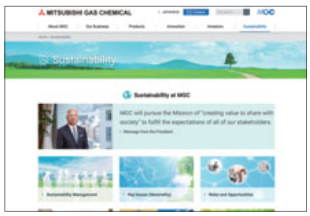
Please refer to our website for details.

Investor Information



Contains the latest financial information, various releases, and stock and shareholder information.
https://www.mgc.co.jp/eng/ir/

Sustainability Information

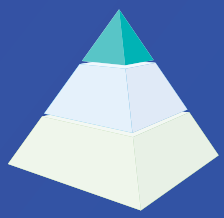


Introduces the MGC Group's thinking, initiatives, and detailed data relating to CSR/ESG.
https://www.mgc.co.jp/eng/csr/

Value Creation Story

Our Values
The MGC Way

The Mitsubishi Gas Chemical (MGC) Group is an R&D-oriented chemical manufacturer that contributes to positive social change with innovative materials and technologies. From basic chemicals that sustain industrial foundations to specialty chemicals that contribute to our daily lives, we offer groups of products rooted in original technologies to the global market. Our Group's Mission of "Creating value to share with society" is also our reason for existence. To achieve this mission, we aim to be an excellent corporate group that continues to be a preferred choice around the world by realizing our Value (conduct philosophy) and embodying the uniqueness and presence described in our Vision. As a member of the global community, we will propose new value that contributes to solving social issues, while looking forward to a better world 10 and 20 years into the future.



MISSION

Creating value to share with society

Advanced electronic devices, communication systems, fossil-alternative energy, advanced medicine, and food management. To these industries, which hold the keys to achieving the Sustainable Development Goals (SDGs), the evolution of materials and technologies to process ingredients is essential. Through chemical ingredients and materials, MGC Group products are deeply involved in both industrial and social innovation. We will pursue new materials, ingredients, and technologies that can help to transform society while always bearing in mind our Mission.

MGC Group's Management Resources (Fiscal 2022 / March 31, 2023)

Financial Capital

Through a differentiation strategy predicated on creating both social and economic value, we will work to shift to a profit structure resilient to changes in the business environment.

¥781.2 billion
Consolidated net sales

¥1,029.3 billion
Total assets

Technological Foundation

Inquiring minds in tireless search of cutting-edge technologies are part of the MGC Group DNA. Diverse original technologies represent the primary source of our competitive advantage.

90% or more
Products based on technologies developed in-house (by product category)

About 40%
Percentage of MGC products that hold the largest share of their respective global markets

Corporate Culture

We cultivate a welcoming corporate culture, where open discussion is part of the daily routine. An enterprising spirit rooted in entrepreneurialism is another unique trait of MGC.

24
Number of countries with business locations

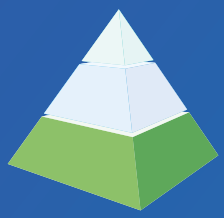
75%
Employee satisfaction*1

*1 From employee awareness survey results. The subjects were all employees of MGC (non-consolidated), excluding those lent to subsidiaries (effective replies: 71.9%).

VISION

An excellent company with uniqueness and presence built on chemistry

Often called the staple of all industries, chemistry has limitless potential for application to human life, environmental preservation and social infrastructure. In our modern world of accelerating social change, the MGC Group offers global niche lines of products while honing its unique strengths. The Group rises to the challenges of society and our customers, applying unrivaled technologies. Our vision of “an excellent company with uniqueness and presence built on chemistry” describes what we aim to be in the future.



VALUE

Conduct Philosophy

As a professional group:
A professional is someone who has a high level of trustworthy knowledge and ability, and a strong sense of responsibility. Our aim is to assemble a group in which each member is a reliable professional.

1. Courage that does not shy away from change
Do not be content with the status quo, try new things, and have the courage to break with convention. When the situation changes, don’t merely adapt yourself to it – have the courage to try to change your environment toward creating a better state of affairs.

2. Aim for lofty goals
Always set goals that are above where you are now, and be motivated to tackle these goals.

3. Perseverance in achieving goals
Overcome anything that confronts you with strong perseverance until you have reached your goal and gotten results.

4. Build team spirit with communication
Expand your circle of communication in order to cooperate, build mutual trust and share goals.

MGC Corporate Behavior Principles
Sustainability Promotion Principle

Natural Resources and Energy

Our geothermal power business employs prospecting technologies we developed through exploring for natural gas. We entered the biomass energy business in 2022.

About **70** years

How long we have been developing natural gas

About **40**

Number of research projects on carbon neutrality

Partnerships

Alliances and collaborations with various partners reinforce the management foundation of the MGC Group, which enjoys a strong industrial presence globally.

About **59**%

Overseas net sales ratio

147

Number of Group companies

A Culture of Safety

Under the philosophy that ensuring safety is the top priority of our business activities, we are enhancing our responsible care (RC) activities.

0.28

Lost-time injury frequency rate*2

0.004

Lost-time injury severity rate*3

*2 Total number of deaths and injuries caused by labor accidents per one million actual hours worked

*3 Total number of working days lost per 1,000 actual hours worked

Value Creation Process

The MGC Group views social issues in anticipation of 2050 from the perspective of sustainability, such as climate change, the international situation and the advancement of technology. We have established target areas associated with these long-term social issues. We develop products that will usher in a new era through management resources supporting diverse businesses, and through a differentiation strategy premised on the balance of social and economic value, which we then endeavor to provide to various target areas. Through this process, we will fulfill our Group's Mission of "Creating value to share with society."

Social issues in anticipation of 2050

Changes in international situation

Biodiversity crisis

Demographic changes

Environmental impact reduction

Advancements in ICT/mobility

Diversity

Climate change

Behavioral changes

Mission

Creating value to share with society

Management resources supporting diverse businesses

Technological Base

Diverse in-house development technology

Corporate Culture

Enterprising spirit based on entrepreneurialism

Resources and Energy

Uniquely among chemical companies, has technologies and insights cultivated from development of natural gas

Partnership

Value co-creation with a variety of partners

Safety Culture

Cornerstone of business activity

Management strategy for balancing social and economic value

Differentiation strategy

- Pursue distinction
- Promotion of cross-value innovation
- Strengthen discipline and foundation supporting business activities

Reference

The MGC Way P3-4

MGC Report 2022 P11-16
https://www.mgc.co.jp/eng/ir/files/MGC_Report2022e.pdf

Electronic chemicals (EL chemicals)

Engineering plastics

Optical resin/polymer

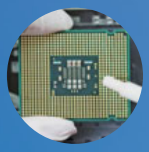
ICT

Output leading to a new era

Target areas associated with these long-term social issues

Outcomes addressing social issues through business

Contribute to development of ICT/mobility society



IC plastic packaging
BT* materials
*bismaleimide-triazine

Foamed plastic

Methanol

Mobility

Energy

Energy resources and environmental businesses

MXDA

Solve energy and climate change problems

Balance social and economic value

Infrastructure

Oxygen absorbers

MX-Nylon (MXD6)

Antibody drugs

Aromatic aldehydes

Medical/Food

Solve medical and food problems

Reference

Message from the President P7-10
Building Competitive Advantage P13-18
Overview of Management Strategy P27-28
Materiality P34-36
Human Capital (Human Resources and Organization) P57-62
Outside Directors Roundtable Talk P67-70

Reference

Building Competitive Advantage P13-18
Highlights of Activities in Fiscal 2022 P24
New/Next-Generation Businesses P47-48
Research and Development P49-51

Reference

MGC Group's History P11-12
Business Operations and Main Products P37-38
Specialty Chemicals Business P39-42
Basic Chemicals Business P43-46

Reference

Value We Aim to Create P19-20
FOCUS: Aiming for Social Transformation with Carbopath™ P21-22

We pursue sustainable growth as we actively transform ourselves to better create value that helps address global challenges.

Masashi Fujii

President and
Representative Director

Direction of Group Management

We take on structural changes in society with a positive mindset for creating new value

The social and economic activities that were interrupted by the pandemic are gradually returning to normal. In fiscal 2022, however, the operations of the MGC Group were substantially affected by steep rises in prices for fuels and raw materials, as well as worldwide economic slowing triggered by the Russian invasion of Ukraine.

To continue producing solid results in this unpredictable business environment, we have to think positively in taking on environmental changes. Looking back, the Group has gone through major changes several times. During the oil crisis a half century ago, we overcame the sharp rise in oil prices and other inconveniences, took advantage of the changes and turned an idea into an unprecedented project to expand our methanol business abroad. Rather than deal passively with external conditions and applying the “common sense” of the old days, it has become more important than ever for us to analyze our past, envision the large structural

shifts to come within 10 or 20 years, and actively transform ourselves. We can think of chemical manufacturers as future forerunners as we develop and commercialize the materials and ingredients that industry will need, ahead of others. By reading the signs of changing times, I'm proud to say that the MGC Group contributes to industry around the world.

The structural changes in society that I am particularly interested in as a president of a chemical company are the energy revolution in a broad sense and progress in information technology. For the former, the idea of a society based on hydrogen as a primary fuel has been discussed worldwide. To help make that happen, it's essential that we establish renewable fuels as a main power source for society, and produce and widely supply "green" hydrogen extracted using renewable energy. If renewable energy is reliably available at low cost, it will trigger all sorts of social change, including boosting the advancement of electric vehicles. The MGC Group is the only chemical manufacturer that owns technologies for natural gas prospecting and development, operating businesses that are generating energy from geothermal, biomass and LNG resources, all of which are highly compatible with our proprietary mining technologies. We understand that an important theme for us is to help address energy-related challenges through our fields of strength, as I've mentioned.

As for progress in information technology, we see major business opportunities in the near future as society advances towards 5G and 6G telecom networks and quantum computing. We must continue building new value into what we make while anticipating customer needs for lighter, thinner, shorter, smaller and less energy-intensive products. We must also carefully monitor factors causing change in society, and turn what we learn into business opportunities.

Addressing social challenges through the chemical business will not be an easy path for the MGC Group to travel alone. Therefore, we have gathered knowledge from various companies and through that collaboration gradually expanded our value chain, with the aim of creating value that helps address global challenges. In implementing these initiatives, I've come to freshly realize the importance of our Mission to "create value to share with society." I hope to give the MGC Group a larger presence in areas where it can maximize its strengths, serve as a starting point for social development, and grow with business partners and local communities.

Differentiation Strategy

We build our competitive advantage through differentiation and higher added value

Since its founding, the MGC Group has grown sustainably by operating diverse businesses based on unique technologies. Intrapreneurship has been passed down for generations within the organizations of the MGC Group, giving each employee the ambition to be a leader in a given chemical field and driving market transformation by honing technologies within our forte. A good example of this is how we rose to the challenge during the oil crisis I mentioned in the beginning.

Constrained by sharply rising prices for raw materials and fuels, some within the Company believed that domestic production of methanol would become increasingly hard to maintain, and began thinking about moving our operations abroad. As the circle of people in support of that idea grew, management decided on an investment project that was exceptionally large relative to sales at that time, and our operation in Saudi Arabia began. I think of this as a symbolic episode representing the Company's DNA. This project positively raised competitive consciousness for the first time among MGC personnel. What followed was a stream of ambitious proposals from other divisions as well, leading to a string of new projects starting in Japan and abroad. These became the foundations for many of our operations today, including those abroad. Recently, our business structure has been shifting more toward products that differentiate us from the rest. This was made possible by employees who take the initiative in growing their respective fields of expertise, noting the markets

that are most compatible with our fundamental technologies and propagating successful practices across the board.

A case in point is the world's thinnest lenses for smartphones and small cameras, realized using an optical polymer with an extremely high refractive index. Our employees take pride in the world-leading functions they create, in turn motivating them to move projects forward proactively. To demonstrate this, I could mention various cases in which our researchers developed new business abroad through direct contact with prospective clients, and this fueled their ambition to explore higher levels of demand. It usually takes a decade to develop a precision part for smartphones, requiring advanced skills to design production plants and manage operational phases. This is why our clients judge our parts to be the best in the world and adopt them as their smartphone products evolve. As a result, our employees experience greater job satisfaction and personal growth. This positive cycle powers our differentiation strategy.

The businesses of the MGC Group follow two models: the market-oriented model, focusing on specific industries and markets, and the product-oriented model, where business develops based on raw materials like methanol. By balancing these models, MGC has been able to grow continuously for over half a century. Today, in response to changes in the market environment, we have begun optimizing our business portfolio. Specifically, we are applying a strategy to bolster competitiveness across the board by increasing the effectiveness of both functional and basic parts of our businesses. We will let go of products that have lost competitiveness and become more like commodities, and shift emphasis toward areas of higher added value. By effectively meeting new market needs while motivating employees and raising job satisfaction, I believe we are accelerating our shift to a profit structure resilient to environmental changes.

Progress with the Medium-Term Management Plan

Reorganizing the engineering plastics business and pursuing monetization of decarbonization solutions

In fiscal 2022, the second year of the Medium-Term Management Plan, we brought in ¥781.2 billion in sales and reported ¥49.0 billion in operating profit. Our optical materials and products related to automobiles struggled in their recovery, but I think we made fairly good results overall for the year, sustained by our better performing polyacetal business and the positive effects of the weaker yen.

The business environment will remain difficult to predict, so we will not restrain investment toward achieving ¥1.0 trillion in sales and ¥100.0 billion or higher in operating profit in fiscal 2030. We project coming close to achieving our targeted ¥240.0 billion in investment over a three-year period. In fiscal 2022, we invested in growth businesses, including the MXDA plan in Europe and new electronic chemical plants in the U.S., Taiwan and China. We will continue investing in fields where we have a competitive advantage and unique strengths over the medium and long terms.

Due to the high level of investment, fixed and amortization costs have been rising for the entire Group. This means investment can help compress operating profit by a larger margin if the market environment deteriorates. That said, we in management place highest priority on sustainable business growth, and make investment decisions with medium- and long-term market growth in mind. I strongly believe that funds we have invested in enhancing our differentiated businesses and new and next-generation businesses will bear fruit. At the same time, we are withdrawing from unprofitable businesses. We have decided to stop producing formalin and polyol products and streamline that operation, and have shifted to highly profitable high-functioning products, such as adhesives used in construction of all-wood buildings.

A top-priority theme for fiscal 2023 is the reorganization of our engineering plastics business. In April, we made Mitsubishi Engineering-Plastics Corporation a consolidated subsidiary and began working to increase its percentage of high-value-added products among polycarbonates and raise profitability by unifying certain grades.

Our long-term theme is accelerating to achieve carbon neutrality with the power of chemistry. For

the MGC Group, decarbonization presents an opportunity to build earnings as well. We already have about 30 research projects in progress. Two of those have been selected as Green Innovation Fund Projects by NEDO*. With our unique technologies and specialists holding the key to decarbonization, I believe we can achieve a level of results worthy of social implementation. Because atmospheric carbon dioxide, the major contributor to global warming, has future potential as a chemical ingredient, we have been discussing the underground construction of CO_2 capture-and-storage (CCS) facilities in the Group's natural gas field.

* New Energy and Industrial Technology Development Organization

Promotion of Sustainability Management

As a Group, we work continuously to create more functional value than ever

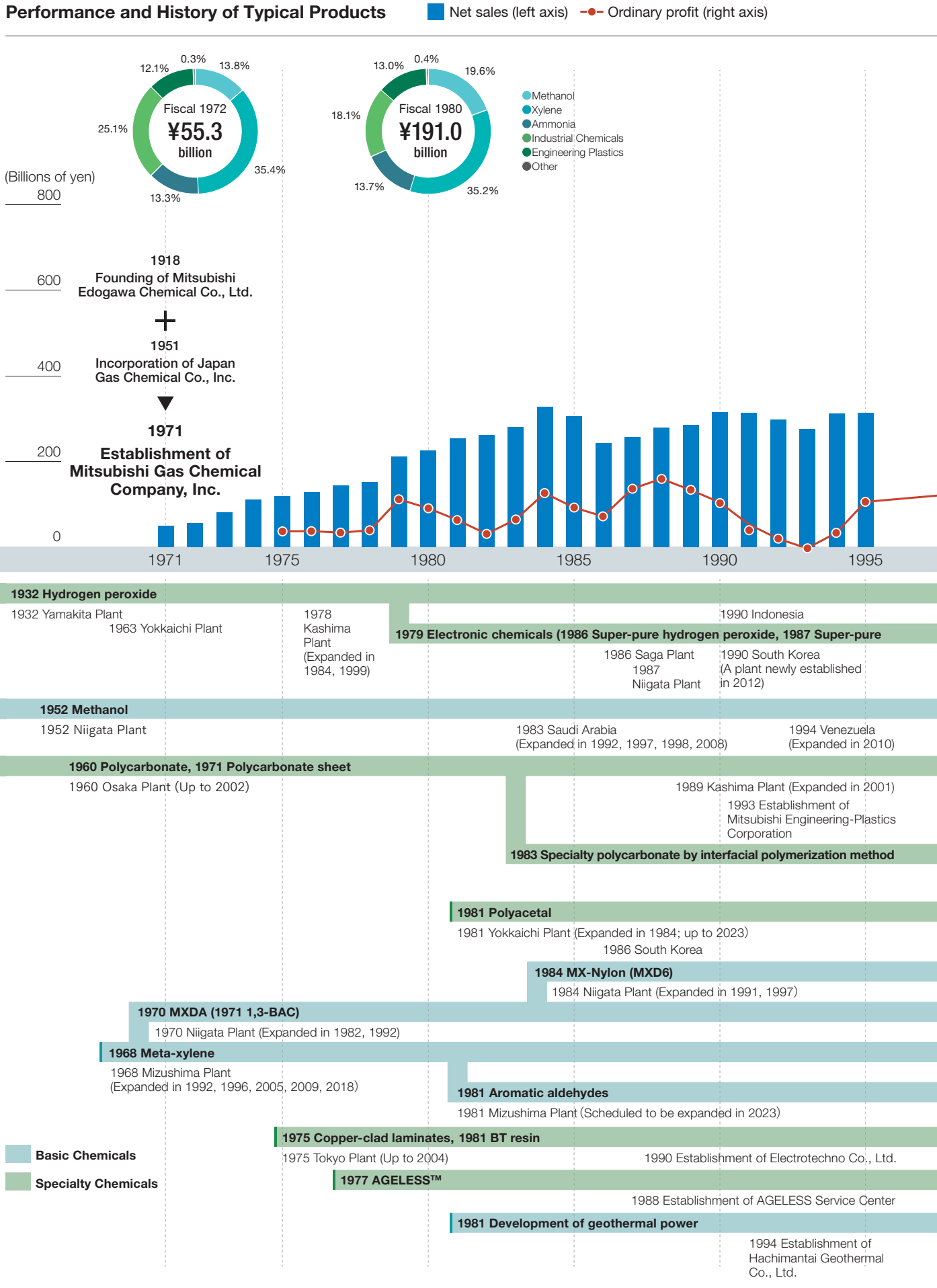
The sustainability management practices of the MGC Group are meant to ensure that we generate functional value while helping address social issues to the best of our ability as a chemical company. Toward realizing this, I told all employees at the beginning of the year, "The conventional view of market trends no longer works. Think with the new standard of value and act accordingly." Meaning embracing the paradigm shift currently under way rather than denying it. In doing so, it's important that we add new value to chemical products and follow through on our resolve to help customers and society address their challenges. By always reminding ourselves to "create value to share with society," we will naturally see our organization through irreversible changes in economies.

The most important capital we can tap in realizing this kind of value creation is our human resources. The great majority of MGC Group employees are career-minded individuals pursuing higher-level job skills. So the Company focuses on supporting their ambitions by providing opportunities to enhance their skills and improving work environments to nurture personal growth. Management has always valued the well-being of each employee, acknowledging and making the most of their desire to grow. We have assigned the MGC Commons, our new innovation center opening in October 2023, the role of promoting collaboration and synergy among Group employees, and even with outside partners.

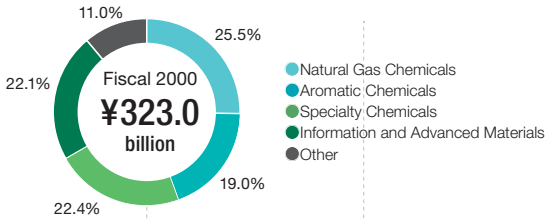
I will continue to work to ensure that this unique chemical group is valued highly by all stakeholders in terms of both financial aspects, such as business performance, and non-financial aspects, specifically sustainability matters including advanced proprietary technologies and health and productivity management.

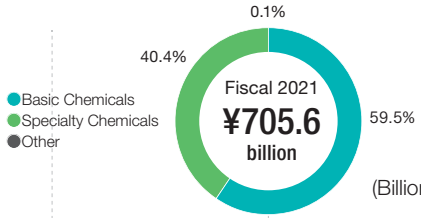
MGC Group's History

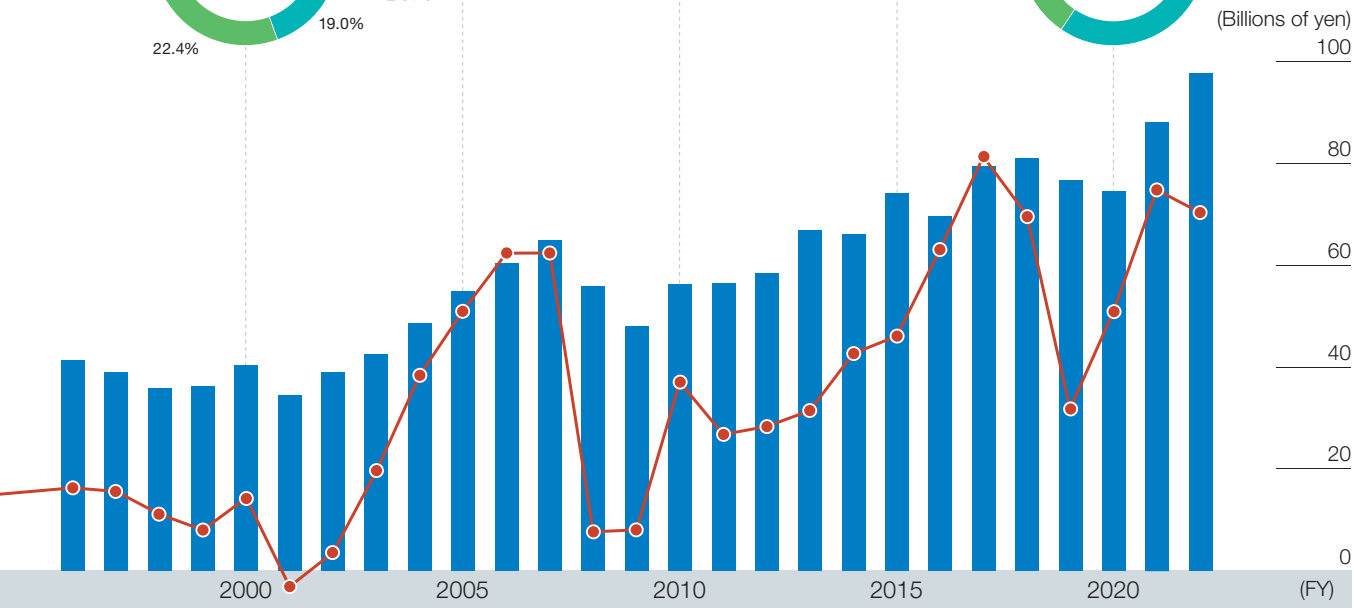
Performance and History of Typical Products



Note: Non-consolidated figures shown for fiscal 1971-1976, consolidated figures shown for fiscal 1977 onward







2009 China (Relocated in 2018)

ammonium hydroxide)

1995 United States (Plants newly established in 2020, 2021; scheduled to be expanded in 2023)
1998 Singapore (Expanded in 2001)
2000 Taiwan

2010 Brunei
2020 Trinidad and Tobago

1997 Thailand (Expanded in 2003)
2005 Establishment of MGC Filsheet Co., Ltd.
2011 China

1998 Lens monomer, 2000 Melt polymerization special PC (Optical resin/polymer)

1998 Naniwa Plant (Expanded in 2001)
2002 Kashima Plant (Expanded in 2010, 2016, 2019, 2022)

1996 Thailand
(Expanded in 2003, 2012)
2002 China

2004 United States

2007 Mizushima Plant (1,3-BAC; expanded in 2017)

(now MGC Electrotechno Co., Ltd., expanded in 2007) (Newly established in 2013; expanded in 2022 in Thailand)

2004 PharmaKeep™

(now MGC AGELESS Co., Ltd.) (Newly established in 2001, Thailand; 2016, Fukushima)

(now Hachimantai Green Energy Co., Ltd.)
(Started operations in 1994 to supply steam to Sumikawa Geothermal Power Plant)

2010 Establishment of Yuzawa Geothermal Power Corporation (Started operations in 2019 at Wasabizawa Geothermal Power Station)

2015 Establishment of Appi Geothermal Energy Corporation

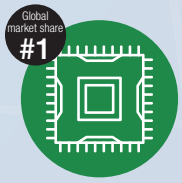
Building Competitive Advantage

Super-pure hydrogen peroxide

Global production capability ensures a stable supply of high-quality products to meet the needs of the most technologically advanced customers

Primary applications

Cleaning agents and etching agents for semiconductors



BT products

Proprietary materials with superior low-reflectivity and electrical properties, able to keep pace with the evolution of the semiconductor market

Primary applications

IC plastic package substrates (smartphones, computers, IT appliances, etc.)

Optical resin/polymer

Balances high refractive index with low birefringence, contributing to enhanced camera functionality

Primary applications

Materials for smartphones and other compact camera lenses
*As a highly refractive resin (concave lens)

Polyacetal resin (POM)

Engineering plastics offering superior wear resistance, low friction and chemical resistance

Primary applications

Automotive components, electronic components, office automation equipment

Meta-xylenediamine (MXDA)

Superior rapid curing, anticorrosion and chemical resistance

Primary applications

Epoxy resin curing agent (paint for bridges, ships and industrial pipes and ducts), raw material for MX-Nylon

MX-Nylon (MXD6)

High gas barrier properties contribute to weight reduction of PET bottles

Primary applications

Food packaging materials, PET bottles, engineering plastics

Aromatic aldehydes

Customized to customers' requirements using proprietary production methods that are efficient and have low environmental impact

Primary applications

Resin additive (agent that renders polypropylene transparent) and fragrances

Methanol

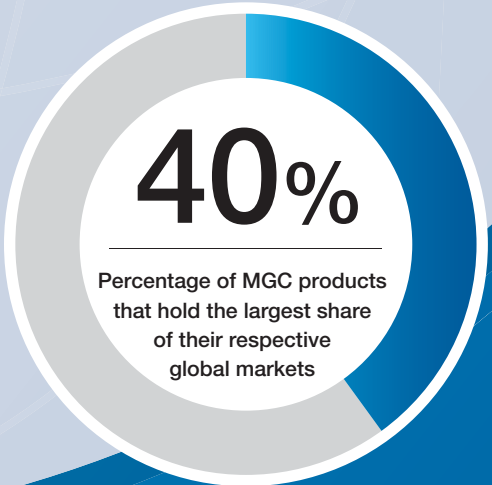
World's only comprehensive manufacturer with proprietary catalyst technology and complete methanol value chain, from manufacture to sales of derivatives

Primary applications

Raw materials for formalin, acetic acid, etc., intermediate materials

Basic Chemicals Specialty Chemicals

(Global market share, etc. are estimates made by the Company)



Creating Differentiated Products through a Beneficial Cycle of Needs and Seeds

Around 40% of the MGC Group's products have captured the top share in their global markets. We have created a number of products with strong competitive advantages in the market. Behind these are our distinctive technologies and resources (seeds), which we have used in dialogue with the markets before matching customer needs identified in dialogue with high-quality information. In this way, we have been working ceaselessly to expand higher functionality product development and solutions. We have strengthened our speedy technology development structure based on a deep understanding of customer needs, and we have established and maintained a leading market share in certain fields. In other words, through a combination of product-oriented and market-oriented approaches, we have created distinctive products that are difficult for other companies to imitate.

Over 90% of our products were developed in-house. Internally, we have created a technology platform for research personnel on the Company intranet. We combine a rich array of core technologies to customize our seeds and develop new products and grades. For high-priority themes, we have also provided an evaluation system for generously allocating research resources.

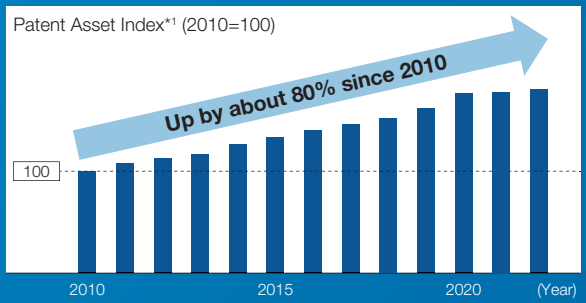
The Expected Future	Advanced semiconductor technology	Supply chain rebuilding	Circular economy	Dealing with emerging countries	Expanding presymptomatic needs
	Developments in CASE	Dealing with the environment and climate change	Shift to smart cities	Advanced medical technology	Tightened food supply and demand
Target Area	ICT	Mobility	Energy	Infrastructure	Medical/Food
Business Opportunities	• Increased demand for raw materials for components for cameras and electronic devices • Expanded need for materials that lead to weight savings • Expanded use of solid-state batteries	• Shift to renewable energy • Development of CO_2 recycling technology • Expanded demand for infrastructure in emerging countries • Progress in use of IoT/AI technology		• Antibody drugs to become mainstream in drug discovery field • Diversification of allergy diagnostics • Response to food loss problem	
Product Examples	Optical resin/polymer	Carbon fiber composite materials	CO_2-derived methanol	Geothermal power generation	Allergy test chips
	IC plastic packaging BT materials	Solid electrolytes	CO_2-derived polycarbonate	MXDA	Oxygen absorbers
Technology Platforms	**Catalysts** • Superacid • Solid catalyst • High-pressure technology	**Polymer Science** • Condensation polymerization • Bulk polymerization • Oxidative polymerization • Polymer design • Films and sheets • Resin processing	**Biotechnology** • Continuous cultivation • Breeding • Antibody drug technology		
	Synthesis • Air oxidation • Liquid-phase oxidation • Hydrogenation	**Functional Products** • Oxygen absorbers • Varnish manufacturing • Chemicals for semiconductors	**Process engineering/ analysis (common)**		

Target Areas and Technology Platforms

The Group has five technology platforms: catalysts, synthesis, polymer science, functional products, and biotechnology. MGC's catalyst technology originates in the development of a catalyst for methanol synthesis and has been applied in the commercialization of many original chemical synthesis processes. On the other hand, polymerization technology acquired through downstream development is also used in functional design of mechanical and optical properties. We develop new functional products by combining multiple raw materials into compounds. Moreover, a raft of biotechnologies are being developed from the culture technologies accumulated while promoting R&D into microbial proteins using methanol as a raw material. The differentiated products created from this technological foundation will provide effective solutions to emerging issues in target areas that the Company is focusing on.

Patents are one type of intellectual property that we produce through daily research and development work. Our total patent value continues to grow as we focus on R&D themes that will meet the needs of the times.

Total Patent Value



*1 An index that visualizes the technological strength and influence of an applied patent in global terms, obtained by objectively evaluating quality (value based on how often the subject patent is cited worldwide) and quantity (number of applications)
Source: H. Ernst and N. Omland, World Patent Information, vol. 33, pp. 34-41 (2011)

The DNA of a Company Built on Technology

From the 1950s to the 1970s, Japan's chemical industry experienced the post-war economic boom and entered a period of growth. In most cases, companies were producing new products by licensing technology from overseas. Mitsubishi Gas Chemical was established in 1971 through an equal merger of two manufacturers, both among the few in the industry at that time who were focusing on technologies developed in-house.

One of the predecessor companies, Japan Gas Chemical Co., Inc., was incorporated in Niigata City in 1951 as Japan's first natural gas chemical industry manufacturer. Since methanol derived from natural gas was cheaper and of higher quality than existing products, Japan Gas Chemical quickly became a leading manufacturer of methanol. In 1957, it launched Japan's first operation for producing ammonia from natural gas. Such initiatives made for highly competitive business. Entering the 1960s, Japan Gas Chemical also entered the petrochemical business, and started commercializing its in-house developed xylene separation/isomerization technology. It developed the world's first HF-BF_3 method, and applied the technology at the Mizushima Plant, which started operations in 1968. Japan Gas Chemical also focused on nylon MXD6, which has excellent gas barrier properties against oxygen and CO_2 and promoted the development of meta-xylenediamine (MXDA).

1952 Methanol manufactured from natural gas

1968 Xylene separation technology using superacid HF-BF_3

The other predecessor company was Mitsubishi Edogawa Chemical Co., Ltd.,*2 which was founded in 1918 and in 1927 became the first company in Japan to succeed in manufacturing formalin. In 1933, Mitsubishi Edogawa Chemical began production of hydrogen peroxide using a proprietary electrolytic process. The product was used in applications such as bleaching paper. In 1937, Mitsubishi Edogawa Chemical started production of Japan's first laminate materials for printed circuit boards. In 1961, it started production of polycarbonate (PC) using a proprietary interfacial polymerization method. The company maintained a high market share in the PC market, while continuing to grow as a company with strengths in formalin derivatives and engineering plastics.

1927 Formalin manufactured

1933 Hydrogen peroxide manufactured using the electrolytic process

With Japan Gas Chemical handling the upstream side of the methanol business using natural gas as a raw material and Mitsubishi Edogawa Chemical having strengths in raw materials such as methanol derivatives on the downstream side, their merger was seen by many as inevitable and logical. The merger was expected to enable efficiency gains through joint procurement of resources and raw materials and the building of an integrated production system, as well as the demonstration of competitive advantages over the long term due to their mutually complementary technologies. Furthermore, the start of the 1970s, when the Company was established, was an era of increasingly strong international competition in the chemical industry. In this business environment, retaining our identity as a chemical manufacturer with a distinctive technological orientation required massive investment in research and development and investment in production facilities. The merger created a structure capable of carrying out such an investment strategy.

The two companies had each developed world-first and Japan-first businesses through their unstinting efforts, and their DNA has been passed down to the Group's employees today. We are proud of our corporate culture of originality and pioneering spirit, which are the foundation of our value creation.

*2 The company's name at the time of its foundation was Edogawa Barium Industry Co., Ltd.

Creation of Markets Based on a Differentiation Strategy

The oil shock of 1973 occurred just after the Company was launched. The event had a major impact on the management of chemical companies as it caused energy and electricity prices to soar and sparked an economic downturn. Furthermore, the impact of the yen's appreciation and the reverse oil shock starting in 1985 was even more serious for the Company. The advantage of using natural gas produced by the Company in Japan as a raw material was virtually eliminated, while market competition became more intense for our other earnings pillar, hydrogen peroxide. Reforming our business structure to enable increased functionality and added value in our product lineup became an urgent task.

Anticipating these environmental changes, in 1983 the Company led the industry by starting production of methanol in Saudi Arabia. To maintain competitive pricing, we dramatically overhauled our production site strategy, moving our production sites away from consumption areas and closer to raw material sources.

1983 Saudi Arabia (methanol)

1990 Indonesia (hydrogen peroxide)

1997 Thailand (engineering plastics)

2010 Brunei (methanol)

2020 Trinidad and Tobago (methanol)

2024 Netherlands (MXDA/construction site planned)

Moreover, the late 1970s to the 1980s was also an era of expansion for the electronics-related markets. We established a specialist department for electronic-materials and prepared a structure that could respond immediately to new needs from customers. BT resin was commercialized around this time, and sales grew rapidly as it was adopted for use in laminate materials for IC plastic packaging. Today, BT resin continues to contribute to miniaturization and performance gains for electronic devices around the world. In hydrogen peroxide, to meet the needs for higher integration of semiconductors, in 1986 we developed super-pure hydrogen peroxide with a metal ion concentration of 1 part per billion or less. Also in 1986, we reorganized our research and development structure and made large-scale capital investments. We strove to create markets in Japan and overseas through application development of existing products.

Meanwhile, in polycarbonate (PC), which had mainly been used for miscellaneous items and construction materials, we continued to expand demand for new applications, including eye wear in 1990, optical film for LCD panels in 1999, and automotive materials in the 2010s. The oxygen absorber AGELESS™ experienced rapid growth in the 1980s, providing an example of success in a different field from that of conventional chemical products as a result of market expansion efforts made by the Company's sales engineers.

After that, in the overseas methanol business, we expanded our production sites to countries with natural gas reserves, such as Venezuela in 1994 and Brunei in 2010. In 2020, we started production in Trinidad and Tobago, strengthening our global supply structure. For super-pure hydrogen peroxide, we expanded our production sites in consumption areas, moving into South Korea in 1991, the United States in 1996, Singapore in 1998, and Taiwan in 2001.

In 2000, we introduced the internal company system to thoroughly implement selection and concentration. We established a system to allow each internal company to make investment decisions quickly at its own discretion. This improved Group financial soundness and accelerated our business activities. While withdrawing from nonperforming businesses, we proceeded further with globalization and market creation.

In building up a competitive advantage, we recognize that the common point for both upstream and downstream products is the creation of new growth markets based on the MGC Group's unique management resources and differentiation strategy.

Increasing Product Performance and Expanding Applications

Share of sales: Large | Medium | Small

	Decade	~1950	1960	1970	1980	1990	2000	2010	2020
Hydrogen peroxide	Paper pulp, fiber, and industrial applications								
	Cleaning semiconductors, etching								
	Disinfection and sterilization								

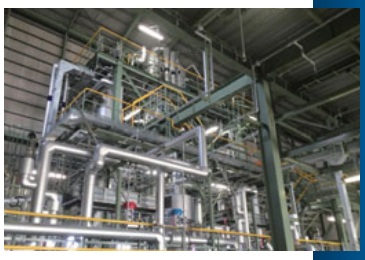
	Decade	~1950	1960	1970	1980	1990	2000	2010	2020
BT materials	Printed circuit substrate materials for calculators and clocks, etc.								
	IC plastic package substrate materials								
	Chip LED substrate materials								
	High-frequency applications								

	Decade	~1950	1960	1970	1980	1990	2000	2010	2020
Optical materials	Organic photoconductors (OPCs)								
	Spectacle lenses								
	Smartphone camera lenses								
	Automotive camera lenses								

Creating Value to Share with Society

In September 2015, the Sustainable Development Goals (SDGs) were adopted by the United Nations Summit, and a large number of organizations worldwide began activities based on them. The 17 ambitious goals of the SDGs cannot be achieved by individual companies working alone. Therefore, the SDGs became a link connecting diverse organizations. As a distinctive chemical manufacturer, we believe the MGC Group is able to accelerate proactive initiatives toward achieving the SDGs by teaming up with companies and organizations in other industries. As a first step, in 2021, the 50th anniversary of our establishment, we announced the Group's Mission, "Creating value to share with society." Then, we started our Medium-Term Management Plan, which looks ahead to the future around 2050 and aims to "shift to a profit structure resilient to changes in the business environment" and "balance social and economic value."

In the process of formulating the plan, we discussed our path toward creating long-term value based on the SDGs and the Japanese government's declaration that Japan will realize carbon neutrality by 2050. This discussion concluded that to achieve the SDGs and contribute to the formation of a decarbonized society, it is crucial that we accelerate our research and development for advancing chemicals and materials in fields such as fossil fuel alternatives, ICT and mobility, medicine, food management, and infrastructure. In particular, global demand for realizing carbon neutrality should be viewed as a tailwind for the MGC Group, rather than a headwind, since we have extensive knowledge and solutions in these fields, and the technological foundation to support them.

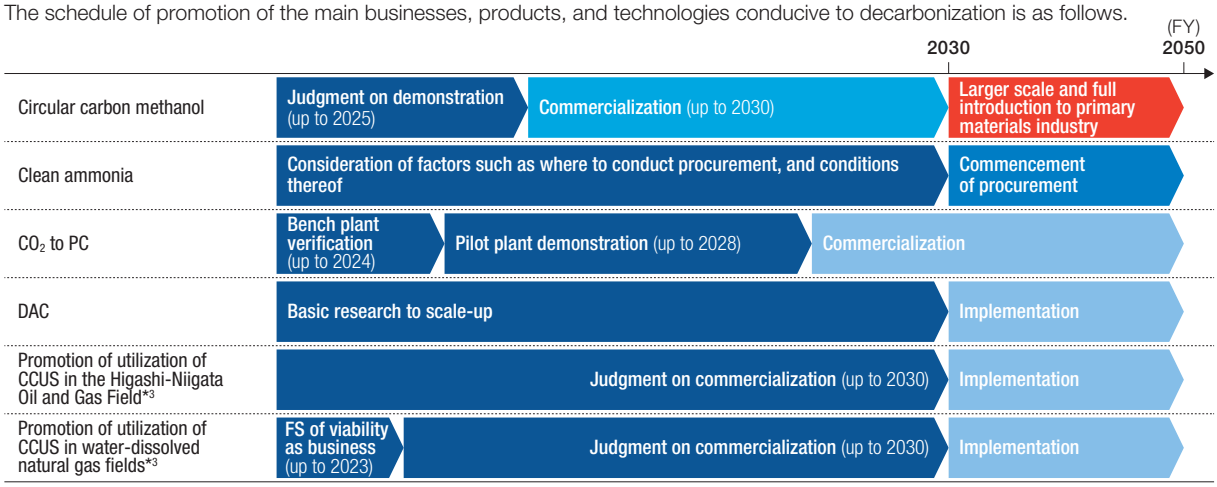


Circular carbon methanol pilot facility (Niigata Plant)

In 2020, we ended the internal company system that we had introduced in 2000 and radically changed our organizational framework with a view to overall optimization. We will continue to focus on creating products that enable us to approach solutions to global-scale challenges, and we will continue to direct the combined capabilities of the MGC Group towards creating value to share with society.

Development of Products and Technologies Conducive to Decarbonization

The schedule of promotion of the main businesses, products, and technologies conducive to decarbonization is as follows.



*3 Injection of CO_2 and utilization in increased production of oil and natural gas (EOR/EGR)

Clean Ammonia

Discussions are being held with four domestic chemical manufacturers for the stable securement of clean ammonia*4, expected to serve as a next-generation energy source. Furthermore, CCS*5 surveys are being conducted in Indonesia by PAU, an ammonia manufacturer in which MGC has an indirect investment.

*4 The collective term for blue ammonia, which combines CCS storing CO_2 emitted at the time of ammonia production underground, and green ammonia, which uses renewable energy hydrogen as a raw material for ammonia

*5 Technology for capturing and storing CO_2

Promotion of Utilization of CCU*6

MGC is engaged in the manufacture of polycarbonate using CO_2 as a raw material. The Company has succeeded in the development of a process that emits less CO_2 in the manufacturing process than existing manufacturing methods, and will conduct verification thereof in a bench plant until 2024, with plans to complete demonstrations in a pilot plant on the scale of 2,000 tons of DPC and 600 tons of PC by 2028. Ultimately, the aim is the commercialization and social implementation of the process.

*6 Technology for capturing and utilizing CO_2 as a resource

Promotion of Utilization of CCUS

MGC participated in a large-scale CCS demonstration test by NEDO in Tomakomai. Injection of CO_2 underground commenced in 2016, and a total of 300,000 tons of CO_2 was stored underground by 2019.

Furthermore, MGC is considering the injection of CO_2, mainly generated at the Niigata Plant, into the Higashi-Niigata Oil and Gas Field to increase production of oil and natural gas by utilizing EOR/EGR (enhanced oil/gas recovery).

Value We Aim to Create

In the Medium-Term Management Plan, we established a vision for the next five to ten years of each business sector. We believe that we can play a role in transforming industry and society to unlock their potential through the creation of new value through MGC's unique products to help solve social issues.

Contribute to Development of ICT/Mobility Society

In the ICT area that is one of our target areas, DX through the utilization of AI, IoT and other technologies is expected to advance in the future. The importance of chemicals used in the high-performance semiconductors that form the foundation for these is also continuing to increase. Meanwhile, in the area of mobility, new ingredients and materials that match the needs of computerization and low environmental impact are required. The MGC Group is strengthening proposals for material development and solutions with a view to such next-generation needs.

Electronic Chemicals

Global semiconductor demand will continue to grow in the future, and the electronic chemicals essential for their manufacture are also expected to see significant growth. The MGC Group seeks to further increase the purity of electronic chemicals used in the semiconductor cleaning process, while contributing to the miniaturization and increased functionality of semiconductors.

Optical Resin/Polymer

The optical materials offered by the MGC Group are primarily used in camera lens materials for smartphones and so forth. In the area of ICT and mobility, applications and markets such as sensing devices for visualization of objects not perceptible to the naked eye are expected to expand.

Methanol

Methanol, currently used as a chemical raw material, is also expected to be utilized as a hydrogen transport medium. MGC, which is the only comprehensive manufacturer of methanol in the world, is currently promoting initiatives to commercialize a circular carbon methanol production process using CO_2 as a raw material, called Carbopath™.

BT Materials for IC Plastic Packaging

The MGC Group's laminate materials have maintained the world's top market share by improving IC plastic packaging performance, optimizing form factor, and ensuring ease of use. MGC will continue to contribute to the early diffusion of ultra-high-speed communications and the advent of IoT society through promoting research that anticipates trends in the semiconductor industry.

Engineering Plastics

Polycarbonate (PC) and polyacetal (POM) are materials that have contributed to making automobiles and electronic devices more lightweight and extending their life. In recent years, they have been used instead of existing materials in a wider variety of industries. MGC has started development of PC manufacturing technology using CO_2 as a raw material.

Foamed Plastic

Foamed plastic, being lightweight with excellent vibration absorbency, contributes to the improvement of both collision safety and fuel efficiency, mainly as an automotive material. As the shift to EVs accelerates, areas in which it is used are expanding, such as rear seat cushion material and front seats.

Solve Energy and Climate Change Problems

Taking advantage of our many years of experience developing natural-gas fields and producing methanol, we are working to commercialize our carbon-negative*1 technology. We are concentrating effort on R&D related to methanol synthesis from CO_2 as well as on CO_2 capture, utilization and storage. We also endeavor to contribute to addressing issues related to energy and climate change in a way that is unique to the MGC Group as a chemicals company, such as the use of methanol and ammonia as a hydrogen carrier, geothermal power generation, which no other company in the chemicals industry is doing, and materials development to help extend the life of wind power-generation equipment.

*1 State in which absorption of greenhouse gases (GHG) is greater than emissions of same in business operations.

Solve Medical and Food Problems

In light of accelerating global population growth and aging, the MGC Group is expediating development of product groups that will lead directly to the enhancement of preventive and predictive medicine and the improvement of medical productivity. As for addressing food-related challenges, in 1977 we began marketing an oxygen absorber that extends the storage life of foods, and have been improving it for over 40 years. Taking full advantage of the management resources of the Group, we will continue to develop advanced technologies to help extend healthy life expectancy and support sustainable food management.

Energy Resources and Environmental Businesses

The MGC Group is a unique chemical manufacturer in the geothermal power generation business, and is also participating in natural gas power generation projects. In the future, we aim to contribute to realizing new energy systems that combine CCS technology, for the capture and storage of CO_2, and CCU technology, which utilizes it as a resource.

Oxygen Absorbers

AGELESS™, a quality-improving agent preventing food deterioration by absorbing oxygen, brought about a revolution in the storage and transportation of food. Going forward, we will focus on development of fresh food applications with the aim of reducing food waste and loss, and contributing to addressing the hunger problem. Applications in pharmaceutical and industrial areas are also increasing.

Antibody Drugs

Based on our culture technology, we have established basic manufacturing techniques for antibody drugs, and perform contract process development and manufacture of bio-pharmaceuticals. From the perspective of security, the importance of domestic production of pharmaceuticals is increasing, and we will contribute to the stable supply of pharmaceuticals as a reliable domestic manufacturing base.

MXDA

MXDA has properties for preventing the deterioration of metal. It is used as an epoxy curing agent in coatings for construction and industrial pipes, and its applications have recently expanded to include maintenance of wind power. MGC is also engaged in the development of high-efficiency DAC*2 technology using MXDA.

*2 Direct air capture is a technology that captures CO_2 directly from the air.

MX-Nylon (MXD6)

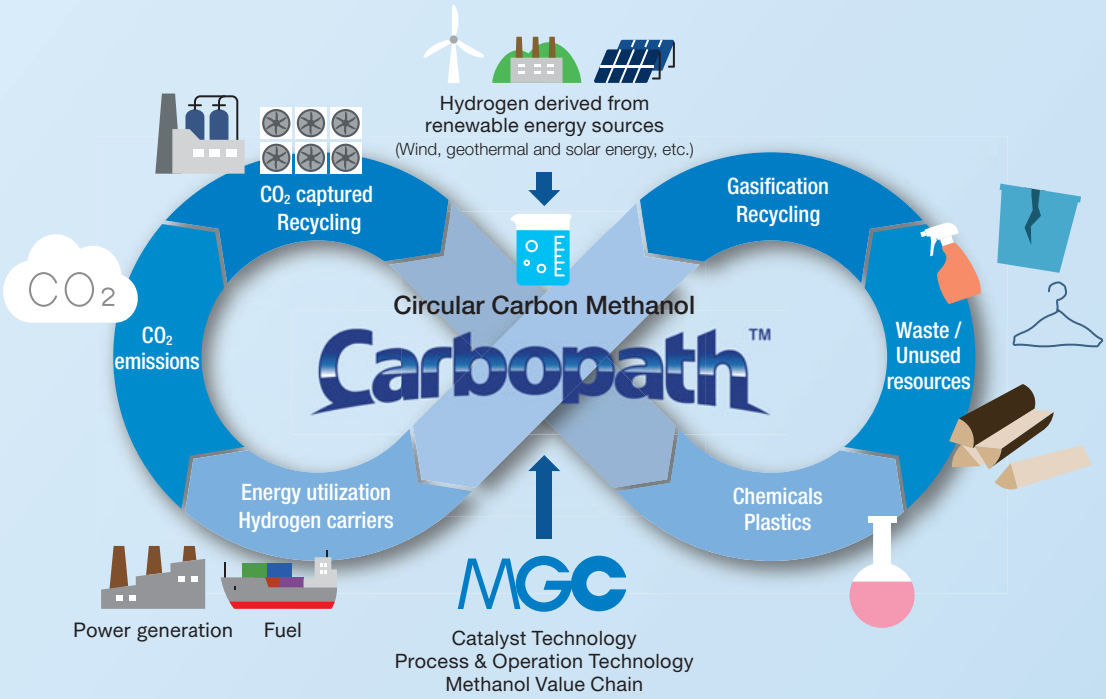
MX-Nylon, which has superior gas barrier properties, is a material that reduces food waste and also contributes to the weight reduction of PET bottles and automotive components. At present, we are actively engaged in environmental initiatives such as the reduction of GHG emissions through the transition to plant-derived raw materials.

Aromatic Aldehydes

Aromatic aldehydes are used in diverse applications including fragrances and resin additives. MGC's manufacturing process has the advantage of high purity due to it being able to efficiently extract target substances. For this reason, demand for these products, which can be safely used for applications such as food packaging and fragrances, is increasing.

Overview of Circular Carbon Methanol Concept

Carbopath™ Proposition for a Circular Economy through Circular Carbon Methanol



Increasing international movement towards carbon neutrality has presented the MGC Group with a new opportunity for business growth. One leading initiative is the Circular Carbon Methanol (CCM) concept, in which atmospheric CO_2 emissions, waste plastics, and others are converted into methanol, recycling them for use as chemicals or fuel, and in power generation.

MGC's history with methanol goes back to 1952, when the Company became the first in Japan to succeed in synthesizing methanol from natural gas that it had produced. Since then, we have accumulated expertise in catalyst development, synthesis technology and manufacturing over many years, along with plant operation experience. We also became one of the first to engage in research on methanol manufacturing methods using not only natural gas, but also CO_2 and hydrogen. Then, in 2020, based on the Japanese government's declaration of intent to achieve carbon neutrality by 2050, we set a new direction, aiming to make R&D on methanol made from renewable resources into a business to support our future growth.

Under this concept, MGC will invest in the methanol production business, issue technology licenses, provide operation and maintenance services, and conduct product transportation and sales. Currently, we are aiming to achieve social implementation of CCM while working to accelerate cross-industry collaboration between companies and local governments that have essential sources of renewable energy-based hydrogen and CO_2 emissions needed for realizing this concept.

In 2022, the brand name Carbopath™*1 was adopted for this concept. This brand name expresses MGC's desire to be a pioneer in promoting the CCM concept. MGC is committed to realizing carbon neutrality and a circular carbon society by promoting its environmentally advanced methanol business.

*1 Carbopath™ is derived from "carbon" and "path-finder."

Image of Collaboration with Partners

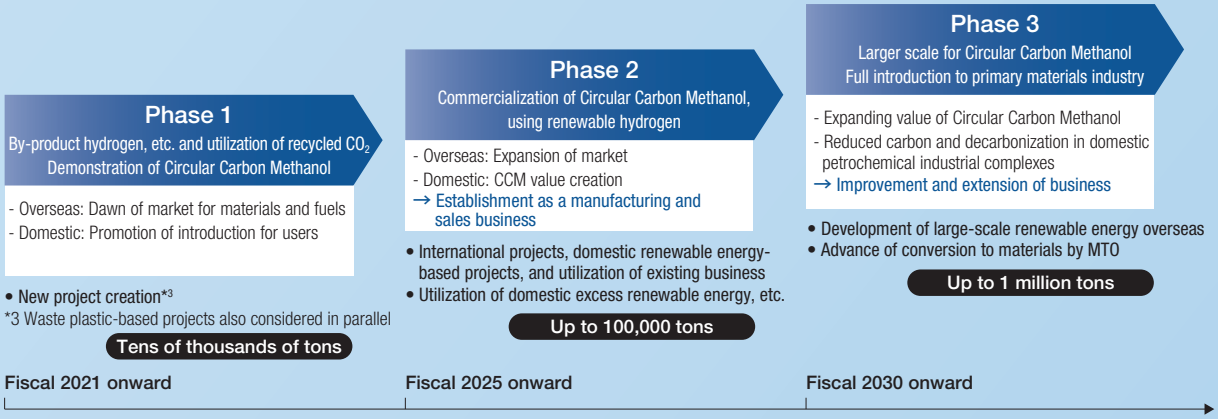
*2 Forestry thinnings, construction waste wood, food scraps, livestock dung, sewage digestion gas, etc.

Aiming to Expand Manufacturing Scale and Increase Commercial Viability in Three Phases

In Phase 1 of the production model, MGC modified a small-scale pilot facility in its Niigata Plant, and started a demonstration trial of methanol production using CO_2 and hydrogen as raw materials from July 2021.

At the same time, from 2022, we started a series of collaborations with other companies toward social implementation of CCM. First, in March of 2022, we participated in a joint project with JFE Engineering Corporation to achieve Japan's first successful production of methanol using CO_2 captured from waste incineration exhaust gas. In June, we started a feasibility study with chemical manufacturer Tokuyama Corporation regarding the commercialization of methanol production using CO_2 emissions and hydrogen generated by manufacturing processes. In August, we collaborated with four other companies, including Kobelco Eco-Solutions Co., Ltd. in a joint effort to launch Japan's first demonstration project for the gasification and methanol conversion of waste plastics. Overseas, we started studying the manufacture and sale of CCM with Cement Australia Pty Ltd in October.

From fiscal 2025, in Phase 2, we will establish a business model that can secure appropriate profits using a plant with a production capacity of 100,000 tons. From fiscal 2030, we will increase the manufacturing scale up to the 1-million-ton level in order to increase commercial viability. We will further accelerate collaboration with companies and local governments, aiming to transform society with a circular economy.



Initiatives for Social Implementation

Fully Engaged in Preparation for First Commercial Plant

Kohei Shimada
Business Development Department,
Methanol Division,
Basic Chemicals Business Sector

Methanol is a chemical that has excellent properties for contributing to carbon neutrality. Despite this, it is generally not as well-known as hydrogen and ammonia. When the production model was first established, a considerable number of hours were spent on advertising its usefulness to people. In information dissemination, we strengthened our cooperation with other departments and participated in diligent explanations and seminars to companies and local governments in Japan and overseas, as well as issuing press releases. As a result of these efforts, we have recently seen an increase in new inquiries, showing that methanol's profile is truly rising. To establish Carbopath™ as a manufacturing and sales business required cross-industry collaboration. Therefore, we are also striving to exchange information and explore new proposals with companies from other industries and local governments.

Currently, we are promoting preparations to start up the first commercial plant for Carbopath™. We intend to use this plant as a launching point for developing new customers involved in decarbonization management, while further growing our high-environmental-value business.

Untapped Demand Related to Decarbonization of the Maritime Shipping Industry Presents a Tremendous Opportunity

Takayuki Manabe
Marketing Department, Methanol Division,
Basic Chemicals Business Sector

My role is to support the commercialization of Carbopath™, mainly by working in logistics and demand development, including offtaking methanol products manufactured through projects that we are working on with partners in Japan and overseas. In addition to business discussions with existing customers in Japan, I also focus on approaching consumers and brand owners positioned further downstream.

The methanol manufactured in Japan through this Carbopath™ concept is consumed not only in diverse applications as a basic raw material, but can also impart value to resources that have not been used until now, such as CO_2 and waste plastic. By making effective use of these resources produced in Japan, we believe we can create a new business model based on local production and consumption.

Overseas, meanwhile, we expect to see growth in demand for methanol as a carbon neutral fuel for the shipping industry, which is increasing the pace of its efforts to decarbonize. We have already begun collaborating with shipping companies and bunker supply companies. We aim to accelerate the commercialization of Carbopath™ through these initiatives.

Progress on Management Strategy

Highlights of Activities in Fiscal 2022

April 2022: Started business of sales company for polyacetal (POM), etc. in Korea

KOREA POLYACETAL, which sells polyacetal, etc., started business as part of the Group's integrated management of the of POM-related business, which is positioned as a differentiating business.

April: Expanded Thai subsidiary manufacturing BT materials for IC plastic packaging

Construction to expand production capacity at a high level for not only general-purpose materials but also highly functional laminated materials was completed at MGC ELECTROTECHNO (THAILAND), which manufactures BT materials, in order to swiftly respond to semiconductor demand.

May: Started discussion on a partnership with Becton, Dickinson and Company in development of next-generation prefillable syringes

Discussions started for a partnership with Becton, Dickinson and Company, a leading medical device company, to promote further utilization of the OXYCAPT™ plastic prefillable syringes with a multilayer structure developed by MGC.

June: Began Japan's first joint study on social deployment of circular carbon methanol utilizing CO_2

MGC and Tokuyama Corporation began considering commercialization of the manufacture and sale of circular carbon methanol made from CO_2 emitted and hydrogen generated at Tokuyama's Tokuyama Factory.

July: Completed plant for Iupizeta™EP optical resin/polymer

Completed the third mass-production plant at the Kashima Plant to boost production capacity for Iupizeta™EP optical resin/polymer used for highly functional precision lenses in smartphones and various other products.

August: Started Japan's first demonstration project of gasification and conversion of waste plastic into methanol

Kobelco Eco-Solutions Co., Ltd., which possesses fluidized-bed gasification technology, Daiei Kankyo Co., Ltd. and DINS Kansai Co., Ltd., which promote the chemical recycling of waste plastic, Mitsubishi Kakoki Kaisha, Ltd., which possesses hydrogen production and synthetic gas production technology, and MGC, which promotes a circular carbon methanol vision, established a joint demonstration project in February 2022 with the aim of creating Japan's first chemical recycling technology. In August 2022, the project was chosen by the Ministry of the Environment as a "demonstration project for the creation of a recycling system for resources such as plastic supporting a decarbonized society subject to a grant for operating expenses for measures to curb carbon dioxide emissions."

August: Started construction of the MGC Commons innovation center

Started construction of the MGC Commons innovation center, a place for the MGC Group to conduct human resource development, creation of innovation and communication of information. It is aimed to commence operation in October 2023.

October: Began joint study on the production of green methanol using green hydrogen and CO_2 in Australia

Began a study with Cement Australia Pty Ltd on the commercialization of the production and sale of green methanol using green hydrogen and CO_2 captured at its plant. In addition to studying the commercialization of green products utilizing hydrogen generated from renewable electricity in the Gladstone area of Queensland, Australia, there are plans for cross-industry initiatives between the public and private sectors.

November: Start of operation of hydrogen station and fuel cell forklifts

Completed a hydrogen station built at the Niigata Plant, and started operation of fuel cell forklifts using hydrogen.

December: Received ISCC PLUS certification for MX-Nylon

Received ISCC PLUS certification*1, which is an international certification for sustainable products, for MX-Nylon produced at the Niigata Plant. MGC will begin manufacturing and selling MX-Nylon using the ISCC PLUS-certified mass balance approach*2.

*1 ISCC PLUS certification, developed by ISCC (International Sustainability and Carbon Certification), is an international certification that ensures and manages the sustainability of raw materials in the global supply chain.

*2 The mass balance approach is a method of assigning a measure of sustainability to a product when it has been manufactured using both sustainable raw materials (e.g., biomass-derived raw materials) and non-sustainable raw materials (e.g., petroleum-derived raw materials). The measure is assigned according to the amount of sustainable raw material input.

January 2023: Investment in recycled carbon fiber operating company

MGC and ShinMaywa Industries, Ltd. jointly invested in Fuji Design Co., Ltd., which conducts a recycled carbon fiber business, to promote the recycling of used carbon fiber-reinforced plastic.

February: Launched initiatives to manufacture and market biomass polycarbonate products

Launched initiatives to manufacture and market Iupilon™ polycarbonate resin using biomass raw material from Mitsui Chemicals, Inc.

March: Started commercial operation of Abashiri Biomass 3rd Power Plant

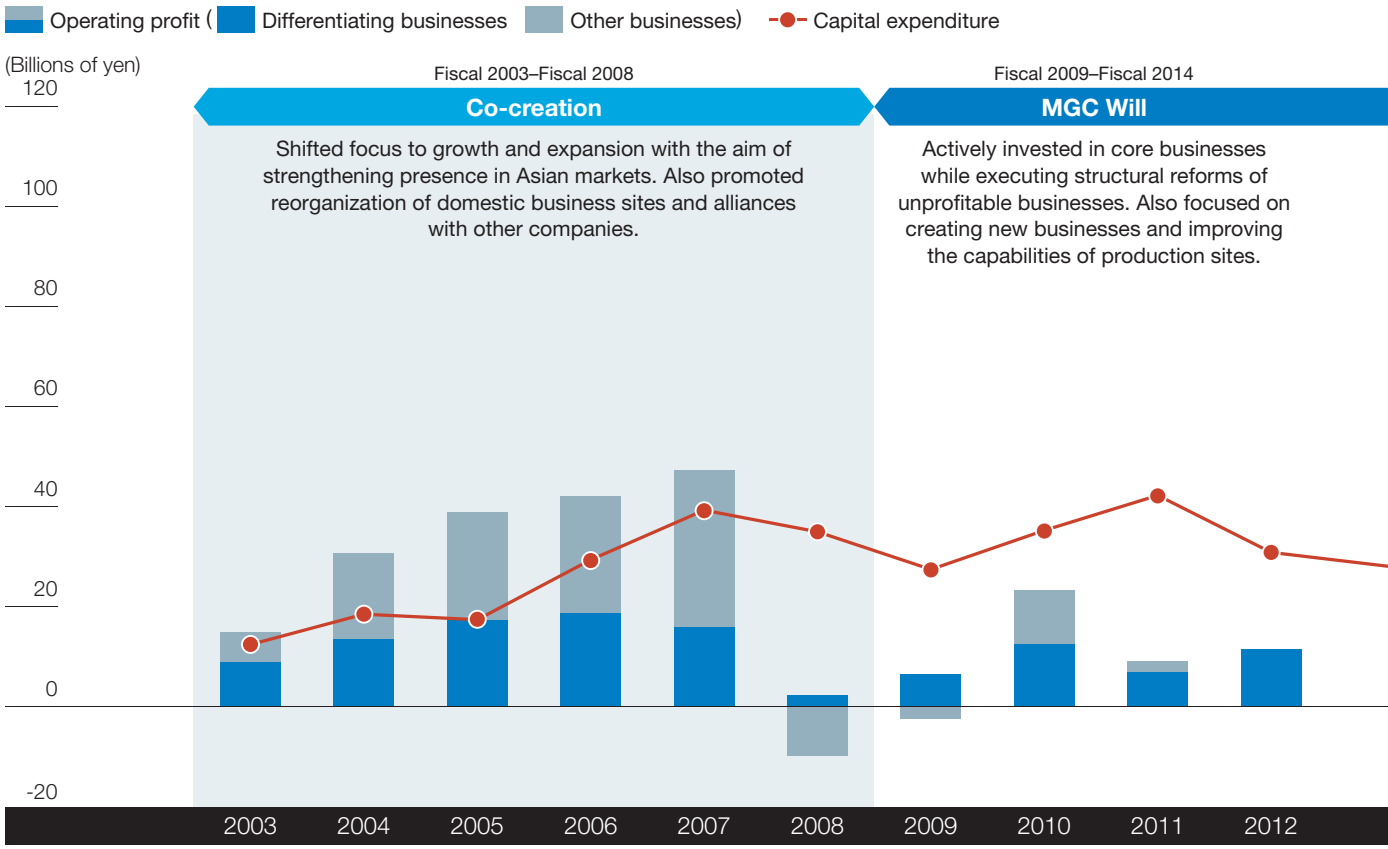
Started commercial operation of Abashiri Biomass 3rd Power Plant, in which MGC has invested, in Hokkaido. The total output combined with the 2nd Power Plant that began commercial operation in October 2022 is 19,800 kW.

March: Selected as a "Supplier Engagement Leader 2022" - the highest rating in the CDP Supplier Engagement Rating

MGC was selected as a "Supplier Engagement Leader 2022," the highest rating, in the "Supplier Engagement Rating" conducted by CDP, an international non-profit organization based in the United Kingdom that conducts environmental surveys and information disclosure.

Evolution of Management Strategy

Expansion of Differentiating Businesses and Investments and Loans



Major Investments and Loans

Differentiating businesses
Other businesses

* The starting point is the fiscal year a decision or announcement was made, and the end point is the fiscal year of completion of construction, or commencement of operation

Expansion of MXDA production facilities (Mizushima)
①Establishment of phase 5 methanol plant in Saudi Arabia
Establishment of methanol plant in Brunei
Strengthening of Electrotechno's production capacity for copper-clad laminates
Expansion of meta-xylene production facilities (Mizushima)
②Establishment of phase 2 methanol plant in Venezuela
③Establishment of prototype mass-production plant for optical resin/polymer (Kashima)
Establishment of polycarbonate plant in Shanghai
④Establishment of electronic materials plant in Thailand
⑤Strengthening of polyacetal production capacity in Thailand
Strengthening of polyacetal production capacity in Korea


①


②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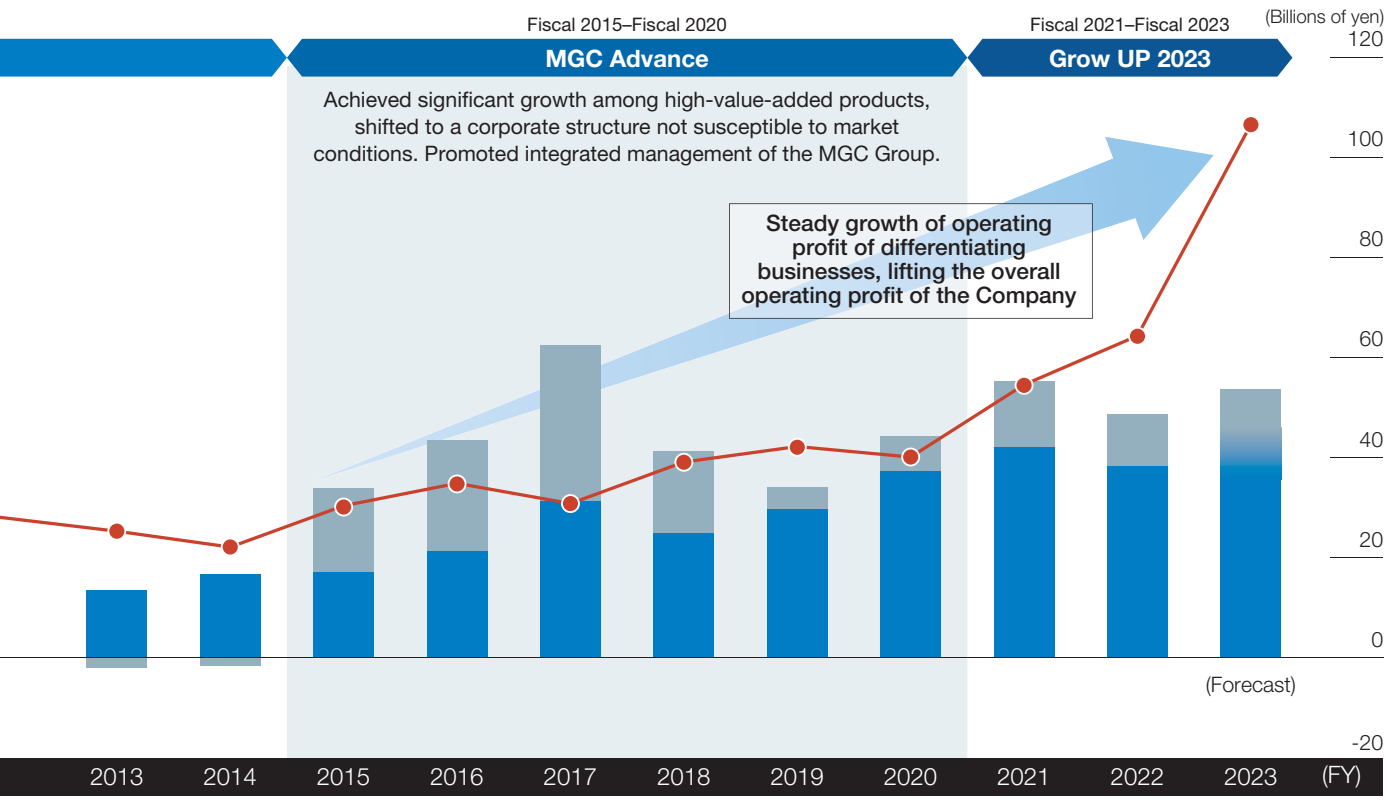


Participation in Fukushima natural gas power generation project (Plants 1 and 2 commenced operation in FY2020)

Establishment of ammonia plant in Indonesia

⑦Establishment of QOL Innovation Center Shirakawa

Establishment of super-pure hydrogen peroxide production plants in Oregon and Texas

Conversion of Japan U-PiCA into a consolidated subsidiary

Establishment of raw material hydrogen peroxide production facilities in Taiwan

Integration of 3 trading companies within the Group, and establishment of Mitsubishi Gas Chemical Trading

Conversion of JSP into a consolidated subsidiary

Establishment of raw material monomer production facilities for optical resin/polymer

⑥Participation in Wasabizawa geothermal power generation project (commenced operation in FY2019)

Making J-CHEMICAL into a subsidiary

Establishment of methanol production plant in Trinidad and Tobago

Participation in Abashiri Biomass Power Plant Project (Generators 2 and 3 commenced operations in FY2022)

Establishment of full-scale mass-production plant for optical resin/polymer (Kashima)

Strengthening of aromatic aldehyde production capacity (scheduled for completion in September 2023)

Merger of J-CHEMICAL and Yutaka Chemicals to launch MGC Woodchem

Expansion of second mass-production plant for optical resin/polymer (Kashima)

Making Mitsubishi Engineering-Plastics into a subsidiary

Conversion of Japan U-PiCA into a wholly owned subsidiary

Strengthening of electronic materials production capacity in Thailand

Expansion of third mass-production plant for optical resin/polymer (Kashima)

Strengthening of MXDA production capacity in the Netherlands (scheduled for completion in September 2024)

New development of water-dissolved natural gas by TOHO EARTHTECH

Strengthening of super-pure hydrogen peroxide production capacity in Oregon (scheduled for completion in FY2023)

Strengthening of electronic materials production capacity in Thailand

⑦

We will allocate management resources to strengthening differentiating businesses and creating and nurturing new/ next-generation businesses as we optimize our portfolio and increase its resilience.

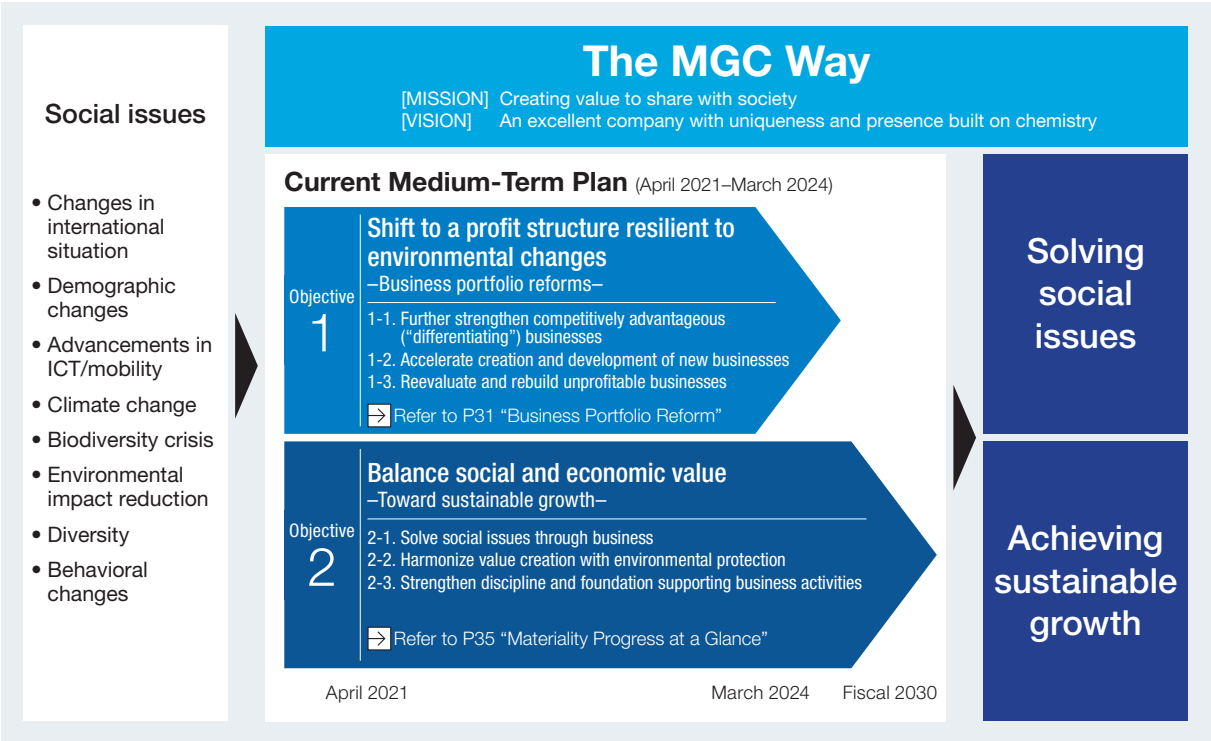
Motoyasu Kitagawa
Director, Managing Executive Officer
In charge of Compliance, responsible for Corporate Planning, in charge of Internal Audit Division, CSR & IR Division

Medium-Term Management Plan

In a complex and unpredictable business environment, we are confident of the objectives we have set

The Medium-Term Management Plan that started in April 2021 was formulated based on the backcasting approach starting from our vision for the future, and taking into account the social trends and evolution of technology around 2050. Even based on the assumption that the future is not going to be a linear extension of the present, but rather a series of discontinuous evolutionary steps, this past three years has had such an unpredictable and complex business environment that it has felt longer than any other three year period in the past. For example, during the first fiscal year of the Medium-Term Management Plan, stay-home demand and the proliferation of telecommuting due to the COVID-19 pandemic drove increased demand for products for the IT-related industry, and the market expanded steadily. However, coming into 2022, in the second half especially, the turmoil caused by Russia's invasion of Ukraine and persistent high inflation and interest rate rises created a backdrop for growing fears of a global economic recession, and the economy has now entered a downward cycle.

On the other hand, this environment has clearly highlighted the correctness of the objectives in the Medium-Term Management Plan, and the priority of our measures. For example, the true power of each business was thrown into relief by the passing through of fuel and



raw material cost increases to product pricing. Businesses with strong ability to pass through cost increases tended to have a high degree of differentiation, while those that made little progress on pass-through tended to have a low degree of differentiation. In a business environment marked by massive, overlapping changes, the ability of a business to maintain its earning power seems to rest on a thorough differentiation strategy. We must shift to a profit structure resilient to changes in the business environment by reforming our business portfolio as we exit businesses and product groups with a low degree of differentiation and replace them with stronger ones. I am currently very aware of the importance of this strategy.

Furthermore, the Group is conducting a scenario analysis to identify the risks and opportunities presented to each business by climate change, in order to grasp issues that impact directly on its competitive advantage over the medium to long term. Through initiatives such as these, we aim to enhance our adaptability (resilience) to the environment while achieving our Medium-Term Management Plan objective of balancing social and economic value, and promoting sustainability management more powerfully.

Investment Strategy and Allocation of Management Resources

Concentrating resources on projects that contribute to business portfolio reform

My mission is to manage loans and investments and the allocation of resources for the entire Company. It is my role to evaluate the commercial viability of individual businesses from a comprehensive perspective that includes both financial and non-financial aspects, and to promote companywide strategies. Starting from the current Medium-Term Management Plan, we have been managing ROIC by business management unit, setting “return” indicators such as ROE and ROIC as our numerical targets. At Medium-Term Management Plan performance review meetings and investment and loan screening meetings, and so forth, we make evaluations and exchange opinions based on efficiency indicators. Internally, we have firmly established an awareness of using these indicators to gain an objective understanding of the competitive capabilities and earning power of our own businesses.

Moreover, since we are in an era when the future is hard to predict, we are also mindful of diversifying markets and portfolios for each product and our level of contribution to social issues. For example, aromatic aldehydes are used in diverse applications including raw materials for fragrances, resin additives, and pharmaceuticals and agrichemicals. This is an example of how combining multiple markets and applications creates a market and portfolio diversification effect. Furthermore, the higher the degree of differentiation of a product, the easier it is to identify markets where its functionality and added value will be highly valued, making it easier to develop new applications.

The most important factor in determining which investment or loan should receive limited management resources is whether or not it will contribute to companywide business portfolio reforms. Among our four business portfolios categorized based on growth potential, profit contribution, and capital efficiency, we will allocate management resources to strengthening differentiating businesses and creating and nurturing new/next-generation businesses as we optimize our portfolio and increase its resilience from a long-term perspective.

Formulation of the Next Medium-Term Management Plan

Start of plan formulation with a strong awareness of the approach of fiscal 2030

During the current Medium-Term Management Plan period, we achieved great success in getting our employees to accept the idea that social value and economic value can be achieved together, rather than conflicting with one another. In fact, at in-house reporting meetings for research results and so forth, the reports for almost all of the themes highlight the level of their contribution to solving social issues. I think it is reasonable to say that we have all developed a common understanding that social value is an essential element for business success.

Currently we are discussing the formulation of the next Medium-Term Management Plan. The MGC Group has announced numerical targets for fiscal 2030 of net sales of at least ¥1.0 trillion and operating profit of ¥100.0 billion or higher. The next Medium-Term Management Plan will likely keep the achievement of these targets in sight, but will also include a strong awareness of achieving the fiscal 2030 targets of our materiality KPIs, such as reducing GHG emissions.

A continued point of emphasis in the next Medium-Term Management Plan will be MGC’s distinctive value creation process that leverages its “Uniqueness” and “Presence.” MGC is a chemical manufacturer with a refined individuality expressed through the harmony of needs and seeds. We will refine our unique business model even further, using our in-house development pipeline technologies, known as seeds, to engage with the market, and reflecting back hints derived from customer needs into the seeds. Moreover, to strengthen our differentiating businesses, it will become increasingly important to make the strategic judgment for each business of whether to establish it in a location focused on raw material procurement or in a location that prioritizes proximity to markets. As we have outlined in our vision within our philosophy system, the MGC Way, over the coming three years, our goal is to continue to be an excellent corporate group as we nurture our uniqueness and presence.

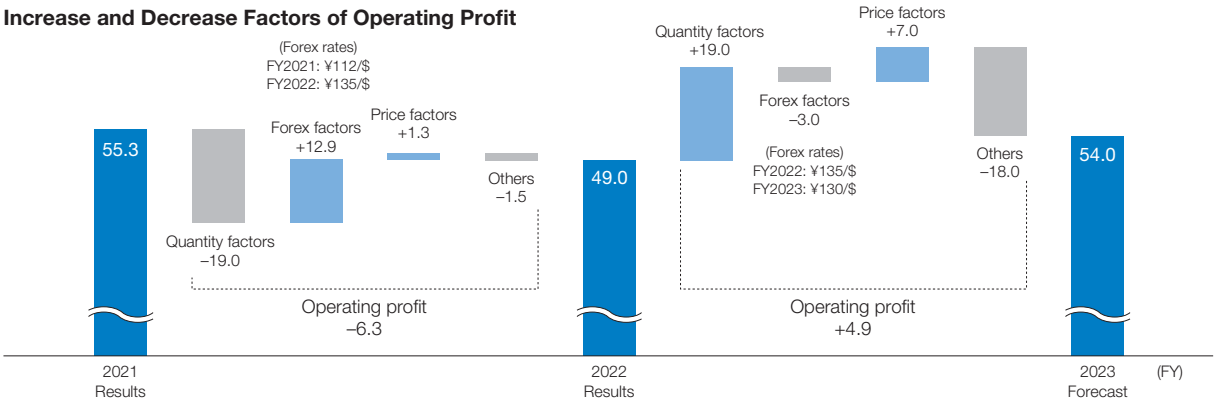
Numerical Targets and Progress

Consolidated Performance	FY2021 Results	FY2022 Results	FY2023 Targets	FY2023 Forecast
Net sales (billions of yen)	705.6	781.2	730.0	850.0
Operating profit (billions of yen)	55.3	49.0	70.0	54.0
Ordinary profit (billions of yen)	74.1	69.7	80.0	58.0
ROIC*1 (return on invested capital)	10.4%	8.8%	10% or higher	6.4%
ROE*2 (return on equity)	8.8%	8.3%	9% or higher	9.0%

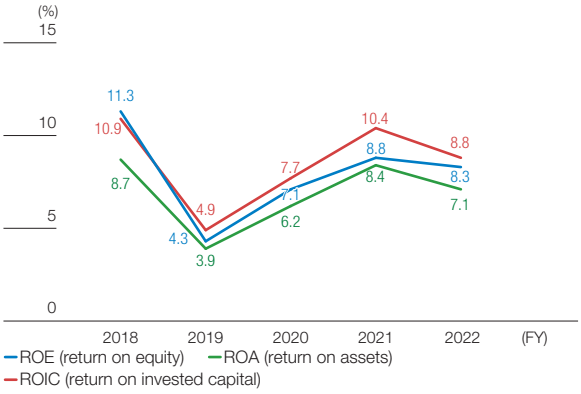
Medium- to Long-term Objectives	
	FY2030
Net sales:	¥1.0 trillion or higher
Operating profit:	¥100.0 billion or higher

(Assumptions) Exchange rate: ¥105/$; Crude oil price (Dubai): $60/bbl
*1 ROIC = Ordinary profit/invested capital *2 ROE = Net profit/equity

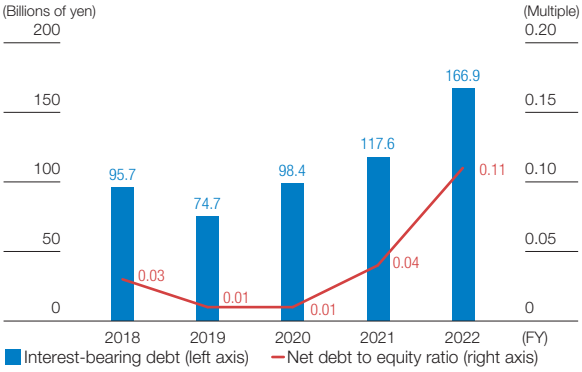
Increase and Decrease Factors of Operating Profit



ROE, ROA, ROIC



Interest-Bearing Debt, Net Debt to Equity Ratio



In the Medium-Term Management Plan started in fiscal 2021, MGC introduced ROIC (return on invested capital) as a KPI to promote management conscious of capital efficiency, and set the numerical targets of ¥730.0 billion in net sales, ¥70.0 billion in operating profit, ¥80.0 billion in ordinary profit, ROIC of 10% or higher and ROE of 9% or higher as targets for fiscal 2023.

During fiscal 2022, the global economy was supported by the gradual normalization of socio-economic activities in step with the relaxation of movement restrictions aimed at preventing the spread of COVID-19 infection. However, the prolongation of Russia's invasion of Ukraine led to surges in prices of raw materials, fuels and other items. Monetary tightening policy trends in the United States, Europe and other nations resulted in a looming sense of vigilance against major recessions. Because of these and other factors, the economic situation remained unstable.

Against this backdrop, the MGC Group aims to shift to a profit structure resilient to changes in the business environment. To this end, the Group has implemented various measures that help push ahead with business portfolio reforms. In addition, the Group has countered surges in raw material and fuel prices and transportation costs by revising sales prices upward to align with an overall increase in costs. Through these and other initiatives, the Group has endeavored to maintain and enhance its earnings power.

In fiscal 2022, the MGC Group's net sales increased, despite lower sales of electronic materials and other offerings, due mainly to the impact of foreign exchange fluctuations and upwardly revised sales prices aligned with higher raw material and fuel prices and growing transportation costs. Meanwhile, operating profit and ordinary profit decreased, despite the depreciation of the yen, robust polyacetal sales and other positive factors, due primarily to surges in raw material and fuel prices and transportation costs, along with lower sales of electronic materials and other offerings.

Although the recovery in sales of semiconductor-related products and other factors are expected to boost operating profit in fiscal 2023, it appears we will fall short of our target, and therefore we will focus on additional efforts aimed at reaching the target, such as further accelerating business portfolio transformation centered on growth investment and bolstering unprofitable businesses.

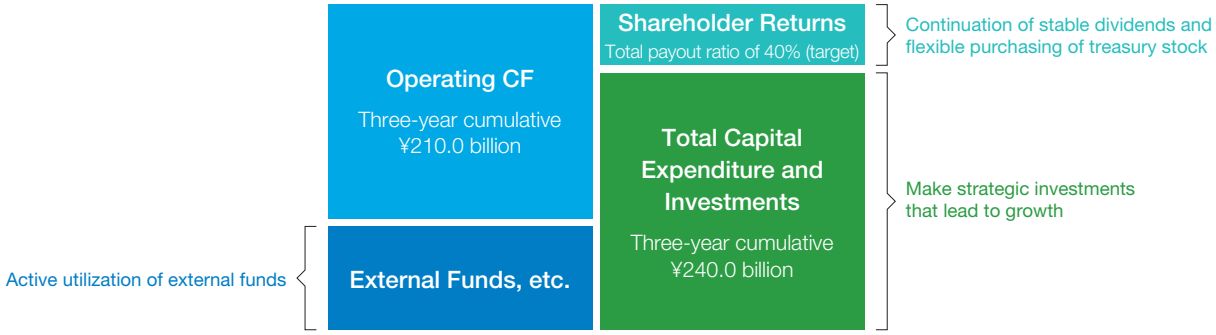
Financial, Capital and Shareholder Return Policies

Based on the belief that improving corporate value benefits all stakeholders, the MGC Group seeks to maintain an optimal balance between shareholder returns and internal reserves from a comprehensive perspective encompassing investment plans, financial soundness, and the outlook for future business performance.

Total cash flow in capital expenditure and investments are expected to reach ¥240.0 billion under the current Medium-Term Management Plan, in excess of planned three-year cumulative operating cash flow. We make strategic investments that lead to growth while actively utilizing external funds.

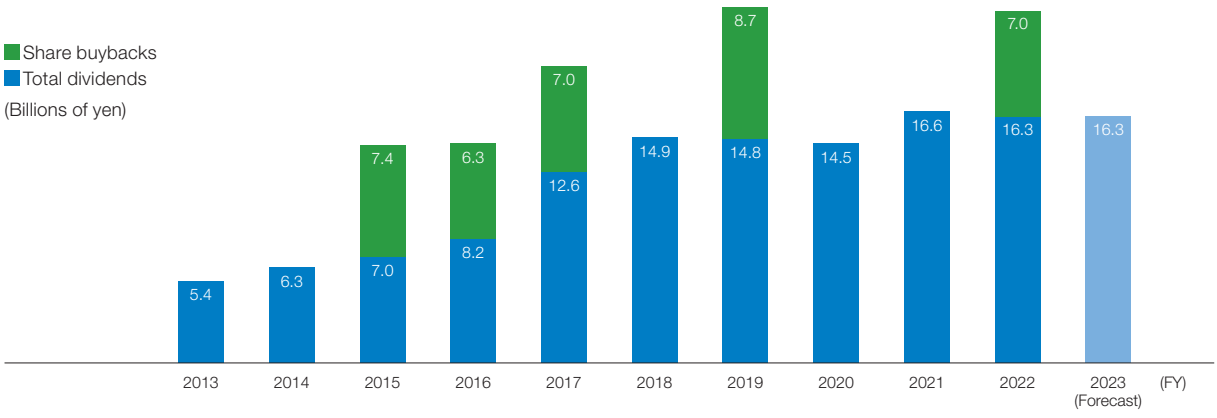
Our basic policy regarding dividends is to continue to provide stable returns while flexibly purchasing treasury stock, with a total payout ratio*3 of 40% as a target for medium-term shareholder returns.

*3 Total payout ratio against net profit attributable to owners of parent, including purchases of treasury stock



Shareholder Return Policy

- Our top management priority is maximizing our corporate value
- While taking into account operating performance and other factors, we aim to maintain a stable level of dividend distribution
- With the level of internal reserves and shareholder returns in mind, we will continue to flexibly buy back our own shares for higher capital efficiency and better shareholder return
- The shareholder return policy has been defined more clearly under the current Medium-Term Management Plan, aiming for a total payout ratio of 40% as the medium-term target



Net profit (Billions of yen)	14.9	43.3	34.1	48.0	60.5	55.0	21.1	36.0	48.2	49.0	56.0
Annual dividend (Yen per share)*4	24	28	32	38	59	70	70	70	80*5	80	80

*4 With an effective date of October 1, 2016, MGC conducted a reverse stock split for MGC's ordinary shares on a 2:1 basis. With this, the above dividend figures predating the share consolidation have been adjusted to show what they would have been had the effects of the share consolidation also applied to them

*5 Includes a commemorative dividend of ¥10

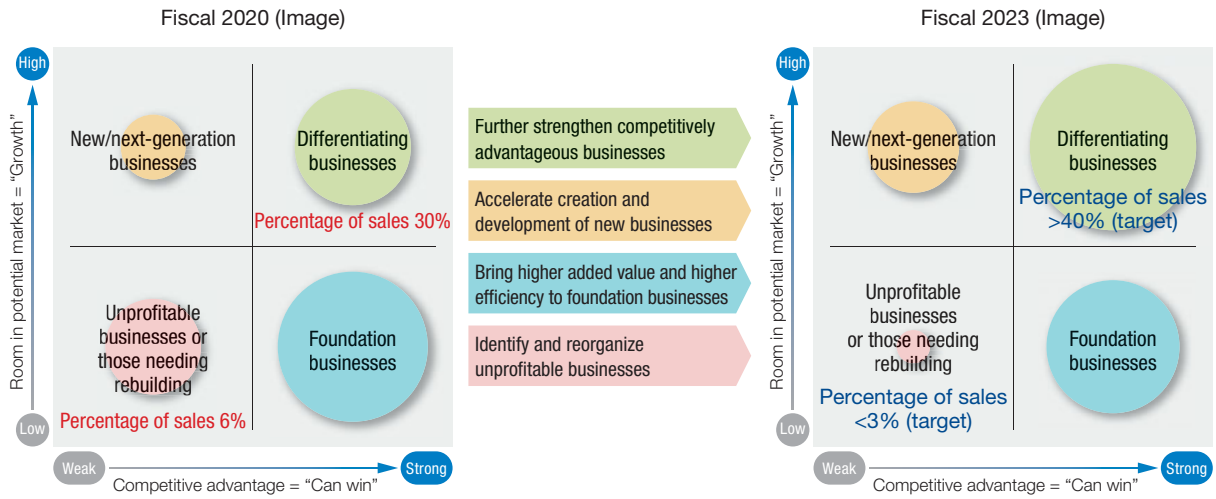
Business Portfolio Reform

Shift to a Profit Structure Resilient to Changes in the Business Environment

One objective set out in the Medium-Term Management Plan is to shift to a profit structure resilient to changes in the business environment. In advancing that objective, we first classified the MGC Group's businesses based on growth potential, contribution to profit and capital efficiency. Those with particularly high competitiveness and growth potential are defined as "differentiating businesses." The products included in these businesses are functional ones such as electronic chemicals, IC plastic packaging BT materials, optical resin/polymer, and ultra-high refractive lens monomers. Further, MXDA, MX-Nylon, aromatic aldehydes, Polyacetal (POM) and other chemical products and materials are also included in the differentiating businesses category. We focus on investing management resources in developing markets and boosting production capacity for these products, thus strengthening profitability.

In addition to the above strategies, we accelerate business portfolio reform by focusing on creating and developing new businesses. Specifically, we are promoting investment in research and development and increasing research personnel; reorganizing our systems based on market needs; and progressing a more advanced, efficient research process utilizing the latest AI and MI, leading to the ongoing introduction of new products. Further, in the course of shifting to a profit structure resilient to changes in the business environment, we work on identifying and reorganizing unprofitable businesses. Note that in terms of quantitative targets, we aim to grow net sales from differentiating businesses to more than 40% of overall sales in fiscal 2023, while reducing net sales from unprofitable businesses or those needing rebuilding to less than 3%.

Direction of Business Portfolio Reform

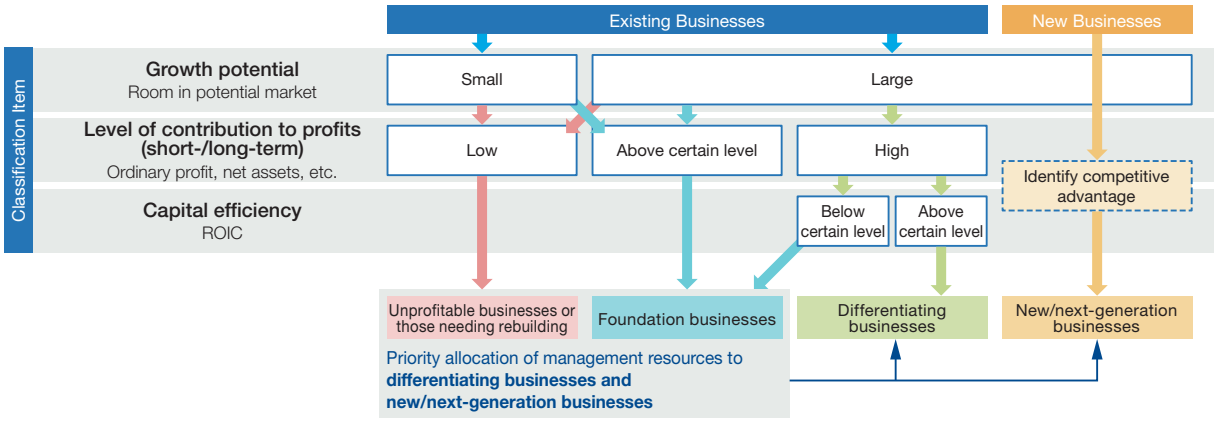


Classification of Product Lines under Medium-Term Management Plan

Differentiating businesses	MXDA, aromatic aldehydes, MX-Nylon, electronic chemicals, polyacetal, optical resin/polymer, ultra-high refractive lens monomer, IC plastic packaging BT materials, and others
New/next-generation businesses (Includes products in development stage)	Medical/Food: OXYCAPT™, bio-products, contract manufacturing of antibody drugs, factory-produced vegetables, and others ICT/Mobility: Solid electrolytes, cellulose fiber composite materials, Neopulim transparent polyimide resin, semiconductor-related materials, and others Environment/Energy: CO_2-derived methanol, CO_2-derived polycarbonate, methanol fuel cells, and others
Foundation businesses	Methanol, ammonia and methylamines, MMA products, energy resources and environmental businesses (geothermal and other types of power generation, water-dissolved natural gas, iodine), foamed plastic (JSP), hydrogen peroxide, polycarbonate/sheet film, oxygen absorbers, and others
Unprofitable businesses or those needing rebuilding	Formalin and polyol products, and xylene separators and derivatives

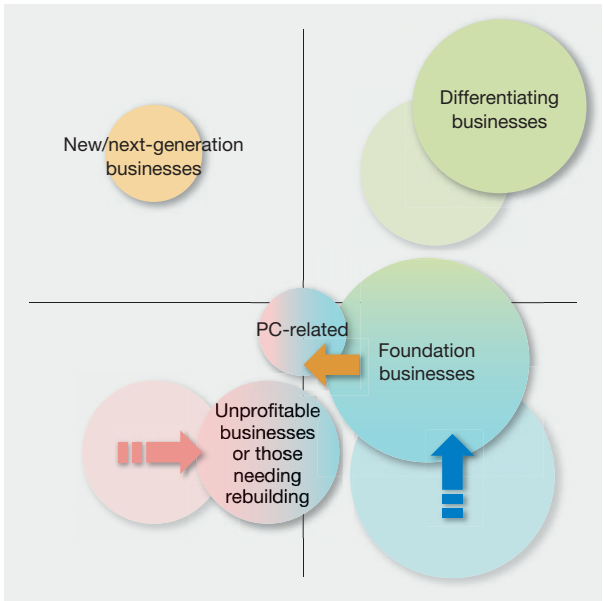
Classification Criteria for Business Portfolio Reform

To build a profit structure resilient to changes in the business environment, the MGC Group has reviewed the positioning and classification of all of its businesses under the current Medium-Term Management Plan, and classified each business into one of four stages: differentiating businesses; new/next-generation businesses; foundation businesses; and unprofitable businesses or those needing rebuilding. Classification is made after setting qualitative and quantitative criteria from the perspective of growth potential, level of contribution to profit, and capital efficiency. Under the current Medium-Term Management Plan, management resources are given priority allocation to differentiating businesses, which have both competitive advantages and the potential for growth, and new/next-generation businesses, which can be expected to grow as markets expand going forward, and which can lead to solving social issues.



Progress in Fiscal 2022

Fiscal 2020→Fiscal 2022 Business Portfolio Changes (Image)



Differentiating businesses

- Decrease in earnings from semiconductor-related products covered by growth in earnings from POM
- Consolidated POM to Global Polyacetal Co., Ltd. through reorganization of Mitsubishi Engineering-Plastics Corporation (MEP). Bolstered sales capabilities through reorganization of South Korean business. Increased global market share
- Continued to execute growth investments aimed at growing markets

Foundation businesses

- Methanol and the energy resources and environmental businesses performed strongly, despite struggling PC products
- Accelerated streamlining and integration of associates (in addition to reorganization of PC business through consolidation of MEP, also considering merger of Japan U-PiCA Company and JAPAN FINECHEM COMPANY)
- Made progress on initiatives including the Circular Carbon Methanol concept Carbopath™ and implementation of CCS

Unprofitable businesses or those needing rebuilding

- In the formalin and polyol business, stopped production of unprofitable products. Meanwhile, strengthened integrated production and sales system from formalin to adhesives through M&A (launched MGC Woodchem). Returned to profitability
- In xylene separators and derivatives, currently promoting a host of initiatives to maximize earnings in the business overall, including special MX derivatives such as differentiating product MXDA

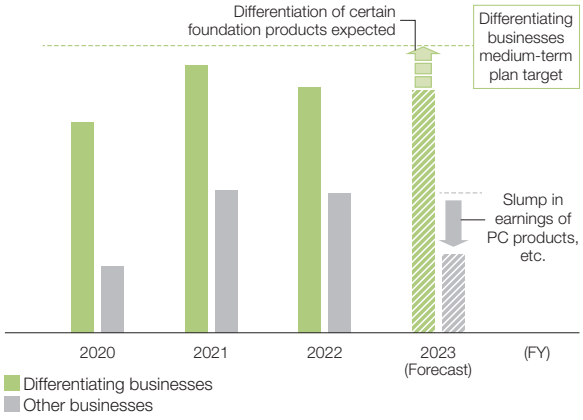
New/next-generation businesses

- Accelerated reviews by strategic customers. Focused on themes in response to the climate change issue, such as projects selected by GI Fund. Increased research personnel

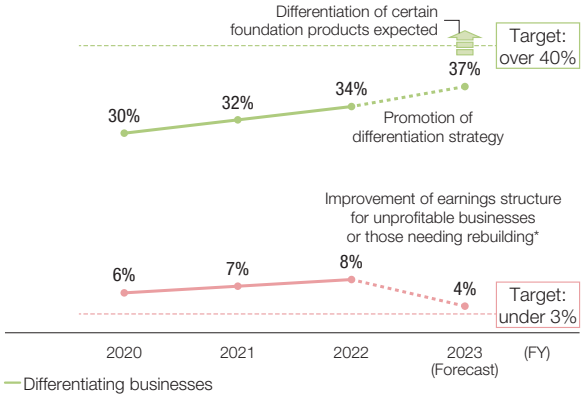
Progress of Business Portfolio Reform and Future Outlook

Earnings in differentiating businesses vary in strength by business but are growing steadily overall. We do not expect to achieve the current Medium-Term Management Plan targets of over 40% of sales from differentiating businesses and under 3% of sales from unprofitable businesses or those needing rebuilding. However, we are promoting improvements aimed at the final year of the plan, such as promoting higher added value towards differentiation of certain foundation products and improving the earnings structure of unprofitable businesses or those needing rebuilding.

Transition of Ordinary Profit in Differentiating Businesses

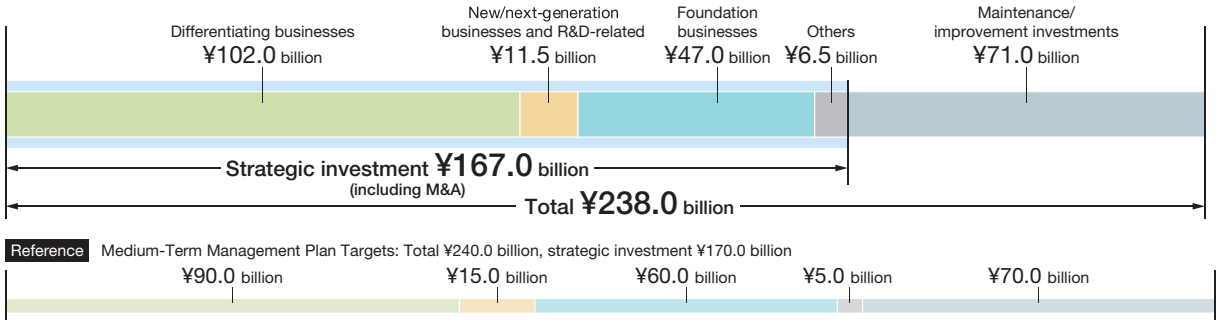


Percentage of Net Sales in Differentiating Businesses, and in Unprofitable Businesses or Those Needing Rebuilding

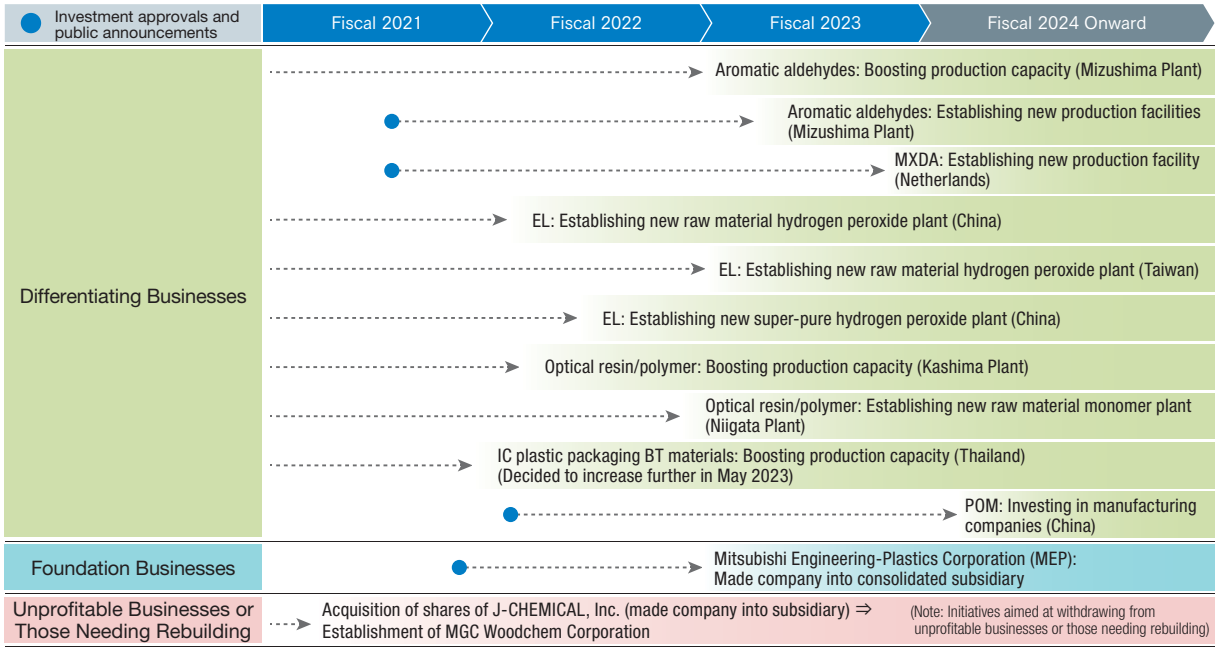


* We expect to see migration in terms of business classification for the formalin and polyol business due to it no longer being classified as an unprofitable business or one needing rebuilding.

Projected Investment Funds by Business Segment under Medium-Term Management Plan



Progress for Major Investment Projects



Materiality

Identification of Materiality

The MGC Group identified priority issues (materiality) to be addressed by management in April 2020 with the aim of conducting sustainability management. In the Medium-Term Management Plan announced in April 2021, we stated our goal of “balancing social and economic value.” We have set KPIs for fiscal 2030 materiality targets as well as fiscal 2023 targets for achieving those goals, and will apply the PDCA cycle to make improvements throughout the course of this management process.

Furthermore, materiality is revised around every three years in conjunction with the Medium-Term Management Plan.

STEP 1	Identification of issues	Compiled list of over 600 terms related to societal issues/changes from various sources, including requirements in GRI and SASB standards, ISO 26000 and SDGs and trends among other companies.
STEP 2	Winnowing	Classified the terms by keyword related to societal issues and societal change, and then winnowed them down to 39 materiality factors.
STEP 3	Prioritization	Assessed the priority of the materiality factors from the standpoint of both stakeholders and the MGC Group. The Sustainability Promotion Committee drafted a materiality prioritization hierarchy and submitted it to the Sustainability Promotion Council.
STEP 4	Management deliberation/approval	The materiality submitted by the Sustainability Promotion Committee was deliberated and determined by the Sustainability Promotion Council.
STEP 5	Revision of identified materiality	Materiality is subject to change in response to changes in societal imperatives and stakeholder needs and preferences. Materiality will accordingly be updated as needed in response to changes in society and/or the MGC Group’s business activities.

Promotion of Sustainability Management

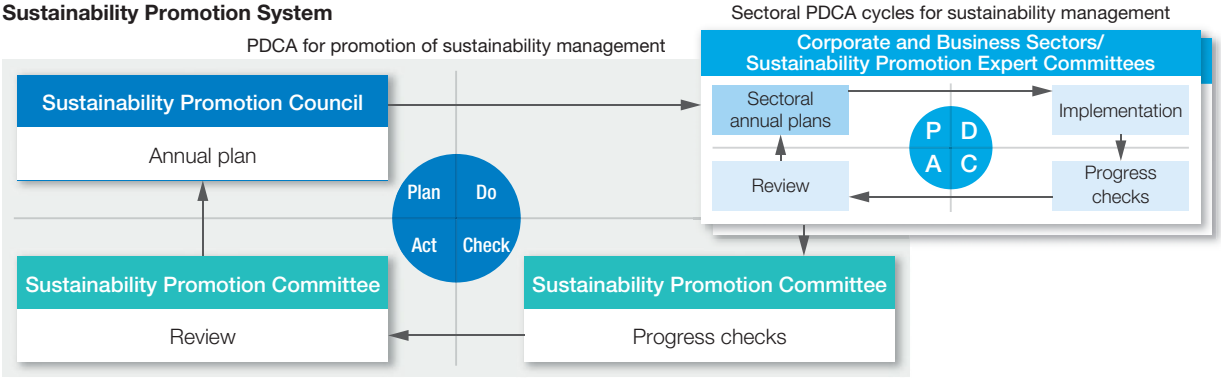
The MGC Group pursues sustainable growth balancing the social and economic value of the Group as “sustainability management,” based on its Mission of “creating value to share with society.”

The Company has established the Sustainability Promotion Council, chaired by the President and primarily made up of all directors, including outside directors, with Audit & Supervisory Board members also attending. As an advisory body to the Sustainability Promotion Council, the Sustainability Promotion Committee is convened by the General Manager of the CSR & IR Division and attended by general managers of the head office’s corporate sectors. Through these organizations, the Company has established a system for promoting ongoing advancement by applying a companywide PDCA cycle ranging from the identification of materiality to the establishment of KPIs, confirmation of progress and reviews.

The Sustainability Promotion Council deliberates and determines policies and measures that form the basis for sustainability management, such as identification and management of materiality, and receives reports on the implementation status thereof from the Sustainability Promotion Committee. The Sustainability Promotion Committee confirms the status of implementation of measures in each division, and consults with the Sustainability Promotion Council on the necessary measures through periodic reviews. It also establishes various expert committees as needed to consider specialized and important matters. Sustainability Promotion Department within the CSR & IR Division has been established to serve as the secretariat for the council and the committee. Sustainability Promotion Department is responsible for administrative tasks such as overseeing non-financial information within the Company, considering policies and strategies on sustainability management, and handling engagement within and outside the Company.

We aim to obtain the trust and congruity of a variety of stakeholders and achieve ever greater corporate value by contributing to the resolution of issues for the realization of a sustainable society through our business more than ever before.

Sustainability Promotion System



Materiality Progress at a Glance

Materiality	Risks	Opportunities	Long-Term Targets for Fiscal 2030
CSV Creating Shared Value			
Contribution through business operations • Contribute to development of ICT/mobility society • Solve energy and climate change problems • Solve medical and food problems	• Increasing difficulty of development with intensifying competition; lengthening lead times • Shift in share of low-cost alternative materials • Existing product obsolescence	• Strong in-house development technology capabilities • Customer credibility backed by multiple industry standards • Portfolio of distinctive, differentiated products	**[Specialty Chemicals Business]** Multiple BMUs boasting high profitability and growth, high ROIC, and ability to generate stable cash flow **[Basic Chemicals Business]** Strengthening business infrastructure through ongoing business portfolio reform, and development/commercialization of products conducive to decarbonization
S Foundation for Shared-Value Creation			
Cultivating a corporate culture of job satisfaction	• Declining labor productivity and outflow of personnel • Declining quality of stakeholder engagement	• Strengthened foundation for creating innovation • Improved employee engagement in their work	Friendly, fulfilling and vibrant workplace enabling people to utilize strengths to produce results at work and maintain work-life balance
Promotion of diversity and inclusion	• Uniform thinking and loss of new business opportunities due to imbalance in personnel attributes and skills	• Nurturing culture of collaboration among diverse values that is conducive to new ideas and technological innovation	Fostering active culture where diverse ideas are created due to employees with diverse values and individuality working and being stimulated
Stakeholder engagement	• Loss of credibility among stakeholders and damage to corporate value due to inappropriate responses	• Forming fair market valuation • Improved management transparency	Company that earns society's trust and empathy by contributing as a member of society and fulfilling responsibilities to variety of stakeholders
Promotion of socially responsible sourcing	• Negative impacts on business activity due to illegal actions and compliance violations by suppliers	• Improved sustainability of society and long-term competitiveness	Promote groupwide CSR procurement activities, and implement procurement of raw materials derived from biomass, recycling and CO_2 to contribute to sustainable society
Occupational safety and health/Process safety and disaster prevention	• Risk of disasters or other problems due to insufficient education and training • Loss of societal trust due to accidents or scandals	• Nurturing culture of safety • Accumulating expertise in preventive maintenance	Identify cultural and technical factors of occupational accidents/process safety and disaster prevention, create preventative measures, and realize safe production sites where occupational accidents and process safety accidents do not occur
Highly energy- and resource-efficient production	• Cost of responding to regulations and societal demands • Cost of deploying high-efficiency equipment	• Optimization of production conditions through deployment of AI/IoT; improving productivity by predicting and preventing problems	Ultra-stable operation of production equipment, improvement of outputs through use of high-efficiency equipment, pursuit of high-efficiency utilities, minimization of equipment trouble through utilization of DX technology
Chemical/product quality and safety assurance	• Loss of societal trust due to inaccurate data handling and shipping of inappropriate products • Strengthened chemical substance regulations in each country	• Facilitating continuous improvement and ensuring customer satisfaction through company- and groupwide quality assurance activities (Q-MGC) • Sharing and centralization of information to enhance customer satisfaction and societal trust	Creation of groupwide risk management system for chemicals and products, and quality assurance system meeting variety of high customer requirements
Promotion of innovative R&D	• Discontinuous change in social and industrial structures • Securing and developing personnel competent in cutting-edge technology fields	• Strengthened technology platform and creation of innovation built on collaboration among Group's own technologies	Clarify division of roles of R (research) and D (development) to promote positive spiral of research and accelerate R&D throughout Group
E Harmonization of Shared-Value Creation with Environmental Protection			
Proactive response to environmental problems • Air quality control • Water and biodiversity conservation • Reduction of industrial waste	• Increased cost of responding to stronger environmental regulations • Decline in competitive advantage due to delays in technological response to resource and energy conservation needs • Reputational risks regarding environmental protection	• Participation in Fukushima natural gas power plant and geothermal project • Commercial development of methanol and ammonia as hydrogen carriers and CO_2-free fuels • Participation in CCUS proof-of-concept testing	Minimization of air and water load, and realization of a clean air environment, preservation of water and sustainability of water resources through introducing new technologies and strengthening management
G Value-Creative Discipline			
Strengthen systems • Corporate governance • Compliance • Internal controls • Risk management	• Slumping business activity, loss of societal trust and damage to corporate value due to compliance violations	• Establish stable management foundation by improving decision-making transparency and responding appropriately to change • Gain stakeholder trust	Steady implementation of improvements in environment, and creation of systems to address variety of social changes, enabling higher level of response to and sharing of strong social needs

	Results of Key Initiatives in Fiscal 2022	KPIs	Fiscal 2022 Results	Fiscal 2023 Targets	Fiscal 2030 Targets
	ICT/Mobility • Completion of construction of super-pure hydrogen peroxide plant in China • Increase in production capacity for semiconductor materials, etc. **Energy and climate change** • Development of carbon recycling technology **Medical and food** • Successful mass cultivation of antibody drug producing cells at a scale of 2,000 L	Sales from ICT and mobility applications	¥283.5 billion	¥320.0 billion	Create new businesses that accelerate digital innovation
		Investments aimed at solving energy and climate change problems	Projected investment: ¥13.9 billion (3-year cumulative)	Investment: ¥12.0 billion (3-year cumulative) Investment: Acquisition; Financing: Approval basis	Commercialize carbon-negative technology
		Sales from medical and food applications	¥56.2 billion	¥50.0 billion	• Advance preventative/ predictive medicine; enhance healthy longevity • Further advance food preservation technology

	• Formulated MGC Basic Policy on Health & Productivity Management • Expanded support for balancing work and childcare • Conducted activities to promote use of paid leave	Percentage taking fewer than 10 days of annual paid leave*1,2	4%	0%	0%
	• Publishing of a pamphlet for employees designed to foster awareness of respect for diversity • Expansion of career training for female employees	—	—	—	—
	• Response to ESG interviews and stewardship interviews • Carbon neutrality presentation for investors	—	—	—	—
	• Implementation of supplier assessment through CSR surveys	—	—	—	—
	• Utilization of MGC Group process safety and disaster prevention guidelines • Promotion of safety activities through LINK activities • Introduction of KY hazard prediction assist system • Identification of water risks at manufacturing sites in Japan and overseas (floods, high tides, water shortage) • Promotion of responsible care (RC) activities by Group companies	Serious occupational accidents*1,3	1	0	0
		Serious accidents*1,4	0	0	0
	• Introduction of PI systems in all plants • Trials and implementation of AI technology, IoT devices, etc. • Examination of introduction of multivariable model predictive control and soft sensors	GHG emissions intensity compared to fiscal 2013*1	8.6% reduction	19.9% reduction	28.0% reduction
	• Maintenance and continuation of MGC Group Quality Management Promotion Meeting activities • Promotion of introduction of quality data aggregation systems in all plants	—	—	—	—
	• Promotion of DX analysis • Implementation of education and practical exercises on statistical analysis for researchers	R&D investments devoted to solving climate change problems*1,5	13% of R&D expenditures	5% or more of R&D expenditures	7% or more of R&D expenditures

	• Promotion of reduction of GHG emissions • Identification of water risks in each business site • Introduction of renewable energy aimed at reducing emission factor of purchased power • Consideration of investment for biodiversity conservation • Promotion of waste recycling • Reduction of occurrence of sudden waste generation through stable production	GHG emissions compared to fiscal 2013*1	34% reduction	28% reduction	36% reduction
		Renewable energy as percentage of electric power purchased*1	19%	10%	50%
		Zero waste emission rate*1,6	0.25%	0.3% or less	0.15% or less

	• Consideration of General Meeting of Shareholders operation in response to Companies Act revision • Consideration of response to geopolitical risks

*1 On non-consolidated basis
*2 For employees granted 20 days of annual leave
*3 Accidents resulting in lost work days eligible for disability compensation, including death and permanent disability, or potential disability, and those with four or more lost work days
*4 Accidents that threaten third parties, including those resulting in environmental pollution involving community or that cause damage to local residents, and other accidents involving serious damage
*5 R&D investments including basic research, pilot plants, technical testing, etc.
*6 Amount of final disposal/total amount of waste generated

Specialty Chemicals

Inorganic Chemicals

Primarily focused on cleaning agents for semiconductors

Hydrogen peroxide → Super-pure hydrogen peroxide → Hybrid chemicals

Electronic Chemicals (EL Chemicals)

Global market share #1 **Super-pure hydrogen peroxide**

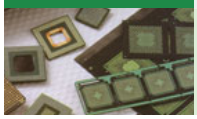
Secures supply capacity matching the growth of customers in response to robust demand from overseas semiconductor manufacturers. Also globally builds development facilities adjacent to customers and continuously provides products contributing to the speedy resolution of problems.

Electronic Materials

Top manufacturer of substrate materials for IC plastic packaging

Cyanate monomers → BT resin → Copper-clad laminates (CCL), Prepreg

BT Products



Global market share #1 **BT products**

Captures new demand as 5G progresses, and steadily responds to robust demand in the semiconductor industry. Establishes and strengthens a marketing system conscious of end customers, and offers a wide range of high-performance products, primarily targeting the mid-range and high end of the market.

Optical Materials

Contributes to higher performance of smartphones with world-leading refractive index

Raw materials (External procurement) → Optical resin/polymer

Global market share*1 #1 **Optical resin/polymer**

Continues careful technical service along with timely development and introduction of new grades with the aim of further expanding share in the smartphone area, and also focuses on development of materials aimed at applications other than smartphones, such as sensing applications.

*1 As a highly refractive resin (concave lens)

Engineering Plastics

Develops engineering plastics

Methanol → Formalin → Iupital™ (Polyacetal resin) (POM)

MX-Nylon (MXD6) → Reny™ (High-performance polyamide resin)

Bisphenol A (External procurement) → Polycarbonate resin (PC) → PC sheet, PC film

Global market share #3 **Polyacetal resin (POM)**

Conducts management globally overseeing production, sales and technological development through business restructuring, and seeks to optimize management resources throughout the entire Group while making swift management decisions.

Supply capacity*2 #3 **Polycarbonate resin (PC)**

Performs business restructuring to make MEP*3 a consolidated subsidiary focusing on the PC business, while increasing the percentage of high-value-added products such as highly transparent grades, and shifting toward a structure less susceptible to market conditions. Promotes research of PC mass-production technology using CO_2 as a raw material.

*2 As the Mitsubishi Group *3 Mitsubishi Engineering-Plastics Corporation

Oxygen Absorbers

Wide range of solutions in daily food, electronic component and pharmaceutical markets

AGELESS™

RP System™
PharmaKeep™
Anaero Pack™

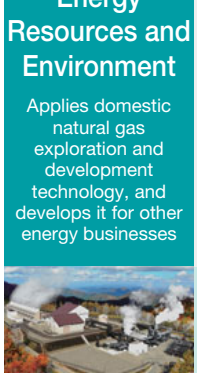
Global market share #1 **AGELESS™**

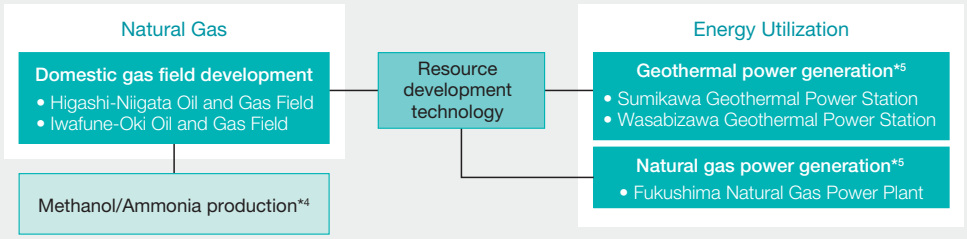
Aims to expand market share in the food area and also focus on the expansion of sales overseas. Also, provides total solutions for maintaining quality for non-food areas such as pharmaceuticals, medical parts, electronic components, and cultural property protection.

Basic Chemicals

Energy Resources and Environment

Applies domestic natural gas exploration and development technology, and develops it for other energy businesses





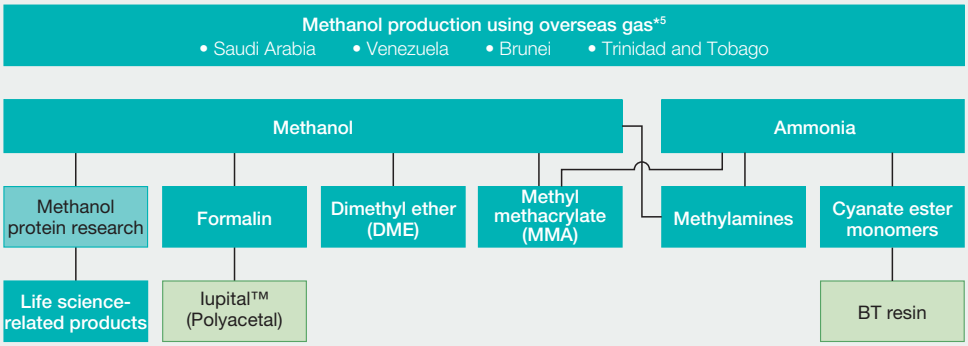
Chemicals company Only 1 **Geothermal power generation**

Utilizing more than four decades of experience and accomplishments that distinguish us as a unique chemicals company, contributes to the reduction of GHGs through the supply of clean energy, and establishes a base for stable earnings.

*4 Only the Niigata Plant's methanol pilot is currently operational *5 Joint venture

Methanol, Basic Chemicals I, Life Science

First in Japan to produce methanol using natural gas as raw material



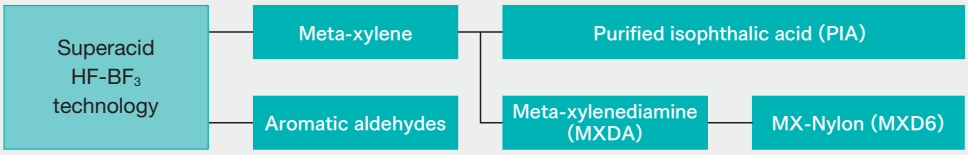
Production capacity*6 #3 **Methanol**

Establishes a competitive position through active overseas expansion and a total business model encompassing the manufacturing process, catalyst technology, a global sales network and the manufacture of derivatives. Uses accumulated technology to focus on the establishment of processes for manufacturing methanol from CO_2.

*6 Total for all affiliates using MGC technology

High-Performance Products, Basic Chemicals II

Manufactures competitive products and derivatives using proprietary technology



Global market share #1 **Meta-xylenediamine (MXDA)**

By building a new plant in Europe, where demand is greatest, establishes a more stable and competitive supply chain. In addition to stable growth of conventional infrastructure applications, accelerating expansion into environmentally friendly applications such as wind power blades.

Global market share #1 **MX-Nylon (MXD6)**

As momentum for extension of quality assurance and food waste reduction increases in the food packaging material field, aims to establish a position by providing recyclable barrier material friendly to the global environment. Also strengthens downstream deployment such as weight reduction of vehicles by replacing metal parts with resin.

Global market share #1 **Aromatic aldehydes**

Decided to increase its production capacity in response to steady growth in demand. Also focuses on marketing activities, aiming to diversify applications, add value, and further strengthen relationships with customers by shifting from seed-oriented development to product development that reflects customer needs.

JSP

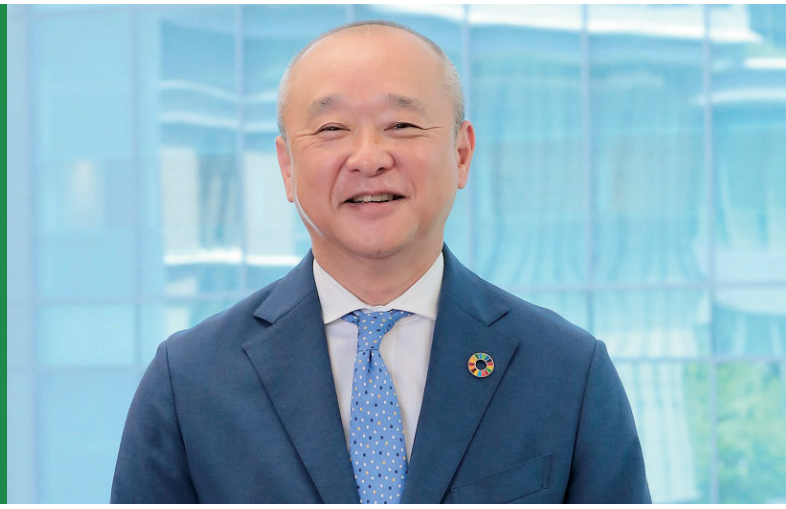
Global market share*7 #1 **Foamed plastic**

Backed by the tailwind of weight reduction in automotive parts, supplies next-generation products supporting energy-saving and recycling requirements. Seeks to increase sales backed by heightened needs for energy-saving housing in applications of residential insulation material. Expands overseas operations in flat panel display protective materials.

*7 For automotive use

(Global market share, etc. are estimates made by the Company)

We will prepare an environment that can respond sensitively to changes in the market, and make new value proposals.



Ryozo Yamaguchi
Director, Managing Executive Officer
In charge of Specialty Chemicals Business Sector

Slumping demand due to changes in the external environment. Starting work on business reorganization and revision of production and sales methods

In fiscal 2022, the Specialty Chemicals Business Sector had a strong start, mainly reflecting a rush to secure inventory due to supply chain disruptions. However, from the second quarter, demand retreated rapidly, especially in China, and stay-home demand due to the COVID-19 pandemic slowed. From July onward, demand for semiconductor-related products slumped, and in autumn, Europe and the United States showed clear signs of an economic slowdown. Due to the unevenness of supply and demand globally, in some products negotiating positions became stronger on the customer side, while in products such as polyacetal we were able to maintain sales volume even after passing through high raw material costs to our prices.

From another perspective, these changes in the business environment offer opportunities to promote differentiation and increase added value. In fact, there has been increasing activity for rebuilding supply chains and revising sales methods, not only in MGC, but in the industry itself. We recognize the necessity of observing the market with greater care than before, and exercising flexible judgment regarding when, to whom, and what kind of approach to take.

In our business portfolio reform, we focused on increasing the competitive capabilities of our engineering plastics. Among them, the polyacetal business saw strong effects from business reorganization in South Korea, where the reforms have happened first. We have continued to make changes, clearly demarcating manufacturing, sales, and business management roles between our subsidiaries, and we are now concentrating our management resources in preparation to ensure that our double brand strategy for Iupital™ and Kepital™ will work well. I am confident that we can expect significant synergies going forward. Meanwhile, having made Mitsubishi Engineering-Plastics Corporation a consolidated subsidiary in April 2023, we reorganized it to specialize in the polycarbonate business, which has been lacking momentum. With this change, we are driving forward the strategy of integrating manufacturing, sales, and technology, and we see recovering our competitive edge as an urgent priority.

We are promoting reforms aimed at transitioning to a highly profitable structure. We are also focusing on environmental technologies

To realize a business structure that is able to respond to rapid changes in society, the Specialty Chemicals Business Sector is working to refine the points that differentiate it from other companies, while attempting to explore uncharted “blue ocean” markets. Therefore, our ability to engage with markets and identify partners is becoming increasingly important. With this in mind, in April 2023 we reorganized the Planning & Development Division, which oversees our development activities from an organization based on business divisions to one based on markets and functions. To take the example of the Electronics Materials Group, the person in charge of the development of electronic chemicals used in the front-end process of semiconductor manufacturing and the person in charge of BT materials used in the back-end process are working on the same team. By combining the perspectives of both the front-end and back-end processes for semiconductor manufacturing, we would like to broaden our dialogue with customers and come up with new value proposals for new chip architectures.

Furthermore, to promote strategies and measures flexibly, we set quantitative indicators for each business. We are building a structure that enables the Business Administrative Division, Corporate Planning Division, and the Finance & Accounting Division to coordinate and monitor the progress of each project across all aspects.

In the final fiscal year of the Medium-Term Management Plan, our top priority is to prepare a foundation to support improvements in the PC business. We aim to change our focus from quantity to quality, and get structural reforms on track as soon as possible. Meanwhile, semiconductors have come to be viewed as international strategic goods, and we therefore have started discussing optimal supply structures for related products in the lead up to our next Medium-Term Management Plan.

Over the medium term, we will strengthen environmental technologies for applications such as carbon neutrality and plastic recycling. Creating specific technologies and services aligned to the needs of society and markets is the proper mission of specialty products. By supplying added value, we will win recognition in the market and achieve the goal of balancing social and economic value. With a sound concept of a decent scale that contributes to the further advancement of society over the medium to long term, we will transition to a highly profitable structure.

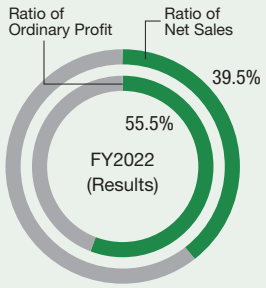
Basic Information

Business Lines: Inorganic chemicals, engineering plastics, optical materials, electronic materials, oxygen absorbers

Major Group Companies:
TAIXING MGC LINGSU CO., LTD., SAMYOUNG PURE CHEMICALS CO., LTD.,
MGC PURE CHEMICALS AMERICA, INC., MGC PURE CHEMICALS SINGAPORE PTE. LTD.,
MGC PURE CHEMICALS TAIWAN, INC., MGC Filsheet Co., Ltd., THAI POLYACETAL CO., LTD.,
MITSUBISHI GAS CHEMICAL ENGINEERING-PLASTICS (SHANGHAI) CO., LTD.,
MGC Electrotechno Co., Ltd., MGC ELECTROTECHNO (THAILAND) CO., LTD.,
Mitsubishi Engineering-Plastics Corporation, KOREA ENGINEERING PLASTICS CO., LTD.,
THAI POLYCARBONATE CO., LTD., RYODEN KASEI CO., LTD.,
TAI HONG CIRCUIT INDUSTRIAL CO., LTD., GRANOPT CO., LTD., MGC AGELESS Co., Ltd.,
Yonezawa Dia Electronics Co., Inc.

Number of employees: 4,069

Ratio of Net Sales and Ordinary Profit



Overall Policy under the Medium-Term Management Plan

Overall Policy

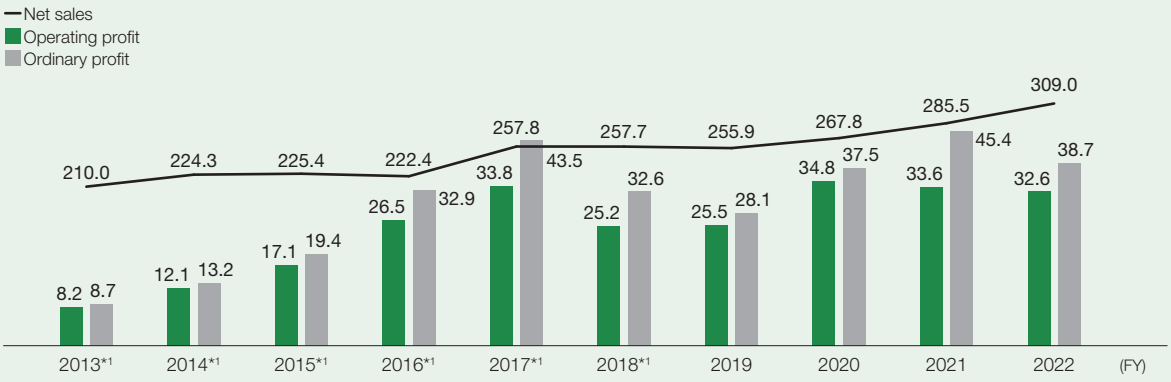
- Increase ratio of high-value-added products, strengthen cost competitiveness
- Continue capital investments in growth markets

Numerical Targets (Announced in May 2021)

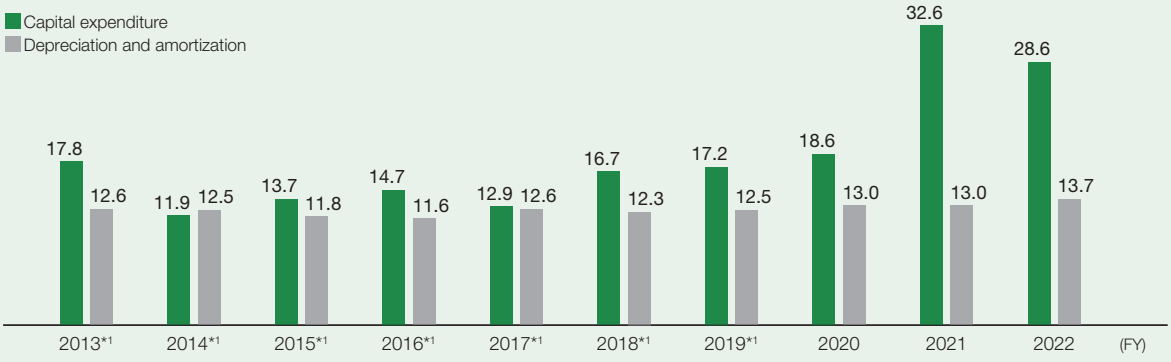
Net sales	Operating profit	Ordinary profit
¥330.0 billion	¥49.0 billion	¥53.0 billion

Performance

Net Sales / Operating Profit / Ordinary Profit (Billions of yen)



Capital Expenditure / Depreciation and Amortization (Billions of yen)



*1 Aggregate of former segments (Specialty Chemicals/Information and Advanced Materials)

Classification of Product Lines under the Medium-Term Management Plan

New/next-generation businesses	Differentiating businesses
Main products in development • XR materials • Post-5G materials • Materials for EVs	• Electronic chemicals • Optical resin/polymer • IC plastic packaging BT materials • Polyacetal • Ultra-high refractive lens monomers
Unprofitable businesses or those needing rebuilding	**Foundation businesses**
None	• Polycarbonate, sheet film • Hydrogen peroxide • Oxygen absorbers

Business Strategy

Differentiating businesses

Electronic chemicals (EL chemicals)

Further strengthening the global supply system. Finding new opportunities in high-level needs for customized products

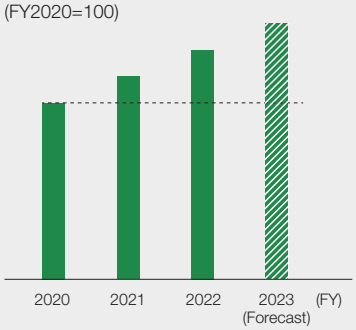
Hirokazu Hanawa
General Manager,
Inorganic Chemicals Division,
Specialty Chemicals Business Sector

MGC's electronic chemicals are comprised mainly of super-pure hydrogen peroxide, which is used for washing and etching silicon wafers for semiconductors, and hybrid chemicals, which are custom products for specific processes such as residue removal. For super-pure hydrogen peroxide, we have strengthened our global supply system by bolstering and increasing our production in Japan and overseas to keep pace with the growth of the semiconductor industry. For hybrid chemicals, our main strength is our research and development system, which works closely with customer needs. We have research and development locations in Tokyo and South Korea, and we will also establish bases in the United States, Taiwan, and China to accelerate our development speed in order to handle advanced technologies and new semiconductor materials.

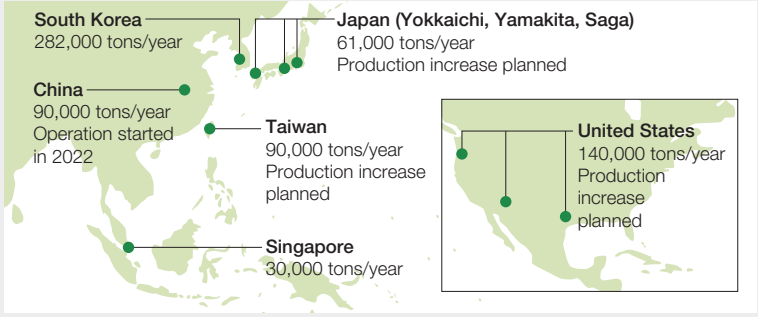
We have also established the Electronic Chemicals R&D Group as a specialist organization to develop new applications and promote strategies for intellectual property. We have actively posted young employees overseas as part of efforts to pick up on the latest technology trends.

With the development of an information society, which is represented by Society 5.0, we plan to enhance our position in the super-pure hydrogen peroxide market by strengthening both our manufacturing capacity and cost competitiveness. We will increase our operational efficiency at every step, from plant construction to raw material procurement, production, and logistics. Since super-pure hydrogen peroxide is an integral part of washing silicon wafers and is also a chemical with low environmental impact, it is unlikely that it will be replaced by competitive new products. In hybrid chemicals, the level of the solutions sought by customers is becoming increasingly advanced. This trend presents a huge opportunity for MGC, which has been working on product development in direct collaboration with the world's leading semiconductor manufacturers.

EL Chemicals: Transition in Net Sales
(FY2020=100)



Super-Pure Hydrogen Peroxide Production Sites



Differentiating businesses

Optical materials (optical resin/polymer)

Responding to increasing functionality of smartphone cameras while expanding into new fields such as VR, automotive, and monitoring cameras

Noriyuki Kato
General Manager, Business Development Department, Optical Materials Division, Specialty Chemicals Business Sector

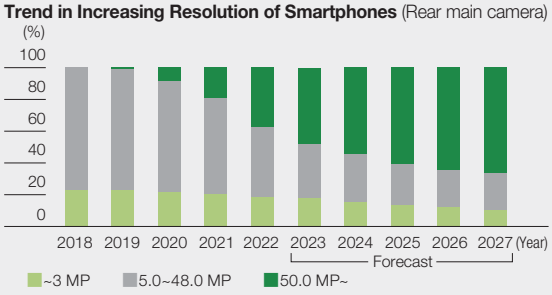
MGC's optical resin/polymer has been widely used as materials for camera lenses in smartphones and other devices, as they are highly regarded for their distinctive combination of a high refractive index*2 and low birefringence,*3 which are unmatched by competing products. Recently, demand is expanding for applications such as automotive and monitoring cameras, and VR devices for experiencing the metaverse. Customer demands increase in sophistication each year, placing a burden on development. Therefore, we are always delighted when we achieve the functional requirements for optical characteristics and so forth. Using a portal website, the laboratories, plants, and business divisions are able to share information in real time, enabling customer needs to be reflected rapidly in our in-house technology seeds.

In 2022, we established a joint venture with Taoka Chemical Co., Ltd. with the aim of further optimizing the production systems, including raw material monomers. In the same year, we also expanded our polymerization plant for optical resin/polymer within the Kashima Plant as part of efforts to ensure supply stability.

In the society of the future, with the seamless merging of virtual and real spaces, the quality of image information used for input will be important, so the areas in which optical resin/polymer can contribute will continue to expand. We are also working on development of a technology for collecting and recycling the molded pieces generated by customers' injection molding processes.

*2 The characteristic of light bending inside a material. Using materials with a high refractive index allows lenses to be made thinner.
*3 Lower birefringence contributes to clearer images.

Trend in Increasing Resolution of Smartphones (Rear main camera)



Source: Materials by Techno Systems Research Co., Ltd. published in June 2023

Differentiating businesses | **Foundation businesses**

Engineering plastics

We will pursue synergies through a new structure having consolidated MEP and accelerate the development of highly competitive products

Ichiro Koyanagawa
Executive Officer
General Manager, Engineering Plastics Division, Specialty Chemicals Business Sector

In the polycarbonate (PC) business, which is positioned as a foundation business, in April 2023 we started a new structure with Mitsubishi Engineering-Plastics Corporation (MEP) as a consolidated subsidiary. This new structure is intended to accelerate development of highly competitive products through rapid decision-making led by the Company.

Recently, competition has been increasing in the largest market, China. As profits become increasingly difficult to secure with our existing sales portfolio, we are focusing on developing and expanding sales of products that are resilient to the impact of market fluctuations and demonstrate the Company's competitive strengths. We will maintain this course, while making full use of the management resources of MEP and the Company to drive the development of applications that lead to solutions for customers' issues.

In polyacetal (POM), which is positioned as a differentiating business, business performance has been favorable, reflecting customers' approval of the stable supply capacity and product quality of our three production sites in Asia, as well as our detailed technical service capabilities. From April 2022, supervisory function for the POM business has been assigned to wholly owned subsidiary Global Polyacetal Co., Ltd. (GPAC), to create an integrated structure for managing production, sales, and development. Under this structure, we will develop products with higher added value, such as medical applications, for global markets.

MEP's strengths

- Customer-focused technical services
- Marketing functions (Business locations: 27 in Japan and overseas)
- Manufacturing base offering superior cost competitiveness
  Make THAI POLYCARBONATE a consolidated subsidiary of Company as well

GPAC's strengths

- Customer-focused technical services
- Use of regional headquarters sales companies, such as KOREA POLYACETAL
- Manufacturing bases offering superior cost competitiveness
  (THAI POLYACETAL, KOREA ENGINEERING PLASTICS, etc.)

We will further strengthen differentiating businesses while contributing to carbon neutrality over the medium to long term.

Naruyuki Nagaoka
Director, Managing Executive Officer
In charge of Basic Chemicals Business Sector

Smoothly executing an investment strategy designed to further strengthen differentiating businesses

Fiscal 2022 was a year with an extremely uncertain outlook. However, through steady execution of our policies and appropriate pricing strategies, among other measures, we have achieved ordinary profit of ¥30.5 billion, coming close to the ¥31.0 billion target for the Basic Chemicals Business Sector under the current Medium-Term Management Plan.

Our investment strategy was aligned with the key corporate strategy of further strengthening differentiating businesses. We proceeded without delay to construct a new MXDA plant in Europe and to increase production capacity of aromatic aldehydes at the Mizushima Plant, and these actions have been supported by steady demand. We plan to start production of MXDA in 2024. While there has been some impact from rising construction costs, we are confident of being able to reflect this in the product pricing. At the Mizushima Plant, we produce aromatic aldehydes. A bottleneck issue here was resolved in April 2023 with the improvement of production processes, and construction of the new plant is scheduled for completion in November.

Within our business portfolio, the formalin business has been classified under unprofitable businesses or those needing rebuilding. In August 2022, we stopped production of formalin at our Yokkaichi Plant and stopped production of formalin, paraformaldehyde, and hexamine at our Niigata Plant in May 2023. Furthermore, in April 2022, we established MGC Woodchem Corporation, building an integrated production system spanning from formalin down the value chain to adhesives. In May 2023, we announced the transfer of the Company's formalin sales business to MGC Woodchem.

Meanwhile, the purified isophthalic acid (PIA) business continued to be unprofitable due to worldwide oversupply, and we examined restructuring it, including the possibility of stopping it during the Medium-Term Management Plan period. However, we decided to maintain a certain level of production from a perspective of optimizing our overall product chain, including the raw material meta-xylene and xylene separation co-products. If we become able to shift production of meta-xylene to a higher-value-added European MXDA plant in the near future, we will revisit the idea of scaling down or stopping production of PIA.

Directing overall awareness of the organization towards market needs. Increasing successful examples of differentiating businesses

The Basic Chemicals Business is situated in the upstream zone of the value chain. With no direct interface with trends in final products, the business structure has a strong orientation towards technology seeds. However, this orientation has been changing as the Company has clearly set out its contribution to carbon neutrality and is moving toward execution. Currently, nobody can see clearly whether we are truly meeting market needs when we incorporate the larger trend of carbon neutrality into specific details. This is why we have recently been increasing opportunities for dialogue with diverse people involved in our value chain. As a result, the orientation of our overall awareness as an organization is gradually but palpably changing from technology seeds to market needs.

Looking back, differentiated products such as MXDA and MX-Nylon have arisen from technology seeds, but by maintaining close contact with customers through detailed technical services, they have stimulated latent demand. It had taken time for these products to be sought by society. However, when the time was right, their market developed, and now we are market leaders in their field. We are working to realize successful examples like this more quickly. For example, in the CFRP*1 business using our specialty resin and recycled carbon fiber and so forth, we have formed a consortium between Japan U-PiCA Company, Ltd. which became a wholly owned subsidiary in March 2023, as well as JSP Corporation and other Group companies, and having accurately grasped market needs, we are now preparing a comprehensive structure covering from upstream to downstream.

I see it as my mission to lay the foundations for the future. An example of such foundations is Circular Carbon Methanol. Currently, we are proceeding to examine possibilities for various materials, including CO_2, waste plastic, and biomass. It may take some time for this initiative to generate significant value; however, there is no doubting the strong demand from society for this technology. Over a five- to ten-year span, we aim to develop this into a differentiating business that will be a supporting pillar for the Group in the future.

*1 Carbon fiber-reinforced plastic

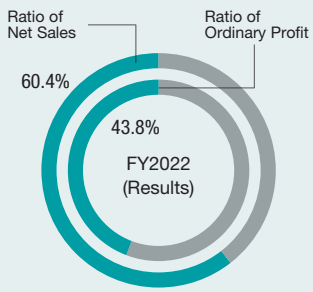
Basic Information

Business Lines: Natural gas chemicals, xylene chemicals, energy resources and environment, life science

Major Group Companies:
JAPAN FINECHEM COMPANY, INC., JSP CORPORATION, MGC Terminal Company, Inc., TOHO EARTHTECH, INC., Japan U-PiCA Company, Ltd., MGC SPECIALTY CHEMICALS NETHERLANDS B.V., Japan Saudi Arabia Methanol Company, Inc., METANOL DE ORIENTE, METOR, S.A., BRUNEI METHANOL COMPANY SDN. BHD., Japan Trinidad Methanol Company, Inc., Yuzawa Geothermal Power Corporation, MGC Advance Co., Ltd., FUDOW COMPANY LTD., MGC Woodchem Corporation, MGC ADVANCED POLYMERS, INC.

Number of employees: 5,521

Ratio of Net Sales and Ordinary Profit



Overall Policy under the Medium-Term Management Plan

Overall Policy

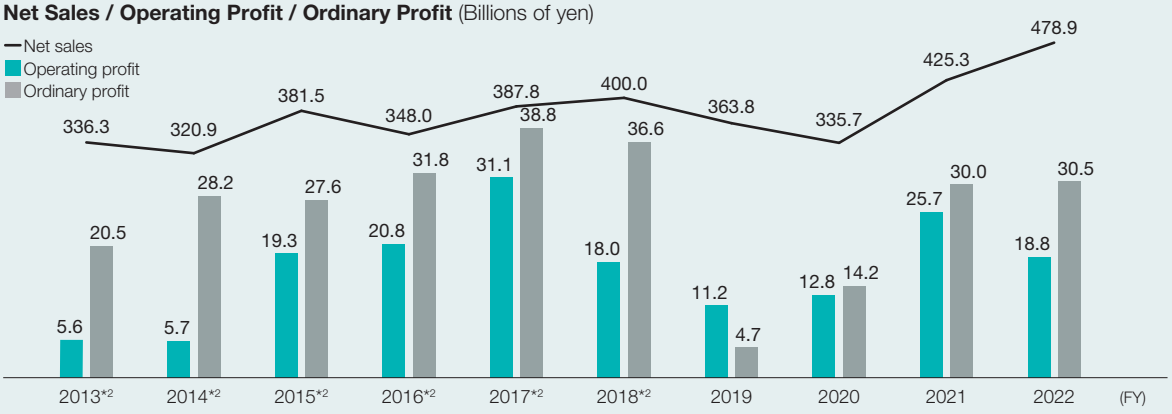
- Turn products and businesses that respond to societal demands into business opportunities
- Reduce volatility through portfolio reforms and rebuilding of unprofitable businesses

Numerical Targets (Announced in May 2021)

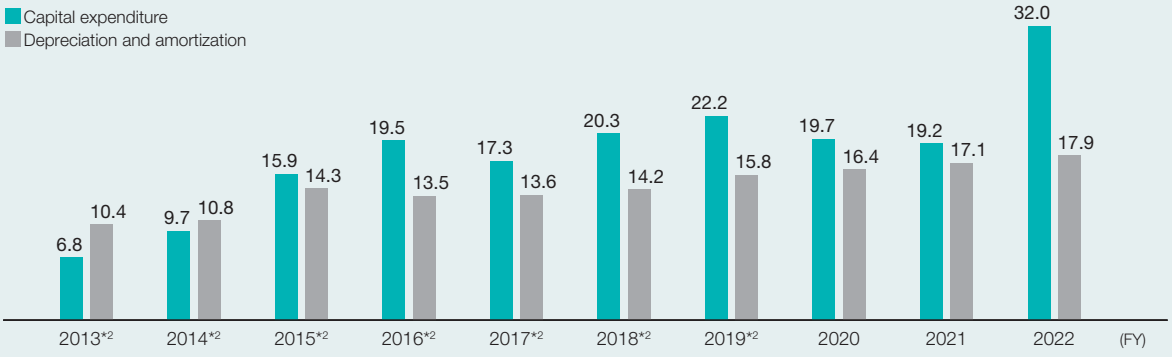
Net sales	Operating profit	Ordinary profit
¥410.0 billion	¥25.0 billion	¥31.0 billion

Performance

Net Sales / Operating Profit / Ordinary Profit (Billions of yen)



Capital Expenditure / Depreciation and Amortization (Billions of yen)

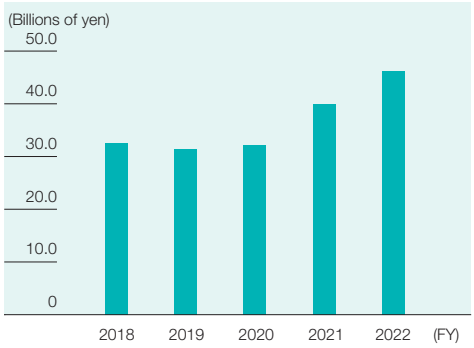


*2 Aggregate of former segments (Natural Gas Chemicals/Aromatic Chemicals)

Classification of Product Lines under the Medium-Term Management Plan

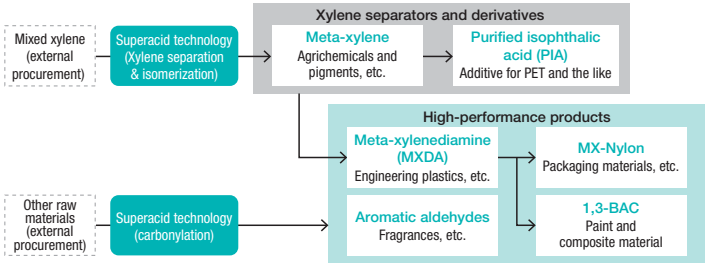
New/next-generation businesses	Differentiating businesses
Main products in development • Bio-products • Contract manufacturing of antibody drugs • Carbon fiber composite material • Neopulim transparent polyimide resin • Methanol fuel cells	• MXDA • Aromatic aldehydes • MX-Nylon
Unprofitable businesses or those needing rebuilding	**Foundation businesses**
• Formalin and polyol products • Xylene separators and derivatives	• Methanol • Energy resources and environmental businesses • Ammonia and methylamines • MMA products • Foamed plastic (JSP)

Sales Trend for High-Performance Products



MXDA Operations

MXDA, which we began producing in 1970, has been exhibiting its unique functions in special nylon films, polyurethane paint, and epoxy resin curing agents. Using MXDA as a main ingredient we have been expanding our product line to include MX-Nylon with a superior gas barrier and 1,3-BAC which are quick to cure and don't yellow under ultraviolet light.



Business Strategy

Differentiating businesses

MXDA

Plant construction in Europe is in progress as planned. Meeting growing demand related to wind power generation

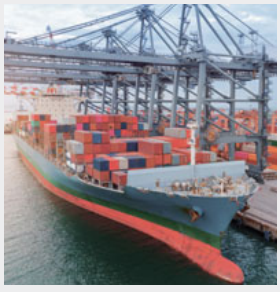
Ryoji Otaki
Division Director,
High-performance Products Division,
Basic Chemicals Business Sector

As a major supplier of MXDA, which is highly resistant to salt water and chemicals, we hold over 90% of the world market, producing it for over half a century. It is mainly used in paint for structures that must resist corrosion, such as bridges, marine structures, ships and plants.

We have begun constructing a new production base in Europe, where demand is highest, with a plan to start operation in July 2024. Prices for energy and raw materials have risen substantially due to the continuing Ukraine conflict, but we project that the new plant will produce MXDA with a competitive advantage on a par with that of our existing plant. When production begins, we plan to sell not just in Europe but also in other regions of high potential demand, like the Americas, the Middle East and Africa. We will satisfy growing demand for MXDA as an epoxy resin curing agent, which is used for rapidly growing wind power generation facilities as well as for conventional infrastructure applications.

We will promote research on possible MXDA uses for solvent-free paint and water-based paint that emit low VOCs[*3], as well as applications for direct air capture (DAC) of CO_2 to allow for multifaceted contributions to environmental preservation. In the future, we will also produce MXDA and 1,3-BAC[*4] using green hydrogen and ammonia to raise their profile as environment-friendly products.

*3 Volatile organic compounds
*4 1,3-bis(aminomethyl)cyclohexane. This is widely used as an epoxy resin curing agent for composite materials and paints.



MX-Nylon

Exploring its strength as an environment-friendly product. Creating value matching seeds and needs at the Group's global convention

Takahiro Takano
General Manager,
Polymer Materials Department,
High-performance Products Division,
Basic Chemicals Business Sector

MX-Nylon is an original MGC material featuring an excellent barrier against oxygen and CO_2 and superb chemical resistance. Used as a raw material in food and beverage packaging, it delays deterioration of flavor and quality, and extends "best-by" periods. Adding fiberglass and other toughening agents in the resin processing stage can produce materials with extremely high strength and stiffness, which are currently used as structural components in the automotive and industrial machine industries.

We have many people involved in research and development, production and sales of MX-Nylon meet twice a year at a global convention. The participants share information on trends in market changes and legal restrictions by nation or region, potential risks and future prospects. Based on that they explore new applications of MX-Nylon and create initiatives to marry seeds with needs.

I am excited to be exploring the strengths and possibilities of MX-Nylon as an environment-friendly product. I will work to make MX-Nylon the de-facto standard in various industries by drawing attention to what it can do, like reducing food waste by extending "best-by" dates and improving fuel efficiency by making vehicle parts lighter. In 2022 MX-Nylon produced at the Niigata Plant received the ISCC PLUS certificate. To capitalize on this opportunity we will begin manufacturing and selling ISCC PLUS-certified MX-Nylon with sustainable raw materials, including plant-derived raw materials as per a mass balance approach.

Differentiating businesses

Aromatic aldehydes

Superacid realizes unprecedented high quality. Pursuit of market-oriented development of fragrances

Haruya Kubo
General Manager,
Chemicals Department,
High-performance Products Division,
Basic Chemicals Business Sector

MGC produces and sells more than ten types of aromatic aldehydes. With these it has been making stable annual growth of about 5%, mainly for resin additives and fragrances. Our products are excellent in purity and safety, and highly evaluated as raw materials also for agricultural chemicals and pharmaceuticals. The superb quality is made possible by an original production technology employing a continuous-reaction system with a superacid, which is extremely difficult to handle, as a catalyst. The catalyst is collected and reused inside the system, so very little is wasted, and large volumes of the product can be reliably produced. This is just one example of our large fund of technical expertise built up over the years, leaving our competitors far behind.

To address diverse customer needs and issues, through dialogue with them we customize their orders into unique products. This is a special feature of our business. Production facilities capable of producing a wide variety of products while assuring reliable high quality are our strength as well.

It's not easy to match the needs of prospective customers with the seeds, such as the technologies and facilities we own. Because of that, high-performance custom products, the results of those matches, are indispensable to customers. Now we are surveying and understanding the market needs for fragrances with which aromatic aldehydes are highly compatible, while steadily working to expand the areas covered by the R&D capabilities and production technologies of MGC.

Whenever speedy solutions are needed, we will consider alliances with other companies and even M&A as alternatives.

Yoshinori Isahaya
Director, Managing Executive Officer
Responsible for Research & Development,
in charge of Intellectual Infrastructure
General Manager of Intellectual Infrastructure Center

Unification of research systems improves the perceived speed of progress and balance in marketability

To build an earnings structure that adapts to change in the external environment, for the current Medium-Term Management Plan we instituted a new segment called “new/next-generation businesses.” In new-product development we used to create research themes under the four-internal-company system, with organic growth in mind. Certain research themes were looking to the next generation and did not belong to any specific company. Calling them “corporate research,” we explored new materials.

Looking at a market environment that has been rapidly changing beyond imagination in recent years, we abolished the internal company system in 2020. With optimization of the entire Group in mind, we brought together research laboratories that used to be under the internal companies and the Advanced Business Development Division, which used to be one of the administrative divisions, now under the Research & Development Division. We expanded R&D investment in the fields projected to have high medium- to long-term growth potential. At the same time we aim for growth that is not simply the extension of existing businesses.

Next-generation research used to carry challenges like differences in speed between the research team and the internal company overseeing the research when it is ready for commercialization. Under the current system, however, all research themes, including those for the next generation, became visible on a single assessment measure and assessment frequency, the senses of speed and marketability are better balanced, and the sensitivity to return on investment has increased.

Research themes and product development projects that we’ve been working on for a long time need new time frames for management. To do that, we’ve stopped insisting on doing everything on our own and would rather look into alternatives, like business and capital alliances with other companies and even M&A, depending on the themes. We flexibly adjust how research should be conducted and how each internal organization should be run as we assess performance and the sense of speed. That said, we avoid going too fast to the point of impairing the creativity of the researchers, considering it important to maintain our free, open-minded culture that allows for playfulness.

Creating businesses of different wavelengths by staying close to customer issues at a deep level

For those of us involved in new/next-generation businesses, innovation means combining existing A and B to create C, a new value. So people in administrative divisions doing office work can innovate as well as our technical employees. Within MGC people with diverse viewpoints and ideas get together to improve one another and create new value by having fun with it. If all our employees are looking in the same direction, we can’t generate C by combining A and B. By looking at things from different viewpoints, it’s easier to be inspired, leading to innovation. I often advise employees, “You can’t find a solution if you stay in your lab or office.” By getting out to the market side and talking with customers with development agility in mind, we can deepen our understanding of the essences of issues even the customers aren’t aware of.

We used to win customer approval just by suggesting a single new material. Today it’s a new era, when we can’t receive an order without suggesting a string of upstream-to-downstream solutions. So we are considering a business model in which we decide on the core part of a business that we will take charge of, then share profits with leading business partners handling other parts.

When I was head of the Corporate Planning Division, I was deeply involved in drawing up the current Medium-Term Management Plan, and determined five target fields backcasting from 2030-2050 by imagining changes in society and technological trends for those years. To get to the exit sooner, we will further narrow our research and development subjects in the target areas more precisely. We are creating several businesses of different wavelengths, for example, with a portfolio of products with different cycles and characteristics, and making our R&D organizations capable of handling environmental changes with resilience and flexibility.

Solid electrolytes

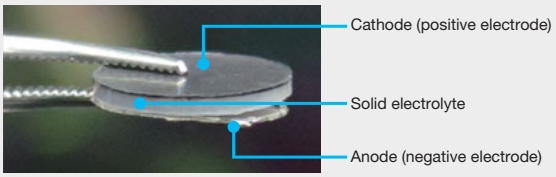
Development of $LiBH_4$*1 and carborane-based solid electrolytes for application in various fields

Takuo Ohshida
Associate General Manager,
New Business Development Department,
Research & Development Division

With the proliferation of electric vehicles and electronic devices, the rechargeable battery market is projected to grow and the field's technological trends are drawing attention. We are developing solid electrolytes for all-solid-state Li-ion batteries*2, a type of next-generation rechargeable battery. Solid electrolytes are divided into three categories depending on the main ingredient: sulfides, oxides and complex hydrides. Our development focus has been complex-hydride electrolytes. Their advantage is that they are softer than other solid electrolytes, making them easier to use in producing precision electrodes. They also minimize startup investment by sharing existing production equipment for liquid Li-ion batteries.

MGC has developed a method for producing $LiBH_4$ solid electrolytes, but much has been desired in terms of Li-ion conductivity for high output, as needed by electric vehicles. As a solution we developed carborane-based solid electrolytes, a type of complex-hydride electrolyte, that achieve Li-ion conductivity on a par with sulfide-based solid electrolytes. With mass production of this electrolyte in mind, we plan to supply it at low cost through a liquid-phase mass-production process that is unique to a chemical maker. Now we are working with universities to assess the properties of carborane-based solid electrolytes and explore new applications for it. We will continue to explore applications for both $LiBH_4$ and carborane-based electrolytes that employ their respective characteristics with a wide range of uses in mind, from stationary batteries to electric vehicles.

*1 Lithium borohydride. This compound reacts with water and alcohol to generate hydrogen, and is generally used as a reducing agent.
*2 Conventional liquid Li-ion batteries use an electrolytic solution for conductivity. On the other hand, all-solid-state batteries use solid electrolytes rather than liquid electrolytes.



OXYCAPT™

Supplying the healthcare industry with the world's only multilayer plastic container with a glass-like oxygen barrier

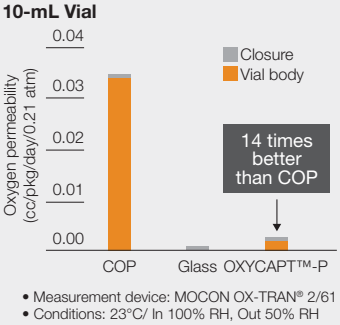
Tomohiro Suzuki
Associate General Manager,
New Business Development Department,
Research & Development Division

The syringes*3, vials*4 and other glass containers used in healthcare provide an excellent oxygen barrier, but they break easily and are low in pH resistance, to name a couple of disadvantages. In work to create plastic alternatives, a weaker oxygen and UV barrier has been a challenge. Taking on this challenge, MGC began developing a better plastic alternative in 2012. We promoted projects that apply our own multilayer molding technology for beverage containers using MX-Nylon and non-crystal oxygen-barrier plastics we have developed. In 2019 we commercialized OXYCAPT™, the world's first container that has the advantages of both glass and plastic. In addition to its excellent gas barrier, it features minimal leaching of inorganic materials, and is currently in testing by pharmaceutical companies in Europe and the U.S. for official adoption. When OXYCAPT™ is in wide use, we believe we can offer the healthcare industry new environmental value, because its low weight can reduce CO_2 emissions in addition to preventing container breakage during production and transportation.

In May 2022 we announced that we have opened talks with Becton, Dickinson and Company of the U.S.*5 concerning a business alliance. We are discussing specifics, including joint development of syringes. We are also focusing on applying OXYCAPT™ characteristics to low- and ultra-low-temperature storage of bio-pharmaceuticals and applications in regenerative medicine.

*3 The cylindrical part of the injection syringe, excepting the needle
*4 Sealed container for injectable medicine
*5 A world-leading company for medical equipment

10-mL Vial



- Measurement device: MOCON OX-TRAN® 2/61
- Conditions: 23°C/ In 100% RH, Out 50% RH

Research and Development

Strategic Points (FY2022)

- Establishment and operation of a research theme evaluation system using scoring. Objectively prioritize evaluation of all research themes, and accelerate research and development by dramatically shifting research resources to themes with high evaluations.
- Establish strategic research areas with consideration for suitability to the Company and growth potential to create new products and new businesses, focus research resources and promote metabolism of exploration of themes.
- Create a DX promotion system and education system aimed at further acceleration of research activity. The goal of the Intellectual Infrastructure Center is to realize an IP landscape*1 supporting the formulation of research strategy.

Relevant Materiality

- Promotion of innovative R&D

*1 Management strategy emphasizing intellectual property. It indicates an overview of current conditions and future prospects concerning the Company's market position in light of research and development trends within the industry and technical information on individual patents.

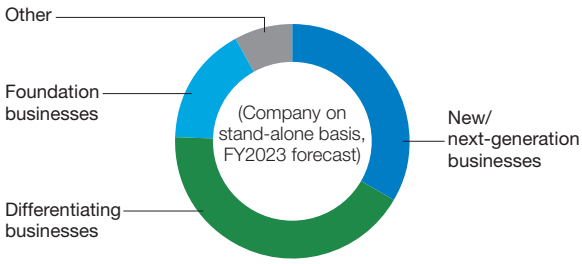
Research and Development Strategy

A major objective of the Medium-Term Management Plan, Grow UP 2023, is further increasing our competitive advantage through the creation of differentiating technologies and the expansion of differentiating businesses to shift to a profit structure resilient to change in the external environment. In order to achieve this Group objective, the research division needs to maximize return on investment, meaning that it should increase the efficiency of its investment in research activities. To begin with, we introduced objective research evaluation indices for determining the priority of research themes in fiscal 2020. Over the three years of the Medium-Term Management Plan, we are concentrating management resources on high-priority themes according to these indicators.

While working closely with business sectors responsible for product development, we aim to obtain results commensurate with investment within the period specified for each theme, as well as expand our differentiating businesses.

Furthermore, when all research organizations were unified in April 2020, the Research & Development Division took the lead in strategically establishing new research themes based on expansion of our business portfolio and future growth areas (see figure below).

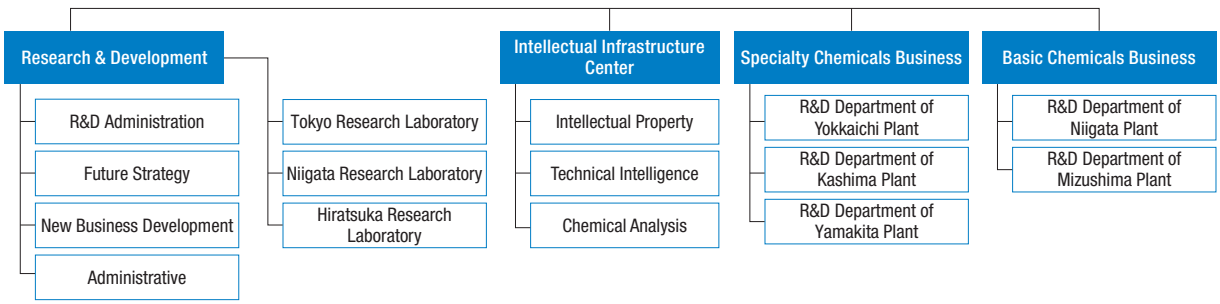
Breakdown of R&D Expenditures



Key Points for Setting Research Themes

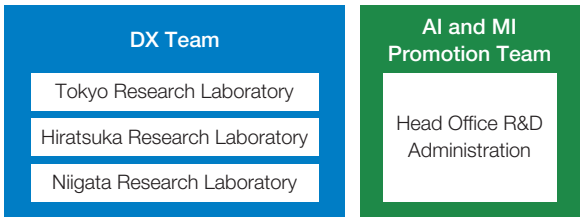
	1. Business Portfolio Target Area	2. High Suitability to the Company	3. Future Growth Areas
Type A: Theme in Growth Area of Existing Business Priority injection of resources driving future growth	←	—	→
Type B: Theme in Growth Area Outside Existing Business Development of new markets such as contributing to a sustainable society	←		→
Type C: Theme with Commensurate Return on Investment in Existing Business Expansion of existing business through detailed response for each product	←	→	

Research and Development System



Acceleration of Utilization of Digital Technology

In April 2021, we established a dedicated AI and MI promotion team within the Research & Development Division, and a DX Teams performing dedicated analysis of computational chemistry and data science in three laboratories to strengthen the system for promoting DX. The DX Team applies DX technology to many research themes and is effective in accelerating research and development. The AI and MI promotion team is contributing to the spread of data science by creating a data science education system. Eventually, we will establish a working environment in which all researchers are able to utilize the latest digital tools as needed. In addition, the DX Technical Exchange Meeting was launched for Group companies in fiscal 2022. Through this DX Technology Exchange Meeting, we will promote the deployment of DX technology throughout the entire Group.

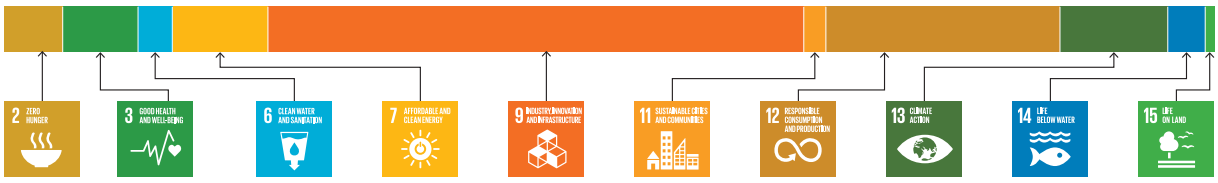


Intellectual Property Strategy

The importance of intellectual property (patents, knowledge and general know-how) is increasing as chemical manufacturers pursue sustained growth. In April 2021, MGC established the Intellectual Infrastructure Center to utilize DX to strategically accumulate and establish rights for intellectual property, and moreover to deploy it throughout the Group. In order to transform intellectual property management through DX and bring about the transition from conventional basic patent administration operations to data-driven intellectual property operations, the Intellectual Property Department, which formulates and implements strategy on intellectual property, and the Technical Intelligence Department, which handles the utilization of digital technology and technical studies pertaining to intellectual property, have been established within the Center.

Operations involving collecting and analyzing vast quantities of intellectual property data, such as patents, literature, and public releases from rival companies, are characterized by a high degree of compatibility with AI. MGC combines AI with existing tools and the analytical skills of analysts, with the aim of realizing a strategic IP landscape. For example, to effectively utilize the intellectual property information MGC has accumulated to date, we first create an overview using AI and associate it with general information before classifying it into proprietary categories and performing analysis. It is expected to have effects such as matching the needs of society with the technology and resources (seeds) of MGC, potential competitive analysis and highly accurate customer analysis, and discovery of new applications for existing products. In addition, the following overview showing MGC's patent value from the perspective of SDGs clearly shows that we have a wide range of technology corresponding to the various targets set for SDGs. In the near future, we believe that AI will quantitatively indicate the suitability of our research fields and themes including SDGs, and support the formulation of research strategies, thereby contributing to the MGC Group's Mission of "creating value to share with society."

Total Patent Value (Patent Asset Index™) of the MGC Group Identified from the Perspective of SDGs (As of December 31, 2022)



Please refer to page 15 for the changes in MGC's total patent value.

Promotion of Research and Development Addressing Climate Change Problems

MGC is advancing research into "carbon recycling," which makes effective use of CO_2 as a chemical raw material, as a viable technology for reducing environmental impact.

MGC was quick to begin working on development of methanol production technology using CO_2 and hydrogen as raw materials, and succeeded in methanol production using the methanol pilot facility at the Niigata Plant. At the same time, we are proceeding with efforts aimed at achieving a decarbonized society through Circular Carbon Methanol (CCM) production, in which CO_2 emissions, waste plastics, etc. are converted into methanol, recycling them for use as chemicals or fuel and in power generation. In 2022, we successfully converted CO_2 recovered from waste incineration exhaust gas into methanol for the first time in Japan.

Leveraging our knowledge regarding polycarbonate research and manufacturing, in which we are developing a business, we are working with Tohoku University, Osaka

Metropolitan University, NIPPON STEEL CORPORATION and Nippon Steel Engineering Co., Ltd. to develop technology for synthesizing polycarbonate intermediates using CO_2. Since fiscal 2021, this has been adopted as “Green Innovation Fund Project / Development of Technology for Producing Raw Materials for Plastics Using CO_2 and/or Other Sources / Development of Technology for Producing Functional Chemicals from CO_2 / Development of Technology for Manufacturing Functional Plastic Materials Using CO_2 as Raw Material” and we are engaged in resolving issues aimed at the industrialization of processes for synthesizing polycarbonate from CO_2. In fiscal 2022, we reduced the heat consumed in lab experiments and also began construction of a bench plant.

Progress of KPIs in FY2022

13%
of R&D expenditures
R&D investments devoted to solving climate change problems

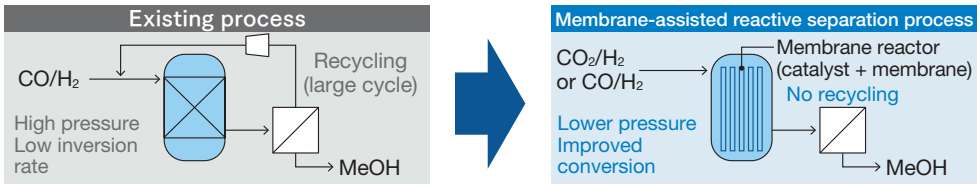
The fiscal 2030 targets have already been reached due to progress in research themes adopted as Green Innovation Fund Projects.

Please refer to “Development of Products and Technologies Conducive to Decarbonization” on page 18 for details on research themes.

Progress of Green Innovation Fund Projects

Synthesis of Methanol from CO_2

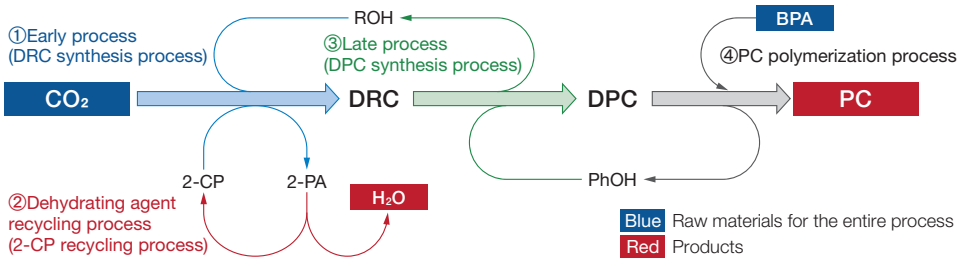
We are jointly developing a methanol synthesis process utilizing a separation membrane with Mitsubishi Chemical, and MGC is handling catalyst optimization (only MGC) and development of reactor and process (jointly with Mitsubishi Chemical Corporation). In the current initial phase, we are proceeding with acquisition of basic data using compact testing equipment, and process evaluation and cost estimation based on simulations. In fiscal 2022, we created a membrane reaction simulation model, and we have established an environment for proceeding with equipment design for bench testing scheduled for fiscal 2025.

Project overview	Development for commercialization of chemical raw material production using artificial photosynthesis*2 Development of new membrane-assisted reactive separation process with aim of significant improvement of reaction efficiency
Implementation structure	Mitsubishi Chemical Corporation (the contact company), MGC, Japan Technological Research Association of Artificial Photosynthetic Chemical Process (ARPChem)
Project duration	Fiscal 2021–Fiscal 2028 (8 years)
Project images	 • At present, synthetic gas CO/H₂ materials are mainly used • With CO₂/H₂ materials, reaction efficiency is poor even under high-pressure conditions, necessitating recycling a large volume of unreacted material (high construction costs and variable costs) • Catalyst deactivation due to byproduct water vapor also an issue • Reaction efficiency greatly improved by selectively extracting products using zeolite membrane • This enables lower reaction pressure, and reduction or elimination of recycling of unreacted materials (lower construction costs and variable costs)

*2 Chemical material made from CO_2 and green hydrogen obtained by using solar energy to decompose water with a photocatalyst

Manufacturing of Polycarbonates from CO_2

We are researching an innovative soluble polycarbonate manufacturing process that has high environmental compatibility and is highly effective for reducing carbon by using cerium oxide as a catalyst and 2-cyanopyridine (2-CP) as a dehydrating agent to synthesize dialkyl carbonate from carbon dioxide and alcohol, and using this as an intermediate for DPC synthesis. In fiscal 2022, we examined the reduction of energy consumption in the DRC synthesis process and the dehydrating agent recycling process, and found the potential to significantly reduce energy consumption through a technological breakthrough, achieving the GHG emission reduction target in the Green Innovation Fund Project in the laboratory research phase. We are currently proceeding with work to establish bench plant equipment to scale up and verify the laboratory test results.

Project overview	Development of technology for manufacturing functional plastic materials using CO_2 as raw material
Implementation structure	Tosoh (the contact company), MGC
Project duration	Fiscal 2021–Fiscal 2028 (8 years)
Project illustration	

Production and Environment

Strategic Points (FY2022)

- Steady execution of the SMART-MGC DX promotion project. Promote the introduction of digital technology through the two aspects of SMART-FACTORY aiming for stable plant operation and enhancement of operations, and SMART-OFFICE aimed at streamlining the supply chain.
- Implement a large-scale survey of all business partners concerning purchased materials. Promote building environmentally friendly and safe supply chains through regular monitoring.
- Continuous improvements through companywide responsible care (RC) based on the RC Medium-term Plan*1 and annual plans.

Relevant Materiality

- Promotion of socially responsible sourcing
- Occupational safety and health / Process safety and disaster prevention
- Highly energy- and resource-efficient production
- Chemical/product quality and safety assurance
- Proactive response to environmental problems

*1 RC Medium-term Plan 2023 (2021-2023) https://www.mgc.co.jp/eng/csr/environment/rc_plan.html

Promotion of SMART-FACTORY

MGC aims to balance ensuring safety, the foundation of its production activities, with environmental protection and efficient production. We are constantly pursuing our targets for all of these by raising the level of technical capability of employees engaged in production activities, and by keeping facilities (hardware) and systems (software) up to date.

We have endeavored to ensure the safety and stability of production activities through the technical improvement of processes and facilities, and will focus on initiatives aimed at the realization of SMART-FACTORY to promote the utilization of DX technologies such as sensors, systems and mobile devices to realize an even higher level of stability.

In fiscal 2022, in order to engage in highly efficient production saving resources and energy, we utilized digital data on production equipment accumulated in the data management systems we have introduced. Furthermore, we conducted trials of quality forecasting and anomaly sign detection systems and operational support and work support systems using AI, and are gradually implementing them. We have been able to reduce the workload in inspection operations by around 50% in the visual inspection system for corrosion of pipes in plants by applying "Human in the Loop Machine Learning," which commenced operation in the Niigata Plant in January 2022. At present, we are engaging in further improving accuracy while operating the system, and also expanding the scope of application. In addition, we have continuously reviewed the introduction of new devices, such as equipment inspections by drones and the utilization of smart glasses and tablets in the workplace. Data on plant operation is being used to build a SMART-FACTORY database and connect systems with the aim of coordinating with SMART-OFFICE for optimizing supply chains.

By utilizing such new technologies, we aim to prevent accidents and other problems, and improve the efficiency of routine operations, in addition to supplementing people's senses and judgment to realize a higher level of stable plant operation.

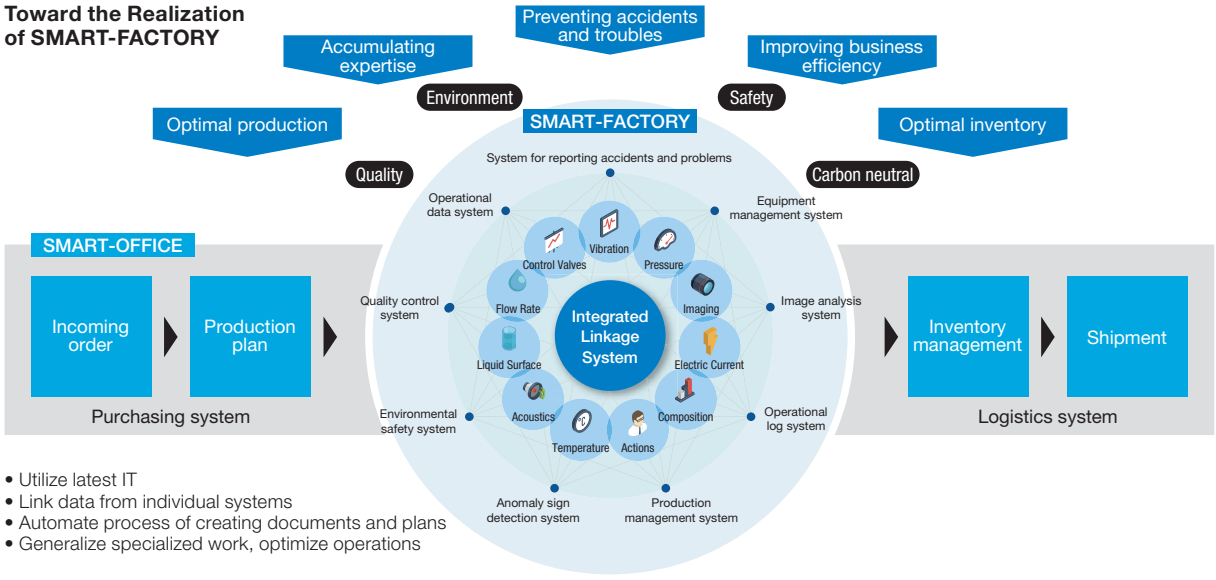
Progress of KPIs in FY2022

8.6% reduction

GHG emissions intensity (compared to fiscal 2013, non-consolidated)

Deteriorated from the previous fiscal year due to fluctuation in the production volume of specific products. We will continue with efforts to curb energy consumption such as energy saving.

Toward the Realization of SMART-FACTORY



- Utilize latest IT
- Link data from individual systems
- Automate process of creating documents and plans
- Generalize specialized work, optimize operations

CSR Procurement

Please refer to the Sustainability website for details on CSR procurement.
https://www.mgc.co.jp/eng/csr/society/procurement.html

MGC has positioned improvement of the CSR level in areas such as the environment, labor conditions, and human rights throughout the entire supply chain, from raw material procurement to manufacturing and sales, as one of our management materiality priorities.

With the understanding and cooperation of our business partners, MGC shares its requirements through the “Basic Concepts Related to Raw Material Procurement Activities” and “Mitsubishi Gas Chemical CSR Procurement Guidelines” to promote CSR procurement.

In order to build a supply chain that complies with laws and regulations while taking environmental and safety concerns into account, with regard to important raw materials we conduct surveys of our suppliers using the CSR Procurement Self-Assessment Tool (SAQ) created by the Supply Chain Working Group of the Global Compact Network Japan. The survey began in fiscal 2020, and we have received responses from 191 companies as of fiscal 2022. We have started asking our suppliers to respond to the SAQ when beginning new transactions, and we will continue to further promote CSR activities in the supply chain in the future.

Occupational Safety and Health / Process Safety and Disaster Prevention

Please refer to the Sustainability website for details on the promotion system and initiatives.
https://www.mgc.co.jp/eng/csr/society/safety/performance.html

Based on our Safety Philosophy that “ensuring safety is the top priority of our business activities,” MGC formulated Safety Principles and takes active measures to achieve zero accidents and zero occupational injuries among both MGC employees and the employees of our partners.

With regard to occupational health and safety, as well as process safety and disaster prevention, each business site implements autonomous maintenance activities under its own initiatives, and we are continuing company-wide LINK safety activities commenced in fiscal 2021 to strengthen and promote improvement activities.

LINK Activities are used to foster safety management perspectives at a workplace level through case studies, with people in charge of safety practices in the workplace serving as leaders.

Furthermore, although said activities were centered on the manufacturing sector in the past, the scope has been expanded to process safety and disaster prevention when conducting research and ensuring safety in construction, filling and cargo handling work. Moreover, we are implementing process risk assessments through HAZOP*2 in all plants to extract and identify risks. In addition, we implement quantitative assessments according to the MGC Group process safety and disaster prevention guidelines. We also utilize RC audits of each plant along with environment and safety audits of Group companies to assess the gap between the ideal level and the current state, leading to the resolution of issues in an effort to create a positive spiral in the safety management system.

*2 An acronym for Hazard and Operability Studies, a technique for identifying risks for complex processes and equipment

Progress of KPIs in FY2022

1	0
Serious occupational accident	Serious accidents

The Serious occupational accident is related to work, and we are engaged in displaying signs in hazardous areas in the workplace and strengthening hazard prediction before performing work.

Quality Assurance and Chemical Management

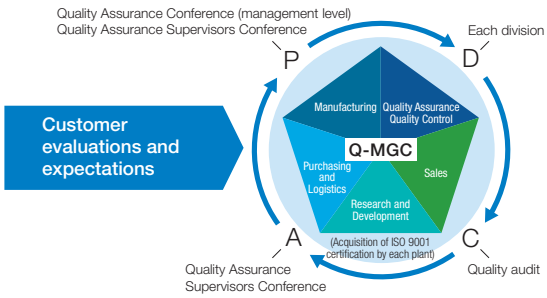
Please refer to the Sustainability website for details.
Quality Assurance https://www.mgc.co.jp/eng/csr/society/safety/quality.html
Chemical Substance Management
https://www.mgc.co.jp/eng/csr/society/safety/initiatives.html

MGC promotes companywide quality assurance activities (Q-MGC) throughout supply chains under the MGC Group Basic Policy on Quality in order to provide products and services with a high level of safety and reliability.

In fiscal 2022, the quality assurance activity plan that had been formulated for the entire company was also drawn up in each division in an effort to deepen Q-MGC activities. The MGC Group Quality Management Promotion Meeting established to create a groupwide risk management system shares Q-MGC through quality management promotion meetings, quality personnel liaison meetings and quality audits. Furthermore, we conducted support for the creation of safety data sheets (SDSs) and education and operational support on security trade control for Group companies to create a chemical management and export control system appropriate for the Group as a whole.

Going forward, we will actively proceed with the implementation of IT and automation in operations through the introduction of previously implemented LIMS*3, the use of a delivery specification database and an automated SDS creation system, in addition to performing continuous risk evaluation and management of MGC products through support for domestic and overseas chemical management laws and the use of a regional information-gathering system.

*3 An acronym for Laboratory Information Management System



Proactive Response to Environmental Problems

Please refer to the Sustainability Data Book for environmental data.
https://www.mgc.co.jp/eng/csr/esg.html

MGC recognizes that curbing, and adapting to, climate change, preserving biodiversity and other environmental problems are important issues that have a significant impact on business operations. At the same time, we realize that they also represent business opportunities, and so here too we are engaged in a variety of activities aimed at "creating value to share with society."

MGC has established the target of reducing GHG emissions by 28% from fiscal 2013 by fiscal 2023, as it works toward achieving carbon neutrality by 2050. Specific reduction measures include the promotion of energy-saving activities, discontinuing the use of heavy oil in our in-house power generation facilities and boilers, reducing the GHG emission factors of purchased power and introducing renewable energy. Furthermore, to reduce the environmental impact of business activities, we are promoting the efficient use of resources such as energy, raw materials, and water, and engaging in the reduction and appropriate management and disposal of waste. In addition, we are actively engaged in the development of products and technology that reduce environmental impact or help restore damaged ecosystems.

Progress of KPIs in FY2022

34% reduction
GHG emissions (compared to fiscal 2013, non-consolidated)

We are steadily implementing measures such as the introduction of renewable energy. In fiscal 2022, partial reconfiguration of the business portfolio also had an impact.

Introduction of Renewable Energy

MGC is promoting the introduction of renewable energy by making lower emission factors than at present a condition of purchases to reduce the GHG emission factors of purchased power, and part of the electric power purchased by plants was switched to renewable energy from fiscal 2022. The introduction of renewable energy as 10% of purchased power by fiscal 2023 has been established as a KPI in the RC Medium-term Plan 2023, and we are proceeding with implementation.

Progress of KPIs in FY2022

19%
Renewable energy as a percentage of electric power purchased (non-consolidated)

We introduced renewable energy or effectively implemented the shift to renewable energy through the utilization of non-fossil certificates in three business sites. We reached our target.

Reduction of Industrial Waste

MGC Group companies are working to reduce industrial waste by encouraging the 3Rs (reduce, reuse and recycle), and by ensuring proper waste treatment in compliance with laws and regulations.

The RC Medium-term Plan 2023 sets a target of keeping MGC's zero waste emission rate to 0.3% or lower. We are proceeding with fractional recovery of waste and also focusing on the reduction of waste from prototypes, etc. We are endeavoring not to produce unintended waste caused by operating anomalies through the continuation of stable operation of equipment in production sites.

MGC is also participating in the plastic recycling business. Working with U.S.-based biochemical venture Anellotech, Inc., R Plus Japan, Ltd., in which MGC has a stake, is developing a low-environmental-impact, efficient technology for recycling used plastics.

Progress of KPIs in FY2022

0.25%
Zero waste emission rate (non-consolidated)

We reduced final disposal through the promotion of the 3Rs for waste at each business site. We reached our target.

Addressing Water Resource Risks

MGC uses large quantities of water, both as a raw material for chemical products and for various other purposes, including steam heating and cooling in chemical manufacturing processes, product refining and cleaning containers.

To sustainably use water resources essential to manufacturing chemicals, MGC manages a variety of risks. Specifically, MGC monitors its actual water consumption and uses water efficiently by measuring its withdrawal, discharge, usage and recycling.

The RC Medium-term Plan 2023 sets a target of a water reuse rate of 95% or more to promote the effective use of water resources. Furthermore, in order to facilitate more efficient use, we are engaged in stable operation by anticipating risks such as the occurrence of water discharge due to sudden equipment stoppages.

To identify water risks, we conducted business site hearings and document-based investigations at domestic manufacturing sites, and document-based screenings of overseas sites. Although no problematic risks were discovered as a result, we will continue to conduct investigations as needed in the future.

Biodiversity Conservation

To maintain a rich natural environment amenable to living things, and to conserve biodiversity, MGC engages in practices that contribute to greater biodiversity in everyday life in each of our workplaces. These include helping to maintain forest reserves around our plants and a movement to plant flowers at our worksites, and participating in cleanup of rivers and harbors adjacent to our sites.

The establishment of a biotope is being planned at the Niigata Plant. We will work with not only employees but also residents and other groups active in the region, with the aim of providing learning opportunities for greater understanding of not only the nature but also the history and culture of the region. We will continue to conduct studies on the surrounding natural environment and living organisms to create a place facilitating the experience of the appeal of biodiversity with local communities.

Response to Climate Change (Disclosure Based on TCFD Recommendations)

Please refer to the Sustainability Data Book for environmental data.
https://www.mgc.co.jp/eng/csr/esg.html

Tackling climate change is a major challenge that calls for initiatives on a global scale if we are to achieve a sustainable society. MGC recognizes that solving energy and climate change problems is an important challenge, and is working to solve these issues from the perspective of both climate change mitigation and adaptation.

Specifically, MGC has formulated targets for reducing Scope 1 and 2*4 GHG emissions and is working toward their steady reduction. At the same time, MGC is proactively disclosing information on Scope 3*5 GHG emissions and is taking action to reduce them in collaboration with its suppliers. MGC is also working to improve energy efficiency and the carbon cycle of raw materials, and to promote energy transition toward the goal of achieving a zero-carbon society by 2050. MGC will also contribute to solving energy and climate change challenges through business operations by deploying innovative process technologies and factoring whole-lifecycle GHG emissions into its design and development processes.

In May 2019, MGC also declared its support for the Task Force on Climate-related Financial Disclosures (TCFD). MGC has assessed the risks and opportunities climate change represents for the Group, and is now endeavoring to strengthen resilience through scenario analysis while also engaging in sound dialogue with stakeholders. In fiscal 2022, we implemented new scenario analysis on the optical materials and oxygen absorbers businesses.

In March 2021, MGC announced a new objective for achieving carbon neutrality by 2050 with the goal of limiting the increase in average temperature to below 2°C, and expanded the scope to the entire Group in March 2022. MGC encourages the development of energy systems to achieve carbon neutrality, while aiming to expand the range of products conducive to carbon neutrality.

*4 Scope 1 emissions are GHG emissions directly generated by MGC; Scope 2 emissions are indirect GHG emissions associated with use of energy (mainly electric power) purchased from external suppliers
*5 Scope 3 emissions are indirect GHG emissions generated in supply chains through organizational activities such as raw material sourcing, manufacturing, distribution, sales, and waste disposal

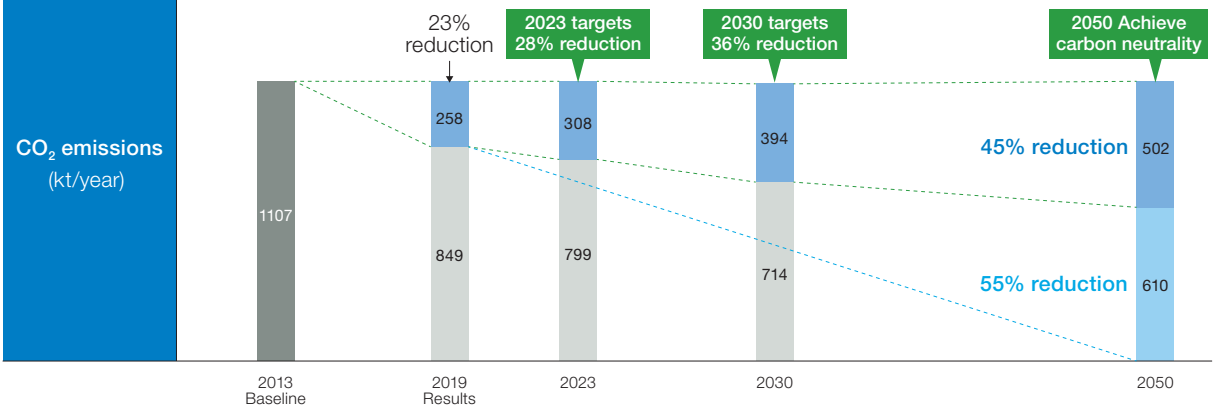
Long-Term GHG Emission Reduction Objectives of the MGC Group

2030
Reduce by 36% compared to 2013

2050
Achieve carbon neutrality

MGC's Roadmap toward Its Ultimate Goal of Carbon Neutrality by 2050 (Non-consolidated)

	Scope	2013–2019	2020–2023	2024–2030	2031–2050
Main initiatives (CO_2 reduction)	1	•Improve energy efficiency •Reconfigure business portfolio 258 kt in total	•Improve energy efficiency 16 kt •Stop using heavy oil 13 kt	•Improve energy efficiency 28 kt	•Improve energy efficiency 40 kt
			•Reconfigure business portfolio •Deploy new energy systems/CCUS, switch feedstocks (R&D/collaboration) 610 kt in total		
	2	—	•Source 10% of energy from renewables 14 kt •Use transitional energy 10 kt	•Source 50% of energy from renewables 55 kt	•Source 100% of energy from renewables 69 kt



Physical Risks: Impact on Business Sites Due to Increased Severity of Climate Damage (Flooding, Storm Surge, Drought)

Assumptions behind Scenario Analysis

- Evaluation points: Mid-century and end of century
- Scenario: Temperature rise (4°C: Continuation of current oil and coal-dependent economic activity; 2°C: Advance climate change countermeasures)
- Analysis subjects: 11 MGC sites; 34 domestic Group company sites; 20 overseas Group company sites
- We assessed flood, storm surge and drought hazards on five levels against current level (baseline), and confirmed number of sites where hazard level is highest at middle and end of century when applying 2°C and 4°C scenarios
- External reference information: Flood Hazard Map, WRI Aqueduct Floods, JRC Flood Hazard Map for World, WRI Water Risk Atlas, IPCC AR5, etc.

Evaluation Results (Scope: 65 Locations in Japan and Overseas)

	Number of sites evaluated as highly hazardous				
	Baseline	2°C scenario		4°C scenario	
		Mid-century	End of century	Mid-century	End of century
Flood risk	2	2	2	2	3
Storm surge risk	0	1*6	1*6	1	1
Drought risk	0	1	1	1	2

*6 Substituted with forecasts based on RCP 4.5 due to constraints on external information

Policies and Initiatives Going Forward

Based on these results, we will conduct a more detailed analysis on the sites evaluated as highly hazardous, and also strengthen BCP, while proceeding with measures such as developing multiple manufacturing sites, buildup of inventory, and reduction of equipment stoppage risk.

Newly Implemented Scenario Analysis (Fiscal 2022)

Transition Risks and Opportunities

Assumptions behind Scenario Analysis

- Evaluation points: 2030, 2050
- Scenario: Increased temperature
  Main external information referred to in decarbonization scenario (below 2°C)
  —IEA WEO 2021 SDS (World gradually reducing emissions to keep global increase in average temperature to less than 1.5°C)
  —SSP1 (Rapid development progressing on low-income countries, global economic inequality being resolved, and technological development advancing rapidly)
  Main external information referred to in baseline scenario (4°C)
  —IEA WEO 2021 STEPS (World in which average temperature increases by approximately 2.6°C in around 2100 due to course of emissions according to plans announced by each country at present)
  —SSP2 (Growth anticipated to between that of SSP3 – with little international cooperation, little investment in technological development, and slow economic growth – and that of SSP1 scenario of decarbonization)
- Analysis scope: Optical materials and oxygen absorbers businesses
- Conduct quantitative assessment of financial impact of risks and opportunities in existing business portfolio and draft response strategy

Evaluation Results

	Risks and Opportunities (■ Risks ●Opportunities)	Main Initiatives
Risks and opportunities in decarbonization scenario	● Increased demand for high-value-added products due to high economic growth compared to the baseline scenario ● Increased functionality of electronic devices ● Changes in food culture such as the use of meat alternatives using plant-based materials ■ Strict regulations such as decarbonization	• Expansion of product lineup supporting high-value-added products • Expansion of research and development, and implementation of cross-value innovation • Reduction of weight through development of highly refractive products
Risks and opportunities in baseline scenario	● Significant increase in population compared to the decarbonization scenario ■● Decrease in agricultural land area and decrease in production due to progress of warming ■ Low economic growth compared to the decarbonization scenario due to lack of international cooperation and inhibition of technological development ■ Increased fossil fuel prices	• Acceleration of market development in emerging countries • Acceleration of market development in long-term food storage applications • Expansion of research and development, and implementation of cross-value innovation • Reduction of size and weight of products, adoption of environmentally friendly materials

Please refer to Corporate Report 2021 for details on scenario analysis of the hydrogen peroxide and MX-Nylon businesses implemented in fiscal 2020, and MGC Report 2022 for details on scenario analysis of the polycarbonate and MXDA businesses implemented in fiscal 2021.
Corporate Report 2021 https://www.mgc.co.jp/eng/ir/files/MGC_eCorporateReport2021.pdf
MGC Report 2022 https://www.mgc.co.jp/eng/ir/files/MGC_Report2022e.pdf

Climate Change Risk Governance and Risk Management

MGC deliberates and makes decisions on addressing climate change risk and other sustainability key issues in the Sustainability Promotion Council, chaired by the President and primarily made up of all directors, including outside directors, with Audit & Supervisory Board members also attending. Important matters deliberated upon in the Sustainability Promotion Council are decided by the Board of Directors. The participation of corporate sector heads in the Sustainability Promotion Committee, an advisory body to the Sustainability Promotion Council, ensures key sustainability issues are adequately considered.

To develop a response to climate change, MGC has established the Carbon Neutrality Promotion Technical Committee, a sustainability promotion expert committee, as an advisory body to the Sustainability Promotion Committee. As the administrative office for dealing with TCFD and CDP disclosures, the Carbon Neutrality Promotion Technical Committee promotes cross-business initiatives.

Long-term objectives for reducing GHG emissions have been incorporated in the Medium-Term Management Plan and materiality, with management taking a leading role in their implementation.

To gain a quantitative understanding of climate change risks, in April 2021 MGC introduced an internal carbon pricing system. In capital investment plans involving an increase or decrease in CO_2 emissions, the cost or effect of applying and converting the internal carbon price (10,000 yen/Mt-CO_2 equivalent) will be used to help make investment decisions, and encourage the creation of technologies and products that promote CO_2 emission reductions and contribute to building a low-carbon society.

Human Capital (Human Resources and Organization)

Strategic Points (FY2022)

- Establishment and expansion of systems enabling diverse and flexible work styles
- Examination of wage curve, and consideration of reviewing criteria for promotions and wage increases
- Consideration aimed at overhaul of education and training system, consideration of new training curriculum with a view to the next generation
- Establishment of the MGC Commons innovation center for realizing human resource development and human resource exchanges (starting operation in October 2023)
- Planned strengthening of personnel system aimed at improvement of research and development (career recruitment, expansion of recruitment of new graduates)
- Further diversification and improvement of measures to maintain and improve health based on the MGC Basic Policy on Health & Productivity Management

Relevant Materiality

- Cultivating a corporate culture of job satisfaction
- Promotion of diversity and inclusion

Basic Approach

The MGC Group's defining philosophy is "creating value to share with society," and the management concept includes "striving to create a place where there is job satisfaction and a dynamic group in which motivations and abilities are respected." To realize this, Group companies are engaged in the establishment and expansion of systems, along with education, etc.

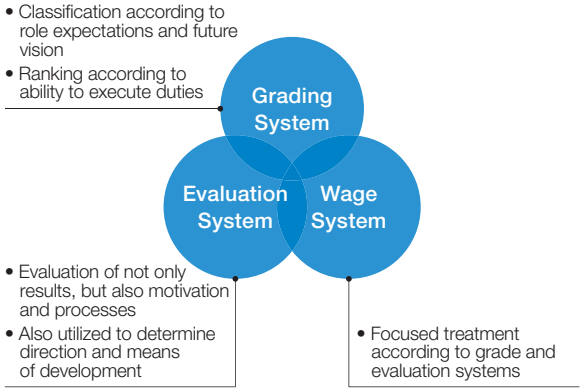
Human Resource Development

Our people are our most important asset. With the aim of realizing our defining philosophy of "creating value to share with society," we have established a human resource development basic policy to enable employees to refine their individuality as professionals, improve their knowledge and capabilities and set high goals, and also to create workplaces that are infused with vibrancy for realizing self-improvement through the achievement of these. The human resource vision articulated in the policy is to be "autonomous and highly-motivated employees," "warm-hearted and sensitive employees" and "employees that think and learn through work," and we have established "development leveraging the characteristics of all employees" as our development policy as we engage in the establishment of a company environment enabling diverse employees to participate by utilizing their individuality.

Personnel System

The personnel system is characterized by individual management based on the aptitudes, skills and goals of each person, with an emphasis on human resource development. Specifically, this is made up of three components: a multi-stream vocation qualification grading system, an evaluation system, and a wage system clearly linked to these. We support all employees equally, providing them with a range of career opportunities in line with individual aspirations that meet their individual roles, achievements, and capabilities.

Concept of Personnel System



Cultivating a Corporate Culture of Job Satisfaction

MGC has identified "cultivating a corporate culture of job satisfaction" as a material priority, and our medium- to long-term goal is to enable each employee to utilize diverse and flexible work styles, in addition to providing opportunities and environments enabling them to refine their individuality and capabilities and extend their strengths, making a highly productive organization.

Job satisfaction could be viewed as a state in which satisfactory effects and rewards can be acquired through working. Said effects and rewards include a variety of components, such as monetary compensation, sense of achievement at work, feeling of personal growth, recognition from surrounding people, and a sense of contributing to organization, and what factors lead to job satisfaction thus depends on the person. For this reason, we believe it is important to perform appropriate human resource management with an adequate understanding of what constitutes the job satisfaction of each employee.

Based on these, we foster the independent career development of each employee through measures such as the implementation of career interviews discussing medium- to long-term career formation with superiors, and

MGC Education System

	Grade-specific education and training	Job-specific education and training	Self-development, other
Managerial level	**General manager level** • Organizational management training **Manager level** • Mid-level manager training • New manager training	• Logical communication • Problem-solving skills • Negotiation strategy • Facilitation • Coaching skills • Design thinking • Global human resource development training • Overseas short-term training • Technology networking events (production, research and engineering departments) • Patent study sessions (research promotion departments) • Marketing education (research promotion departments) • DX education (research promotion departments) • Placements at research institutions, such as universities • Safety and environmental management education (environment and safety departments) • Quality management education (quality assurance departments) • Other specialized education and in-house seminars	**Self-development** • Language qualifications and language training (includes English, other languages, and theme-specific training) • Business skills and management • Finance, accounting, tax, and law • Basic chemistry • Basic safety technology • Other online training **Other** • Compliance and internal control education • D&I promotion education • Education raising awareness for human rights • Sustainability education
Mid-level employees	• Manager candidate training • Mid-level employee training **5th year** • Course selector training		
Junior employees	**2nd year** • Junior employee training • New employee follow-up training **When joining the Company** • New employee training		

Note: The years for taking grade-specific education and training are in the case of technical employees (with a Master's degree) for reference

the promotion of the assignment of personnel according to individual skills. We are also engaged in strengthening human resource development through such means as improving education and training, and stimulating human resource exchanges inside and outside the Company. Furthermore, we are endeavoring to improve the management skills of managers such as by stimulating dialogue between managers and their subordinates, enhancing periodic interviews, and providing support for the enhancement of managers' personnel evaluation skills.

Education and Training

In order to achieve MGC's defining philosophy, we are implementing various education measures based on goals with the aim of conducting human resource development for utilizing the individuality of all employees and enabling diverse participation.

In fiscal 2022, we introduced new programs related to organizational management for newly appointed managerial personnel, performance assessor training with a focus on development of subordinates, problem resolution and coaching skills. In addition, we are promoting the skill development and stimulation of motivation of all employees by expanding the lineup such as introducing career design training for specific groups including new employees and female employees. Furthermore, we are increasing the effectiveness of learning by expanding access, such as external training for the development of management personnel, dispatching participants to cross-industry social events and holding training with Group companies, in addition to focusing on increasing quality of the MGC Group.

Promotion of Work Style Reforms

MGC promotes work style reforms as an initiative essential for improving both employee job satisfaction and productivity, and for the creation of innovation. Until now, we have implemented initiatives such as the reduction of working hours by reviewing workflow and shortening meeting times, and the creation of environments where employees can choose their work locations and hours through the introduction of working from home and flextime without core hours in order to enable work styles that are diverse, flexible and do not rely on long work hours.

At the same time, we are promoting the improvement of efficiency as well as the digitalization of operations, and have confirmed the effect of reducing working hours and level of establishment of measures. In light of this, we have been engaged in the reduction of total labor time and the improvement of productivity.

In terms of work-life balance, MGC also endeavors to create an environment in which each employee can feel secure and motivated by their work, taking an active role over the long term in ways befitting their individual circumstances. MGC's percentage of taking annual paid leave is around 80 to 85 percent every year, and in order to raise employees' awareness of taking annual paid leave, we have established a KPI to measure the percentage of employees taking fewer than 10 days of annual paid leave, and are aiming for 0% in fiscal 2023. To achieve this, we are taking the following steps to foster employee awareness and establish an accommodating workplace environment.

- Renewal of definition and message of taking annual leave, and communication through organizational channels
- Strengthening of awareness-raising activities (publication of internal quarterly newsletter "WORK LIFE THINK" and display of posters)
- Promotion of taking consecutive leave in summer
- Establishing a day for encouraging taking annual leave
- Individual announcement to managers and other employees taking few days of leave

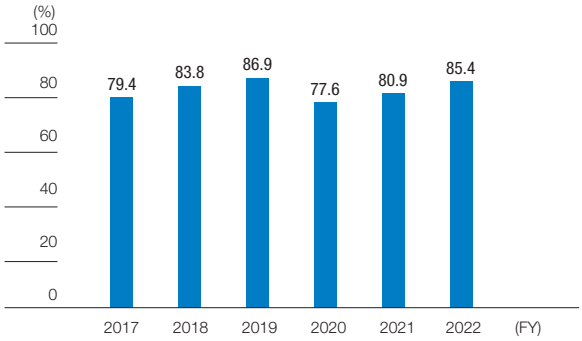
Progress of KPIs in FY2022

4.0%

Percentage taking fewer than 10 days of annual paid leave (non-consolidated)

We are implementing multi-layered measures such as awareness raising activities and individual action with the aim of improving job satisfaction and productivity through "active resting."

Ratio of Taking Annual Paid Leave

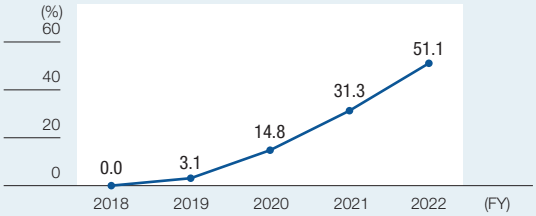


Quarterly internal newsletter

Display of posters

COLUMN Promotion of Males Taking Parental Leave

Ratio of Males Taking Parental Leave
(Non-consolidated)



MGC has set targets for the percentage of males taking parental leave to be 40% or higher in fiscal 2023 and 80% or higher in fiscal 2030 and is promoting taking of leave due to the positive impact on employees and their families and increasing job satisfaction. As a result, the percentage of males taking parental leave was 51.1% and the average period of leave taken was approximately one month. Furthermore, to create a culture that supports the balance of work and family life throughout the entire workplace, we are engaged in expansion of pamphlets, etc. introducing systems and activities to raise awareness of taking parental leave among all employees.

Improvement of Benefits for a Wide Range of Generations

We are proceeding to review our personnel system with the aim of enabling all employees to participate more vibrantly.

In fiscal 2022, we implemented improvements to benefits particularly for junior employees and reemployed retired employees, such as raising base pay for all employees. Additionally, we are considering implementation of improvement of benefits contributing to activity by junior employees. For reemployed retired employees, we implemented improvement of benefits such as adding performance-based incentives, with the expectation of activity by a wide range of generations.

Revitalization of Organizations

MGC is implementing a variety of measures to create revitalized organizations, enabling each employee to vibrantly and independently work toward the execution of the organization's goals. Specifically, we are promoting job rotation conscious of medium- to long-term career building and assignment of personnel according to their skills, leading to the improvement of organizational skills. We are engaged in the creation of a human resource management system for all employees, and are proceeding with the visualization of human resource information.

In addition, we will conduct facilitation skill training for promoting the revitalization of organizations, stress check group analysis for improving the workplace environment, and activities to foster D&I awareness for respecting each employee.

COLUMN Utilization of Employee Awareness Surveys

We conducted an employee awareness survey in July 2021 to investigate employees' thoughts and feelings on satisfaction working at MGC, job satisfaction, and the status of their workplace/work to facilitate the creation of a friendly working environment offering job satisfaction. Based on the survey results, we are conducting analyses of the status of employees and the workplace, and proceeding with effective initiatives.

Going forward, we will conduct periodic surveys, and utilize them in measures for further enhancing the fulfillment and satisfaction of employees.

75%
Satisfied or somewhat satisfied working at the Company

80%
Want or somewhat want to continue working at the Company

Note: The subjects were all employees of MGC (non-consolidated), excluding those lent to subsidiaries (effective replies: 71.9%).

Promotion of Diversity and Inclusion

Emiko Yokose
Manager,
D&I Promotion Department,
Administrative & Personnel Division

Message from D&I Promotion Officer

Aiming to Be a Company Where Everyone Can Work Vibrantly

I have served as the D&I Promotion Officer since the Diversity Promotion Office was initially established within the Personnel Department in August 2019. In 2019, many companies perceived D&I promotion to be the promotion of activities of certain people such as women, foreign nationals and people with disabilities, but MGC believes it is important to utilize the individuality and diverse thinking, experiences and skills of each employee, and began D&I Promotion Activities in June 2020 as an initiative for promoting the activities of all employees including work style reforms, human resource development and promotion of health. Initially, it was commented that there were too many "activities for something," but the activities have now gained understanding, and it feels like employees' awareness of work styles has gradually changed, such as progress being made particularly with taking annual paid leave and males taking parental leave. Going forward, we would like to work on a variety of new initiatives to enable all people to work vibrantly in MGC.

MGC defines diversity and inclusion (D&I) as all employees utilizing their individuality to diversely work together while recognizing one another and promotes D&I aimed at balancing the sustained growth of organizations and the self-actualization of individual employees.

Vision for D&I Promotion Activities

By promoting D&I, we are engaged in maximizing the performance of people and organizations through activities, in which diverse human resources fully exhibit their skills, and engendering innovation and improving decision-making quality through collaboration among human resources with diverse values, approaches, views and knowledge. Furthermore, by promoting not only diversification of human resources, but also work style reforms, human resource development and health together as one, we aim to foster a culture of diversity and inclusion utilizing the individuality of all employees with the aim of resolving management issues in step with changes in society. Initiatives aimed at the realization of the envisaged organizational culture lead to the materiality of "cultivating a corporate culture of job satisfaction."

D&I Promotion Initiatives

The "Diversity and Inclusion Basic Policy" was formulated in 2020, and companywide diversity and inclusion promotion activities based on the basic policy began. Through these activities, we selected fostering awareness, raising awareness for human rights, work style reforms, women's

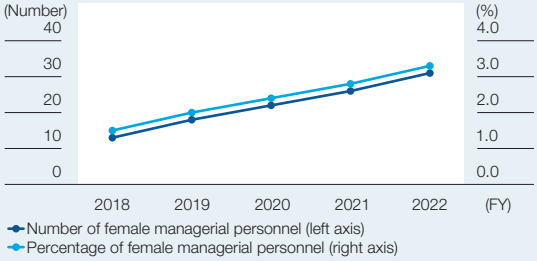
Networking event for female employees

COLUMN **Initiatives Aimed at Promoting Women's Empowerment**

Promotion of women's empowerment is considered to be essential to be a company able to achieve sustained growth, and we are proceeding with career development support for female employees such as various training for female employees and the managers handling their development. Furthermore, we are actively hiring women and also working to improve accommodating environments and systems for female employees.

The current number and percentage of female managerial personnel is steadily increasing, such as almost doubling compared to fiscal 2018. Furthermore, in contrast to the percentage of female managerial personnel (general managers, managers) which lies at 3.3%, the percentage of female assistant managers who are potential managerial personnel is approximately 15%, and the percentage of female managerial personnel is expected to increase in the future. Although there is a difference in the average wages of men and women throughout the Company as a whole, this is mainly due to a difference in the distribution of grades, and there is no difference in wages for the same work.

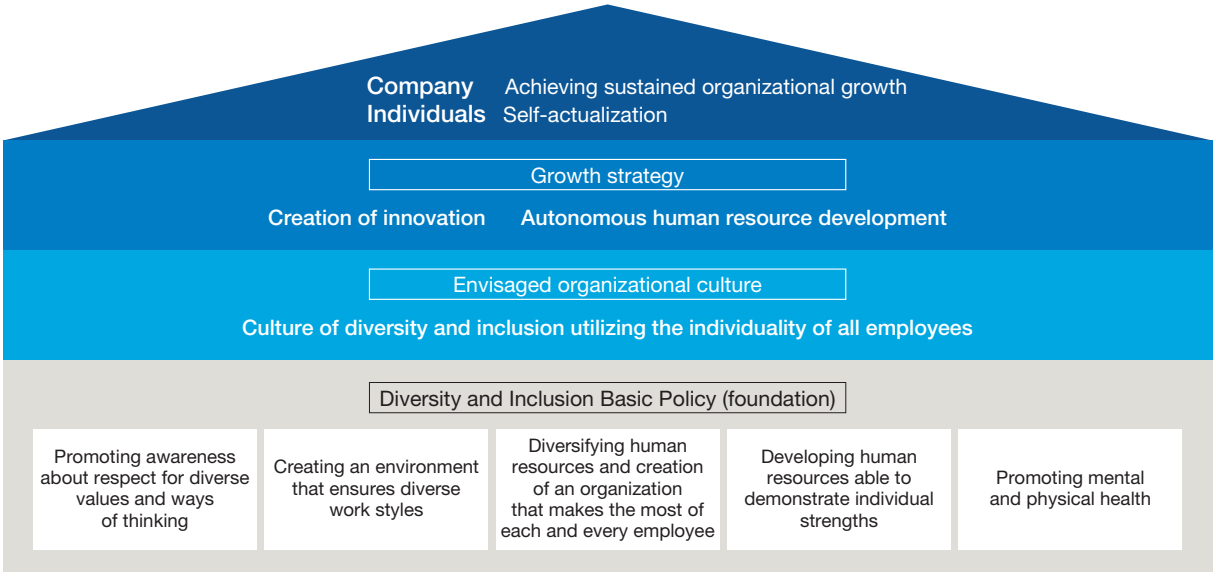
Number and Percentage of Female Managerial Personnel



Note: The percentage of female employees in personnel being promoted to managerial positions in the past five years excluding those lent to subsidiaries is 8.9%, and the average age at the time of promotion is the same for men and women.

empowerment, diversification of human resources, organization development, human resource development, promotion of health, and disease prevention as the nine items required for the realization of D&I, established challenges and targets for each initiative, and implemented specific measures to those ends.

In fiscal 2022, we held a D&I lecture meeting for the purpose of promoting understanding and fostering awareness of D&I. As initiatives for promoting the important theme within D&I of women's empowerment, we conducted training under the themes of "leadership training for women," "training for balancing childcare and career" and "diversity management training for managers." Furthermore, networking events for female employees are held for the purpose of identifying issues for the creation of networks of female employees spanning workplaces and the creation of accommodating workplaces for women.



Fiscal 2022 D&I Promotion Activity Plan

Basic Policy	Item Promoted	Challenges and Targets
Promoting awareness about respect for diverse values and ways of thinking	Fostering awareness	• Improvement of understanding of promotion of diversity and inclusion (D&I) within the Company • Improvement of awareness of D&I throughout the entire MGC Group
	Raising awareness for human rights	• Promotion of human rights awareness activities • Strengthening of measures to prevent harassment
Creating an environment that ensures diverse work styles	Work style reforms	• Reduction of total working hours and improvement of productivity • Enhancement of systems enabling diverse and flexible work styles • Improvement of safety net
Diversifying human resources and creation of an organization that makes the most of each and every employee	Women's empowerment	• Promotion of career development support for female employees • Promotion of support for balancing work and home life
	Diversification of human resources	• Promotion of hiring of foreign human resources • Diversification of hiring formats • Promotion of more opportunities to people with disabilities
Developing human resources able to demonstrate individual strengths	Development of organizations and human resources*1	• Improvement of organizational performance • Promotion of development of human resources able to exhibit their individual strengths
Promoting mental and physical health (health management)	Promotion of health (improvement of nutrition, exercise and rest)	• Improvement of health awareness and knowledge • Establishment of exercise habits
	Disease prevention	• Enhancement of measures to address lifestyle diseases • Promotion of measures to address mental health

*1 Related to the two basic policies of "creating organizations" and "developing human resources"

Respect for Human Rights

At our Company, we adhere to strict MGC Corporate Behavior Principles and the MGC Group Code of Conduct, which call for us to respect individual personality and human rights, while not discriminating on the basis of race, gender, nationality, age, religion, or place of origin, as well as not harming the dignity of others. Our Code of Conduct also stipulates that sexual harassment and power harassment are prohibited. These guidelines and codes – along with the five fundamental principles*2 of the International Labor Organization (ILO) – have also been communicated to our Group companies overseas. Furthermore, in April 2020, MGC signed the United

Nations Global Compact (UNGC), and was registered as a participating company. With the signing of the UNGC, we indicated our will to promote responsible business practices by ensuring our strategy and execution conform with the ten UNGC principles*3 on "protection of human rights," "elimination of unjust labor," "support for the environment" and "anticorruption."

We strive to reinforce these principles on a day-to-day basis through training sessions, internal communications, and Human Rights Week, and have also established a special consultation desk. Furthermore, we are engaged in the improvement of knowledge and the collection of information through membership in the Mitsubishi Human Rights Enlightenment Council and through participating in a variety of training and information exchange meetings on human rights. In addition, in fiscal 2022, we organized human rights risks in key value chains and selected significant human rights issues as preparation for the implementation of human rights due diligence compliant with the UN Guiding Principles on Business and Human Rights.

*2 (i) Freedom of association and the right to collective bargaining, (ii) elimination of forced labor, (iii) effective abolition of child labor, (iv) elimination of discrimination in respect of employment and occupation, and (v) safe and healthy working environment
*3 The Ten Principles of the UN Global Compact (external website) https://www.unglobalcompact.org/what-is-gc/mission/principles

Promoting Health Management

MGC made a renewed declaration that "health of working colleagues and family members is more important than anything else" to further promote the creation of an environment in which employees can work in good physical and mental health, and established the Basic Policy on Health & Productivity Management in October 2022 for the purpose of instilling awareness that health and productivity management is a companywide activity. Based on this policy, we are further diversifying, expanding and improving the effectiveness of measures to maintain and improve health with the aim of realizing "cultivating a corporate culture of job satisfaction."

The checkup compliance rate for regular health checkups of all officers and employees was over 99% in fiscal 2022; industrial physicians and public health nurses actively provide guidance when the results of tests indicate the need for retesting or in the event that there are any specific findings.

Health promotion activities include each business site holding various sports classes and health seminars, participation in walking events and health programs hosted by local governments, abolishing smoking areas and establishing days banning smoking during working hours.

The comprehensive Employee Assistance Program (EAP), including a stress check, is implemented to ensure mental well-being, providing employees with an environment in which they can freely consult outside specialists regarding their concerns. Furthermore, we endeavor to continuously improve our workplace environment and raise employee awareness by providing appropriate feedback of Group analysis results of the stress checks to each organization head, and holding workshops on self-care and line care (consulting with managers and supervisors) at each business site and through e-learning, as well as by implementing mental health training at the time of entry into the Company and when a promotion is earned.

In recognition of the initiatives implemented to date, MGC was certified as a Health & Productivity Management Outstanding Organization (large enterprise category) by the Japan Health Council and the Ministry of Economy, Trade and Industry in fiscal 2022 for the fourth successive year.

Ensuring the Safety of, and Providing Medical Support for, Employees Traveling or Posted Overseas

By engaging an outside consultant for security and medical assistance, and receiving advice based on analysis of threats to safety by country, we are able to promptly acquire accurate information, and, when necessary, provide that information to employees posted, or traveling on business, overseas, as well as using it to determine whether it is advisable to travel or not, and on appropriate safety measures for travel.

In terms of medical care, we have established a comprehensive support system for employees posted, or traveling on business, overseas, including referrals to local hospitals, telephonic consultations with doctors in Japanese, preventive advice on local infectious diseases, and arrangement of medical transport in case of emergencies.

Union and Labor-Management Relations

Under a positive relationship of mutual trust and respect, labor and management at MGC work together to address a variety of issues. We hold regular management council meetings with the aim of sharing our understanding of management policies and the business environment, including such key topics as work styles, employee benefits, and treatment, and meetings of the Personnel System Review Committee for joint labor-management discussion of various programs throughout the year. Together, we have revised the personnel system, the reemployment system, and our retirement plans. Other issues such as wages and bonuses are determined through yearly collective bargaining and administrative negotiations.

Note that there were 1,888 labor union members as of the end of March 2023. Average employee tenure was 18.7 years (19.1 years for men, 14.5 years for women)*4.

*4 Including employees seconded to subsidiaries

Governance Section

Members of the Board of Directors and Audit & Supervisory Board

(As of June 30, 2023)

Directors

Toshikiyo Kurai

Representative Director, Chairman

Attendance of Board of Directors Meetings: 12/12 (FY2022)

April 1975	Joined MGC
June 2009	Director, Managing Executive Officer, and President of Specialty Chemicals Company
June 2012	Representative Director, Senior Managing Executive Officer, Assistant to President, and President of Specialty Chemicals Company
June 2013	President and Representative Director
April 2019	Chairman and Representative Director (to present)

Reason for election: Following his service in important positions, mainly in the Specialty Chemicals Department, and his presiding over R&D, manufacturing and general business in the Inorganic Chemicals Division and the Engineering Plastics Division, he was appointed as Director in June 2009, and served from June 2013 to March 2019 as President and Representative Director, has served from April 2019 as Chairman and Representative Director, and has abundant experience and knowledge of MGC's business and management control as a whole.

Masashi Fujii

Representative Director, President

Attendance of Board of Directors Meetings: 12/12 (FY2022)

April 1981	Joined MGC
April 2015	Managing Executive Officer, Administrative Management of LNG Project Team, and President of Natural Gas Chemicals Company
June 2015	Director, Managing Executive Officer, Administrative Management of LNG Project Team, and President of Natural Gas Chemicals Company
April 2019	President and Representative Director (to present)

Reason for election: Following his service in important positions in the Administrative & Personnel and Natural Gas Chemicals Departments, he was appointed as Director in June 2015 and presided over the Natural Gas Chemicals Department, has served from April 2019 as President and Representative Director, and has abundant experience and knowledge of MGC's business and administration of management, etc.

Nobuhisa Ariyoshi

Representative Director, Senior Managing Executive Officer
In charge of internal control & risk management, Administrative & Personnel Division, Finance & Accounting Division, Information Systems Division and Purchasing & Logistics Division

Attendance of Board of Directors Meetings: 12/12 (FY2022)

April 1984	Joined MGC
April 2016	Executive Officer, General Manager, Electronic Materials Division
June 2018	Director, Managing Executive Officer, in charge of Finance & Accounting Center, Information Systems Division, and Purchasing & Logistics Center
April 2019	Director, Managing Executive Officer, Chairman of Internal Control Promotion Committee, in charge of Compliance, Risk Management, Internal Audit Division, Corporate Planning Division, Administrative & Personnel Center and Corporate Communications Division, General Manager of Tokyo Techno Park
April 2020	Director, Managing Executive Officer, in charge of internal control & risk management, Corporate Management Sector
April 2022	Representative Director, Senior Managing Executive Officer (to present)

Reason for election: Following his engagement mainly in the Information & Advanced Materials and Specialty Chemicals Departments, he served in important positions in the Administrative & Personnel and Information & Advanced Materials Departments, was appointed as Director in June 2018, was in charge of the Corporate Management Sector and Compliance, and has abundant experience and knowledge of MGC's business and administration of management, etc.

Naruyuki Nagaoka

Director, Managing Executive Officer
In charge of Basic Chemicals Business Sector

Attendance of Board of Directors Meetings: 12/12 (FY2022)

April 1985	Joined MGC
April 2017	Executive Officer, Manager, Corporate Planning Division
June 2019	Managing Executive Officer, in charge of Corporate Planning and Purchasing & Logistic Center
June 2020	Director, Managing Executive Officer, in charge of Compliance and Corporate Planning Sector
April 2021	Director, Managing Executive Officer, in charge of Basic Chemicals Business Sector (to present)

Reason for election: Following his engagement mainly in the Natural Gas Chemicals Department and the Administrative & Personnel, he served in important positions in the Natural Gas Chemicals Department and the Corporate Planning Division, was appointed as Director in June 2020, and has abundant experience and knowledge of MGC's business and administration of management, etc.

Motoyasu Kitagawa

Director, Managing Executive Officer
In charge of Compliance, responsible for Corporate Planning, in charge of Internal Audit Division, CSR & IR Division

Attendance of Board of Directors Meetings: 12/12 (FY2022)

April 1986	Joined MGC
April 2019	Executive Officer, General Manager, Organic Chemicals Division, Natural Gas Chemicals Company
June 2019	Executive Officer, Manager, Corporate Planning Division
April 2021	Managing Executive Officer, in charge of Compliance, responsible for Corporate Planning, in charge of Internal Audit Division, CSR & IR Division (to present)
June 2021	Director (to present)

Reason for election: Following his engagement mainly in the Administrative & Personnel Department and Corporate Planning Division, he served in important positions in the Natural Gas Chemicals Department and Corporate Planning Division, was appointed as Director in June 2021, and has abundant experience and knowledge of MGC's business and administration of management, etc.

Ryozo Yamaguchi

Director, Managing Executive Officer
In charge of Specialty Chemicals Business Sector

Attendance of Board of Directors Meetings: 9/9 (FY2022)

April 1988	Joined MGC
April 2020	Executive Officer, Manager, Administrative & Personnel Division, Corporate Management Sector
April 2021	Executive Officer, in charge of Administrative & Personnel Division
April 2022	Managing Executive Officer, in charge of Specialty Chemicals Business Sector (to present)
June 2022	Director (to present)

Reason for election: Following his engagement mainly in the Specialty Chemicals and Administrative & Personnel Departments, he served in important positions in the Administrative & Personnel Department, was appointed as Director in June 2022, and has abundant experience and knowledge of MGC's business and administration of management, etc.

Ko Kedo

Director, Managing Executive Officer
Responsible for Production Technology,
in charge of Environment Safety and Quality Assurance Division

April 1988	Joined MGC
April 2015	Manager, Planning & Development Division, Natural Gas Chemicals Company
June 2018	Manager, Planning & Development Division, Natural Gas Chemicals Company, and Manager, Life Science Division, Natural Gas Chemicals Company
April 2019	Executive Officer, Plant Manager, Mizushima Plant, Aromatic Chemicals Company
April 2020	Executive Officer, Plant Manager, Mizushima Plant, Basic Chemicals Business Sector
April 2021	Executive Officer, in charge of Research & Development
April 2023	Managing Executive Officer, responsible for Production Technology, in charge of Environment Safety and Quality Assurance Division (to present)
June 2023	Director (to present)

Reason for election: Following his engagement mainly in R&D of Aromatic Chemicals, he served in important positions in the Natural Gas Chemicals and Aromatic Chemicals Departments, and has abundant experience and knowledge of MGC's R&D and business management, etc.

Yoshinori Isahaya

Director, Managing Executive Officer
Responsible for Research & Development,
in charge of Intellectual Infrastructure

April 1991	Joined MGC
April 2019	General Manager, Tokyo Research Laboratory, Specialty Chemicals Company
April 2020	Executive Officer, Vice Manager, Corporate Planning Division
April 2021	Executive Officer, in charge of Corporate Planning
April 2023	Managing Executive Officer, responsible for Research & Development, in charge of Intellectual Infrastructure (to present)
June 2023	Director (to present)

Reason for election: Following his engagement in R&D of Specialty Chemicals, he served in important positions in the Specialty Chemicals Department and Corporate Planning Division, and has abundant experience and knowledge of MGC's R&D and business management, etc.

Haruko Hirose

Outside Director Independent

Attendance of Board of Directors Meetings: 12/12 (FY2022)

December 1968	Appointed to the National Personnel Authority of Japan
January 1992	Director, Bureau of Human Resources Management of Headquarters (Paris), United Nations Educational, Scientific and Cultural Organization (UNESCO)
September 2002	Deputy to the Director General and Managing Director of Field Operations Division of Headquarters (Vienna), United Nations Industrial Development Organization (UNIDO)
November 2006	Japanese Ambassador Extraordinary and Plenipotentiary to Kingdom of Morocco
April 2013	Specially Appointed Professor, Academy for Global Leadership, Tokyo Institute of Technology
May 2014	President, Japan Morocco Association (to present)
June 2016	Outside Director, S&B Foods Inc.
March 2018	Outside Director, Nikkiso Co., Ltd. (to present)
June 2020	Outside Director, MGC (to present)

Reason for election: She has many years of experience overseas and insight as a director at international organizations on a global scale. She has served in important positions at international organizations, etc., and it is deemed that she would perform her duties as Outside Director appropriately.

Toru Suzuki

Outside Director Independent

Attendance of Board of Directors Meetings: 12/12 (FY2022)

April 1979	Joined Mitsui & Co., Ltd.
April 2011	Managing Officer, Performance Chemicals Business Unit, Mitsui & Co., Ltd.
April 2014	Managing Officer, Mitsui & Co., Ltd. and President of Mitsui & Co. Vietnam Ltd.
April 2015	Executive Managing Officer, Mitsui & Co., Ltd. and President of Mitsui & Co. Vietnam Ltd.
June 2015	Executive Managing Officer, Chief Regional Representative of Southwest Asia, Mitsui & Co., Ltd., and President of Mitsui & Co. India Pvt Ltd.
June 2017	Outside Audit & Supervisory Board Member, Mitsui Sugar Co., Ltd. (currently, Mitsui DM Sugar Holdings Co., Ltd.)
December 2018	Audit & Supervisory Board Member, Nutri Co., Ltd.
June 2020	Outside Director, MGC (to present)

Reason for election: He has many years of experience overseas and insight as a manager at a company operating on a global scale.

Yasushi Manabe

Outside Director Independent

Attendance of Board of Directors Meetings: 12/12 (FY2022)

April 1979	Joined Hitachi, Ltd.
April 2012	General Manager, Sales Division Infra System Group Infra System, Hitachi, Ltd.
April 2013	Executive Officer, General Manager Kansai Area Operation, Hitachi, Ltd.
June 2013	Outside Audit & Supervisory Board Member, ShinMaywa Industries, Ltd.
April 2016	Executive General Manager, Deputy Director, General Corporate Sales & Marketing Group, CMO of Industry & Distribution, Water & Urban Business Unit, Hitachi, Ltd.
April 2017	Vice President and Executive Officer, Deputy Director, General Corporate Sales & Marketing Group, CMO of Industry & Distribution Business, Water & Urban Business, Hitachi, Ltd.
April 2021	Executive Advisor, Yashima Denki Co., Ltd. (to present)
June 2021	Outside Director, MGC (to present)

Reason for election: He has many years of experience and insight as a manager at a company operating on a global scale.

Kazue Kurihara

Outside Director Independent

October 1992	Associate Professor, Department of Applied Physics, Faculty of Engineering, Nagoya University
April 1997	Professor, Institute for Chemical Reaction Science (currently, Institute of Multidisciplinary Research for Advanced Materials), Tohoku University
April 2010	Professor, Advanced Institute for Materials Research and Institute of Multidisciplinary Research for Advanced Materials, Tohoku University
April 2016	Professor Emeritus, Tohoku University (to present)
April 2017	Professor, New Industry Creation Hatchery Center, Tohoku University (to present)
December 2020	Outside Director, Hamamatsu Photonics K.K. (to present)
April 2021	Research Professor, Tohoku University (to present)
January 2022	Director, SMILEco Measurement Co., Ltd. (to present)
June 2023	Outside Director, MGC (to present)

Reason for election: She has highly advanced expertise in wide fields of study in chemicals, and it is deemed that she would provide appropriate supervision and advice to MGC's management from such a perspective.

Audit & Supervisory Board Members

Masamichi Mizukami
Audit & Supervisory Board Member

Attendance of Audit & Supervisory Board Meetings: 14/14 (FY2022)

April 1983
Joined MGC
June 2016
Director, Managing Executive Officer, Chairman of Committee on Future R&D, in charge of Research & Development Division and Advanced Business Development Division
June 2019
Representative Director, Senior Managing Executive Officer, Chairperson of Internal Control Promotion Committee, in charge of Internal Audit Division, Research & Development Division, Advanced Business Development Division, Business Strategy Division, General Manager of QOL Innovation Center Shirakawa
June 2020
Audit & Supervisory Board Member (to present)

Reason for election: He has served in important positions in Specialty Chemicals, Research & Development, and Internal Control, etc., and has abundant experience with MGC's business and corporate management.

Masato Inari
Audit & Supervisory Board Member

April 1985
Joined MGC
June 2017
Director, Managing Executive Officer, President of Aromatic Chemicals Company
April 2019
Director, Managing Executive Officer, in charge of Production Technology Division, Environment Safety and Quality Assurance Division
April 2020
Director, Managing Executive Officer, in charge of Internal Audit Division, Environment & Total Production Sector
April 2022
Representative Director, Senior Managing Executive Officer, responsible for Production Technology, in charge of Environment Safety and Quality Assurance Division, Purchasing & Logistics Division
April 2023
Director
June 2023
Audit & Supervisory Board Member (to present)

Reason for election: Following his appointment as Director in June 2017, he served in important positions in the Aromatic Chemicals, Production Technology, and Environment Safety and Quality Assurance Departments, among others, and possesses abundant experience in MGC's business and corporate management.

Go Watanabe
Outside Audit & Supervisory Board Member
Independent

Attendance of Audit & Supervisory Board Meetings: 9/9 (FY2022)

April 1982
Joined The Mitsubishi Bank, Ltd.
June 2009
Executive Officer of The Bank of Tokyo-Mitsubishi UFJ, Ltd. (BTMU)
May 2012
Managing Executive Officer, Group Head, Nagoya Corporate Banking Group of BTMU
June 2013
Managing Executive Officer, Chief Executive Officer for Asia and Oceania of BTMU
July 2016
First Senior Vice President of Nidec Corporation
August 2018
Senior Managing Executive Officer, Chief Administrative Office of Nidec Corporation
September 2020
Chairman and Representative Director, MST Insurance Service Co., Ltd.
June 2021
Outside Director, Mitsubishi HC Capital Inc. (to present)
June 2022
Outside Audit & Supervisory Board Member, MGC (to present)

Reason for election: He has abundant experience and insight as a manager at a financial institution and in the manufacturing industry, etc., both in Japan and overseas.

Yasuomi Matsuyama
Outside Audit & Supervisory Board Member, Part-time
Independent

Attendance of Audit & Supervisory Board Meetings: 14/14 (FY2022)

April 1979
Joined Nippon Life Insurance Company
April 2011
Director and Senior Managing Executive Officer, Nippon Life Insurance Company
June 2013
President and Representative Director, Seiwa Business Link Co. Ltd.
Outside Audit & Supervisory Board Member, MGC (to present)
June 2019
President, Nissay Culture Foundation (to present)
President, Tokyo Opera City Cultural Foundation (to present)

Reason for election: He has many years of experience and insight as a manager at a financial institute and possesses considerable knowledge of finance and accounting.

Independent Independent officer as stipulated under Rule 436-2 of the Securities Listing Regulations of the Tokyo Stock Exchange

Expertise and Experience Sought in Directors and Audit & Supervisory Board Members

	Corporate management Industry expertise	Production technology R&D Environment safety	Business strategy Sales Market development	Finance Accounting Management planning	Legal Compliance Risk management	HR Labor Talent development	Global Diversity Experience in other sectors
Directors							
Toshikiyo Kurai	●	●	●				●
Masashi Fujii	●		●		●	●	
Nobuhisa Ariyoshi	●			●	●	●	
Naruyuki Nagaoka	●		●	●	●		
Motoyasu Kitagawa	●			●		●	●
Ryozo Yamaguchi	●				●	●	●
Ko Kedo	●	●	●		●		
Yoshinori Isahaya	●	●	●	●			
Haruko Hirose					●	●	●
Toru Suzuki	●		●				●
Yasushi Manabe	●		●				●
Kazue Kurihara	●	●					●
Audit & Supervisory Board Members							
Masamichi Mizukami	●	●	●	●			
Masato Inari	●	●	●		●		
Go Watanabe	●			●	●		●
Yasuomi Matsuyama	●			●			●

Haruko Hirose
Outside Director

Yasushi Manabe
Outside Director

Toru Suzuki
Outside Director

We work to connect the unique strength of the MGC Group with new growth while enhancing its corporate governance system.

In recent years corporate governance has been an important focus for publicly listed companies, and initiatives to enhance these systems are drawing more attention than ever. In this roundtable talk we asked our three outside directors to discuss corporate governance at MGC. We asked about how they identify the Company's current leading issues, what they suggest to address them, and how they think they should be involved to help make the Board of Directors more effective. They spoke in depth on these questions.

Characteristics of the MGC Group and Its Unique Challenges

MC: In your eyes as outside directors, what special characteristics does the MGC Group seem to have? What do you think are its highest management priorities and unique challenges?

Manabe: Before joining MGC I was working for an electronics manufacturer that prioritized technology development. This is my first time on the management team of a chemical manufacturer, but I see a common thread between my previous employer and the MGC Group in that it is also an R&D-oriented firm focused on honing its proprietary technologies. Here people in charge of technology development work with a relatively high degree of freedom, and I see that MGC has a culture that encourages this. It is also unique in that it built a chemical manufacturer using natural gas as the primary ingredient. MGC is the only chemical maker pursuing an energy resources business, such as geothermal power generation, by applying technologies for natural gas extraction. I think this positioning is a strength through which MGC can contribute to urgent societal concern about carbon

neutrality. MGC is a good corporation with strong technical foundations upstream to downstream, and it's in good financial health. This should be much better known.

Suzuki: I did business with MGC when I was working for a trading house. From the viewpoint of a business partner, I was aware of MGC's open culture. While it is a member of a tightly knit corporate group, it does business with all sorts of companies, not confined to its group. My impression of MGC from that time remains the same. I think this nature allows the kind of openness that allows all employees to speak frankly with one another, without being hampered by internal boundaries.

I was appointed as an MGC outside director in June 2020, just before the beginning of the three years most impacted by the pandemic. So I regret missing the many face-to-face meetings and direct talks that I could otherwise have had with MGC employees. Ms. Hirose, you came aboard about the same time as I did. Do you feel the same way?

Hirose: Yes, it was those three pandemic years.

Suzuki: In the fall of 2022 I finally had the opportunity to visit our plants in person, then the research labs in 2023. On both occasions, I enjoyed talking frankly with the employees. I'd like to zoom in on MGC to see it as it is. From my perspective a unique issue for the Company to address is that while its corporate culture encourages taking on new challenges and supports efforts to overcome them, it still isn't easy enough to question and disagree on what's considered a challenge. To ensure that the organization maintains a robust self-assessment function, we have to encourage discussion involving multiple viewpoints, including those opposing one another. To that end we should never be a lion at home and a mouse outside, instead remaining constantly aware of third-party views outside the Company.

Hirose: I always think of MGC as a group of many excellent, hardworking people, and a rock-solid company that works seriously on the tasks in front of it. That said, we should all bear in mind our responsibility to encourage deep, forthright discussion, as extensively and frequently as possible, till all involved feel it's sufficient. Some issues are taken into board meetings after going through internal business-focused talks. Here at MGC, however, I feel those cases are less common than in most international organizations. I'd say this problem is not unique to MGC, but common to all Japanese firms. In international negotiations, thorough discussion, suspending our personal "common sense" because it is not necessarily shared with the other party, is the only way to get anywhere. I understand the chemical industry as an open world where we can discuss and collaborate with engineers from anywhere on Earth, using science and technology as a common language. That's why we have to work to sharpen our international competitiveness.

Raising the Effectiveness of the Board of Directors with Years of Management and International Experience

MC: In board meetings, when you offer advice and guidance as overseers of MGC management, what do you think is particularly important?

Manabe: I keep an eye on how the R&D budget is distributed. Under the current Medium-Term Management Plan we envision society in around 2050 and create action plans backcast from that future. To provide products that will be needed in the future we envision, we have to continuously allocate budget to basic research, along with the technology development that extends our existing business. That's how we cultivate seedlings for the next generation of growth. Circular carbon methanol is a case in point. Its commercial applications are in sight, and no other firm is touching it. It has strategic significance and huge market potential. I hope to see more products like this coming out of MGC.

Suzuki: I've been talking about the importance of exit strategies and personnel exchanges every chance I get. In a board discussion about an unprofitable project, I asked what the exit strategy for it would be. Trading houses usually maintain clear exit strategies they can review quickly and flexibly. For manufacturers, however, it takes more time to get to the exit due to the production facilities and people working there. Following business portfolio reform MGC is now making substantial progress in withdrawing from or reorganizing unprofitable businesses, and getting positive results. Going forward we have to direct these efforts to energizing our people and business even further.

To identify the markets where a proprietary technology can show its true worth and determine its best applications, it's important to combine the scientific and humanities viewpoints as a path to higher-quality conclusions. To connect social needs with MGC's technical seeds, I want to focus on exchanges between sales personnel and technical employees, people with backgrounds in the humanities and those in science, and will keep an eye on the progress.

When I saw the annual All-MGC Poster Presentation for the first time, I was very impressed with its profit-mindedness. This is an opportunity for technical employees to present their R&D projects, progress and results. They always provide explanations with profitability after commercialization in mind. This came as a surprise to me, in a good way.

Hirose: I want to help raise MGC's corporate value by giving objective management advice based on the knowledge and experience I've obtained abroad. There are huge differences between Japan and any given foreign country in expressing opinions and the time they take to make decisions. Japanese companies are in a crucial stage now in learning about these differences and applying that understanding to building and executing growth strategies.

I want to help raise MGC's corporate value by giving objective management advice based on the knowledge and experience I've obtained abroad.

— Haruko Hirose

MC: How do the proceedings of the board meetings look to you?

Suzuki: I think it's important to have board meetings go beyond finding official consensus to creating opportunities for deeper discussion, ensuring that nothing is missed in our decision-making processes and verifying the rationality of the decisions.

Hirose: I think Japanese companies are in a transition phase in terms of corporate governance reform, and beginning to apply the knowledge and experience of us outsiders to raise the effectiveness of the Board of Directors is an example. I feel it's very hard to quickly respond to government recommendations for achieving quantitative goals, but I think we can come at these issues with a positive mindset.

Manabe: For sustainable growth it's important to be aware of capital cost, profitability, share prices and other quantitative metrics, but we must not neglect MGC's unique defining characteristics, which can't be expressed in numbers. From that perspective I'd like to help raise awareness, in board meetings and on other occasions.

Specific Examples of Reflecting Outside Directors' Advice and Recommendations in Making Decisions

MC: Tell us about the agenda items that led to particularly active discussion in board meetings in fiscal 2022.

Suzuki: There was a time when the opinions of board members split over two projects MGC was working on abroad. One of them was at a production site that had expanded a few years before. Due to low selling prices and other factors it hadn't turned an enough profit for several years. We outside directors pointed to some overarching management issues. After discussion our suggestions, including increasing human resources investment, were accepted. The other was about a production subsidiary for basic chemicals that MGC established in Europe. After broadly discussing the systems for executing an overseas construction project, including the strength of overseas contractors and what we should consider carefully about them, the board decided to proceed with the project as planned.

Hirose: MGC operates all over the world, with more overseas sales than domestic sales. In practice, however, we sometimes struggle to manage those operations. It's not easy to make clear distinctions between areas we should entrust to local managers and those that should be under strong oversight by Japanese headquarters. As a result, we risk leaving management struggling with half measures. This is not a problem unique to MGC; many projects by Japanese companies abroad hit this wall. But we should not fear failure. What's important is to closely analyze the cause of failure and avoid repeating the same mistakes.

MC: Let's talk about the requirements and appointment of new executives and scenarios for candidate training, which are important agenda items for the Compensation and Nominating Committee.

It's essential for the future of MGC to increase diversity by actively appointing women and non-Japanese, as well as assisting in their career development.

— Toru Suzuki

In particular, which points do you think will be more important in the future?

Hirose: I always think we should train executive candidates who are confident and comfortable doing business in markets worldwide. To do that we first have to give them time to get away from their turf in Japan and take self-training trips abroad. I don't think that people who are working comfortably, believing the Tokyo head office is watching over them to help if something bad happens, will ever truly meet our needs for executive candidates.

Suzuki: I totally agree. I want to add something, and that's to develop programs and systems to train locally hired people as future executives for our foreign subsidiaries. Speaking from my experience in a trading house, I think it's ideal to promote local employees to head local subsidiaries, even if it may take more time. It's essential for the future of MGC to increase diversity by actively appointing women and non-Japanese, as well as assisting in their career development.

Hirose: To help women employees in their career development, eliminating unconscious bias and wrong beliefs will be a major point.

While paying attention to the quantitative metrics, I hope MGC will continue to cherish its unique defining characteristics, which can't be expressed in numbers.

— Yasushi Manabe

Manabe: Speaking from my experience, to select executive candidates from among those in the core business, we should ideally transfer them to subsidiaries as presidents. That's because the core business of the company usually enjoys favorable market environments and good customers, which can make the people working within it too laid-back. Even more ideally, we should find people who have led businesses in tough environments and promote them as executives. They have gone through hard times in unfavorable environments, so they understand the difficulties of their employees while they've built an acute sense of the risks ahead.

Integrate Ideas to Resolve Problems and Push the Company to Grow

MC: In concluding our talk, tell us about your hopes and ambitions for MGC.

Suzuki: I think our employees are our most important stakeholders. I think a company with happy employees grows. I'd like MGC to take care of and train people working in Japan and abroad for the Group, and also make a habit of thoroughly explaining its growth strategy and the like to them.

Hirose: Let me reemphasize that there should be a system that assures tight governance of foreign subsidiaries by the Japanese head office. I'll be happy to share my experience with the promotion of diversity and inclusion and employee development. I hope to see early incorporation of state-of-the-art technologies into products that can help build a society focused on reducing waste and encouraging recycling as a new growth field.

Manabe: I agree with you. The key to future growth, I think, is in carbon neutrality and similar businesses. MGC has great success potential, and I'm looking forward to it a lot. I'd like MGC to be a major presence in society as it increases its capital efficiency while increasing the scale of sales.

Corporate Governance

Basic Approach

The Company believes that meeting the expectations of all stakeholders, beginning with our shareholders, means working to increase corporate value through business activities and contributing to the realization of a sustainable society, with the aim of achieving both social and economic value under its Mission of "creating value to share with society." To this end, the Company strives to operate effective corporate governance systems, and continuously reinforce and enhance those systems.

Basic Policies

(1) Ensure the rights of, and equality among, shareholders.
(2) Engage in appropriate collaboration with shareholders other than stakeholders.
(3) Conduct appropriate information disclosures and maintain transparency.
(4) Properly carry out the responsibilities of the Board of Directors and other bodies.
(5) Engage in constructive dialogue with shareholders.

Corporate Governance System

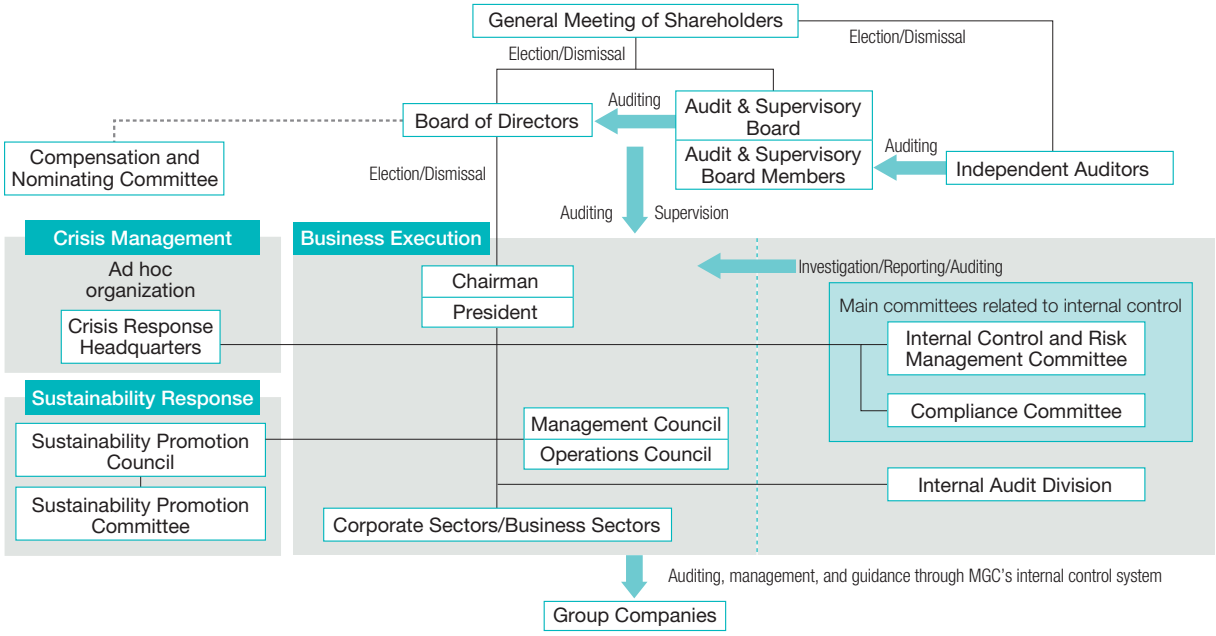
As a company with an Audit & Supervisory Board, MGC has, for the purpose of business execution, established an executive officer system that clearly separates management decision-making and supervisory functions from the business execution function. The Board of Directors decides basic management policies, matters relating to items stipulated by law and the Company's Articles of Incorporation, and other important management matters. The Board of Directors oversees the execution of business, while executive officers are responsible for directly managing business affairs. For matters arising in the course of business execution that may have a significant effect on the Company, the Board of Directors makes its decisions on the basis of multifaceted deliberations, including deliberations on management policies by the Management Council and deliberations on plans for executing specific policies by the Operations Council. The Board of Directors receives advice from attorneys and other experts when necessary in the course of its decision making and supervision of business execution.

The Audit & Supervisory Board members also attend important meetings, such as those held by the Board of Directors and the Operations Council, conduct audits of each division and surveys of subsidiaries, and audit the execution of business. The members also monitor important decision-making processes and business execution in order to ensure reasonable decision making and compliance with laws and corporate norms.

Basic Information about Corporate Governance System

Organizational Format	Company with an Audit & Supervisory Board
Composition of the Board of Directors	Twelve (of which four are outside directors)
Directors' term of office	One year
Chair of the Board of Directors	Chairman
Establishment of a voluntary advisory committee	Compensation and Nominating Committee: six (Chairman, President, four outside directors)
Composition of the Audit & Supervisory Board	Four (of which two are outside Audit & Supervisory Board members)
Number of Independent Directors and Audit & Supervisory Board Members	Six
Business Execution System	Executive officer system
Composition of the Management Council	Eight (Chairman, President, one senior managing executive officer, five managing executive officers)
Composition of the Operations Council	Twenty-one (All executive officers including the Chairman and President)
Introduction of a Hostile Takeover Defense Plan	None

Corporate Governance, Risk and Sustainability Management Organization Chart



Activities of Meeting Bodies and Committees

Board of Directors [Meetings held in fiscal 2022: 12]

The Board of Directors decides important matters pertaining to management policies, business, and management based on laws, regulations, the Company's Articles of Incorporation, and the regulations of the Board. It also receives reports from each director and others on the status of execution of duties, management performance, etc., and supervises the execution of duties by directors. Candidates for director are nominated by the Board of Directors following consultation with the Compensation and Nominating Committee, and directors are elected at the annual General Meeting of Shareholders.

Main Agenda Items

- Determination of convocation and agenda of General Meeting of Shareholders
- Approval of business reports, financial statements, etc.
- Determination of candidates for director and Audit & Supervisory Board member
- Selection of Representative Director
- Directors' compensation
- Appointment of executive officers
- Implementation of interim dividends
- Granting of restricted stock
- Formulation of Medium-Term Management Plan
- Approval and reporting of competing transactions
- Approval and reporting of conflict-of-interest transactions
- Determining annual policy on establishment and operation of internal controls, and reporting on compliance and internal control risk management
- Assessing effectiveness of the Board of Directors
- Reassess strategic shareholdings

Audit & Supervisory Board [Meetings held in fiscal 2022: 14]

Audit & Supervisory Board members audit management decisions and the status of execution of business from an independent position, such as by attending meetings of the Board of Directors and other important meetings. Furthermore, the Audit & Supervisory Board endeavors to work with the independent auditors and the Internal Audit Division, and also endeavors to increase the efficiency of audits through such measures as the assignment of dedicated audit staff.

Main Deliberation Items

The Audit & Supervisory Board formulated audit policies and audit plans, and deliberated the status of the establishment and operation of internal control systems.

Compensation and Nominating Committee [Meetings held in fiscal 2022: 4]

The Compensation and Nominating Committee functions both to determine executive officer compensation and to nominate and appoint key members of senior management. The majority of the committee is comprised of independent outside directors. The Board of Directors is responsible for appointing and dismissing key members of management, including the Chairman and President, and for nominating directors and Audit & Supervisory Board members. In making decisions on policies regarding executive officer compensation and total annual amounts, and in determining allocation of those amounts, the Compensation and Nominating Committee is consulted prior to those matters being put before the Board of Directors for discussion. Note that the appointment, dismissal and nomination of said officers are judged in light of certain selection criteria that include whether they have the appropriate internal and external work experience and knowledge for the position; whether they have the dignity and ethical values appropriate to their responsibilities; and whether they have violated any laws, the Articles of Incorporation, or company rules.

Internal Control and Risk Management Committee [Meetings held in fiscal 2022: 3]

As an organization directly under the President, the Internal Control and Risk Management Committee is a committee chaired by the executive officer in charge of internal control and risk management. It provides direction and supervision for each department and deliberates on problems that require a companywide response. It makes decisions on matters related to risk management system policies, measures and plans; matters related to business and operational risk management, as well as matters related to guidance, direction and oversight incidental thereto; and matters related to guidance, direction and oversight related to business continuity planning.

For details on risk management, please refer to page 76.

Compliance Committee [Meetings held in fiscal 2022: 2]

As an organization directly under the President, the committee investigates compliance violations pertaining to the Company and the Group, and formulates, deliberates and recommends corrective measures and preventative measures.

For details on compliance, please refer to page 77.

Management Council [Meetings held in fiscal 2022: 24]

The Management Council deliberates and determines the Group's Medium-Term Management Plan, management policy, basic policies on key operations, and so forth. The Board of Directors makes the final decisions on any proposals requiring it to make a resolution.

Operations Council [Meetings held in fiscal 2022: 26]

The Operations Council deliberates and determines the Group's specific action plans and so on concerning the execution of serious business matters. The Board of Directors makes the final decisions on any proposals requiring it to make a resolution.

Sustainability Promotion Council [Meetings held in fiscal 2022: 2]

The Sustainability Promotion Council deliberates and determines policies and measures that form the basis for sustainability management such as identification and management of materiality, and receives reports on the implementation thereof from the Sustainability Promotion Committee.

Sustainability Promotion Committee [Meetings held in fiscal 2022: 3]

The Sustainability Promotion Committee confirms the status of implementation of measures in each division, and consult with the Sustainability Promotion Councils on the necessary measures through periodic reviews.

Assessing the Effectiveness of the Board of Directors

Every year, we conduct assessments on the effectiveness of the Board of Directors. To assess the effectiveness of the Board of Directors, a survey is issued to all directors and Audit & Supervisory Board members, which presents various kinds of questions using a five-point scale with respect to the Board of Directors as a meeting, as an organization, and from an overall perspective. The survey is also purposed with obtaining opinions from respondents in the form of separately provided comments to allow for the obtaining of responses that are unrestricted by the parameters of the five-point scale. The Board of Directors then holds discussions based on the aggregate results and opinions that were received. When deemed appropriate, we review the content of questions presented in questionnaires; we remove questions covering areas where it has been deemed that reasonable levels have been met in relation thereto, add new questions, and so on. The survey regarding fiscal 2022 was conducted in April 2023.

In the results of that survey, the Board of Directors continues to be assessed highly in terms of its structure. The results also provide an assessment that appropriate supervision and information sharing are being carried out, and that direction is indicated as necessary, with lively questions, discussions, and exchanges of opinion (including with outside directors) taking place in relation to various important management issues, the status of execution of duties by each director, and other matters. As such, the Company recognizes that the Board of Directors has achieved a certain level of effectiveness.

Meanwhile, the responses to the survey and the discussion on the day included opinions indicating room for further consideration regarding measures for deepening the discussion in the Board of Directors. These included the view that while admirable care is taken in the style, volume, and content of materials and explanation of proposals for the Board of Directors meetings, they are somewhat excessive in detail, and the view that the scope of the items explained should be widened. Other opinions were also expressed regarding matters such as the themes that should be subject to deeper discussion in future Board of Directors meetings, including the recent question of measures for improving the price-to-book ratio (PBR). The Board intends to continue discussing these with a view to further increasing its effectiveness. Furthermore, now that COVID-19 appears to have abated to a degree and conditions are finally becoming suitable, the Company aims to actively revive visits to business sites by outside directors and Audit & Supervisory Board Members to facilitate their deeper understanding of the status of the

Company's businesses.

Accordingly, the Board of Directors will undertake a necessary review based on the assessment results, primarily with respect to elements such as those for which it was indicated that there exists room for improvement. In doing so, we will be aiming to ensure a more effective Board of Directors and continue to go about strengthening and improving it as an organization.

Introduction of Diverse Perspectives

MGC has developed a global business that ranges widely from basic chemicals to high-performance materials. Because our management decisions require a high degree of expertise, the Board of Directors as a whole strives to maintain a well-balanced diversity of knowledge, experience, and abilities, centered on those from within the Company who are deeply familiar with our business and management, with the addition of multiple independent outside directors who, representing the perspectives of shareholders and other stakeholders, provide advice and supervision.

MGC currently has 12 directors (of whom four are independent outside directors and half of those are women), which we believe to be generally appropriate in size and effectiveness.

In order to ensure the fair and objective oversight of management, particular attention is paid to the independence of outside directors and Audit & Supervisory Board members, in accordance with criteria set by the Tokyo Stock Exchange regarding independence. MGC appoints only candidates who have no conflict of interest with general shareholders.

MGC nominates as independent all outside directors and Audit & Supervisory Board members who satisfy the requirements for being an independent director or Audit & Supervisory Board member.

For details on the criteria regarding independence of outside directors and Audit & Supervisory Board members, please refer to the MGC website.
https://www.mgc.co.jp/eng/corporate/governance.html

For details on the expertise and experience sought in directors and Audit & Supervisory Board members, please refer to page 66.

Compensation of Directors and Audit & Supervisory Board Members

Directors' Compensation

Compensation to directors of MGC (excluding outside directors) consists of annual compensation and restricted stock compensation.

Annual compensation consists of a fixed amount of basic compensation based on the individual's position and responsibilities, and performance-based compensation that takes into account various indicators of the Company's performance. Compensation is divided into monthly installments and paid monthly, and a certain percentage is accumulated annually as a reserved retirement benefit to be paid at the time of retirement. This amount may be subject to reduction based on the individual's performance and other factors. Performance-based compensation is intended to be an incentive for overall Company performance, and is determined using indicators such as ordinary income, based on actual results, level of achievement, and so on. In addition, given the nature of MGC's business, in which each business reaches profitability through a variety of processes over many years — including research and development, manufacturing process development and market development — annual compensation consists primarily of basic compensation, with a general guideline of about 30% for performance-based compensation.

Restricted stock compensation, on the other hand, is compensation paid to directors once each fiscal year in the form of grants of MGC stock; directors are granted a certain number of shares based on their positions and responsibilities. The purpose of restricting transfers of these shares and having recipients hold them for a certain period of time is to share value with shareholders and provide an incentive for working toward sustained growth of corporate value.

In addition to these forms of compensation, an amount that is considered appropriate may be paid as a bonus upon resolution of the General Meeting of Shareholders.

Note that outside directors, whose position is independent of business execution, are paid only fixed basic compensation.

Annual director compensation is determined by the Board of Directors upon comprehensive consideration of Company performance, common standards, employee salary trends, and so forth, after consultation with the Compensation and Nominating Committee. In addition, allocation of individual compensation is entrusted to the President by the Board of Directors, based on the determination that the President is the most suitable person to evaluate each director while having a high-level view of MGC as a whole. The President makes these decisions based on discussions regarding the allocation of compensation by the Compensation and Nominating Committee.

The above policies are decided upon by the Board of Directors after consultation with the Compensation and Nominating Committee, comprised of a majority of outside directors.

Compensation to Audit & Supervisory Board Members

Compensation to Audit & Supervisory Board members consists only of a fixed basic compensation amount within a range stipulated by the General Meeting of Shareholders, which is determined through deliberations by the Audit & Supervisory Board members.

Composition of Compensation for Directors (Excluding Outside Directors) in Fiscal 2022

Total Officer Compensation in Fiscal 2022

Position	Total Amount of Compensation (millions of yen)	Total Amount of Compensation by Type (millions of yen)			Number of People Receiving Compensation
		Basic	Performance	Restricted Stock	
Directors (excluding outside directors)	482	298	147	37	9
Audit & Supervisory Board Members (excluding outside Audit & Supervisory Board members)	52	52	—	—	2
Outside Directors and Audit & Supervisory Board Members	75	75	—	—	7
Total	611	426	147	37	18

Note: The amount of restricted stock compensation to directors is that of the provision for restricted stock compensation recorded for the fiscal year under review.

Ensuring the Rights of and Equality among Shareholders

To grow corporate value across the entire Group, MGC closely monitors the legal and regulatory compliance regimes of its Group companies, including listed subsidiaries, as their parent company and major shareholder, and plans to continue to do so.

MGC acquired majority ownership of listed subsidiary JSP Corporation in the aim of boosting the Group's corporate value by effectively realizing greater mutual synergies in pursuit of growth strategies, including collaborations involving each other's domestic and overseas operational infrastructure, know-how and technical information.

Recognizing that the drivers of JSP's corporate value creation are management independence backed by an equity market listing and JSP personnel's autonomy and creativity, the Company respects JSP's independence, expects it to build and implement an effective governance regime, and will provide assistance as needed.

MGC recognizes that a controlling shareholder of a listed company generally poses a risk of conflicts of interest with minority shareholders. MGC will not act contrary to the principle of shareholder equality.

Moreover, an organization serving as an advisory body to the Board of Directors, called the Special Committee on Governance (which is comprised of four independent outside directors selected through a resolution of the Board of Directors), has been set up at JSP for the purpose of enhancing corporate governance by ensuring adequate protection of the interests of minority shareholders by ensuring fairness, transparency and objectivity in relation to transactions carried out by JSP with the Company and our subsidiaries.

Strategic Shareholdings

MGC owns listed equity holdings that it deems beneficial to Group businesses in pursuit of medium/long-term growth in corporate value.

The Board of Directors annually reassesses the objectives and risks of owning each of these equity holdings, the state of transactions with the investee, and returns accruing from ownership, including returns from actual transactions with the investee, relative to earnings targets with cost of capital factored in. If the Board of Directors deems MGC's equity stake in any investee to be larger than appropriate, MGC opportunistically sells down its equity holdings in the investee.

In fiscal 2022, MGC sold two equity holdings in part and one in its entirety.

When voting its cross-held shares, MGC generally respects the investee's management decisions. Under certain circumstances, however, MGC gives extra scrutiny to management or shareholder proposals before deciding whether to vote for or against the proposal. Such circumstances include an investee that has incurred losses for three consecutive years and has questionable prospects of a turnaround; an investee that has been involved in a major scandal, has engaged in antisocial conduct or has otherwise fallen into disrepute with questionable prospects of rehabilitating its reputation; and other cases in which MGC deems a vote in favor of a proposal to be adverse to its overall medium/long-term interests, including the objectives of its cross-shareholdings in the investee.

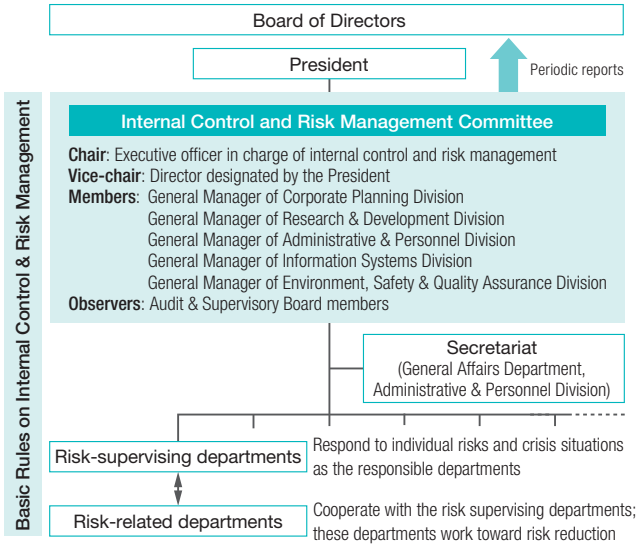
	Number of issues	Total value on balance sheet (millions of yen)
Unlisted shares	56	2,602
Shares other than unlisted shares	37	22,620

Risk Management

Basic Approach

At MGC, all business divisions actively assess and prioritize risk situations and devise risk reduction measures. The Internal Control and Risk Management Committee, chaired by the executive officer in charge of internal control and risk management, provides direction and supervision for each department and deliberates on problems that require a companywide response. It periodically reports to the Board of Directors on the state of risk management. While MGC's business primarily centers on manufacturing, we identify and evaluate risks associated with business execution beyond just manufacturing inherent in our operations and internal control systems. We then take appropriate measures. In the event that a serious risk is identified, we set up a special group (Crisis Response Headquarters) to address it according to internal rules.

Risk Management Promotion System



Specific Activities of the Internal Control and Risk Management Committee (Fiscal 2022)

Matters discussed

- Review of internal control and risk management activities in each department
- Details of disclosure related to risks in business, etc.
- Response to proposals from Internal Audit Division based on internal audit results
- Overview of annual activities
- Policy of next fiscal year

Matters reported

- Report on audits of operations of Group companies by supervising divisions
- Report on the results of research on geopolitical risks

Please refer to the Corporate website for details on "Business and Other Risks."
https://www.mgc.co.jp/eng/ir/policy/risk.html

1. Endogenous Business Risk
2. Overseas Business Risk
3. Joint Venture Risk
4. Product Quality Risk
5. Natural Disaster and Accident Risks
6. Information Security Risk
7. Compliance Risk
8. Human Rights Risk
9. Climate Change Risk
10. Investment Risk
11. Currency Risk
12. Financing and Interest Rate Risks
13. Litigation Risk

Risk Management of Group Companies

While MGC's approach is based on having Group companies autonomously manage their own risk management activities, MGC also surveys and exchanges information on the status of each company's efforts, while asking them to further enhance their risk management. Further, MGC divisions in charge of each company share information and address any issues when necessary. Risks that may have a significant impact are also reviewed by the Internal Control and Risk Management Committee.

Formulating and Implementing Business Continuity Plans

Business divisions responsible for important products and projects at MGC formulate business continuity plans (BCP). To fulfill their obligation to supply core materials that have a significant impact on customers, each business division implements disaster prevention and mitigation countermeasures to ensure business is not suspended in the event of a risk arising, or that the impact of such suspension is kept to a minimum. They also develop manuals and other materials to ensure a reliable, prompt recovery in the event that the requirements for business continuity are lost, regardless of the cause. Specifically, these include implementing plans according to the nature of each product and business for developing multiple manufacturing sites (which, depending on the product, may include sites in other countries), buildup of inventory, and reduction of equipment stoppage risk.

Compliance

Basic Approach

MGC has put in place, and is working to strengthen, a system for practicing compliance with the aim of earning the trust and understanding of the community.

MGC takes a broad view of compliance, one that involves not only abiding by laws and Company rules but also conducting fair, transparent, and free business activities in acknowledgment of its responsibilities to society. Based on this understanding, we have summarized the conduct expected of our executives and employees in the MGC Corporate Behavior Principles and the MGC Group Code of Conduct, the contents of which are reviewed and revised from time to time based on developments in society at large.

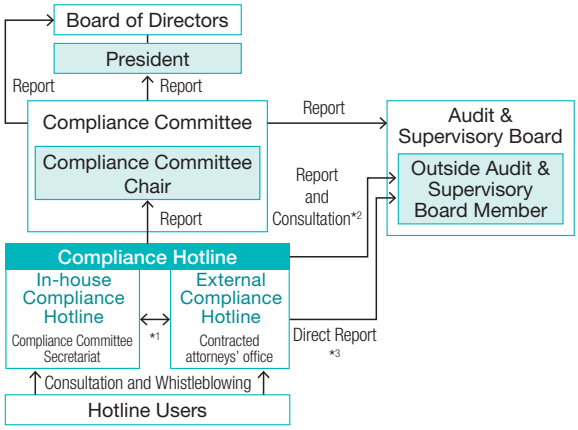
MGC decides policies, measures, and plans relating to the compliance system in the Internal Control and Risk Management Committee. In addition, the Compliance Committee has been set up as an independent body reporting directly to the President to deal with individual cases of compliance violation. The Compliance Committee comprises the executive officer in charge of compliance (who serves as the chair), a director nominated by the President (vice-chair), and heads of compliance-related departments and others (members).

The results of the activities of this committee, which include the investigation and recognition of violations and the formulation, deliberation, and recommendation of corrective and preventive measures, are reported to the President, the Board of Directors, and the Audit & Supervisory Board, with compliance violations being dealt with according to prescribed internal procedures.

Furthermore, the Compliance Hotline has been set up to quickly ascertain and correct compliance violations, and can be used by all the people involved in the MGC Group's business activities, such as officers and employees of the MGC Group including those who have retired in the past year, their family members, or partner companies and customers. Our In-house Compliance Hotline is staffed by the Compliance Committee Secretariat, while our External Compliance Hotline is available through the office of specialized attorneys, including female attorneys. These attorneys also provide advice to the Compliance Committee.

Consultations and whistleblowing brought to the attention of the Hotline and deemed to be potential compliance violations are investigated by the Compliance Committee, which takes any required corrective action or measures to prevent a recurrence. The results are also reported back to the party who submitted the original consultation or whistleblowing.

MGC Compliance Consultation Structure



*1 Coordinated response depending on the case
*2 The Outside Audit & Supervisory Board Member is consulted for matters related to MGC officers
*3 If a report received by External Compliance Hotline is deemed to be a serious problem related to MGC's management or management personnel, or if the response by the Compliance Committee, etc. is inadequate and an appropriate response cannot be expected, or if the Hotline user refuses to provide information to the Compliance Committee Secretariat, a direct report can be made to the Outside Audit & Supervisory Board Member.

Compliance Education

MGC designates every October as "Corporate Ethics Month," during which we conduct compliance training for all employees using our intranet and the President sends out a notice to all business sites calling for the renewed promotion of compliance.

Compliance education is also included in grade-specific training, and training is provided using educational materials suited to each position.

Given an increasing need to respond to compliance issues, such as cartel involvement and providing improper benefits to foreign public officials, at MGC Group companies affiliated with our overseas businesses in emerging countries and elsewhere we are working to enhance the quality of compliance training for staff dispatched as officers to overseas affiliates.

Security Export Control Initiatives

The MGC Group Code of Conduct stipulates that exacting export screening procedures are to be followed, in part to ensure adherence with laws and international treaties regarding exports, as well as to ensure appropriate control over the export of cargo and provision of technology that may relate to the development of weapons of mass destruction and conventional arms.

Export control subject to screening includes all products exported by MGC, regardless of whether the transaction involves direct, indirect, or brokered trade, as well as all technology related to the design, manufacturing, and use of those products. Export screening involves multiple checks by business divisions in charge of products and an independent export control division, which screen all exports to determine if cargo and technology restrictions apply, as well as also checking the final customer, destination, and use.

In addition, we endeavor to maintain and enhance the export control setup by implementing internal audits and grade-specific education annually.

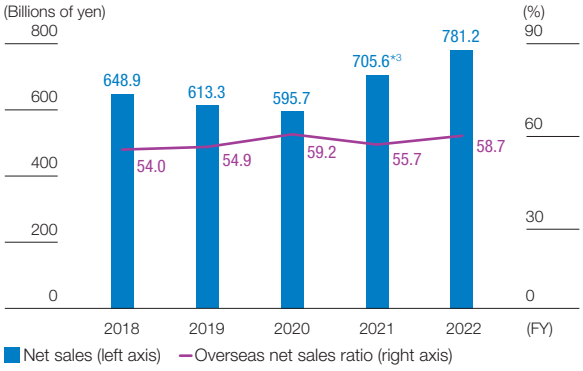
Data Section

Performance Data

	FY2012	FY2013	FY2014	FY2015	FY2016
Operating results (Millions of yen)					
Net sales	¥ 467,979	534,443	529,570	593,502	556,480
Operating profit	11,421	11,488	14,996	34,018	43,762
Ordinary profit	27,651	30,804	42,000	45,432	62,430
Profit (loss) attributable to owners of parent	(7,793)	14,921	43,346	34,134	48,013
Share of profit of entities accounted for using equity method	19,045	20,466	27,895	16,683	21,125
EBITDA	53,328	57,327	68,211	74,631	89,407
Financial position (Millions of yen)					
Current assets	¥ 261,397	287,642	372,166	341,237	326,674
Total assets	613,908	657,838	790,784	739,582	738,188
Current liabilities	195,438	178,897	225,068	214,676	188,426
Net assets	294,895	323,858	422,851	423,135	473,370
Interest-bearing debt	182,644	204,489	215,614	181,427	118,713
Cash flows (Millions of yen)					
Operating activity cash flow	¥ 31,169	27,182	76,982	84,671	82,711
Investing activity cash flow	(30,818)	(29,883)	(23,531)	(31,922)	(31,119)
Financing activity cash flow	(14,356)	7,124	(25,005)	(47,335)	(60,217)
Cash and cash equivalents at end of year	26,907	37,310	72,678	75,828	67,177
Per share data (Yen)					
Earnings per share (EPS)*1	¥ (34.50)	66.07	191.94	153.85	221.83
Net assets per share*1	1,256.81	1,382.52	1,672.25	1,707.01	1,967.94

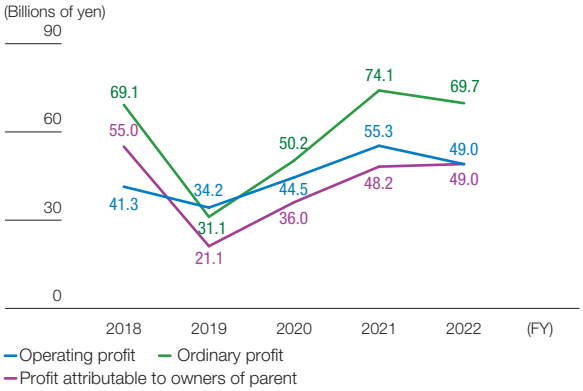
*1 With an effective date of October 1, 2016, MGC conducted a reverse stock split for MGC's ordinary shares on a 2:1 basis. As a result, each amount per share in the above table is calculated by retroactive adjustment applying the above share consolidation to preceding periods as well.
*2 U.S. dollar amounts are translated from yen, for convenience only, at the approximate rate of ¥133.53 = US$1 prevailing on March 31, 2023.

Net Sales, Overseas Net Sales Ratio

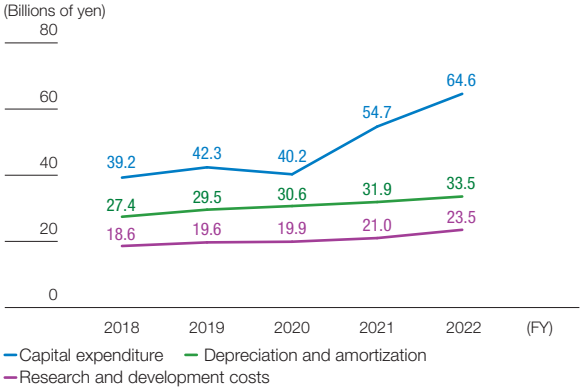


*3 MGC has applied the Accounting Standard for Revenue Recognition, etc. since fiscal 2021. The impact of the application of said standard is a decrease in revenue by ¥34.8 billion.

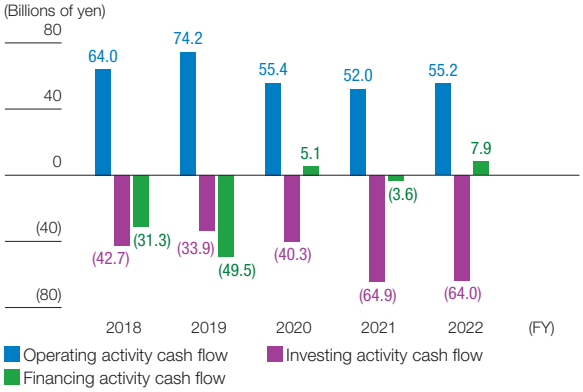
Operating Profit, Ordinary Profit, Profit Attributable to Owners of Parent



Capital Expenditure, Depreciation and Amortization, Research and Development Costs

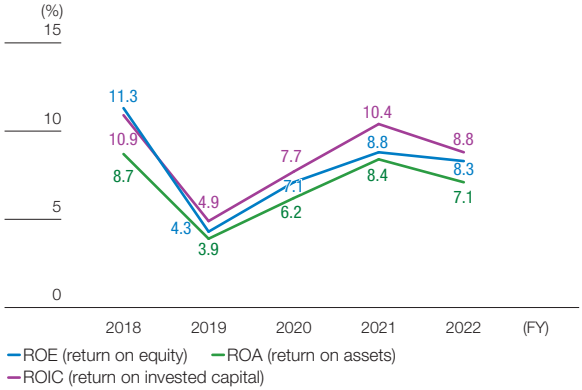


Cash Flows

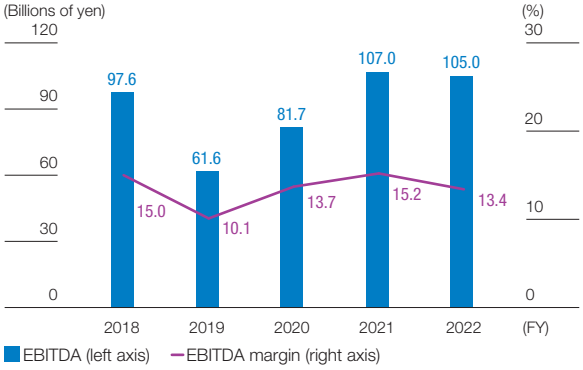


FY2017	FY2018	FY2019	FY2020	FY2021	**FY2022**	**FY2022**
						(Thousands of U.S. dollars)*2
635,909	648,986	613,344	595,718	705,656	**781,211**	**$ 5,850,453**
62,741	41,386	34,260	44,510	55,360	**49,030**	**367,183**
80,711	69,199	31,116	50,240	74,152	**69,764**	**522,459**
60,531	55,000	21,158	36,070	48,295	**49,085**	**367,595**
18,277	28,408	(1,282)	5,162	14,883	**17,546**	**131,401**
108,807	97,668	61,675	81,726	107,009	**105,074**	**786,894**
						(Thousands of U.S. dollars)*2
384,249	378,845	358,669	402,141	452,210	**483,249**	**$ 3,619,029**
785,687	804,038	771,733	836,364	928,651	**1,029,317**	**7,708,507**
206,835	188,420	163,574	167,947	198,969	**220,442**	**1,650,880**
519,144	553,282	548,141	581,411	630,887	**671,249**	**5,026,953**
106,964	95,751	74,713	98,476	117,650	**166,944**	**1,250,236**
						(Thousands of U.S. dollars)*2
90,720	64,042	74,234	55,464	52,090	**55,222**	**$ 413,555**
(33,614)	(42,761)	(33,922)	(40,370)	(64,954)	**(64,071)**	**(479,825)**
(33,038)	(31,396)	(49,563)	5,154	(3,666)	**7,996**	**59,882**
90,304	80,379	70,043	91,075	92,257	**101,185**	**757,770**
						(U.S. dollars)*2
281.39	257.46	100.50	173.41	232.15	**239.08**	**$ 1.79**
2,187.99	2,354.25	2,368.11	2,520.34	2,733.86	**2,970.07**	**22.24**

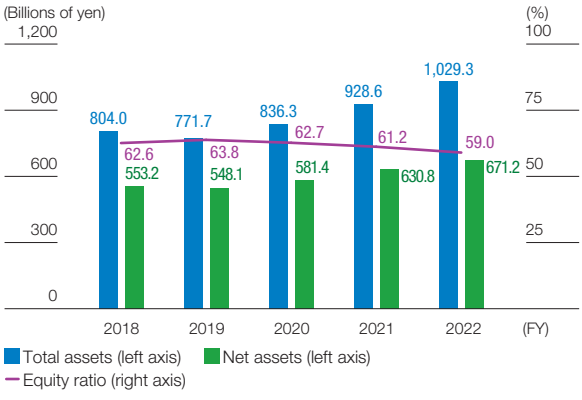
ROE, ROA, ROIC



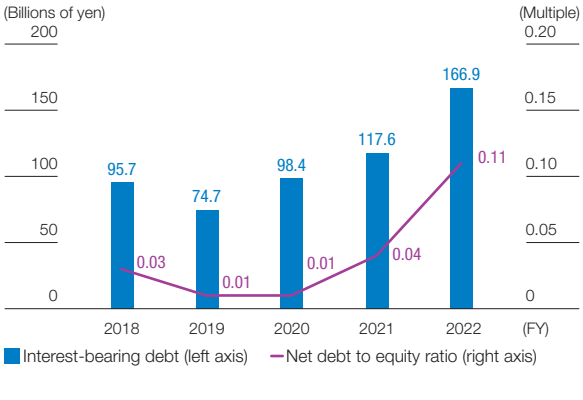
EBITDA, EBITDA Margin



Total Assets, Net Assets, Equity Ratio



Interest-Bearing Debt, Net Debt to Equity Ratio

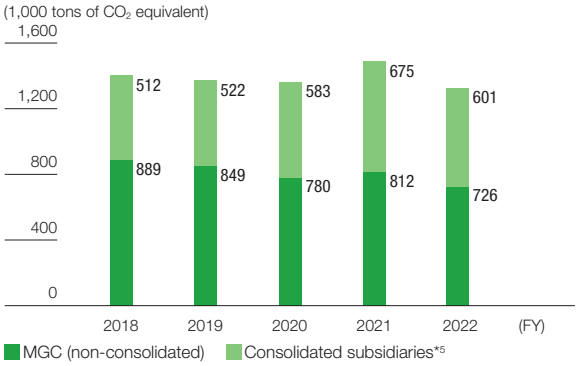


	FY2012	FY2013	FY2014	FY2015	FY2016
Ratios (%)					
Operating profit margin	2.4	2.1	2.8	5.7	7.9
ROE (return on equity)	(2.8)	5.0	12.6	9.0	12.0
ROA (return on assets)	4.6	4.8	5.8	5.9	8.4
ROIC (return on invested capital)	5.8	6.1	7.2	7.3	10.4
Equity ratio	46.2	47.5	47.8	51.0	57.5
EBITDA margin	11.4	10.7	12.9	12.6	16.1
Others					
Capital expenditure (millions of yen)	30,982	25,409	22,226	30,512	35,010
Depreciation and amortization (millions of yen)	23,096	23,528	23,770	26,705	25,631
Research and development costs (millions of yen)	15,332	16,122	16,873	18,936	19,267
Number of employees	5,323	5,445	8,254	8,176	8,034
Work-life balance (MGC alone)					
Ratio of taking annual leave (%)	78.6	80.1	82.6	83.9	80.9
Average overtime and holidays worked per month (excluding management) (hours)	13.6	13.3	13.4	13.8	14.2
Environmental management					
GHG emissions*4,5 (kt-CO_2-e)	1,341	1,106	1,085	1,082	1,006
Energy use*4,5 (ML-crude oil equivalent)	552	448	430	463	452

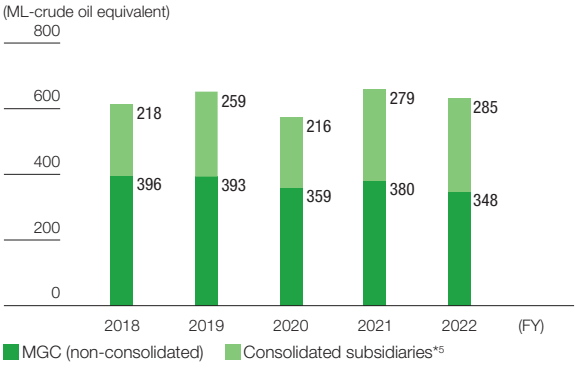
*4 Including domestic consolidated subsidiaries from fiscal 2015 and overseas consolidated subsidiaries from fiscal 2017. Others on a non-consolidated basis

*5 Scope of consolidated subsidiaries changed in fiscal 2021

GHG Emissions

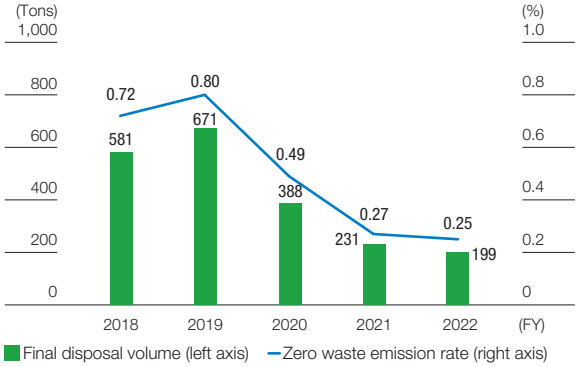


Energy Use



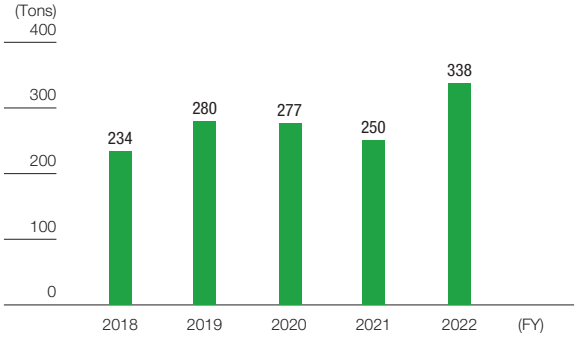
Final Disposal Volume and Zero Waste Emission Rate

(Non-consolidated)



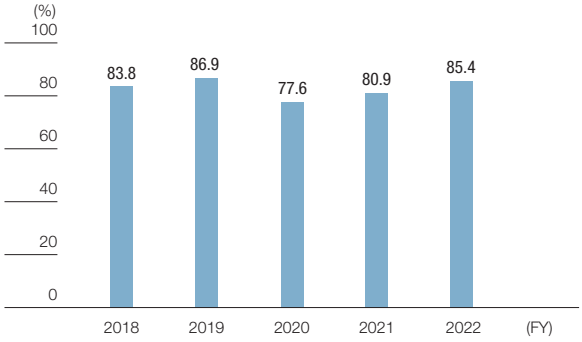
Emissions Volume of Substances Subject to PRTR Law

(Non-consolidated)

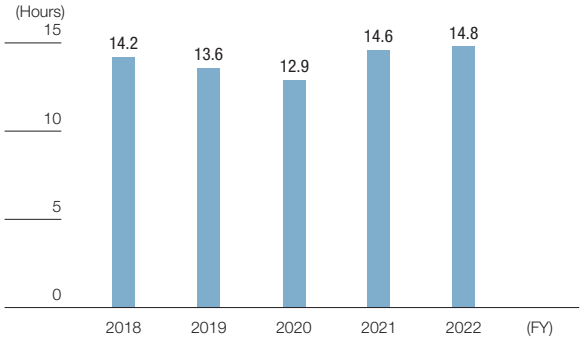


FY2017	FY2018	FY2019	FY2020	FY2021	**FY2022**	**FY2022**
9.9	6.4	5.6	7.5	7.8	**6.3**	**6.3**
13.6	11.3	4.3	7.1	8.8	**8.3**	**8.3**
10.6	8.7	3.9	6.2	8.4	**7.1**	**7.1**
13.2	10.9	4.9	7.7	10.4	**8.8**	**8.8**
59.5	62.6	63.8	62.7	61.2	**59.0**	**59.0**
17.1	15.0	10.1	13.7	15.2	**13.4**	**13.4**
						(Thousands of U.S. dollars)*2
30,959	39,279	42,389	40,282	54,793	**64,650**	**$ 484,161**
27,027	27,451	29,591	30,686	31,999	**33,565**	**251,367**
18,987	18,607	19,696	19,905	21,093	**23,512**	**176,080**
8,009	8,276	8,954	8,998	9,888	**10,050**	**10,050**
79.4	83.8	86.9	77.6	80.9	**85.4**	**85.4**
14.4	14.2	13.6	12.9	14.6	**14.8**	**14.8**
1,355	1,401	1,371	1,363	1,487	**1,327**	**1,327**
628	614	652	576	660	**633**	**633**

Ratio of Taking Annual Leave
(Non-consolidated)



Average Overtime and Holidays Worked per Month
(Non-consolidated/excluding management)



Evaluation from Society (As of July 31, 2023)

Inclusion in ESG Investment Indexes

FTSE4Good

FTSE Blossom Japan Index

FTSE Blossom Japan Sector Relative Index

S&P/JPX カーボン エフィシェント 指数

2023 Sompo Sustainability Index

External Evaluation

CDP DISCLOSER 2022

CDP SUPPLIER ENGAGEMENT LEADER 2022

CDP Climate Change: A-
CDP Water Security: B

CDP Supplier Engagement Leader:
This evaluation examines how companies engage with suppliers in promoting reduction of greenhouse gas emissions across the entire supply chain and responding to climate change risk. In 2022, the top 8% of surveyed companies were selected.

2023 健康経営優良法人 Health and productivity

Consolidated Balance Sheet

Mitsubishi Gas Chemical Company, Inc. and Consolidated Subsidiaries
March 31, 2023

	Millions of yen		Thousands of U.S. dollars
	2023	2022	**2023**
Assets			
Current assets:			
Cash and deposits	**¥ 108,378**	¥ 102,049	**$ 811,638**
Notes and accounts receivable - trade, and contract assets	**176,626**	176,556	**1,322,744**
Securities	**93**	6	**696**
Inventories	**178,143**	155,670	**1,334,105**
Other	**20,775**	19,381	**155,583**
Less allowance for doubtful receivables	**(767)**	(1,453)	**(5,744)**
Total current assets	**483,249**	452,210	**3,619,029**
Non-current assets:			
Property, plant and equipment:			
Buildings and structures	**265,074**	254,276	**1,985,127**
Machinery, equipment and vehicles	**550,543**	523,244	**4,122,991**
Land	**43,843**	42,889	**328,338**
Leased assets	**6,603**	3,622	**49,450**
Construction in progress	**66,467**	42,385	**497,768**
Other	**57,618**	55,361	**431,499**
	990,151	921,780	**7,415,195**
Less accumulated depreciation	**(676,384)**	(645,396)	**(5,065,409)**
Total property, plant and equipment	**313,767**	276,384	**2,349,787**
Intangible assets, net:			
Goodwill	**4,425**	4,811	**33,139**
Leased assets	**34**	4	**255**
Software	**3,479**	2,992	**26,054**
Other	**4,041**	3,482	**30,263**
Total intangible assets	**11,980**	11,290	**89,718**
Investments and other assets:			
Investment in securities	**200,101**	171,446	**1,498,547**
Long-term loans receivable	**8,184**	5,159	**61,290**
Deferred tax assets	**3,863**	3,493	**28,930**
Retirement benefit asset	**1,387**	1,226	**10,387**
Other investments and other assets	**8,706**	8,047	**65,199**
Less allowance for doubtful receivables	**(1,922)**	(607)	**(14,394)**
Total investments and other assets	**220,320**	188,765	**1,649,966**
Total non-current assets	**546,068**	476,440	**4,089,478**
Total assets	**¥ 1,029,317**	¥ 928,651	**$ 7,708,507**

	Millions of yen		Thousands of U.S. dollars
	2023	2022	**2023**
Liabilities and Net Assets			
Current liabilities:			
Notes and accounts payable - trade	**¥ 88,342**	¥ 92,387	**$ 661,589**
Short-term borrowings and current installments of long-term borrowings	**47,913**	38,925	**358,818**
Lease obligations	**1,074**	565	**8,043**
Accrued expenses	**23,413**	19,187	**175,339**
Income taxes payable	**5,274**	11,997	**39,497**
Provision for bonuses	**6,220**	6,144	**46,581**
Other	**48,203**	29,760	**360,990**
Total current liabilities	**220,442**	198,969	**1,650,880**
Non-current liabilities:			
Long-term borrowings	**94,680**	66,621	**709,054**
Lease obligations	**3,276**	1,537	**24,534**
Retirement benefit liability	**4,453**	6,252	**33,348**
Provision for directors' retirement benefits	**279**	285	**2,089**
Deferred tax liabilities	**12,514**	11,458	**93,717**
Asset retirement obligations	**5,272**	5,216	**39,482**
Provision for business restructuring	**2,499**	2,305	**18,715**
Other	**14,649**	5,115	**109,706**
Total non-current liabilities	**137,625**	98,794	**1,030,667**
Total liabilities	**358,068**	297,763	**2,681,555**
Stockholders' equity:			
Common stock; Authorized 492,428,000 shares; issued 222,239,199 and 225,739,199 shares in 2023 and 2022	**41,970**	41,970	**314,311**
Additional paid-in capital	**34,293**	34,339	**256,819**
Retained earnings	**521,426**	492,455	**3,904,935**
Treasury stock, at cost; 17,660,740 and 17,693,673 shares in 2023 and 2022	**(23,838)**	(21,525)	**(178,522)**
Total stockholders' equity	**573,852**	547,239	**4,297,551**
Accumulated other comprehensive income:			
Valuation difference on available-for-sale securities	**8,950**	11,376	**67,026**
Deferred gains (losses) on hedges	**110**	(326)	**824**
Foreign currency translation adjustments	**22,894**	9,861	**171,452**
Remeasurements of defined benefit plans	**1,805**	614	**13,518**
Total accumulated other comprehensive income	**33,760**	21,526	**252,827**
Non-controlling interests	**63,636**	62,121	**476,567**
Total net assets	**671,249**	630,887	**5,026,953**
Total liabilities and net assets	**¥ 1,029,317**	¥ 928,651	**$ 7,708,507**

Consolidated Statement of Income

Mitsubishi Gas Chemical Company, Inc. and Consolidated Subsidiaries
For the year ended March 31, 2023

	Millions of yen		Thousands of U.S. dollars
	2023	2022	**2023**
Net sales	**¥ 781,211**	¥ 705,656	**$ 5,850,453**
Cost of sales	**613,031**	543,070	**4,590,961**
Gross profit	**168,179**	162,586	**1,259,485**
Selling, general and administrative expenses	**119,149**	107,225	**892,301**
Operating profit	**49,030**	55,360	**367,183**
Other income (expenses):			
Interest income	**1,157**	346	**8,665**
Dividend income	**3,021**	3,218	**22,624**
Interest expenses	**(1,745)**	(858)	**(13,068)**
Share of profit of entities accounted for using equity method	**17,546**	14,883	**131,401**
Gain on sale of investments in securities	**3,732**	3,011	**27,949**
Rent expenses	**(735)**	(818)	**(5,504)**
Loss on valuation of investments in securities	**—**	(286)	**—**
Personnel expenses for seconded employees	**(1,852)**	(1,361)	**(13,870)**
Impairment loss	**(1,128)**	(7,059)	**(8,448)**
Loss on valuation of shares of subsidiaries and associates	**(846)**	—	**(6,336)**
Loss on sale/disposal of non-current assets	**(1,730)**	(1,833)	**(12,956)**
Land maintenance expenses	**(275)**	—	**(2,059)**
Insurance claim income	**151**	2,616	**1,131**
Compensation income	**649**	—	**4,860**
Gain on recovery of money transfer scam at subsidiary	**215**	—	**1,610**
Reversal of Provision for loss on business of subsidiaries and associates	**128**	—	**959**
Gain on step acquisitions	**—**	796	**—**
Provision for business restructuring	**(870)**	(1,733)	**(6,515)**
Provision of allowance for doubtful accounts	**(410)**	(960)	**(3,070)**
Provision for loss on business of subsidiaries and associates	**—**	(188)	**—**
Fire loss	**—**	(128)	**—**
Loss on change in retirement benefit plan at subsidiary	**—**	(109)	**—**
Other, net	**4,199**	4,734	**31,446**
Total other income (expenses)	**21,208**	14,267	**158,826**
Profit before income taxes	**70,239**	69,628	**526,017**
Income taxes:			
Current	**13,831**	16,542	**103,580**
Deferred	**1,619**	555	**12,125**
Total income taxes	**15,450**	17,098	**115,704**
Profit	**¥ 54,788**	¥ 52,530	**$ 410,305**
Profit attributable to non-controlling interests	**5,703**	4,235	**42,710**
Profit attributable to owners of parent	**¥ 49,085**	¥ 48,295	**$ 367,595**

Consolidated Statement of Comprehensive Income

Mitsubishi Gas Chemical Company, Inc. and Consolidated Subsidiaries
For the year ended March 31, 2023

	Millions of yen		Thousands of U.S. dollars
	2023	2022	**2023**
Profit	**¥ 54,788**	¥ 52,530	**$ 410,305**
Other comprehensive income arising during the year:			
Valuation difference on available-for-sale securities	**(2,430)**	(3,118)	**(18,198)**
Deferred gains (losses) on hedges	**51**	(14)	**382**
Foreign currency translation adjustments	**9,408**	9,330	**70,456**
Remeasurements of defined benefit plans	**901**	1,032	**6,748**
Shares of other comprehensive income of entities accounted for by the equity method	**7,033**	6,471	**52,670**
Total other comprehensive income arising during the year	**14,963**	13,701	**112,057**
Comprehensive income	**¥ 69,751**	¥ 66,232	**$ 522,362**
Comprehensive income attributable to:			
Owners of the parent	**¥ 61,319**	¥ 60,083	**$ 459,215**
Non-controlling interests	**8,432**	6,149	**63,147**

Consolidated Statement of Cash Flows

Mitsubishi Gas Chemical Company, Inc. and Consolidated Subsidiaries
For the year ended March 31, 2023

	Millions of yen		Thousands of U.S. dollars
	2023	2022	**2023**
Cash flows from operating activities:			
Profit before income taxes	**¥ 70,239**	¥ 69,628	**$ 526,017**
Adjustments to reconcile profit before income taxes to net cash provided by operating activities:			
Depreciation and amortization	**33,565**	31,999	**251,367**
Amortization of goodwill	**405**	396	**3,033**
Loss on sale/disposal of non-current assets	**1,653**	1,630	**12,379**
Impairment loss	**1,128**	7,059	**8,448**
Share of profit of entities accounted for using equity method	**(17,546)**	(14,883)	**(131,401)**
Increase (decrease) in allowance for doubtful receivables	**531**	1,027	**3,977**
Increase (decrease) in net defined benefit liability	**(851)**	140	**(6,373)**
Increase (decrease) in provision for directors' retirement benefits	**(2)**	49	**(15)**
Provision for business restructuring	**870**	1,733	**6,515**
Interest and dividend income	**(4,179)**	(3,564)	**(31,296)**
Interest expenses	**1,745**	858	**13,068**
Gain on sale of short-term investments and investments in securities	**(3,980)**	(3,041)	**(29,806)**
Loss on devaluation of short-term investments and investments in securities	**4**	332	**30**
Decrease (increase) in trade receivables	**2,412**	(9,273)	**18,063**
Increase (decrease) in inventories	**(19,711)**	(28,992)	**(147,615)**
Increase (decrease) in trade payables	**(6,868)**	9,792	**(51,434)**
Other, net	**(1,458)**	(12,396)	**(10,919)**
Sub total	**57,957**	52,497	**434,037**
Interest and dividend received	**4,361**	3,526	**32,659**
Dividend received from entities accounted for using equity method	**15,082**	4,439	**112,948**
Interest paid	**(1,654)**	(818)	**(12,387)**
Income taxes paid	**(20,686)**	(10,386)	**(154,916)**
Other, net	**163**	2,831	**1,221**
Net cash provided by operating activities	**55,222**	52,090	**413,555**
Cash flows from investing activities:			
Purchase of non-current assets	**(62,721)**	(56,347)	**(469,715)**
Proceeds from sale of non-current assets	**202**	463	**1,513**
Proceeds from sale of investments in securities	**5,739**	5,724	**42,979**
Purchase of investments in securities and subsidiaries	**(1,795)**	(11,849)	**(13,443)**
Loan advances	**(2,354)**	(824)	**(17,629)**
Proceeds from collection of loans receivable	**469**	101	**3,512**
Purchase of shares of subsidiaries resulting in change in scope of consolidation	**—**	(2,668)	**—**
Other, net	**(3,612)**	445	**(27,050)**
Net cash used in investing activities	**(64,071)**	(64,954)	**(479,825)**
Cash flows from financing activities:			
Increase (decrease) in short-term borrowings	**(7,062)**	316	**(52,887)**
Proceeds from long-term borrowings	**50,289**	16,641	**376,612**
Payments on long-term borrowings	**(7,965)**	(10,641)	**(59,650)**
Purchase of treasury stock	**(7,083)**	(5)	**(53,044)**
Proceeds from sale of treasury stock	**0**	0	**0**
Dividends paid to stockholders	**(15,464)**	(16,642)	**(115,809)**
Dividends paid to non-controlling interests	**(4,695)**	(2,551)	**(35,161)**
Payments from changes in ownership interests in subsidiaries that do not result in change in scope of consolidation	**(2,195)**	—	**(16,438)**
Other, net	**2,173**	9,216	**16,273**
Net cash (used in) provided by financing activities	**7,996**	(3,666)	**59,882**
Effect of exchange rate changes on cash and cash equivalents	**7,737**	6,502	**57,942**
(Decrease) increase in cash and cash equivalents	**6,885**	(10,028)	**51,561**
Cash and cash equivalents at beginning of year	**92,257**	91,075	**690,908**
Increase in cash and cash equivalents resulting from inclusion of subsidiaries in consolidation	**2,041**	11,210	**15,285**
Cash and cash equivalents at end of year	**¥ 101,185**	¥ 92,257	**$ 757,770**

Consolidated Statement of Changes in Net Assets

Mitsubishi Gas Chemical Company, Inc. and Consolidated Subsidiaries
For the year ended March 31, 2023

	Stockholders' equity				
	Common stock	Additional paid-in capital	Retained earnings	Treasury stock	Total
Balance as of April 1, 2021	¥ 41,970	¥ 34,301	¥ 459,790	¥ (21,562)	¥ 514,499
Cumulative effects of changes in accounting policies			(50)		(50)
Restated balance	41,970	34,301	459,739	(21,562)	514,448
Changes arising during year:					
Cash dividends			(16,642)		(16,642)
Profit attributable to owners of parent			48,295		48,295
Purchase of treasury stock				(5)	(5)
Disposition of treasury stock		39		42	81
Change in scope of consolidation			441		441
Change in scope of equity method			620		620
Change in treasury stock of parent arising from transactions with non-controlling interests		(0)			(0)
Net changes other than stockholders' equity					
Total changes during the year	—	38	32,715	36	32,791
Balance as of March 31, 2022	¥ 41,970	¥ 34,339	¥ 492,455	¥ (21,525)	¥ 547,239
Changes arising during year:					
Cash dividends			**(15,464)**		**(15,464)**
Profit attributable to owners of parent			**49,085**		**49,085**
Purchase of treasury stock				**(7,083)**	**(7,083)**
Disposition of treasury stock		**23**		**47**	**70**
Retirement of treasury stock		**(4,724)**		**4,724**	**(0)**
Transfer of retained earnings to additional paid-in capital		**4,647**	**(4,647)**		**—**
Change in scope of consolidation			**(1)**		**(1)**
Change in treasury stock of parent arising from transactions with non-controlling interests		**7**			**7**
Net changes other than stockholders' equity					**—**
Total changes during the year	**—**	**(46)**	**28,971**	**(2,312)**	**26,612**
Balance as of March 31, 2023	**¥ 41,970**	**¥ 34,293**	**¥ 521,426**	**¥ (23,838)**	**¥ 573,852**

	Stockholders' equity				
	Common stock	Additional paid-in capital	Retained earnings	Treasury stock	Total
Balance as of March 31, 2022	$ 314,311	$ 257,163	$ 3,687,973	$ (161,200)	$ 4,098,248
Changes arising during year:					
Cash dividends			**(115,809)**		**(115,809)**
Profit attributable to owners of parent			**367,595**		**367,595**
Purchase of treasury stock				**(53,044)**	**(53,044)**
Disposition of treasury stock		**172**		**352**	**524**
Retirement of treasury stock		**(35,378)**		**35,378**	**(0)**
Transfer of retained earnings to additional paid-in capital		**34,801**	**(34,801)**		**—**
Change in scope of consolidation			**(7)**		**(7)**
Change in treasury stock of parent arising from transactions with non-controlling interests		**52**			**52**
Net changes other than stockholders' equity					**—**
Total changes during the year	**—**	**(344)**	**216,962**	**(17,314)**	**199,296**
Balance as of March 31, 2023	**$ 314,311**	**$ 256,819**	**$ 3,904,935**	**$ (178,522)**	**$ 4,297,551**

Millions of yen

Accumulated other comprehensive income					Non-controlling interests	Total net assets
Valuation difference on available-for-sale securities	Deferred gains (losses) on hedges	Foreign currency translation adjustments	Remeasure-ments of defined benefit plans	Total		
¥ 14,419	¥ (618)	¥ (3,542)	¥ (494)	¥ 9,765	¥ 57,146	¥ 581,411
						(50)
14,419	(618)	(3,542)	(494)	9,765	57,146	581,360
						(16,642)
						48,295
						(5)
						81
						441
						620
						(0)
(3,043)	291	13,404	1,108	11,761	4,974	16,736
(3,043)	291	13,404	1,108	11,761	4,974	49,527
¥ 11,376	¥ (326)	¥ 9,861	¥ 614	¥ 21,526	¥ 62,121	¥ 630,887
						(15,464)
						49,085
						(7,083)
						70
						(0)
						—
						(1)
						7
(2,426)	**436**	**13,032**	**1,191**	**12,234**	**1,514**	**13,748**
(2,426)	**436**	**13,032**	**1,191**	**12,234**	**1,514**	**40,361**
¥ 8,950	**¥ 110**	**¥ 22,894**	**¥ 1,805**	**¥ 33,760**	**¥ 63,636**	**¥ 671,249**

Thousands of U.S. dollars

Accumulated other comprehensive income					Non-controlling interests	Total net assets
Valuation difference on available-for-sale securities	Deferred gains (losses) on hedges	Foreign currency translation adjustments	Remeasure-ments of defined benefit plans	Total		
$ 85,194	$ (2,441)	$ 73,849	$ 4,598	$ 161,207	$ 465,221	$ 4,724,684
						(115,809)
						367,595
						(53,044)
						524
						(0)
						—
						(7)
						52
(18,168)	**3,265**	**97,596**	**8,919**	**91,620**	**11,338**	**102,958**
(18,168)	**3,265**	**97,596**	**8,919**	**91,620**	**11,338**	**302,262**
$ 67,026	**$ 824**	**$ 171,452**	**$ 13,518**	**$ 252,827**	**$ 476,567**	**$ 5,026,953**

Corporate Data

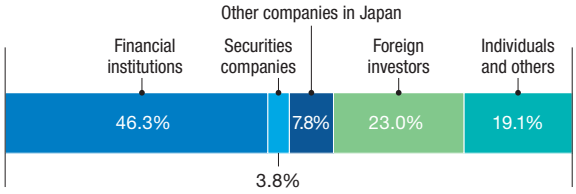
Corporate Information (As of March 31, 2023)

Company name	MITSUBISHI GAS CHEMICAL COMPANY, INC.
Address	Mitsubishi Building, 5-2 Marunouchi 2-chome, Chiyoda-ku, Tokyo 100-8324, Japan
Originally founded	January 15, 1918
Incorporated	April 21, 1951
Capital	41.97 billion yen
Fiscal year	Accounts closed in March
Number of employees	2,448 (non-consolidated) 10,050 (consolidated)

Shareholder Information (As of March 31, 2023)

Listing	Tokyo Stock Exchange Prime Market
Ticker symbol	4182
Total number of authorized shares	492,428,000
Number of outstanding shares	222,239,199
Stock transaction unit	100
Number of shareholders	40,932

Composition of shareholders



Major Shareholders (Top 10)

Name of shareholder	Investment in MGC	
	Number of shares held (thousands)	Percentage of total outstanding shares
The Master Trust Bank of Japan, Ltd. (Trust Account)	30,590	14.9
Custody Bank of Japan, Ltd. (Trust Account)	17,668	8.6
Meiji Yasuda Life Insurance Company	8,797	4.3
Nippon Life Insurance Company	5,858	2.8
The Norinchukin Bank	5,026	2.4
AGC Inc.	3,526	1.7
National Mutual Insurance Federation of Agricultural Cooperatives	3,235	1.5
The Bank of Yokohama, Ltd.	3,085	1.5
MUFG Bank, Ltd.	2,700	1.3
JPMorgan Securities Japan Co., Ltd.	2,694	1.3

Notes: 1. MGC holds 17,660 thousand shares of treasury stock, which is not included in the above list of major shareholders.
2. Percentage of total outstanding shares does not include treasury stock.

Business Locations

Major Group Companies

C Consolidated subsidiary
E Equity method affiliate

Overseas

❶ AGELESS (THAILAND) CO., LTD. C
(Manufacturing of oxygen absorbers)

❷ BRUNEI METHANOL COMPANY SDN. BHD. E
(Manufacturing and sale of methanol)

❸ JSP International Group LTD. C
(Manufacturing and sale of expanded polyolefin beads and molded bead products)

❹ KOREA ENGINEERING PLASTICS CO., LTD. E
(Manufacturing and sale of polyacetal resins)

❺ KOREA POLYACETAL CO., LTD. C
(Manufacturing and sale of polyacetal resins, etc.)

❻ METANOL DE ORIENTE, METOR, S.A. E
(Manufacturing and sale of methanol)

❼ MGC ADVANCED POLYMERS, INC. C
(Manufacturing and sale of nylons)

❽ MGC ELECTROTECHNO (THAILAND) CO., LTD. C
(Manufacturing of copper-clad laminates)

❾ MGC PURE CHEMICALS AMERICA, INC. C
(Manufacturing and sale of super-pure hydrogen peroxide/super-pure ammonium hydroxide/performance chemicals)

❿ MGC PURE CHEMICALS SINGAPORE PTE. LTD. C
(Manufacturing and sale of super-pure hydrogen peroxide/super-pure ammonium hydroxide/performance chemicals)

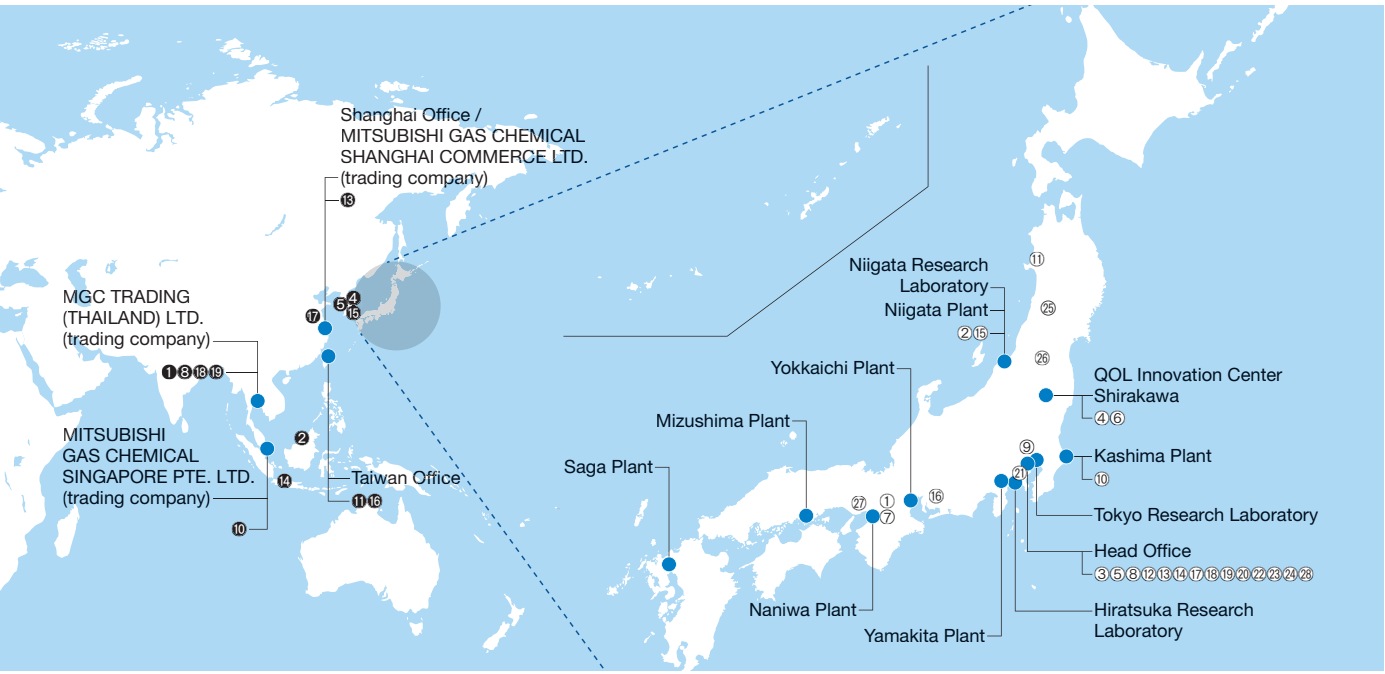
⓫ MGC PURE CHEMICALS TAIWAN, INC. C
(Manufacturing and sale of super-pure hydrogen peroxide/performance chemicals)

⓬ MGC SPECIALTY CHEMICALS NETHERLANDS B.V. C
(Manufacturing and sale of meta-xylenediamine)

⓭ MITSUBISHI GAS CHEMICAL ENGINEERING-PLASTICS (SHANGHAI) CO., LTD. C
(Manufacturing of polycarbonate resin)

⓮ PT PEROKSIDA INDONESIA PRATAMA C
(Manufacturing and sale of hydrogen peroxide)

⓯ SAMYOUNG PURE CHEMICALS CO., LTD. C
(Manufacturing and sale of super-pure hydrogen peroxide/performance chemicals)



⑯ TAI HONG CIRCUIT INDUSTRIAL CO., LTD. E
(Manufacturing and sale of printed wiring board)

⑰ TAIXING MGC LINGSU CO., LTD. C
(Manufacturing and sale of hydrogen peroxide/performance chemicals)

⑱ THAI POLYACETAL CO., LTD. C
(Manufacturing of polyacetal)

⑲ THAI POLYCARBONATE CO., LTD. C
(Manufacturing of polycarbonate resin)

Domestic

① EIWA CHEMICAL IND. CO., LTD. C
(Manufacturing and sale of blowing agents)

② MGC Advance Co., Ltd. C
(Transportation storage, manufacturing and sale of life science products, engineering maintenance)

③ MGC Woodchem Corporation C
(Manufacturing and sale of wood adhesives and formalins)

④ MGC AGELESS Co., Ltd. C
(Manufacturing and technical service for oxygen absorbers, etc.)

⑤ MGC ENERGY Company Limited C
(Provision and sale of electricity)

⑥ MGC Electrotechno Co., Ltd. C
(Manufacturing of copper-clad laminates)

⑦ Otsuka-MGC Chemical Company, Inc. E
(Manufacturing and sale of hydrazine hydrate)

⑧ MGC Terminal Company, Inc. C
(Storage terminal for methanol and chemicals)

⑨ MGC Filsheet Co., Ltd. C
(Manufacturing of polycarbonate sheets and films)

⑩ KYOUDOU KASANKASUISO CORP. C
(Manufacturing of hydrogen peroxide)

⑪ GRANOPT CO., LTD. E
(Manufacturing and sale of magneto-optic crystals)

⑫ Global Polyacetal Co., Ltd. C
(Manufacturing and sale of engineering plastics)

⑬ KOKUKA SANGYO CO., LTD. E
(Shipping)

⑭ JSP CORPORATION C
(Manufacturing and sale of foamed plastic)

⑮ TOHO EARTHTECH, INC. C
(Manufacturing and sale of natural gas and iodine, seismic reinforcement work)

⑯ Toyo Kagaku Co., Ltd. C
(Manufacturing and sale of plastic injection molding)

⑰ Japan Saudi Arabia Methanol Company, Inc. E
(Business administration for AR-RAZI)

⑱ Japan Trinidad Methanol Company, Inc. E
(Investing in Trinidad and Tobago)

⑲ JAPAN FINECHEM COMPANY, INC. C
(Manufacturing and sale of fine chemicals and electronic products)

⑳ Japan U-PiCA Company, Ltd. C
(Manufacturing and sale of unsaturated polyester resins)

㉑ FUDOW COMPANY LTD. C
(Manufacturing and sale of thermoset resin molding compounds, thermoplastic resin molding and various plastics)

㉒ Polyols Asia Company, Inc. C
(Sale of polyhydric alcohols)

㉓ Mitsubishi Engineering-Plastics Corporation C
(Manufacturing and sale of engineering plastics)

㉔ Mitsubishi Gas Chemical Trading, Inc. C
(Sale of chemicals, electronic materials and polymers)

㉕ Yuzawa Geothermal Power Corporation E
(Development and provision of geothermal energy resources)

㉖ Yonezawa Dia Electronics Co., Inc. C
(Manufacturing of mass molding laminates, process development)

㉗ RYODEN KASEI CO., LTD. E
(Manufacturing and sale of insulating materials)

㉘ Ryowa Enterprise Co., Ltd. C
(Property management/business support)

MITSUBISHI GAS CHEMICAL COMPANY, INC.

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