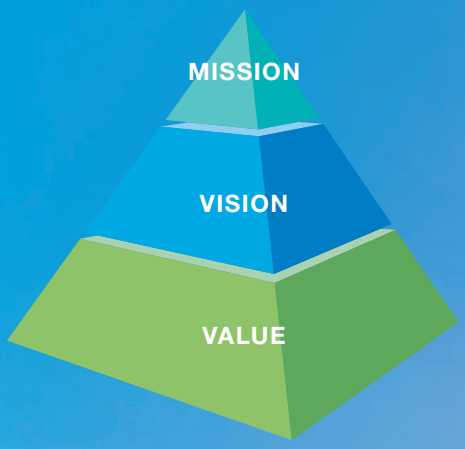
MGC REPORT 2022

Integrated Report

MITSUBISHI GAS CHEMICAL COMPANY, INC.

The MGC Way

Mitsubishi Gas Chemical 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 directly connected with our daily lives, we offer groups of products rooted in original technologies to the global market. There are social issues only a chemical manufacturer of unique strength can address. Through endeavoring to resolve these issues in pursuit of our mission to “create value to share with society,” we work to continue being a company that is the favored choice for society.



MISSION: Creating value to share with society

VISION: An excellent company with uniqueness and presence built on chemistry

VALUE: Conduct Philosophy

As a professional group

1. Courage that does not shy away from change
2. Aim for lofty goals
3. Perseverance in achieving goals
4. Build team spirit with communication

MGC Corporate Behavior Principles

Sustainability Promotion Principle

Contents

Editorial Policy

MGC Report 2022 was compiled as an integrated report with 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, 2021–March 31, 2022 (fiscal 2021)
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
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Director, Managing Executive Officer
in charge of CSR & IR Division

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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/

I practice well-being management to support each employee in experiencing personal growth and building strong motivation at work.

Masashi Fujii
President and
Representative Director

A Unique Business with Strong Industry Presence

The MGC Group conducts business in diverse fields rooted in original technology, offering a broad range of products, including methanol, which is a raw material for various chemical products, materials for IC plastic packaging and smartphone camera lenses, and the Ageless™ oxygen absorber, a product familiar to a broad range of consumers. While we are an innovative, R&D-oriented chemical manufacturer, we have years of accumulated experience in the field of energy resources. The history of MGC's operations in this field began in the 1950s, when predecessor Japan Gas Chemical Co., Inc. succeeded in producing methanol from natural gas sourced in-house in Japan. We were first in the industry to expand business into Saudi Arabia in the 1960s, and strategically made our mark by building a supply chain from resource concessions to production, transportation and sales. This unique business development, I feel, is especially characteristic of MGC. We are also the only chemical maker to put our hand to geothermal energy development, entering the power generation business with liquefied natural gas (LNG) in 2016 and with biomass in 2022. Having built a solid foundation in the energy industry this way, while remaining primarily a chemical company, I have recently been hearing people outside the company tell me more and more often that MGC is in an advantageous position to achieve carbon neutrality.

I believe that our rather unconventional profile in the industry and our unique character can be fairly attributed to the employee-focused "soil" that we have cultivated for over a century, for example by inviting floor workers to suggest ideas for new chemical development, which are then integrated into our measures as much as possible. A case in point was the process of developing the Ageless™ oxygen absorber in the 1970s. In those days, the number of nuclear families was increasing in Japan, and food items were diversifying and being sold in smaller packages. MGC employees

at the time happened to be aggressively developing deoxidizers, and one suggested the idea of absorbing oxygen through the oxidation of powdered iron, which led to the product. Ageless™ not only helps reduce food loss, it has also become a solution for quality preservation in various ways, keeping pharmaceuticals potent over time and protecting metal and electronic parts.

As a young employee I remember that on several occasions I had the opportunity to attend important chemical industry conferences representing MGC, which were just some of the instances when I felt the company was very far ahead in delegating authority. I believe that since that time the culture of training young employees to build skills to convince others, involving the industry and government organizations, and to build value from unique ideas, has permeated the Group. Since about three years ago, when I was handed the baton to preside over the company, I have made it a rule to manage the organization so employees are encouraged to put their innovative ideas together and create new business opportunities within the company, namely intrapreneurship.

Going forward, employees of chemical makers like the MGC Group should not be followers. It is important for them to make suggestions based on their original ideas, have the courage to try new things, tenaciously stick with what they have begun, and have the skills to convince and engage other people to put those ideas into practice.

We on the management team, on the other hand, have to take employee suggestions to the discussion table as often as possible in order to encourage the creation of new business. I understand the job of a corporate executive is to play the role of helmsman, guiding the company in the general direction it should take and making decisions on investment and other important policy matters. We scrutinize the ideas and suggestions coming to us from the laboratories and business divisions, of course. In making investment decisions, we ask ourselves questions like, “Can we project a synergy between this and our other businesses to help us succeed in the world market?” and “Is this something our company should pursue?” When employees make innovative, original suggestions and embrace the challenge of turning them into business reality, we provide full support, including funding and project structuring.

The “soil” of respecting employee initiatives is the essential foundation that makes MGC the way it is. I believe it strengthens employee engagement in work, and I have no doubt that it has positive effects on the quality of the solutions we offer our corporate customers. I firmly believe that our innovative approach in solving problems has led to our reputation as a unique chemical maker and gives our stakeholders more confidence in listening to us, leading in turn to stronger relationships with them, new businesses for the future, and win-win scenarios for all, for this positive spiral strengthens the industry presence of the MGC Group and fuels the engine of sustainable growth.

Our rather unconventional profile in the industry and our unique character can be fairly attributed to our employee-focused “soil.”

Progress with the Medium-Term Management Plan

We have been making steady progress with our Medium-Term Management Plan, which began in fiscal 2021 with goals to “shift to a profit structure resilient to environmental changes” and “balance social and economic value,” despite the persistence of the pandemic and growing geopolitical risk. We are actively focusing our management resources on our differentiated products, such as MXDA*[1], which has a competitive advantage in the global market, and products designed for semiconductors, namely the BT*[2] materials and electronics chemicals*[3], so that we can build and expand production bases in markets with high growth potential. At the same time, we are implementing measures to grow added value and enhance the profitability of our foundation businesses, and have decided to stop producing several low-margin products. I believe employees are much more motivated when working in businesses with growth potential than when making exhausting effort to halt chronic losses. Given that, I have dared to withdraw from unprofitable

businesses. In fiscal 2022, we will stay more or less on our planned track to continue making growth-oriented investments and reforming our business portfolio while paying close attention to the creation and development of new business.

Our most remarkable achievement in the past year or so is the progress we have made with reorganization of our business divisions and integration of our research divisions into a unified organization to achieve overall optimization of management resources. Beyond improving the quality and speed of our decision-making, by bringing business divisions together into a larger group we increased the budget scale for each division. As a result, we became able to distribute resources from the standpoint of overall optimization, investing funds and personnel more generously and efficiently in targeted fields with high growth potential.

We are also working to cultivate futurists with the awareness and skills to connect emerging technologies with solutions for near-future problems.

As part of the organizational reform process we have just completed, we considered differences in approach between employees in the Specialty Chemicals Business, which is close to final products and requires thinking upward from downstream, and those in the Basic Chemicals Business, which requires thinking downward from upstream, including raw materials and manufacturing technology. By integrating divisions with similar thinking patterns into groups, I am confident that we have built a system for more accurately catering to market needs than before.

Unifying the separate research divisions of the business divisions into a single organization has brought positive effects, including more active exchange among the three laboratories and faster sharing of technical information, creating an environment far more conducive to innovation. This has resulted in more freedom for research, helping our researchers start work on their chosen themes more quickly. In fiscal 2023, we plan to increase our research personnel by 10% on a non-consolidated basis, to over 600. I predict that research based on unconventional ideas and hypotheses will proliferate in our laboratories using the latest AI and MI[*4] technologies. Not just for the research divisions but for various other organizations in the Group as well, we will work to cultivate personnel we can call ‘futurists,’ who have the awareness and skills necessary to connect emerging technologies with solutions for near-future problems, visualizing society ten to twenty years ahead of us.

Our ongoing Smart-MGC project is designed to raise the efficiency of both production and non-production divisions as well as optimize supply chains. Through this project we will establish competitive advantage while maintaining our effort toward carbon neutrality by applying the latest technologies.

In the past year or so, public demand has been growing rapidly for the business world to achieve carbon neutrality. For the MGC Group, with its wealth of knowledge and technical expertise in the field, this is a positive trend. We have already begun about 30 related projects. As the only chemical maker that owns gas fields into which we can inject CO_2 while participating in verification tests for CO_2 capture-and-storage (CCS) technology, we hope to be able to propose several highly effective solutions to the world. We are also working to enhance our profitability with methanol and polycarbonates, which we have designated as foundation businesses, beyond the conventional approach of increasing efficiency and adding value, by applying CO_2 capture-and-utilization (CCU) technology and creating new environmentally-friendly demand.

*1 A meta-xylene derivative used as a coating material for infrastructure, etc.
*2 Materials for IC plastic packaging based on a bismaleimide-triazine (BT) resin we developed with original technology
*3 Cleaning agent for the electronics industry
*4 Materials informatics, a method for efficiently exploring new and alternative materials by applying data-processing technology, including machine-learning and deep learning

Practicing Well-Being Management to Become an Excellent Company with Uniqueness and Presence

Since I became president in 2019, I have been taxing my brain to build a vision for the future of MGC. As a result of continuing internal discussion on the subject, in 2021 we announced the MGC Way, our philosophy system, in which we outline our vision to become an excellent company with uniqueness and presence built on chemistry. In our Medium-Term Management Plan we have within sight the achievement of more than ¥1 trillion in sales and over ¥100 billion in operating income by fiscal 2030. If we make these numeric goals our only objective, however, we could easily risk wandering from our core vision.

The key factor that will keep us out of that trap, I think, is our corporate culture, cultivated over half a century based on a point-scoring system that values processes to achieve our goals. Based on product development challenges brought to us by our customers and social themes that we see coming in the near future, each employee sets goals and gets to work to achieve them. Then, by building on these unique, individual goal-achieving processes and the results of those efforts, we move closer to our collective goals for the Group. I believe that the relationships we encourage between individuals and the organization make the work more satisfying and interesting for MGC Group employees.

For our employee-focused chemical Group, I am determined to practice well-being management, which supports each employee in experiencing personal growth and getting to work on their own initiative, in highly-motivated fashion. Our Mission and Value, as designated in the MGC Way, are our guidelines for that. As president I write a column for the company intranet, publishing motivational writing to encourage employees to have the courage to not shy away from change and to aim for lofty goals. This is also a venue for two-way communication, giving employees the freedom to respond to the top executive. I do this because I think it is important for the practice of well-being management to know what is happening on the work floors as well as the specific concerns of employees. On a related note, in 2021 we conducted a survey on employee awareness, with good results. “Cultivating a corporate culture of job satisfaction” is a MGC materiality, or key issue, and by identifying workplace issues and better understanding them, we maintain our kaizen cycle.

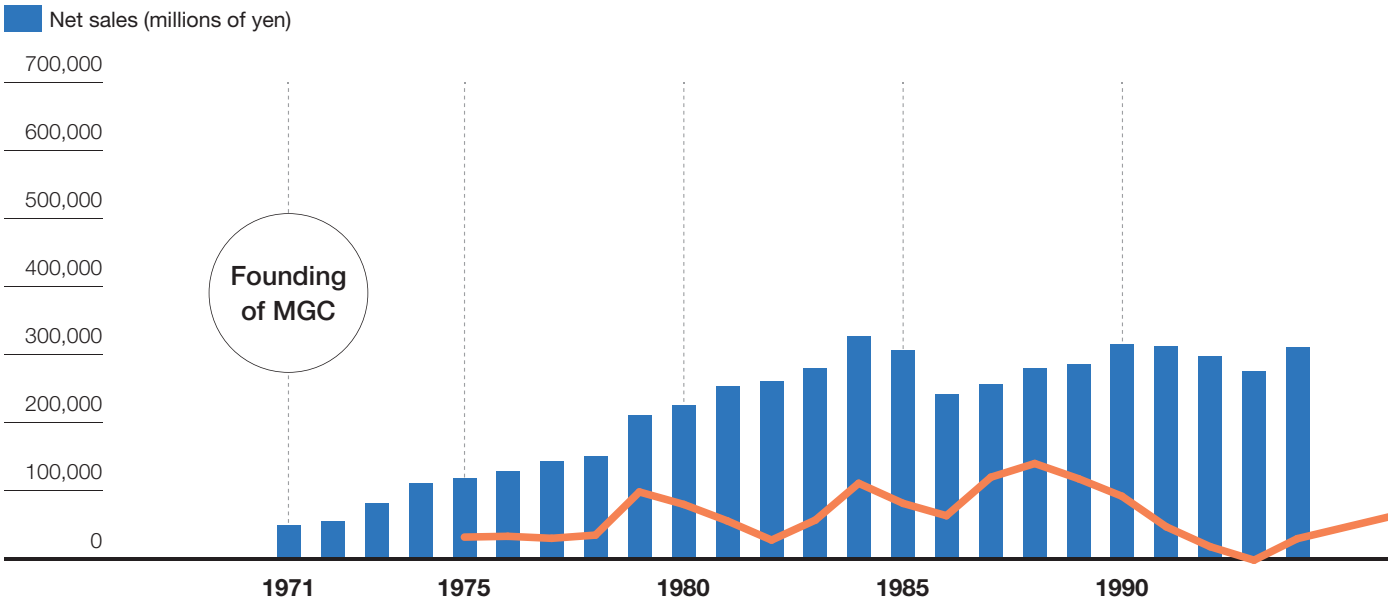
To MGC, human resources are the most important capital, where value creation begins.

MGC considers human resources to be its most important form of capital, where value creation begins as each employee, as an individual growth engine, influences and engages those around them to generate tremendous power. In times of uncertainty like these, when the future is difficult to foresee, the synergies created by collaborations within and outside the Group along with the diversity of human resources are more important than ever. Without allowing the whirlwind of environmental change around the chemical industry to slow us down, MGC, as an excellent company with uniqueness and presence, is working to balance employee well-being and sustained corporate growth.

MGC Group's History

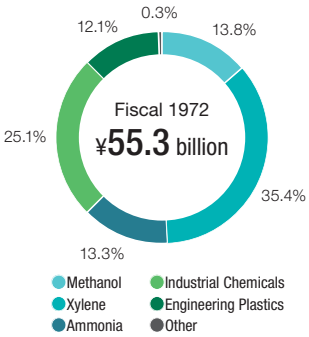
Net Sales and Ordinary Profit

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



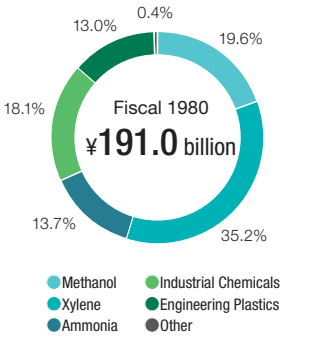
1970s Founding of MGC

In 1971, Mitsubishi Edogawa Chemical Co., Ltd. and Japan Gas Chemical Co., Inc. merged on equal terms to become Mitsubishi Gas Chemical Company, Inc. The main purpose of the merger was to build a system combining the strengths of the two companies, and to promote R&D investment and capital expenditures to maintain competitive advantage for the long term.

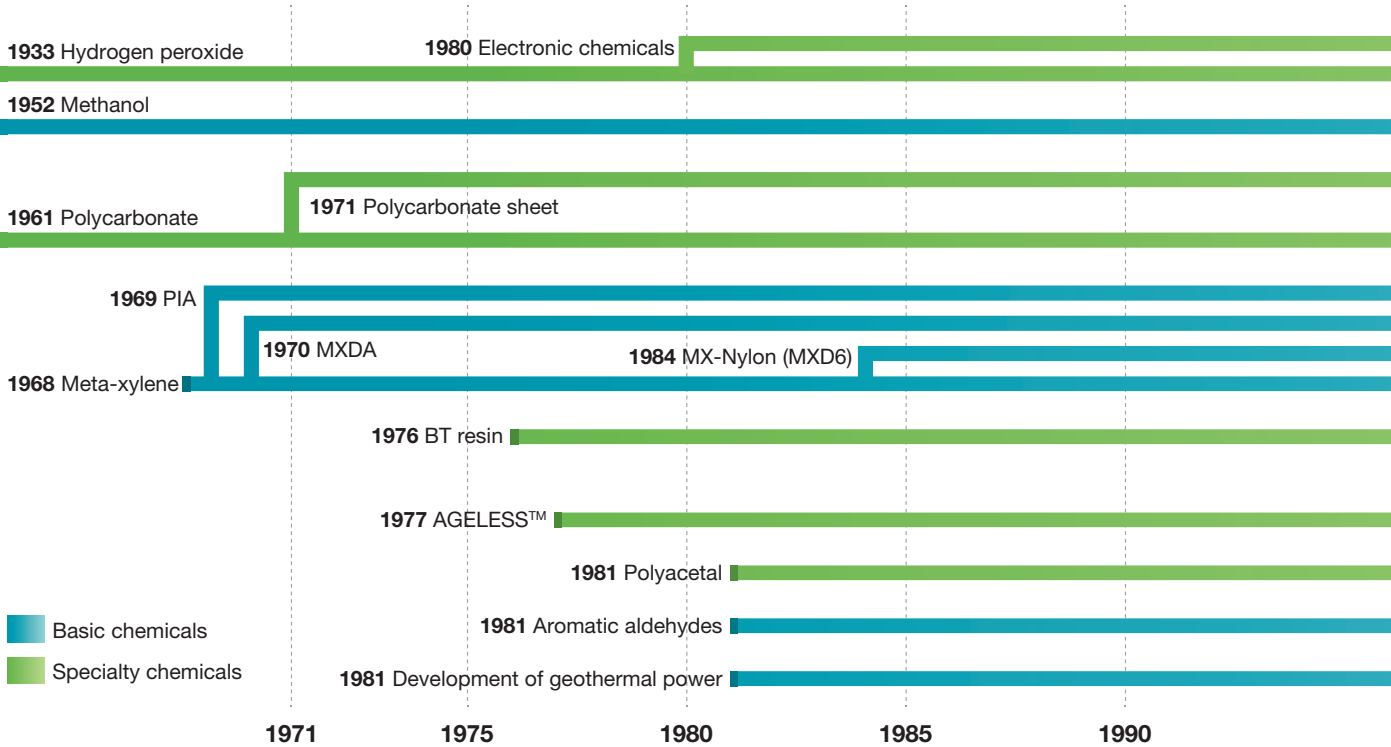


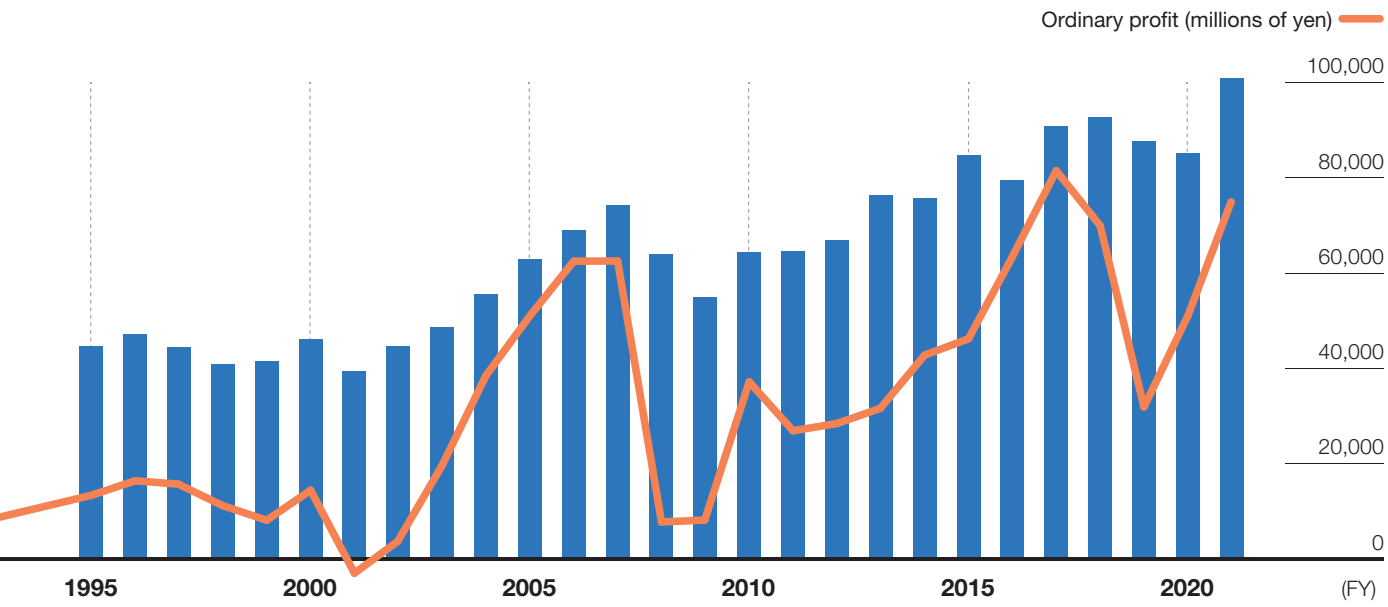
1980s Response to change

Responding to changes in industrial structure, such as developments in information and communication technology, we began promoting internationalization and enhancement of the earnings foundation of our existing businesses. While conducting a program of large-scale investment to meet the growth in demand for our products, we put effort into reinforcing our financial management following a dip in earnings as a result of stronger competition with foreign companies.



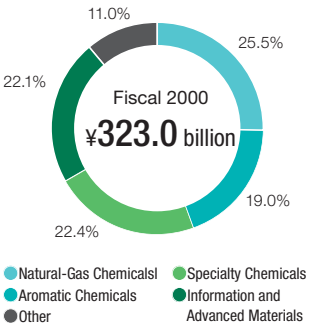
History of Typical Products





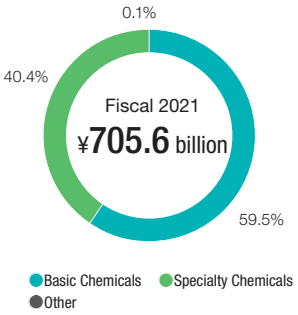
2000s Introduction of internal-company system and enhancement of global production

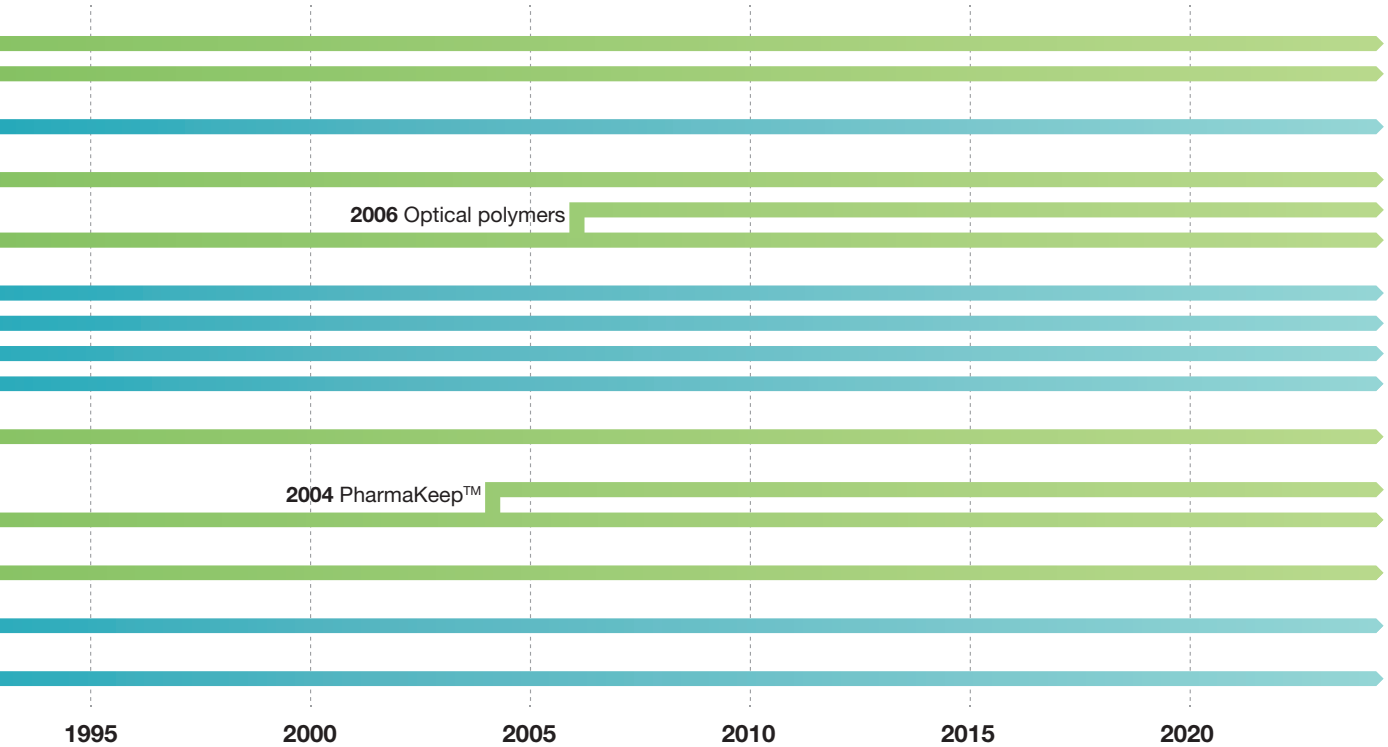
We introduced the internal-company system in response to intensifying global competition. We established a system to allow each internal company to make investment decisions quickly at its own discretion within its investment limits. This improved Group financial soundness and accelerated our business activities. While withdrawing from nonperforming businesses, we proceeded further with globalization.



2020s Shift to overall optimization and promotion of sustainability management

In 2020, we ended our internal-company system and began organizational reforms aimed at overall optimization. In May 2021, we announced our Medium-Term Management Plan. We are implementing groupwide initiatives to achieve the two objectives we announced: to shift to a profit structure that is resilient to changes in the business environment, and to balance social and economic value.





Value Created by the MGC Group

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 mission of “Creating value to share with society.”

Social issues in anticipation of 2050

- Changes in international situation
- Demographic changes
- Advancements in ICT/mobility
- Climate change
- Biodiversity crisis
- Environmental impact reduction
- Diversity
- Behavioral changes

Mission

Creating value to share with society

Management resources supporting diverse businesses

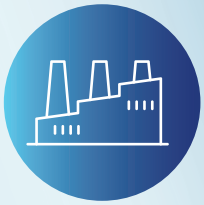
Technological Base

Diverse in-house development technology

Corporate Culture

Enterprising spirit based on entrepreneurism

Resources and Energy



Uniquely among chemical companies, engages in businesses ranging from natural gas development to power generation using renewable energy

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

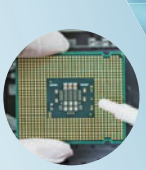
- Pursue distinction
- Promotion of cross-value innovation
- Strengthen discipline and foundation supporting business activities

Uniqueness and Presence
P13

Electronic chemicals (EL chemicals)

Engineering plastics

Optical polymers



IC plastic packaging
BT materials

ICT

Foamed plastic

Mobility

Target areas
associated with these long-term social issues

Output
leading to a new era

Outcomes
addressing social issues through business

Contribute to development of ICT/mobility society

Solve energy and climate change problems

Methanol

Energy resources and environmental businesses

MXDA

Energy

Solve medical and food problems

Oxygen absorbers

MX-Nylon (MXD6)

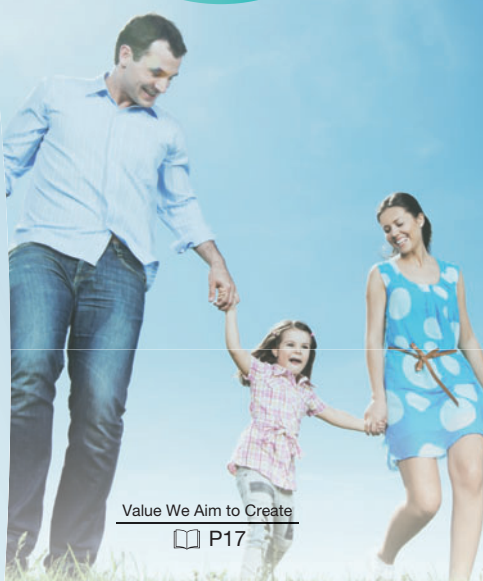
Balance social and economic value

Infrastructure

Antibody drugs

Aromatic aldehydes

Medical/Food



Business Operations and Main Products
P31

Value We Aim to Create
P17

Methanol

Production capacity

World rank #3

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

MX-Nylon (MXD6)

Global market share

#1

Superior gas barrier properties contribute to weight reduction of PET bottles

Primary applications

Food packaging materials, PET bottles, engineering plastics

Meta-xylenediamine (MXDA)

Global market share

#1

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

Uniqueness and Presence

The MGC Group has always insisted on its uniqueness. Passing down that DNA for generations, making the most of the breadth of technologies that allow us to offer all kinds of compounds, from upstream basic chemicals to downstream specialty chemicals, the Group has established a strong industrial presence with the unique, innovative products we develop.

Geothermal power generation

Chemicals company

Only 1

Over 40 years of experience and accomplishment since 1981

Aromatic aldehydes

Global market share

#1

Proprietary production methods that are efficient and have low environmental impact

Primary applications

Resin additive: agent that renders polypropylene transparent

MGC Group Business Models

Behind our operations offering groups of products with large shares of the world market, we employ two business models. First is the basic chemicals model for methanol and other products that cover upstream supplies. We secure our cost advantage by operating in locations close to the necessary raw materials and employing our own technology for high-production cost efficiency, and downstream the products to make derivatives with high added value. Going forward, we are sharpening our competitive edge mainly by producing our raw materials using carbon-neutral processes.

Our second business model is for specialty chemicals used in downstream fields, such as electronic and optical materials and oxygen absorbers. These products have high growth potential despite short product cycles, so we conduct business using technology development systems that allow us to respond quickly to customer needs. The common strength of these models is our deployment of a broad range of original technology of all varieties, from fundamental to applied technologies. The same applies to building the product chain. The basic MGC strategy is to demonstrate our uniqueness and presence through advantageous procurement of raw materials and the use of differentiated technologies.

Basic Chemicals
Specialty Chemicals

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

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

Global market share
#1

Primary applications
Cleaning agents for semiconductors, etching agents, resist stripping agents

Optical polymers

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

Refractive index*1
World rank #1

Primary applications
Materials for smartphones and other compact camera lenses

*1 As compact camera lens materials

BT products

Proprietary material meeting all evolving needs of IC plastic packaging market

Global market share
#1

Primary applications
IC plastic package substrates

Polyacetal resin (POM)

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

Global market share
#3

Primary applications
Automotive components, electronic components, office automation equipment

Polycarbonate resin (PC)

Also developing high-value-added products that are lightweight, highly transparent and high strength

Supply capacity*2
World rank #3

Primary applications
Automotive components, electronic components, office automation equipment

*2 As the Mitsubishi Group

Foamed plastic

Superior weight saving, flexibility and durability

Global market share*3
#1

Primary applications
Automotive components, precision equipment packaging, thermal insulators for housing, food packaging materials

*3 For automotive use

AGELESS™

Maintain extensive customer base as pioneer of food freshness agents

Global market share
#1

Primary applications
Food products (confectionery, processed meat products, etc.)

The MGC Group's innovative businesses are sustained by a technological foundation reinforced and expanded for over half a century, the corporate culture that supports it, expertise in development and commercialization of natural resources and energy, strategic partnerships, and a safety-oriented culture, the most basic prerequisite for quality manufacturing. By taking full advantage of these five management resources, MGC works to be an excellent company with uniqueness and presence that no other company can easily match.

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.

The creation of unrivaled technologies and our effort to enhance them for applications are embedded in our Group's DNA, while original technologies are our greatest strength. A typical example of our fundamental technologies is that for xylene separation using superacid catalysis in an original proprietary process. The technology that allows us to efficiently produce meta-xylene of high purity has led to development of highly competitive derivatives. On the other hand, a representative example of our applied technologies is an optical polymer with both a high refractive index and a low birefringence. It is meeting market needs as an optical material allowing for thinner, higher-definition camera lenses.

Over 90%

Products based on technologies developed in-house (by product category)

Over 90% of our products were developed in-house. We have built our own technological platform that can be used for researcher-initiated R&D and other ventures. Our potential derives from a cornucopia of core technologies that can be combined, expanding without limit.

About 40%

Percentage of MGC products that hold the largest share of their respective world markets

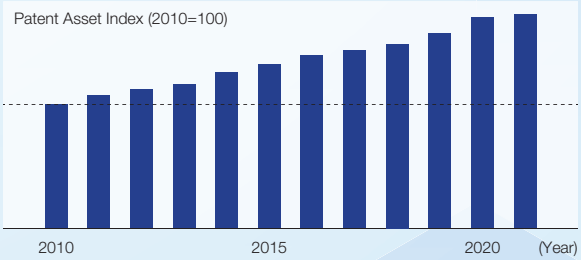
With original products based on in-house technologies proving highly competitive due to their high-quality and functionality, MGC enjoys top shares of a wide range of markets worldwide.

Up by about 70% since 2010

Total patent value (Patent Asset Index*4)

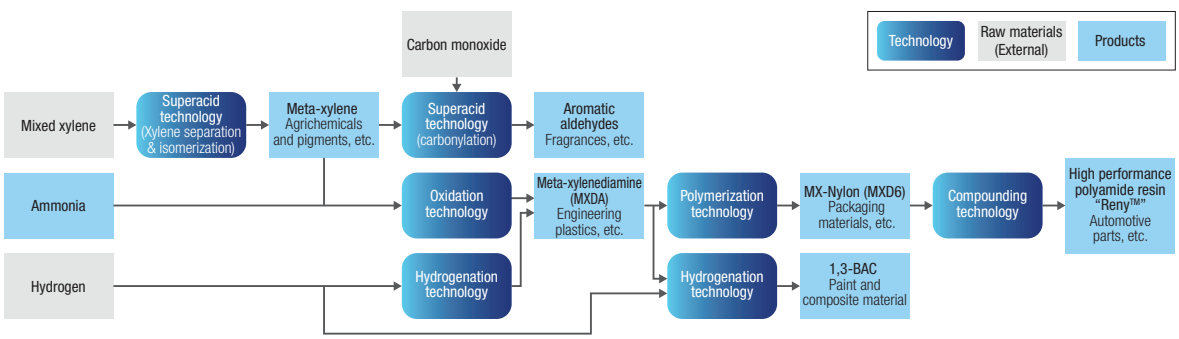
Patents are intellectual property that we produce through daily research and development work. The total patent value of the MGC Group is only growing as we actively focus effort on R&D themes that will lead to solutions and meet the needs of the times.

MGC Group's Total Patent Value over Time

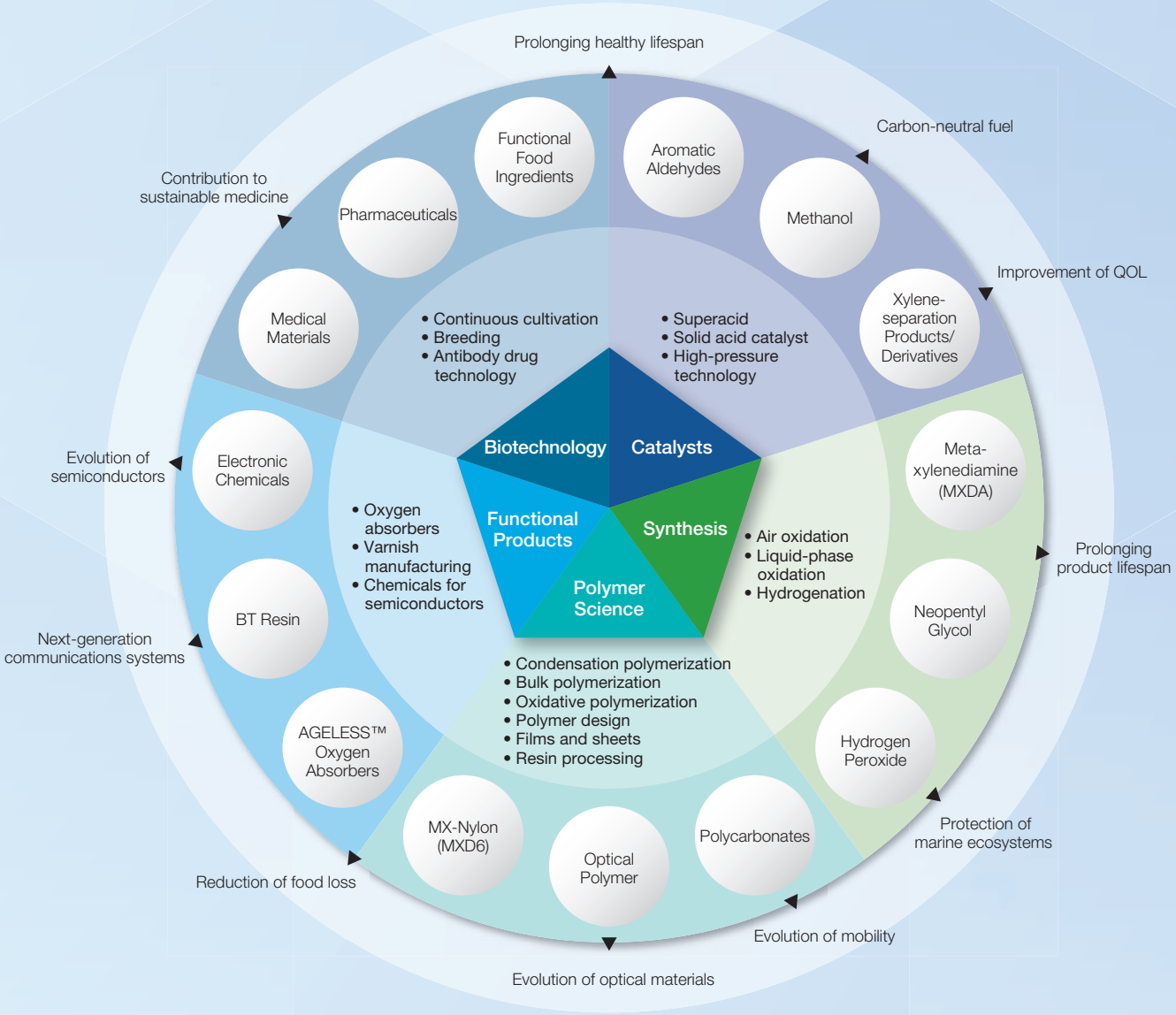


*4 An index that visualizes the technological strength and influence of an applied patent in global terms, obtained by objectively evaluating quality (value based on how often the subject patent is cited worldwide) and quantity (number of applications)
Source: H. Ernst and N. Omland, World Patent Information,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

Examples of Applications of Fundamental Technologies: Xylene Product Flow



Fundamental Technologies Supporting a Wide Range of Products



The Group has five fundamental technologies: catalysts, synthesis, polymer science, functional products, and biotechnology.

Catalysis is a fundamental technology essential in producing substances economically through chemical synthesis. MGC's catalyst technology originates in the development of a catalyst for methanol synthesis. Strenuous research and development effort and applications have continued to this day, leading to commercialization of many original synthesis processes.

At the same time, our downstream work has resulted in high-molecule polymerization technology, typically applied to create engineering plastics. By applying technology to evaluate and mold plastics, we develop functional designs for mechanical characteristics and optical properties.

In addition, we develop functional products by combining multiple raw materials into compounds to manifest additional functions.

In our research and development work to advance applications for methanol, we came up with a microbe culture technology that produces useful substances using methanol as a nutrition source. From there we have developed a range of biotechnologies.

As described here, the MGC Group is characterized by having a wide range of technologies from upstream to downstream in the value chain.

Corporate Culture

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

As the product of a merger of two technology-based firms, MGC has worked to be a professional organization where individuality is valued and employees respect each other's differences. This history led to our welcoming corporate culture, where open discussion is part of the daily routine and each employee is given discretion. Since its founding MGC has cherished the pursuit of uniqueness as a way of offering entirely new kinds of value to society. This applies to our global operations as well. We were the first Japanese firm in the chemical industry to enter the Saudi Arabian market, in 1980, and have since expanded operations in many developing nations. An enterprising spirit rooted in entrepreneurism is another unique trait of MGC.

75%

Employee satisfaction*5

As part of an initiative to create supportive workplaces that give employees job satisfaction, we conducted an employee awareness survey in July 2021. We are working to apply the survey results to promote measures for cultivating a strong sense of work fulfillment and job satisfaction.

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

History of Overseas Operations

1980	**Saudi Arabia** (methanol)
1984	**U.S.** (trading)
1987	**Indonesia** (hydrogen peroxide)
1992	**Venezuela** (methanol)
1995	**Thailand** (engineering plastics)
2006	**Brunei** (methanol)
2013	**Trinidad and Tobago** (methanol)
2021	**Netherlands** (MXDA)

In a corporate culture that encourages the challenger spirit, we conduct overseas business under an original strategy, applying the production and operation technologies that we develop. Since about 1970, we have secured our competitiveness abroad by establishing joint ventures with local firms. We contribute to the growth of local economies through technology transfers and operator training to maintain stable production.

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.

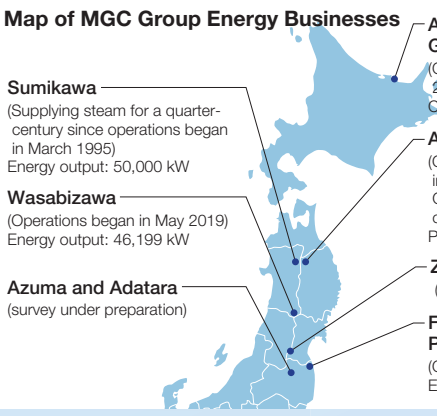
The MGC Group does businesses involving various renewable energy technologies. Right from our founding, we developed oil and gas fields on our own mining properties in Niigata Prefecture, and we continue to supply natural gas produced in those two fields to our Niigata Plant. Applying this excavation technology to our own geothermal energy development business, we are constructing a third power station in Iwate Prefecture. In 2016, we entered the natural gas power generation business in Fukushima Prefecture. We supply the energy we generate from LNG to the offices and plants of the MGC Group via our wholly-owned subsidiary, MGC ENERGY Company Limited. In 2022, we entered the biomass power generation business in the city of Abashiri in Hokkaido, using waste from Japanese forest thinning.

About 70 years

How long we have been developing natural gas

Since we succeeded in developing water-dissolved natural gas in Niigata Prefecture in 1953, we have been continuing independent natural resource development, while conducting joint exploration for crude oil and natural gas with other energy development firms. We have been doing business in geothermal energy for over 40 years.

Map of MGC Group Energy Businesses



Sumikawa
(Supplying steam for a quarter-century since operations began in March 1995)
Energy output: 50,000 kW

Wasabizawa
(Operations began in May 2019)
Energy output: 46,199 kW

Azuma and Adatara
(survey under preparation)

Abashiri Biomass Power Plant Generators 2 and 3
(Generator 2 operation scheduled for August 2022, and Generator 3 for February 2023)
Combined planned energy output: 19,800 kW

Appi
(Construction commenced in August 2019)
Operation scheduled to commence in April 2024)
Planned energy output: 14,900 kW

Zao
(under survey)

Fukushima Natural Gas Power Plant
(Operation began in April 2020)
Energy output: 1,180,000 kW

Partnerships

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

The key to success in growing the Group's overseas operations is partnerships with local firms and companies in other industries. Alliances and collaboration with other firms not only help reduce the time and funds required for any operation, but also encourage innovation in the chemical field and create growth opportunities for employees as well. A case in point is joint production of methanol in a nation with over 40 years of experience in natural gas production. This gives us hope of building a foundation for CCUS[*6]. To achieve the long-term goal of carbon neutrality by 2050, we are promoting an all-Japan collaboration system with various partners for value co-creation.

*6 CCUS: CO_2 capture, utilization and storage; involves technologies to capture and store emitted CO_2 and technologies to use stored CO_2 as an ingredient for chemical products and other uses.

56%

Overseas net sales ratio

We have been accelerating our methanol and hydrogen-peroxide operations abroad. Through joint ventures and other means we enter countries where we can reliably procure raw materials at low cost, and expand production bases near the demand for given products to quickly respond to customer needs.

Recent Alliances and Co-creation Initiatives to Achieve Carbon Neutrality

- Joint discussion on operations for effective CO_2 use, mainly in Niigata region (2021, with JAPEX)
- Reliable procurement of clean ammonia (2021, with UBE, Sumitomo Chemical and Mitsui Chemicals)
- Proposal "Development of Technology for Producing Chemicals from Alcohols," adopted by New Energy and Industrial Technology Development Organization (NEDO) (2022, with Mitsubishi Chemical) (Development of methanol membrane reaction/separation process using CO_2)
- Proposal "Development of Technology for Producing Functional Chemicals from CO_2," adopted by NEDO (2022, with Tosoh) (Development of production technology for CO_2-based function enhanced soluble polycarbonates and monomers)
- DBJ dialogue-based sustainability linked loan program (2022, with Development Bank of Japan)
- Beginning joint study on social deployment of circular carbon methanol utilizing CO_2 (2022, with Tokuyama)

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.

A core social mission for every manufacturer is to foster a culture of safety. Based on the philosophy that ensuring safety is the top priority of our business activities, MGC has formulated a Safety Code of Conduct, and undertakes RC activities to achieve zero accidents and zero occupational injuries. In our manufacturing divisions we introduced in fiscal 2021 our LINK Activities, an expanded company-wide safety campaign that includes process safety and disaster prevention during exploration and research, and safety assurance in our construction and bottling/canning work, in addition to general occupational health and safety, while conducting RC auditing to monitor progress. We use process safety and disaster prevention assessment tools to make numerical assessments of the penetration of our culture of safety and security levels for each business site, and promote kaizen initiatives.

0.28

Lost time injury frequency rate[*7] (non-consolidated)

In order to maintain zero occupational injuries, MGC regularly conducts training, drills, and occupational health and safety risk assessments. In addition, each workplace continuously engages in tasks such as 5S activities, hazard prediction, and proposals for addressing Hiyari Hatto (near-miss) incidents to bolster day-to-day safety measures.

*7 Frequency rate: Number of occupational injury casualties per one million working hours

Promotion of RC Activities

RC activities, which are voluntary, are carried out to harmonize business activities with global environment preservation through ensuring the environment, safety and health in all stages of product life cycles from development, manufacture, distribution, use and final consumption to disposal. We began this effort in 1995, when the Japan Responsible Care Council was established, and have been working ever since to cultivate our culture of safety setting medium-term goals.

Occupational Health and Safety	Process Safety and Accident Prevention	Environmental Conservation
Chemical and Product Safety	Safe Transport and Storage of Chemicals	Stakeholder Relations

Address Social Issues Through Business

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 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 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 Polymers

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, has developed a circular carbon methanol (CCM) production process using CO_2 as a raw material, and is currently proceeding with initiatives aimed at its commercialization.

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 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 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.

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.

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.

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.

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.

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.

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

Contribution to Carbon Neutrality

Setting Group Targets

The MGC Group recognizes that addressing climate change is a global issue transcending borders, and that it is necessary for companies inside and outside Japan to work as one to this end. Based on this, the scope of achieving carbon neutrality by 2050, set in March 2021, was expanded, and re-established as a target for the Group*1 announced in March 2022. The Group will work as one to carry out initiatives aimed at the reduction of GHG emissions.

Based on the accumulation of experience and knowledge in natural gas development and various chemical businesses, the Group possesses a number of solutions aimed at specific and promising social implementation, such as renewable energy businesses including geothermal energy, circular carbon methanol for commercialization of CCUS*2, methanol and ammonia expected to serve as hydrogen carriers, and the development of methanol and polycarbonate manufacturing technologies using CO_2 as raw material, which was recently chosen as a Green Innovation Fund Project.

By utilizing these as common management resources for the Group, we will not only achieve the recently-established Group targets, but also contribute to the resolution of global climate change as part of our mission of "creating value to share with society."

*1 The Company itself and consolidated subsidiaries with Scope 1 and 2
*2 Technology for CO_2 Capture, Utilization and Storage

Long-Term GHG Emission-Reduction Objectives of the MGC Group

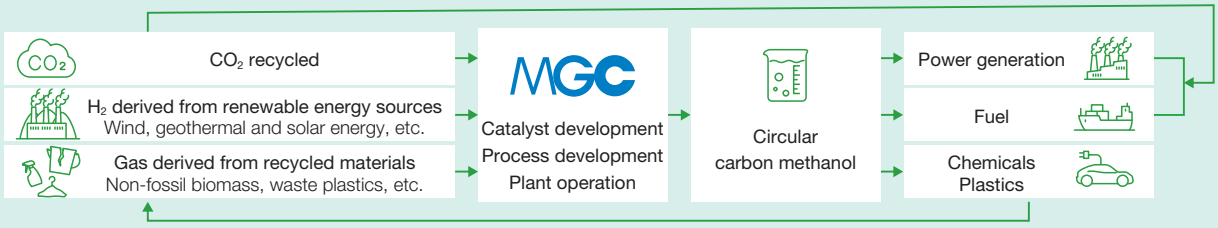
2030
Reduce 36% compared to 2013

2050
Achieve carbon neutrality

Technology Development Themes

1 Circular Carbon Methanol

MGC has actively promoted Circular Carbon Methanol (CCM) Production, which enables environmental carbon recycling through the reuse of CO_2 emissions, waste plastic and other materials in the form of methanol. By encouraging cross-industry cooperation, we will contribute to achieving a decarbonized and recycling-oriented society. Specifically, we will proceed with social implementation of CCM through comprehensive proposals based on technology to synthesize methanol from CO_2 emissions and various gases, such as collaboration on synthetic gas production technology, provision of technical support services for operation and maintenance, and methanol-related product transactions. As we advance these efforts at cross-industry cooperation and public-private collaboration based on reducing CO_2 emissions and recycling resources, MGC aims to contribute to the innovation of industrial structures and economic society so as to promote new growth.



Commercialization and Increasing Scale

Circular carbon methanol will undergo demonstrations in a small-scale plant on the level of tens of thousands of tons until around fiscal 2025, and be commercialized in a 100,000-ton plant from fiscal 2025 to fiscal 2030. We aim to increase the scale to up to 1 million tons from fiscal 2030.

Fiscal 2021 onward	Fiscal 2025 onward	Fiscal 2030 onward
Phase 1: Tens of thousands of tons • By-product hydrogen, etc. x utilization of recycled CO_2 • Demonstration of circular carbon methanol	**Phase 2: Up to 100,000 tons** • Commercialization of circular carbon methanol, using renewable hydrogen	**Phase 3: Up to 1 million tons** • Larger scales for circular carbon methanol • Full introduction to primary materials industry
- Overseas: Dawn of market for materials and fuels - Domestic: Promotion of introduction for users	- Overseas: Expansion of market - Domestic: CCM value creation → Establishment as a manufacturing and sales business	- Expanding value of circular carbon methanol - Reduced carbon and decarbonization in domestic petrochemical industrial complexes → Improvement and extension of business
• New project creation (Waste plastic-based projects also considered in parallel)	• Utilization of international projects, domestic renewable energy-based projects, and existing business • Utilization of domestic excess renewable energy, etc.	

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.

		2030	2050
1	Circular carbon methanol	Judgment on demonstration (up to 2025) → Commercialization (up to 2030)	Larger scales and full introduction to primary materials industry
2	Clean ammonia	Consideration of factors such as where to conduct procurement, and conditions thereof (up to 2030)	Commencement of procurement
3	CO_2 to PC	Bench plant verification (up to 2024) → Pilot plant demonstration (up to 2028)	Commercialization
	DAC	Basic research to scale-up	Implementation
4	Promotion of utilization of CCUS in the Higashi-Niigata Oil and Gas Field*3	Judgment on commercialization (up to 2030)	Implementation
4	Promotion of utilization of CCUS in water-dissolved natural gas fields*3	FS of viability as business (up to 2023) → Judgment on commercialization (up to 2030)	Implementation

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

2 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

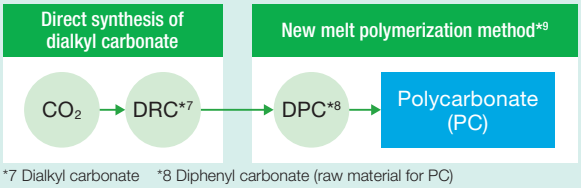
*5 Technology for capturing and storing CO_2

3 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

CO_2 to PC Mechanism



*7 Dialkyl carbonate *8 Diphenyl carbonate (raw material for PC)
*9 Manufacturing method not using dangerous substances

4 Promotion of Utilization of CCUS

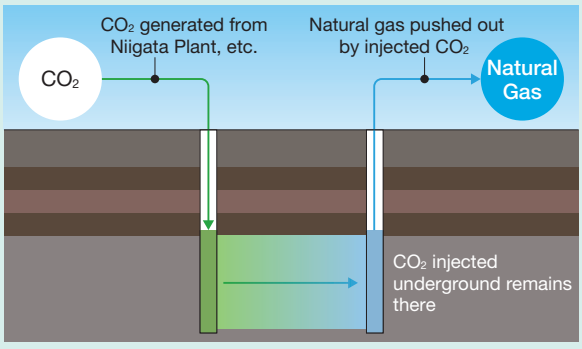
MGC participated in a large-scale CCS demonstration test by NEDO*10 in Tomakomai. Injection of CO_2 underground commenced in 2016, and a total of 300,000 tons of CO_2 was stored underground by 2019.

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). In water-dissolved natural gas fields, consideration is being given to dissolving CO_2 in the water recovered after extracting natural gas and iodine, and injecting it underground.

Commercialization of the injection of CO_2 into the Higashi-Niigata Oil and Gas Field and water-dissolved natural gas fields will be determined by 2030, while conducting feasibility studies on the business.

*10 New Energy and Industrial Technology Development Organization

EGR Mechanism

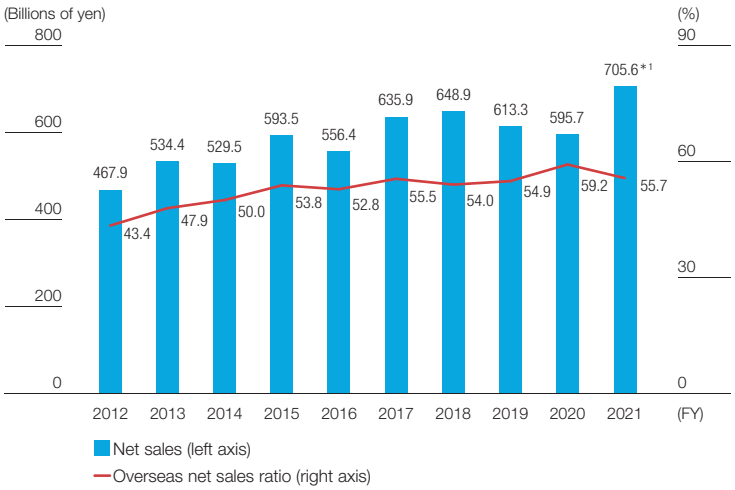


Progress of Medium-Term Management Strategy

Performance Highlights

Financial (1)

Net Sales, Overseas Net Sales Ratio

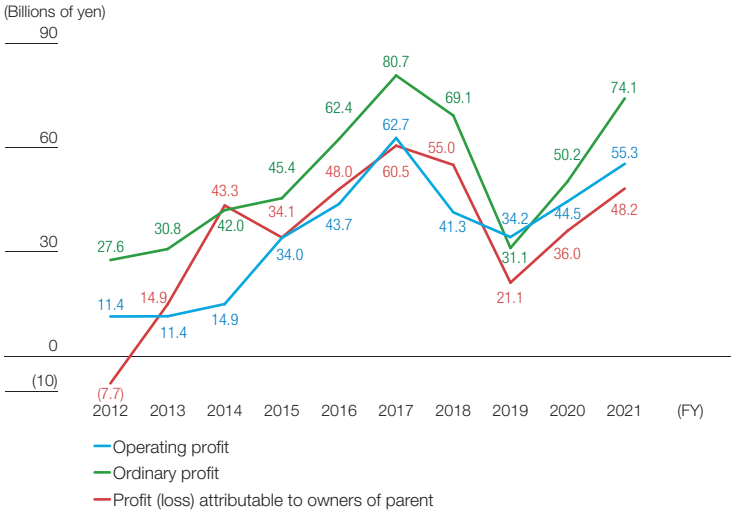


Factor Analysis

- **Net sales:** In fiscal 2021, net sales increased due mainly to upturns in market prices for methanol and other offerings as well as recovery in overall sales volume.
- **Overseas net sales ratio:** Global expansion progressed in sites located in Asia, as well as in the Middle East, Europe and the U.S.

*1 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

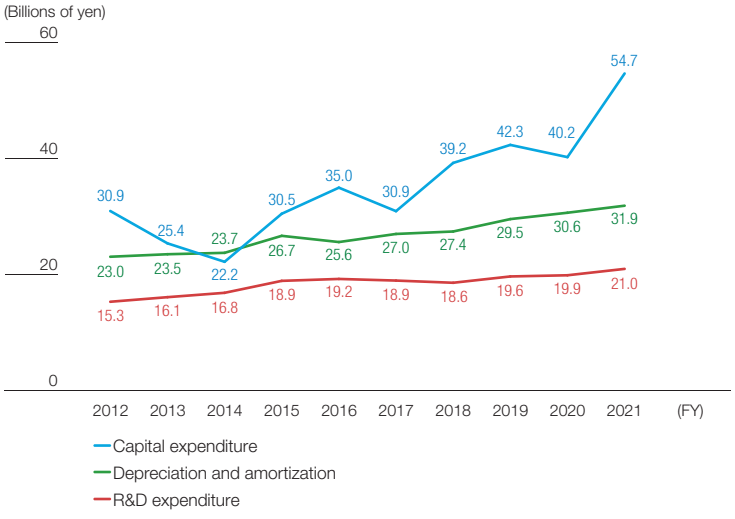
Operating Profit, Ordinary Profit, Profit (Loss) Attributable to Owners of Parent



Factor Analysis

- **Operating profit:** In fiscal 2021, despite increases in raw material and fuel prices, lower sales volumes of optical polymers and other negative factors affecting profit, operating profit rose. This was thanks primarily to the higher sales volumes of semiconductor-related products, recovery in demand for products that had been affected by fallout from the novel coronavirus pandemic, and rising market prices for general-purpose products.
- **Ordinary profit:** Due primarily to higher operating income as well as growth in equity in earnings of affiliates related to engineering plastics and overseas methanol producing companies, ordinary profit increased in fiscal 2021.
- **Profit (loss) attributable to owners of parent:** Despite an increase in extraordinary losses reflecting such factors as the recording of an impairment loss in connection with business restructuring and other measures, in fiscal 2021 profit attributable to owners of parent grew, mainly on higher ordinary profit.

Capital Expenditure, Depreciation and Amortization, R&D Expenditure

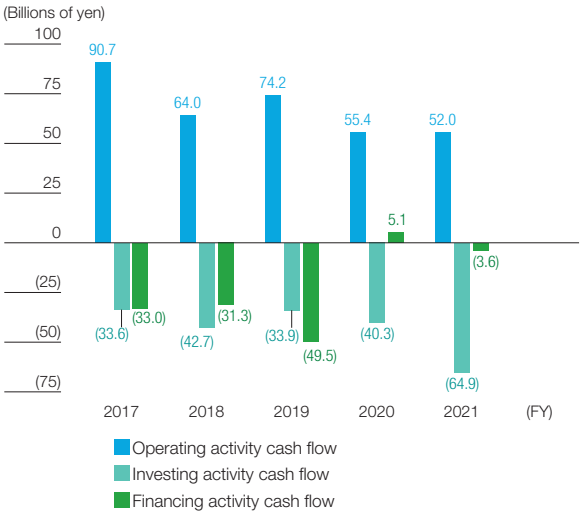


Factor Analysis

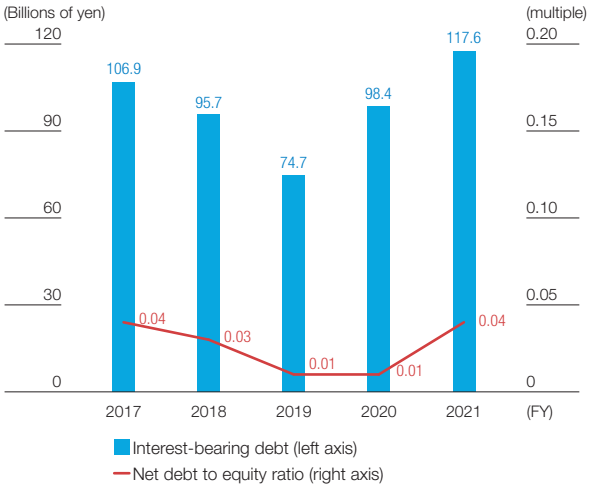
- **Capital expenditure:** In fiscal 2021, MGC implemented projects in areas such as hydrogen peroxide (Taiwan and China), raw material monomer for optical polymers (Niigata), and MXDA (Netherlands). By segment, capital expenditure amounted to ¥19.2 billion in Basic Chemicals, ¥32.6 billion in Specialty Chemicals.
- **R&D expenditure:** Active R&D investments were pursued to strengthen profitability of existing businesses and generate new ones.

Financial (2)

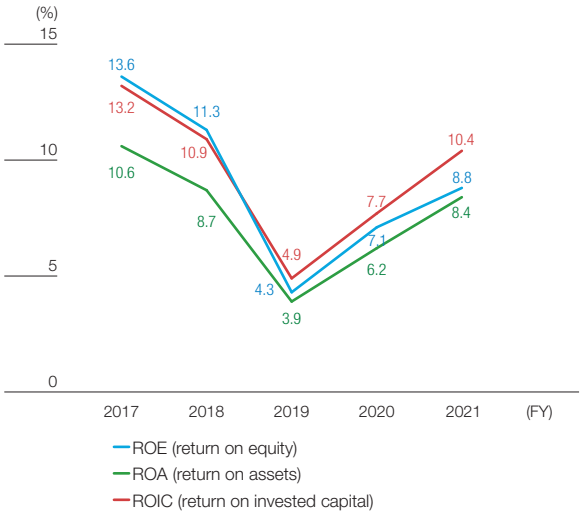
Cash Flows



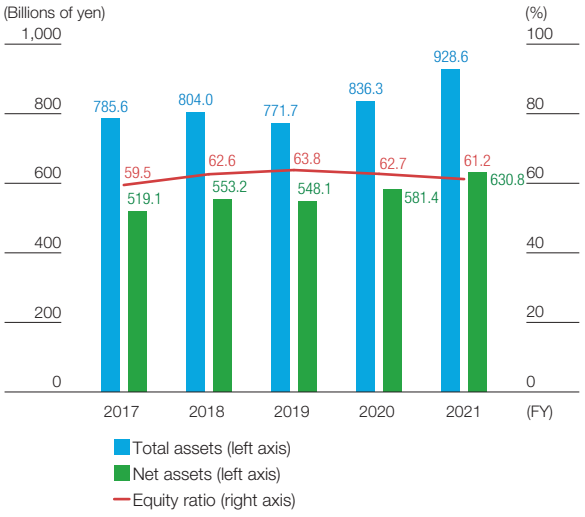
Interest-bearing Debt, Net Debt to Equity Ratio



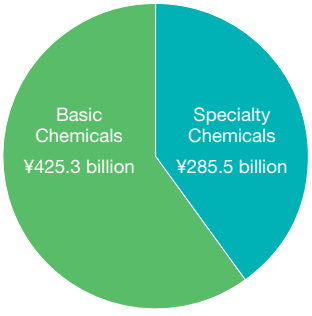
ROE, ROA, ROIC



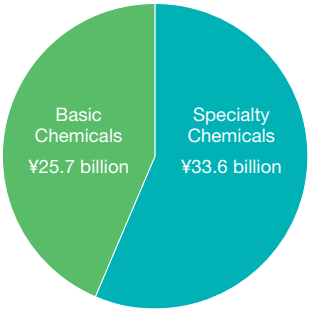
Total Assets, Net Assets, Equity Ratio



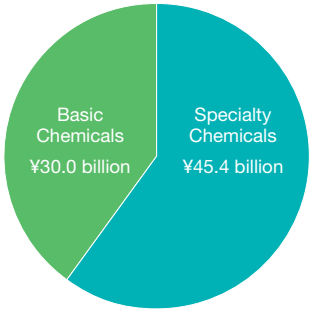
Net Sales by Segment (fiscal 2021)



Operating Profit by Segment (fiscal 2021)



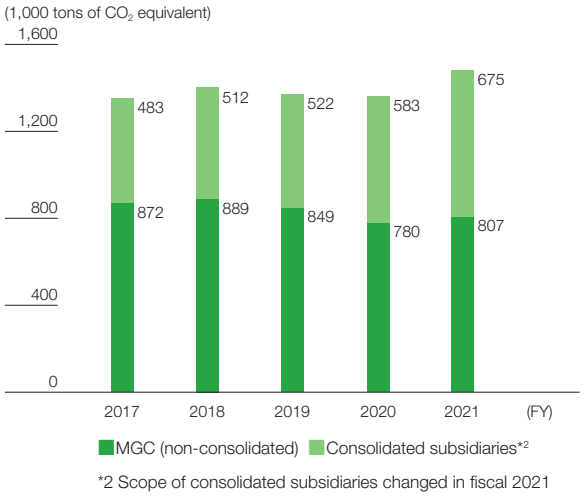
Ordinary Profit by Segment (fiscal 2021)



Note: Pie graphs for net sales, operating profit and ordinary profit by segment exclude other businesses and adjustments.

Non-Financial

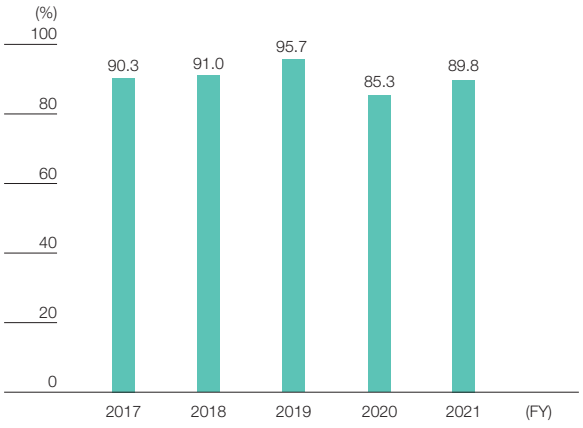
GHG Emissions



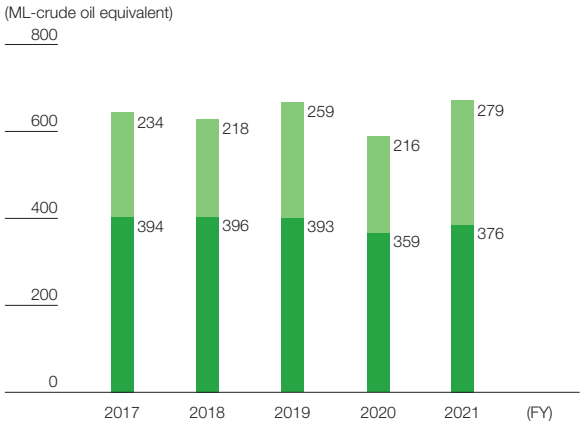
*2 Scope of consolidated subsidiaries changed in fiscal 2021

Ratio of Taking Annual Leave

(Non-consolidated/union members)



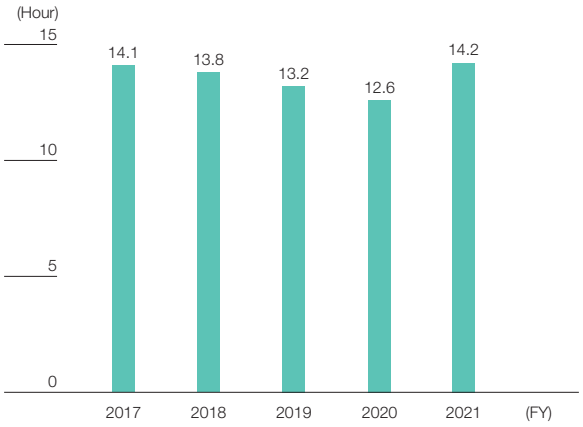
Energy Use



*3 Scope of consolidated subsidiaries changed in fiscal 2021

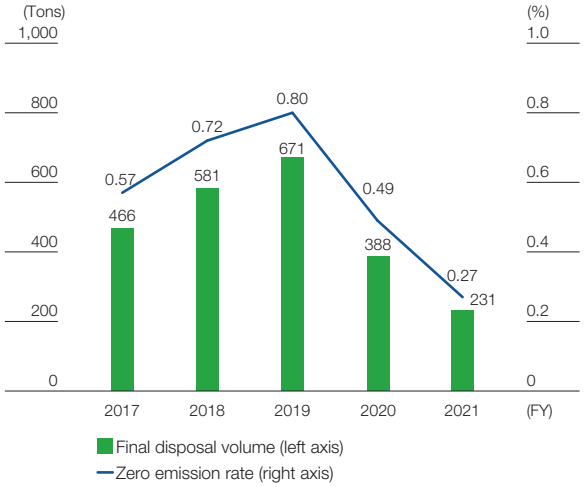
Average Overtime per Month

(Non-consolidated/union members)



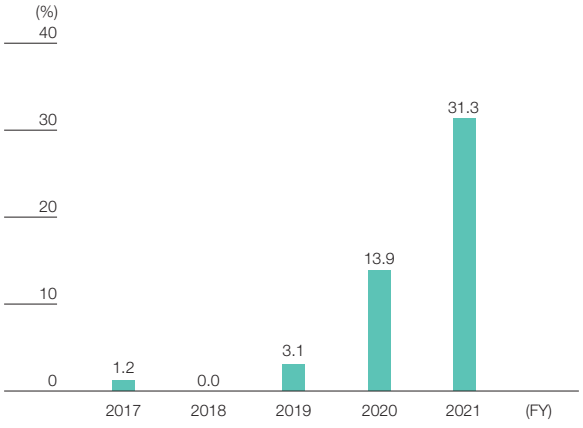
Final Disposal Volume and Zero Emission Rate

(Non-consolidated)



Ratio of Males Taking Parental Leave

(Non-consolidated)



Overview of Medium-Term Management Plan

Grow UP 2023

(April 2021–March 2024)

Objective 1

Shift to a profit structure resilient to environmental changes

Business portfolio reform

Strategies

1-1. Further strengthen competitively advantageous ("differentiating") businesses
1-2. Accelerate creation and development of new businesses
1-3. Reevaluate and rebuild unprofitable businesses

Business Portfolio Reform
P27

Objective 2

Balance social and economic value

Toward sustainable growth

Strategies

2-1. Solve social issues through business
2-2. Harmonize value creation with environmental protection
2-3. Strengthen discipline and foundation supporting business activities

Progress of Our Long-Term Strategy
P39

For the MGC Group to achieve sustained growth, it is essential that we create a structure capable of responding to rapid changes in the business environment and rising uncertainty, while further strengthening our competitiveness. In the Medium-Term Management Plan started in fiscal 2021, we established two management objectives and several strategies based on the backcasting approach, with a long-term vision for the future. The future is not merely an extension of the status quo, and will require rapid, organization-wide adaptation to a "new normal," as well as advanced technology based on achieving discontinuous evolution. Over the three-year span, we will accomplish a shift to a profit structure resilient to changes in the business environment.

Note that the name "Grow UP 2023" not only incorporates the immutable concept of growth for both the MGC Group and its employees, but also the added meanings of "**U**niqueness" and "**P**resence," from where we derive "UP." Our goal is to become an excellent corporate group as we nurture our uniqueness and presence within the chemical industry.

As a numerical target, we will attempt to reach record-high levels of operating profit in fiscal 2023, the final year of the Medium-Term Management Plan. By the mid-2020s, our goal is to go on to set a new record high for operating profit margin as well. We also have in sight achieving sales of ¥1 trillion or higher, and operating profit of ¥100 billion (operating profit margin of 10%) or higher, by fiscal 2030. To promote management with an awareness of capital efficiency, we have also introduced ROIC (return on invested capital) as a KPI.

Numerical Targets

Consolidated Performance	Fiscal 2020 Results	Fiscal 2021 Results	Fiscal 2023 Targets
Net sales (billions of yen)	595.7	705.6*3	**730.0**
Operating profit (billions of yen)	44.5	55.3	**70.0**
Ordinary profit (billions of yen)	50.2	74.1	**80.0**
ROIC*1 (return on invested capital)	7.7%	10.4%	**10% or higher**
ROE*2 (return on equity)	7.1%	8.8%	**9% or higher**

Medium to Long-term Objectives

Fiscal 2030

Net sales: ¥1 trillion

Operating profit: ¥100 billion or higher

(Assumptions) Exchange rate: 105 JPY/USD; Crude oil price (Dubai): 60 USD/BBL
*1 ROIC = Ordinary profit/invested capital
*2 ROE = Net profit/equity
*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.

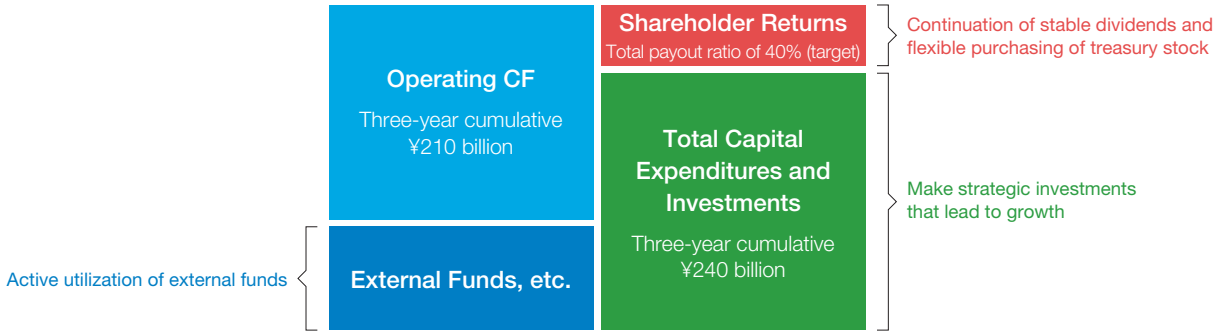
Financial, Capital and Shareholder Return Policies

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 capital expenditures and investments are expected to reach ¥240 billion under the current Medium-Term Management Plan, in excess of planned three-year cumulative operating cash flow. We will make strategic investments that lead to growth while actively utilizing external funds.

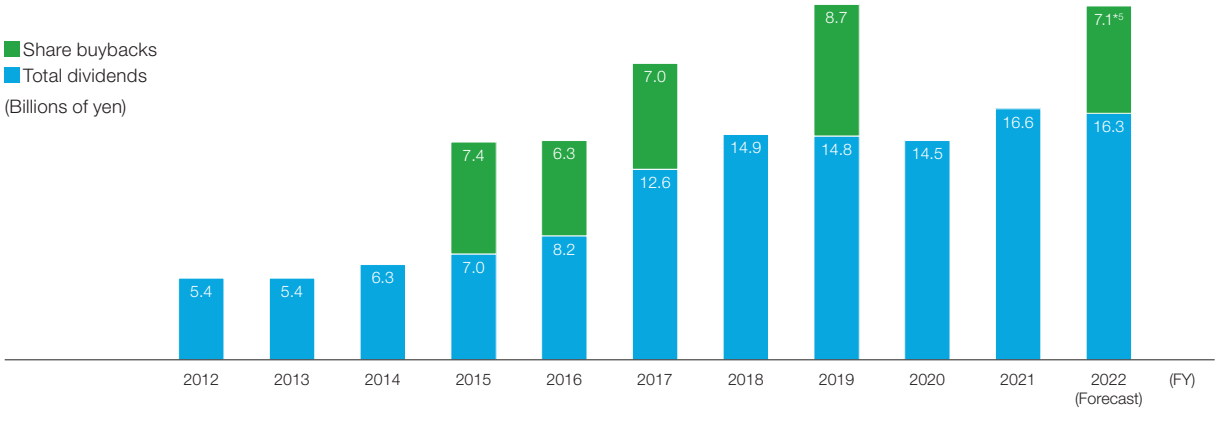
Our basic policy regarding dividends is to continue to provide stable returns while flexibly purchasing treasury stock, with a total payout ratio*4 of 40% as a target for medium-term shareholder returns.

*4 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



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022 (Forecast)
Net Profit (loss) (Billions of yen)	(7.7)	14.9	43.3	34.1	48.0	60.5	55.0	21.1	36.0	48.2	61.0
Annual dividend (Yen per share)*6	24	24	28	32	38	59	70	70	70	80*7	80

*5 Portion announced in May 2022

*6 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

*7 Includes a commemorative dividend of ¥10

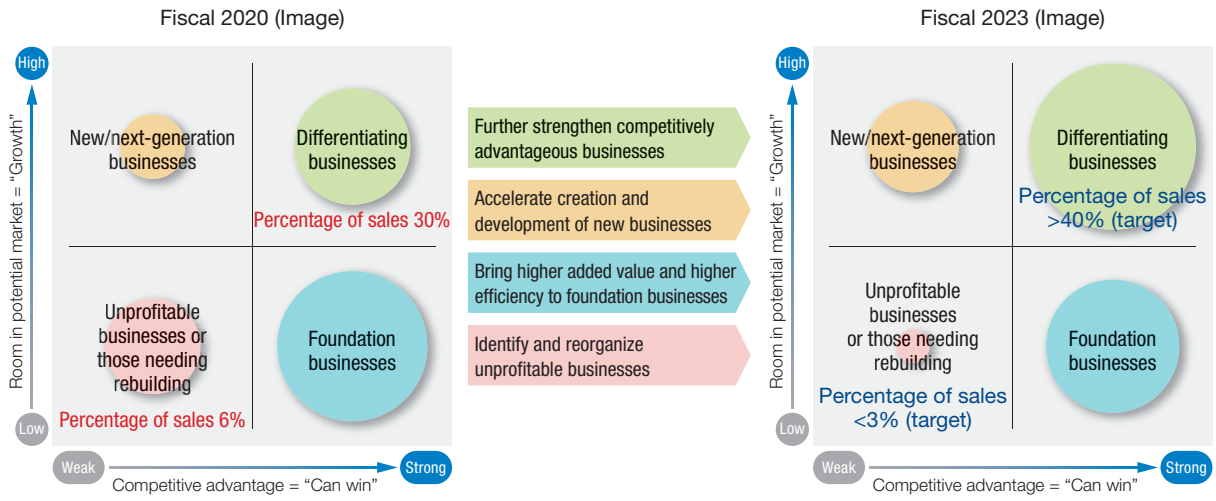
Business Portfolio Reform

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 polymers, and ultrahigh 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. Going forward, we will 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 will accelerate business portfolio reform by focusing on creating and developing new businesses. Specifically, we will promote investment in research and development and increase research personnel; reorganize based on market needs; and promote 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 will 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

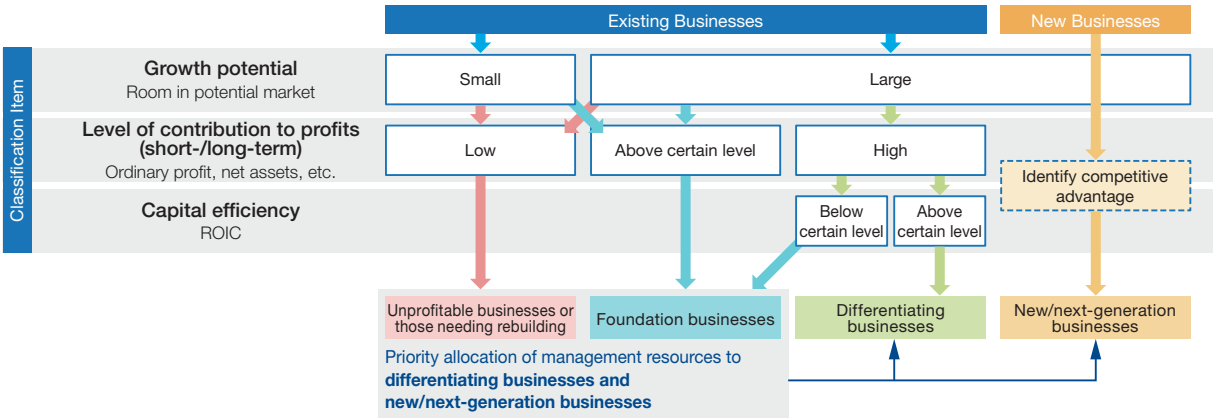


Classification of Product Lines under Medium-Term Management Plan

Differentiating businesses	MXDA, aromatic aldehydes, MX-Nylon, electronic chemicals, polyacetal, optical polymers, 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 amines, 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

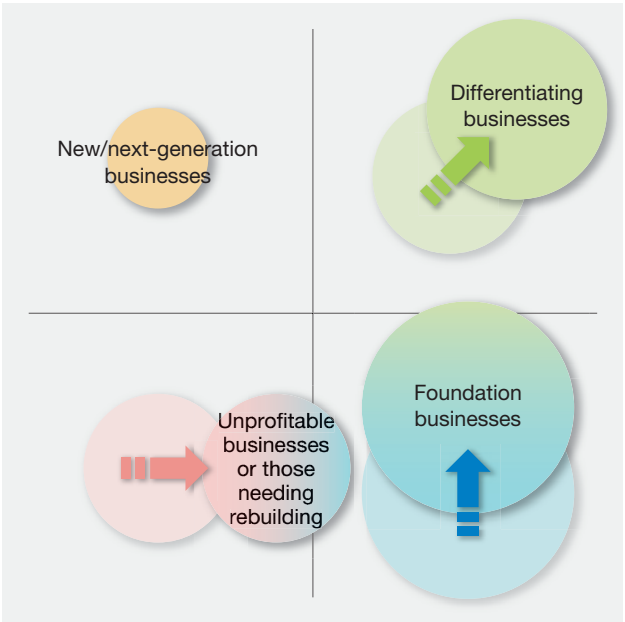
Classification Criteria for Business Portfolio Reform

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 will be 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.



Fiscal 2021 Results

Fiscal 2020→Fiscal 2021 (Image)



Differentiating businesses

Although profit decreased year on year for optical polymers, profit increased for MXDA, POM, IC plastic packaging BT materials, and electronic chemicals, resulting in steady growth for differentiating businesses as a whole. Furthermore, we also executed growth investments aimed at growing markets.

Foundation businesses

In addition to improvement of market conditions, initiatives aimed at increasing added value and improving efficiency progressed, resulting in a significant improvement in earnings for all foundation businesses. We also promoted efforts aimed at implementation of circular carbon methanol and CO_2-derived specialty chemicals.

Unprofitable businesses or those needing rebuilding

The earnings structure of the formalin and polyol business improved thanks to various efforts aimed at structural reform, such as making J-CHEMICAL*1 a subsidiary through the acquisition of shares and ceasing production of TMP (trimethylolpropane), in addition to market conditions improving for xylene separators and derivatives.

*1 J-CHEMICAL, Inc. and Yutaka Chemicals Corporation merged in April 2022, with the company name being changed to MGC Woodchem Corporation

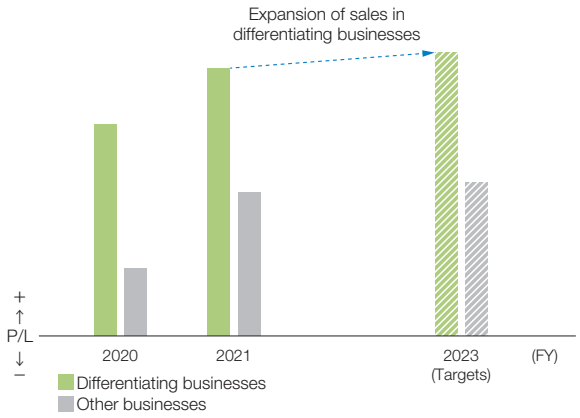
New/next-generation businesses

We proactively injected research and development resources and also increased research personnel to accelerate creation and development of new businesses.

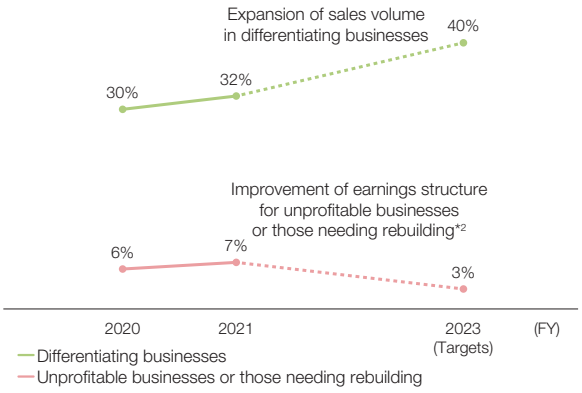
Progress of Business Portfolio Reform and Future Outlook

Net sales and profit of differentiating businesses grew steadily, and progress was made in structural reforms of the formalin and polyol business, which falls under unprofitable businesses or those needing rebuilding. We will continue to accelerate the action plan aimed at the current Medium-Term Management Plan's targets of more than 40% of net sales from differentiating businesses and under 3% of net sales from unprofitable businesses or those needing rebuilding.

Transition of Ordinary Profit in Differentiating Businesses

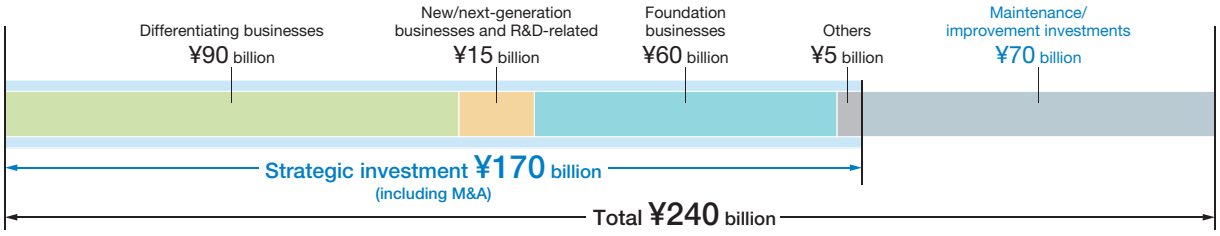


Percentage of Net Sales in Differentiating Businesses, and in Unprofitable Businesses or Those Needing Rebuilding



*2 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.

Investment Funds by Business Segment under Medium-Term Management Plan



Progress for Major Investment Projects

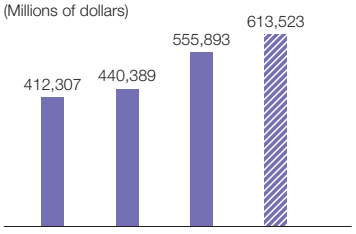
Investment approvals and public announcements	Fiscal 2021	Fiscal 2022	Fiscal 2023	Fiscal 2024 Onward
Differentiating Businesses	Aromatic aldehydes: Boosting production capacity (Mizushima Plant)			
	Aromatic aldehydes: Establishing new production facilities (Mizushima Plant)			
	MXDA: Establishing new production facility (Netherlands)			
	EL: Establishing new raw material hydrogen peroxide plant (China)			
	EL: Establishing new raw material hydrogen peroxide plant (Taiwan)			
	EL: Establishing new super-pure hydrogen peroxide plant (China)			
	Optical polymers: Boosting production capacity (Kashima Plant)			
	Optical polymers: Establishing new raw material monomer plant (Niigata Plant)			
	IC plastic packaging BT materials: Boosting production capacity (Thailand)			
	POM: Investing in manufacturing companies (China)			
Foundation Businesses	Mitsubishi Engineering-Plastics Corporation (MEP): Make company into consolidated subsidiary			
Unprofitable Businesses or Those Needing Rebuilding	Acquisition of shares of J-CHEMICAL, Inc. (made company into subsidiary) ⇒ Establishment of MGC Woodchem Corporation (Note: Initiatives aimed at withdrawing from unprofitable businesses or those needing rebuilding)			

Differentiating Businesses

To further strengthen differentiating businesses, we will continue with active investment in products such as MXDA, electronic chemicals (EL chemicals), POM, and IC plastic packaging BT materials, along with prioritized allocation of management resources. In April 2022, we completed increasing production capacity for IC plastic packaging BT materials in Thailand, and we plan to continue with growth investment aimed at growing markets, such as the establishment of new plants for EL chemicals in China and Taiwan, increasing production capacity for aromatic aldehydes, and establishing new MXDA production facilities in Europe. At the same time, we will implement projects such as reorganizing business structure to enhance the presence of the POM business, and investment in Chinese POM manufacturing companies.

WSTS Semiconductor Market Forecasts

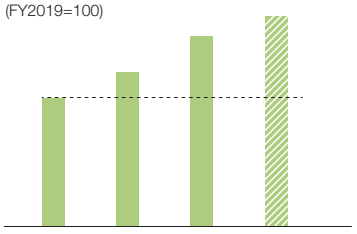
(Millions of dollars)



Source: WSTS (March 18, 2022)

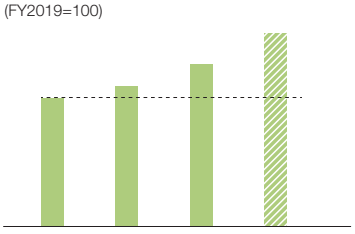
BT Materials: Transition in Net Sales

(FY2019=100)



EL Chemicals: Transition in Net Sales

(FY2019=100)



Foundation Businesses

In terms of our foundation businesses, we will promote further initiatives aimed at higher added value and higher efficiency. With regard to the polycarbonate (PC) business, we plan to make MEP a consolidated subsidiary in fiscal 2023, and fully utilizing its management resources, such as technical services and marketing functions, will accelerate our high added value strategy, in turn making the PC business more competitive. In the methanol business, we will continue with initiatives aimed at the realization of the circular carbon methanol production process, with a view to having the business migrate to being classified as a differentiating business, and pursue measures and investments aimed at ensuring even higher levels of added value as well as an increased market presence.

Unprofitable Businesses or Those Needing Rebuilding

In the formalin and polyol business, we will proceed with the suspension and concentration of production of formalin and polyol products with profitability issues. Following the suspension of production of trimethylolpropane at the Mizushima Plant in 2021, we have decided to suspend production of formalin at the Yokkaichi Plant (2022) and the Niigata Plant (2023), and of paraformaldehyde and hexamine in the Niigata Plant (2023). In addition, we aim to break away from unprofitable businesses or those needing rebuilding by establishing an integrated production system from formalin to downstream (adhesive). For xylene separators and derivatives, we are also promoting various efforts aimed at maximizing profit in the business overall, including derivative products such as MXDA in the downstream.

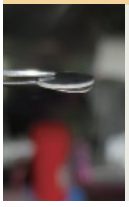
New/Next-generation Businesses

We will continue to aim to create and develop businesses that will form new pillars for the company through focused injection of management resources into new/next-generation research and development. Specific examples of initiatives are as follows.

Initiatives for New Business Development

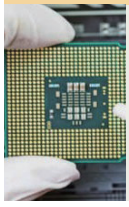
ICT/Mobility

Solid electrolytes



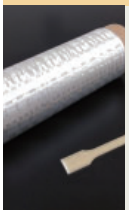
Targeting EV business; research system expanding in anticipation of future market launch

New BT materials



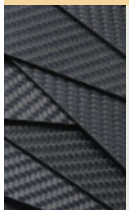
Meeting 5G needs with sheet products appropriate for thin layers while possessing superior dielectric characteristics in high frequency ranges

Cellulose fiber composite materials



Developing manufacturing process for high-strength cellulose fibers and fiber-reinforced resin

Carbon fiber composite materials



Developing carbon fiber composite materials that can contribute to metal substitutes and weight savings, utilizing seeds of research from Group companies as well

Medical/Food

OXYCAPT™

Establishing and maintaining commercial production framework; working to further expand product line-up and advance market development

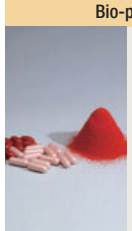
Antibody drug contract manufacturing business

Succeeded in mass cultivation of biosimilar producing cells for Denosumab, an antibody drug

Allergy test chips

Developing allergy test chip that can predict severity of pediatric milk allergy

Bio-products



Confirmation of growth inhibition effects for feline coronavirus and adiposity inhibition effects of BioPQQ™

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 polymer

Refractive index*1 #1 **Optical 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 compact camera lens materials

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-added-value 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™

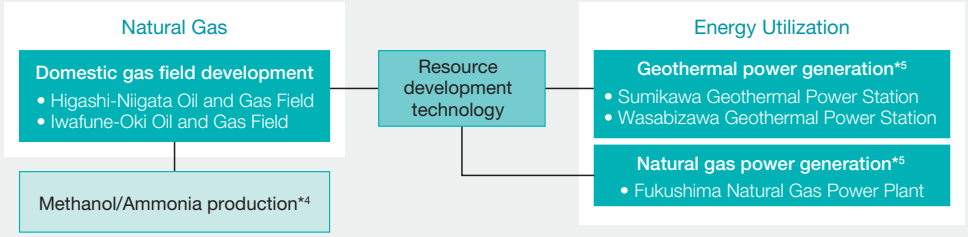
Global market share #1 **AGELESS™**

Aims to expand the food market 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



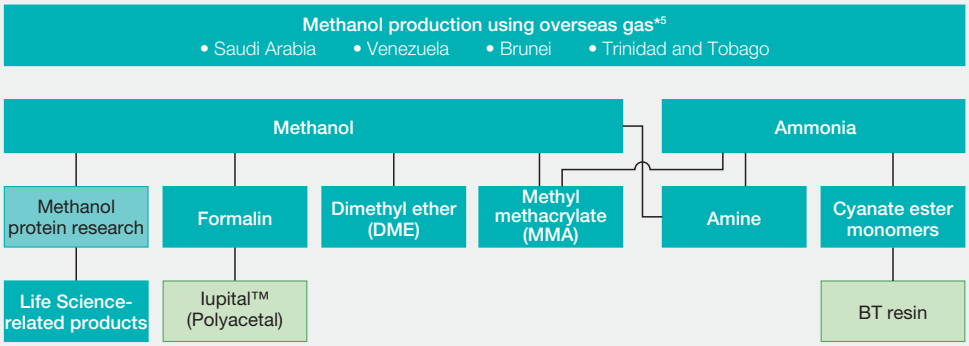
Chemicals company Only 1 **Geothermal power generation**

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



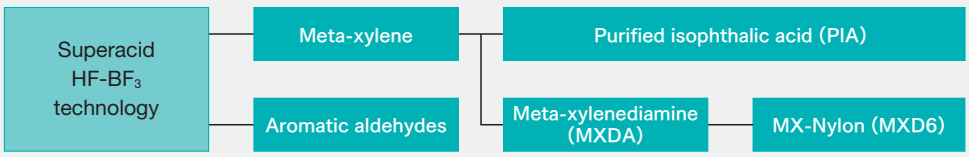
Production capacity*6 #3 **Methanol**

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)

Message from the Executive Officer in Charge

In addition to focusing on the strengthening of differentiating businesses, we will steadily proceed to increase the added value of our foundation businesses.

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

Boosting production capacity for semiconductor materials, and improving profitability through reorganization of the engineering plastics business

The Specialty Chemicals Business Sector offers a wide range of product groups close to end users such as electronics, automobiles and food packaging.
The market environment, business characteristics, and marketing strategies vary in each area, but handling differentiated products with advantages not offered by other companies could be considered a common point. As stated in the Medium-Term Management Plan, this business sector has the mission of clearly establishing the characteristics of each product while further strengthening the differentiation strategy. Meanwhile, we aim to secure stable earnings without falling into pricing competition, by increasing the added value of product groups positioned as foundation businesses, such as polycarbonates.

In fiscal 2021, we executed several strategies, such as sales promotions and the development of new materials, in accordance with the two policies of differentiation and increasing added value. The results of these have been prominent in BT materials for semiconductor packaging. Backed by robust demand, the increase in production capacity at the Thailand plant was completed as planned in spite of the COVID-19 pandemic. In addition, we are proceeding with building a system for integrated production using hydrogen peroxide feedstock in Taiwan as well as the construction of a new plant in China for super-pure hydrogen peroxide, which is used as a cleaning agent for semiconductors. In Japan, we are working to respond to further increases in demand such as expanding an optical polymer plant.

In the engineering plastics business, we spent the year engaged in reorganization aimed at speeding up decision making and improving profitability. In the polyacetal business, positioned as a differentiating business, we established a system enabling integrated operation of development, manufacturing and sales, with the wholly-owned subsidiary Global Polyacetal Co., Ltd. positioned as the company overseeing the business. Under the new system, we expect to improve our market presence and expand applications through collaboration of MGC's lupital™ brand and the brand of our Korean manufacturing subsidiary. Meanwhile, in the polycarbonate business, positioned as a foundation business, we decided to increase our stake in Mitsubishi Engineering-Plastics Corporation and make it a consolidated subsidiary specializing in this business. Through this reorganization, we will speedily achieve an improvement in production efficiency through consolidation of grades while bringing higher added value to our products.

Establishing an environment promoting growth by allocating funding and personnel to workplaces with potential and growing businesses

Going forward, we intend to ascertain the medium- to long-term direction of the business sector and make more essential decisions leading to the next phase of growth. I believe it is my role to prepare an environment conducive to acceleration of growth by allocating funding and personnel to workplaces with potential and growing businesses. Furthermore, I think it will become more important to ascertain which pieces are missing for the promotion of differentiation and improvement of added value, and to fill those gaps by forming an integrated system that includes our affiliates, such as in the business reorganization implemented last fiscal year.

In this sector, conducting business close to end users, it is necessary to always be sensitive to minute signs of change in society, such as by gaining lessons and insight from dialogue with customers. Swiftly acting based on this insight leads, in turn, to the creation of products brimming with functionality anticipating the needs of the time. Products with such value are eventually recognized by the market, and lead to discussions with customers about the development of new materials. In order to create such a virtuous cycle, it is necessary to properly maintain contact points for engaging with the market.

We will continue to focus on the strengthening of our differentiating businesses and steadily proceed to increase the added value of our foundation businesses with the aim of being a business sector that generates a high level of ROIC and stable cash flow.

Overall Policy of Medium-Term Management Plan

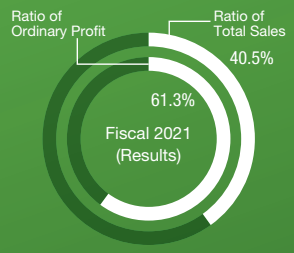
- Increase ratio of high-added-value products, strengthen cost competitiveness
- Continue capital investments in growth markets

Business Lines: Inorganic chemicals, engineering plastics, optical materials, electronics 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: 3,872

Ratio of Total Sales and Ordinary Profit



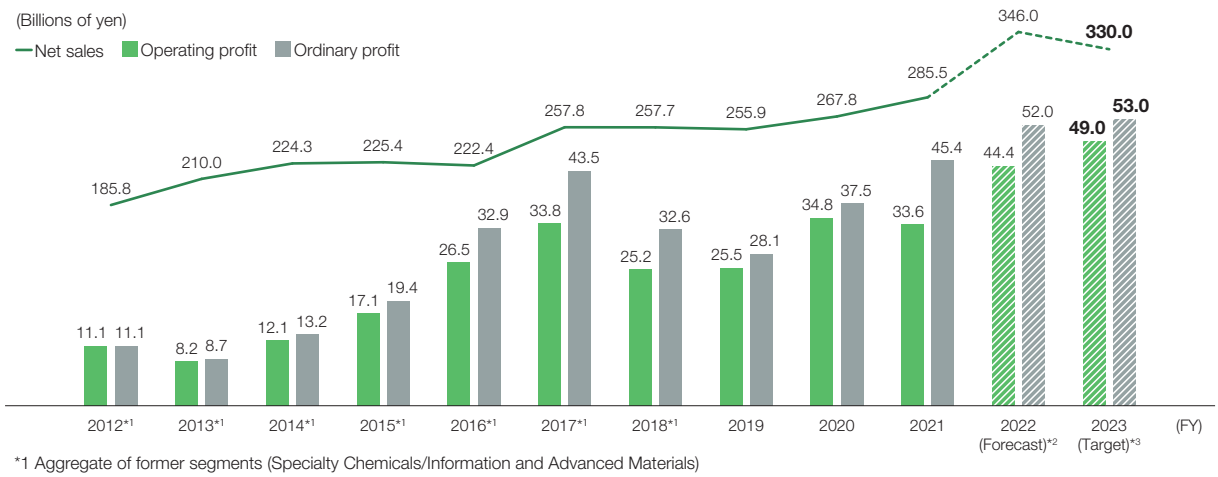
Fiscal 2021 Performance Analysis

- Inorganic chemicals posted increases in net sales and earnings thanks primarily to growth in sales volume of chemicals for use in semiconductor manufacturing
- Engineering plastics saw increases in net sales and earnings, despite deterioration in profitability of polycarbonates, on back of such negative factors as higher raw material and fuel prices, due mainly to robust sales of polyacetals in addition to recovery in sales volumes in automotive-related and other fields
- Optical materials posted decreases in net sales and earnings, despite recovery in demand, which bottomed out in first quarter; decreases due mainly to lower sales volume reflecting inventory adjustment carried out by customers during first half
- Electronic materials saw increases in net sales and earnings, mainly attributed to strong sales of mainstay BT materials for memory devices and 5G smartphones, as well as increase in sales quantity of general-purpose materials widely used in PC and home electric appliances
- Oxygen absorbers posted increase in earnings, thanks mainly to recovery in domestic demand for products used for foodstuffs, achieving improvement from stagnation brought about by novel coronavirus pandemic in previous fiscal year

Classification of Product Lines under Medium-Term Management Plan

New/next-generation businesses	Differentiating businesses
Main Products in Development • AR and VR materials • Post-5G materials • Materials for EVs	• Electronic chemicals • Optical polymers • IC plastic packaging BT materials • Polyacetal • Ultra-high refractive lens monomer
Unprofitable businesses or those needing rebuilding	**Foundation businesses**
None	• Polycarbonate, sheet film • Hydrogen peroxide • Oxygen absorbers

Numerical Targets and Performance for Medium-Term Management Plan



*1 Aggregate of former segments (Specialty Chemicals/Information and Advanced Materials)
*2 Announced in May 2022
*3 Announced in May 2021

Basic Chemicals

Message from the Executive Officer in Charge

We will continue strategic investment enabling responses to future changes in the environment, while putting greater focus on the realization of carbon neutrality.

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

Executing investment in increased production to maintain and strengthen the competitive advantage of MXDA and aromatic aldehydes

In the Basic Chemicals Business Sector, we are steadily executing an investment strategy to "further strengthen differentiating businesses," as set forth in the Medium-Term Management Plan.

First, MXDA, which has excellent corrosion resistance, is mainly used in coatings for bridges and other structures exposed to harsh natural environments. Europe, its largest market, is expected to see an increase in demand for repair material applications for offshore wind turbine blades. In response to this, we decided to establish a new MXDA manufacturing site in Rotterdam in the Netherlands. Producing in proximity to customers will enable us to better respond to the extension of lead times and rising freight charges in marine transportation caused by the global container shortage. The main raw materials, such as ammonia will be procured locally for production. Transportation costs for MXDA that had been transported from Japan to the United States as a raw material for MX-Nylon can also be contained via supplying from Europe. I believe this investment in Europe makes sense not only due to it being economically rational, but also because it increases options available to address future changes in the environment.

As for aromatic aldehydes, the added value of which has become recognized by customers in a wide range of applications, we will be executing concentrated investments to respond to future increases in demand. At the Mizushima Plant, debottlenecking (improvement of the production process) and addition of a new plant will be completed in 2023.

As for the other key strategy stated in the Medium-Term Management Plan, namely, to "reevaluate and rebuild unprofitable businesses," we aim to establish a stable revenue base by creating an integrated production system including downstream adhesive applications that are expected to be profitable, while reducing the production scale in the formalin business by ceasing production in regions with excessive competition. In the xylene separators and derivatives business, meanwhile, we will continue with considerations aimed at the establishment of an optimal production system.

Clarifying the shift to the area of decarbonization, and promoting investment decisions conscious of ROIC, and creating systems based on new ideas

As a medium- to long-term strategy, we will aim for the realization of carbon neutrality by utilizing the strength of possessing a chemical chain starting upstream. In December 2021, we began consideration of four chemical manufacturers for stably securing clean ammonia*1. It is our vision to use clean ammonia as a raw material for MXDA and methylamines in future. Furthermore, we have already established manufacturing technology using CO_2 and hydrogen as raw materials for circular carbon methanol, and have received many inquiries in response. Going forward, we will work with companies in Japan and abroad, as well local governments, as we enter the phase aimed at commercialization. Through such initiatives aimed at carbon neutrality, we will strengthen operations shifting from the current foundation businesses to differentiating businesses.

Meanwhile, we will proceed more concretely with the shift to decarbonization in the energy resources and environmental businesses. The natural gas-fired thermal power plant in Fukushima Prefecture began supplying power to MGC group companies in April 2020 as part of our transition to environmentally-friendly energy, and in March 2022, we decided to participate in a biomass power generation project using 100% wood chips produced in Hokkaido as fuel. Geothermal power generation and this biomass power generation project are positioned as environmental businesses ensuring sustainability using domestically-produced resources.

In the basic chemicals business, previously we had increased the scale of capital investment emphasizing production efficiency, and there was a tendency toward heavy assets. Going forward, it will be important to change direction to have lighter assets in order to reduce volatility and make management decisions while conscious of ROIC. For example, we will promote social implementation through diverse ideas and new systems, such as small-scale local production for local consumption and on-site production.

*1 Refers to blue ammonia, obtained using technologies such as CCUS for separation, capture and underground storage of CO_2 generated when manufacturing ammonia from natural gas, and green ammonia, produced using renewable energy

Overall Policy of Medium-Term Management Plan

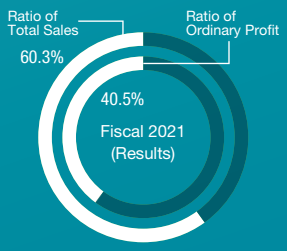
- Turn products and businesses that respond to societal demands into business opportunities
- Reduce volatility through portfolio reforms and rebuilding of unprofitable businesses

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

Major Group Companies:
JAPAN FINECHEM COMPANY, INC., JSP CORPORATION, JSP International Group LTD., 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

Number of Employees: 5,559

Ratio of Total Sales and Ordinary Profit



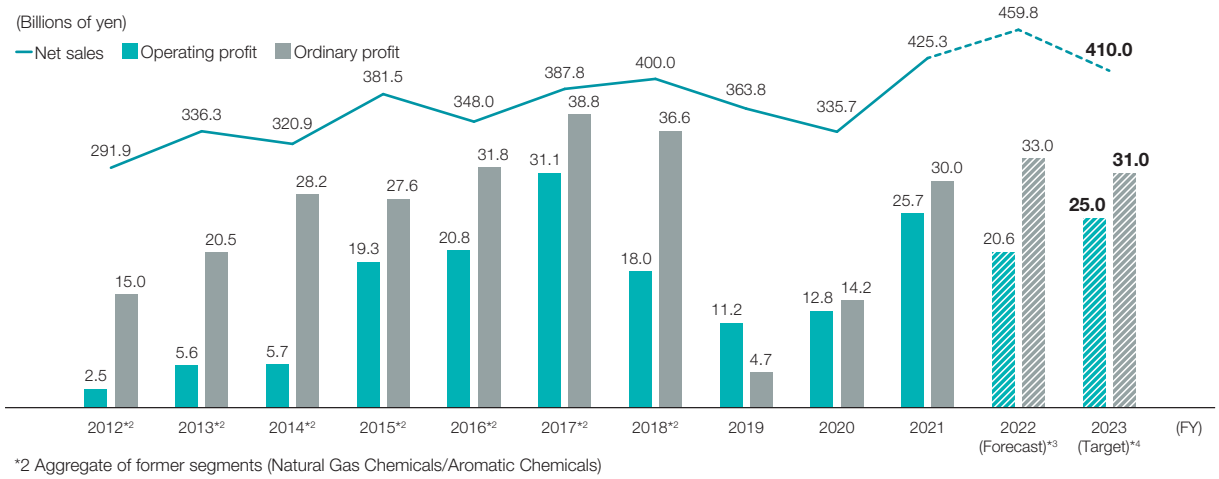
Fiscal 2021 Performance Analysis

- Methanol business saw increases in both net sales and earnings due mainly to significant upturn in market prices compared with previous fiscal year
- Methanol and ammonia-based chemicals posted increases in net sales and earnings reflecting such factors as rise in neopentyl glycol market prices and decrease in repair costs, despite higher raw material prices
- High-performance products posted increases in net sales and earnings thanks primarily to recovery in demand for MXDA, which had been affected by fallout from novel coronavirus pandemic in previous fiscal year, along with firm sales of aromatic aldehydes
- Xylene separators and derivatives saw increase in net sales and earnings due mainly to upturns in purified isophthalic acid (PIA) market prices
- Foamed plastics posted decrease in earnings compared with previous fiscal year, due mainly to higher raw material and fuel prices, despite higher sales volume of flat panel display shields and automotive materials

Classification of Product Lines under 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 amines • MMA products • Foamed plastic (JSP)

Numerical Targets and Performance for Medium-Term Management Plan



*2 Aggregate of former segments (Natural Gas Chemicals/Aromatic Chemicals)
*3 Announced in May 2022
*4 Announced in May 2021

Specialty Chemicals

BT materials for IC plastic packaging
Differentiating business

Focusing on development of new applications and materials to maintain and improve world-leading presence

Tomoyuki Azuma
Executive Officer
General manager of Electronic Materials Division, Specialty Chemicals Business Sector

The semiconductor industry has been driven by the spread of 5G demand, IoT, the metaverse, and the popularization of EVs; it is certain to continue undergoing evolution and growth. The required level of properties of the electronic materials used in these applications has also been increasing year by year.

The MGC Group has a history spanning almost five decades as a pioneer in substrate materials for IC plastic packaging, and is able to perform material design from highly original raw materials as a comprehensive chemicals company handling diverse substances. While maintaining properties developed over many years and conformance with customers' manufacturing processes, we balance these with additional customer requirements, such as low warpage and low-loss properties, setting us apart from our competitors. In areas of MGC's strengths, we are executing measures to further solidify our current advantageous position, while also implementing differentiation strategies utilizing our development capability to boldly enter areas where the MGC Group does not yet have a presence. Specifically, we will continue to develop new BT laminate materials with dielectric properties suitable for high frequency ranges to capture the new demand arising from the development of 5G business. At the same time, we are also focusing our efforts on development and proposal of materials required in HPC*1 and data center applications, for which future growth in demand is expected.

In response to an increase in demand, we augmented the Thailand Plant in spring 2022, establishing a system for manufacturing not only general-purpose materials, but also highly functional laminates at a high standard. This system is also a means of strengthening BCP, and we will continue to respond to market needs in a timely manner while effectively utilizing sites in both Japan and Thailand in future.

*1 High performance computing

Engineering plastics
Differentiating business　Foundation business

Determined to reorganize business to make products more competitive, while pursuing higher added value and group synergies

Yasuo Teraoka
Executive Officer
General manager of Engineering Plastics Division, Specialty Chemicals Business Sector

Engineering plastics products (polyacetal (POM) and polycarbonates (PC)) are widely used, mainly in electric and electronic devices and in the auto sector, and demand is expected to steadily grow in future. Furthermore, there are heightened needs for more environmentally-friendly products aimed at the achievement of carbon neutrality.

In the POM business, positioned as a differentiating business, Global Polyacetal Co., Ltd., established in 2020, was given supervisory functions, creating a system for integrated management of production, sales and development. Under the new system, we will seek to improve the ratio of high-added-value products and strengthen the ability to respond to customers. In addition, we are also engaged in the development of products that contribute to environmental protection, such as low-VOC (volatile organic compounds) products and products using circular carbon methanol as raw material.

In the PC business, positioned as a foundation business, we decided to reorganize Mitsubishi Engineering-Plastics Corporation as a consolidated subsidiary specializing in PC in order to transform the business to have a stronger revenue structure. Under the new system, we will accelerate initiatives such as improvement of the sales ratio of highly transparent products where MGC has strengths, improvement of production efficiency through concentration of grades, and creation of synergies with the Group. Furthermore, we are also engaged in development of PC made from CO_2 selected by the Green Innovation Fund.

MGC will become more competitive by speedily implementing the above strategies to further develop as a business able to contribute to a sustainable society.

MXDA
Differentiating business

Founded a manufacturing company in Europe to establish a supply system using three sites in Japan and Europe, and now working to expand sales in the Americas, the Middle East and Africa

Ryoji Otaki
General manager of High-performance Products Division, Basic Chemicals Business Sector

MGC is currently the world's only supplier of MXDA, used as raw material for engineering plastics and epoxy resin curing agents, and a product that we have continued to produce for over half a century. In applications for structural and floor coating, stable growth is expected in the future due to an increase in infrastructure investment matching global GDP growth. We are building a steadfast presence in the global market by raising barriers to entry through a robust patent network on manufacturing technology and usage technology, while providing customers with a high level of proposal-based technical service.

Increased sales are also expected for its use as a coating material for offshore wind turbines, which will be one of the main sources of renewable energy in future. I am certain that MXDA's excellent resistance to salt water can contribute to prolonging the life of power-generation equipment operating in harsh environments. In addition, research on its usage as a CO_2 catcher from the atmosphere is also progressing, and demand for products like this that contribute to the environment is expected to expand in future.

In 2024, we will commence operation of a new manufacturing site established in Europe, which is the largest market. I think we will also be able to contribute to customers' BCP by establishing a supply system using three sites in Japan and Europe. We will use this European site as a foothold to improve logistics service and expand into the Americas, the Middle East and Africa. Meanwhile, we will further expand sales from existing plants in Japan to China and other parts of Asia, while also strengthening our portfolio of MXDA derivatives.

Energy Resources and Environment
Foundation business

Contributing to resolution of environmental issues through renewable energy, CCS, and natural gas development as a unique chemicals company

Akihiro Takahashi
General manager of Energy Resources and Environmental Business Division, Basic Chemicals Business Sector

Japan is considering new policies to expand the percentage of renewable energy to 36–38% by fiscal 2030. Meanwhile, natural gas-fired thermal power generation will be maintained for power supply adjustment, and it is expected that CCS[*2] technology will be used to offset the GHG emissions.

MGC has performed in-house development of natural gas since the days of Japan Gas Chemical Co., Inc., and has also applied the technologies of drilling and resource development in natural gas exploration to the geothermal power-generation business, which has fewer CO_2 emissions. Furthermore, MGC is also utilizing its natural gas drilling and storage technology to participate in a large-scale CCS demonstration project in Tomakomai. We endeavor to play a significant role in the reduction of GHG by leveraging the uniqueness of being the only chemicals company working on such projects to contribute to the commercialization of CCS and promote renewable energy projects such as the aforementioned geothermal power generation.

The Hokkaido biomass power-generation project, in which MGC invested in 2022, is scheduled to commence operation within the year. The project is significant from a sustainability perspective since it incorporates innovations such as sustainable cyclical use of forests using timber from forest thinning, and energy self-sufficiency. Meanwhile, TOHO EARTHTECH, INC., an MGC subsidiary, commenced new production of water-dissolved natural gas in 2021 for the first time in 50 years. In May 2022, we began a construction of plant to concentrate the iodine obtained when extracting natural gas. This subterranean resource is useful as a medical raw material and industrial catalyst, and we will substantially contribute to the industry through developing this business.

*2 Carbon dioxide capture and storage

Progress of Our Long-Term Strategy

Message from the Executive Officer in Charge

We are promoting effective materiality management in an era requiring differentiation throughout the entire value chain.

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

Balance Social and Economic Value

The Mitsubishi Gas Chemical Group set balancing social and economic value as one of its objectives in the Medium-Term Management Plan started last fiscal year. We are communicating the message within the company that balancing these two values through business is one of our corporate values today. It is clear that customers' attitudes are changing, even during the COVID-19 pandemic. For example, among our customers in the food and beverage industry, initiatives to recycle and/or cease using plastic are accelerating. In addition, I feel that behaviors are rapidly changing with the aim of making the industry as a whole carbon neutral. We are promoting effective materiality management in line with this objective, while taking into consideration the broad shift of society towards an emphasis on sustainability.

As one of the initiatives aimed at achieving this objective, we revised the investment management system in fiscal 2021 to promote environmental capital investment and R&D investment throughout the entire company. Many proposals aimed at carbon neutrality were quickly made by each of the divisions in the company. Furthermore, R&D capabilities in the area of chemicals fostered over many years were recognized by NEDO, and the Green Innovation Fund operated by that organization selected two of MGC's projects.

To Continue to Be a Chosen Company

Looking back on the past year during the COVID-19 pandemic, I am struck by chemical companies' ability to adapt to the environment – our resilience, in other words. The MGC Group has several businesses with different demand cycles and risk factors, and appropriate diversification of our portfolio enabled us to exhibit the flexibility required to survive the current conditions in which the outlook is uncertain.

The key to sustained growth of a chemicals company can be boiled down to differentiation, and a prerequisite here is to view social value and economic value as having the same meaning at root rather than being distinct entities. I feel that this is the advent of an era in which recognition cannot be obtained from customers without not only functions and solutions based on proprietary technology lacking in other companies' products, but also differentiation throughout the entire value chain, such as logistics and quality assurance. MGC already provides numerous one-and-only leading niche products to the global market. That is why we have a responsibility to supply customers. We are aware that properly fulfilling this responsibility has given us a passport from society, as it were, enabling us to pass through the next gate in the continuation of our business. We will continue to sincerely provide irreplaceable functions and value with commitment to our customers, without ceasing. I think that is the reason why MGC is chosen, and it stands as proof that we exist in society.

Going forward, we will increase opportunities to explain the intentions I have described, meaning MGC's values and strengths that are difficult to see in financial statements, in greater detail to investors and other stakeholders outside the company. Meanwhile, we will share the mission of "creating value to share with society" within the company among employees working in Group companies. The industry is currently undergoing a once-in-a-century period of destructive innovation, but MGC is retaining a high level of resilience as a group of chemicals companies with character and presence. By using this positioning to secure diverse human resources, I believe we can further enhance the Group's sustainability and growth capacity.

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 2021	KPIs	Fiscal 2021 Results	Fiscal 2023 Targets	Fiscal 2030 Targets
	ICT/Mobility • Construction of super-pure hydrogen peroxide plant underway in China • DX on new material development such as semiconductor materials **Energy and climate change** • Development of carbon recycling technology **Medical and food** • Clarification of action and mechanism of BioPQQ™ inhibition of fat accumulation	Sales from ICT and mobility applications	¥256.6 billion	¥320.0 billion	Create new businesses that accelerate digital innovation
		Investments aimed at solving energy and climate change problems	Projected investment: ¥11.7 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	¥50.8 billion	¥50.0 billion	• Advance preventative/ predictive medicine; enhance healthy longevity • Further advance food preservation technology
	• Implementation of employee awareness surveys assessing job satisfaction • Implementation of teleworking trials	Percentage taking fewer than 10 days of annual paid leave*1,2	11.7%	0%	0%
	• Review of systems for utilization of seniors • Strengthening of hiring of researchers	—	—	—	—
	• Group interviews (dialogue) with investors and analysts by management • Response to ESG interviews and stewardship code interviews	—	—	—	—
	• Implementation of supplier assessment through CSR surveys	—	—	—	—
	• Utilization of MGC Group process safety and disaster prevention guidelines • Promotion of safety activities through LINK activities • Analysis of flood, storm surge and drought risks	Serious occupational accidents*1,3	1	0	0
		Serious accidents*1,4	0	0	0
	• Introduction of PI systems in all plants • Implementation of trials of AI technology, IoT devices, etc. • Implementation of advanced engineering education	GHG emissions intensity compared to fiscal 2013*1	13.1% reduction	19.9% reduction	28.0% reduction
	• Gradual introduction of quality data aggregation systems in all plants • Promotion of use of IT and automation of operations using AI/IoT	—	—	—	—
	• 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	11% 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 • Consideration of introduction of renewable energy aimed at reducing emission factor of purchased power • Consideration of investment for biodiversity conservation • Promotion of waste recycling	GHG emissions compared to fiscal 2013*1	27.0% reduction	28.0% reduction	36.0% reduction
		Renewable energy as percentage of electric power purchased*1	0%	10%	50%
		Zero waste emission rate*1,6	0.27%	0.3% or less	0.15% or less
	• Response to revised Companies Act • Response to revised Corporate Governance Code				

*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

Sustainability Promotion System

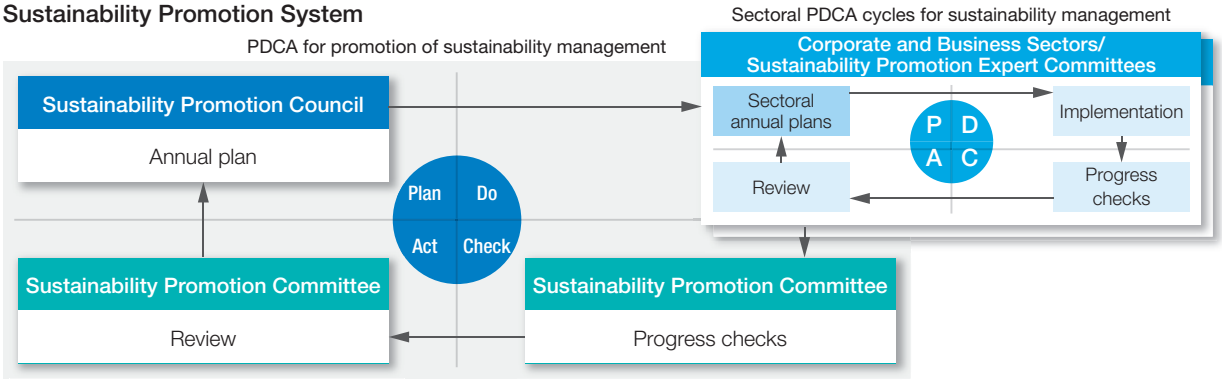
The MGC Group pursues sustainable growth balancing the social and economic value of the Group as “sustainability management,” based on its Mission of “creating value to share with society.”

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, as an advisory body to the Sustainability Promotion Council, confirms the status of implementation of measures in each division and conducts periodic reviews. It also establishes various Expert Committees as needed to consider specialized and important matters. The CSR Department of the CSR & IR Division has been established to serve as the secretariat for the Council and the Committee. It 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



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 set KPIs for fiscal 2030 targets as well as fiscal 2023 targets for achieving those goals to ensure steady progress in materiality management, 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.

Message from the Executive Officer in Charge

Focusing on research themes and areas, we seek results over both short-term and longer spans.

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

Improving strategic effectiveness and accelerating research activities

Over two years have passed since the unification of the research organizations in 2020. At present, we have obtained two noteworthy results. The first is the establishment of a research evaluation system using scoring. This enabled ranking of all research themes ensuring the objectivity and fairness of evaluations while eliminating arbitrariness. Resources such as research personnel and R&D expenditures are boldly shifted to themes that receive high scores.

The second is the establishment of focused strategic research areas, with consideration of the strengths of the MGC Group and growth of the market when creating new products and new businesses. For example, in the area of ICT/Mobility, solid electrolytes, used for safe and high-output EV batteries, and carbon fiber composite material, which contributes to making chassis more lightweight, are included in strategic research areas. In the medical area, we are promoting research specializing in “manufacturing technology” supported by contract manufacture of antibody drugs. In addition, we are concentrating research resources on specific next-generation medical components such as allergy test chips, and are strongly motivated to achieve commercialization and monetization.

The problem to be solved is how to advance research activities in future for themes such as those mentioned above. The framework for this is monthly report meetings held for each laboratory, in addition to research progress meetings held monthly by executives in the Research & Development Division and laboratory heads. In addition, meetings to confirm progress of research and development involving business divisions are held at a frequency of twice per year to exchange opinions on topics such as personnel allocation and budgets, advances in technology development, and the status of market development.

In fiscal 2021, we began initiatives to further accelerate research activities through the promotion of DX. Firstly, dedicated teams to promote DX using AI and MI were established in the Research & Development Division and three laboratories. The data science that we started researching in earnest over the past several years has reached the level where it can estimate molecular structures with specific target physical properties. Furthermore, not only have the dedicated teams gained deeper knowledge of DX, but education and practical exercises on statistical analysis have been conducted for researchers since last fiscal year. The Intellectual Infrastructure Center aims to realize an IP landscape*1 supporting the formulation of research strategy using DX techniques. We intend to encourage researchers to embrace challenges such as accepting requests for research on the latest technology trends from May 2022.

Seeking Results from Short-, Medium-, and Long-term Perspectives

My role is, in the short term, to oversee research strategy and individual research and development activities, while guiding all of of these to lead to the achievement of the Medium-Term Management Plan. In the medium term, I recognize that the role involves the creation of new themes leading to differentiating businesses that are not an extension of existing products. In the long term, I would like to increase the possibility of monetization by establishing a new axis for the life sciences area and demonstrating MGC’s strengths.

With regard to carbon neutral technology that is gaining heightened attention from society, we have adopted exploratory research themes such as green energy, hydrogen-related technologies, CO_2 separation and collection, and resin recycling technology. Furthermore, circular carbon methanol using CO_2 as raw material and technology for manufacturing polycarbonates derived from CO_2 have been adopted as Green Innovation Fund Projects, and we have also started partnerships with government and industry. Product design that takes after-use of a product into consideration is also an important theme. I feel that there has been a marked increase in the type and number of perspectives that need to be considered throughout the entire supply chain. I think it will become increasingly important to apply the cycle of focusing on issues to address as a chemical manufacturer, forming hypotheses backed by evidence, and verifying them.

*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.

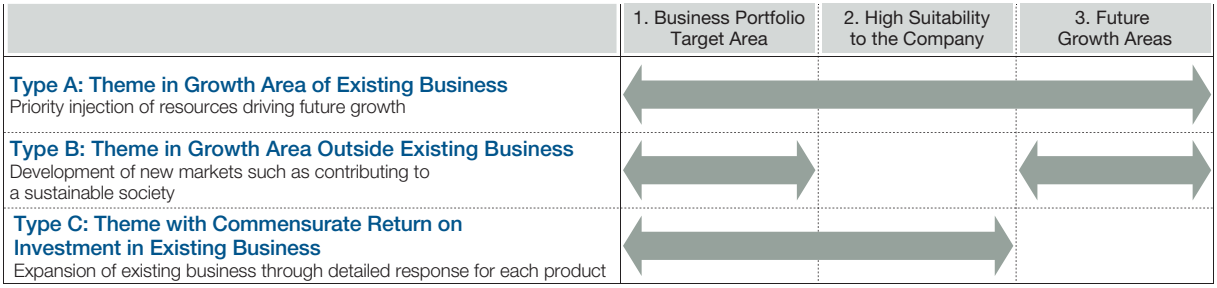
Research and Development Strategy

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 intend to concentrate 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).

Key Points for Setting Research Themes



Acceleration of Utilization of Digital Technology

The use of computational chemistry has been taking root in our research organizations over the past ten years, and has produced outstanding results such as the prediction of molecular structure and the analysis of synthesis reactions. Over the three-year span of the Medium-Term Management Plan, we will use the latest AI and MI to promote DX, and work to facilitate the enhancement and increased efficiency of the research process. For example, we will accelerate research speed while streamlining processes by applying digital technology to molecular design and materials development, where an enormous volume of trial and error had previously been necessary, in order to predict test results with a high level of accuracy.

In April 2021, we established a dedicated AI and MI promotion team within the Research & Development Division, and DX Teams promoting utilization of DX in actual research in three laboratories to strengthen the system for promoting DX. Eventually, we will establish a working environment in which all researchers are able to utilize the latest digital tools as needed.

Intellectual Property Strategy

The importance of intellectual property (patents, technologies, 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. The Center is made up of the Intellectual Property Department, which formulates and implements strategy on intellectual property, the Technical Intelligence Department, which handles the utilization of digital technology and technical studies pertaining to intellectual property, and the Chemical Analysis Department. It aims to bring about the transition from conventional basic-patent administration operations to data-driven intellectual property operations. In particular, 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. We will combine AI with existing tools and the analytical skills of researchers, with the aim of realizing a strategic IP landscape. In the near future, we believe that AI will be able to provide powerful support for the formulation of research strategies by quantitatively indicating the suitability of our research fields and themes.

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.

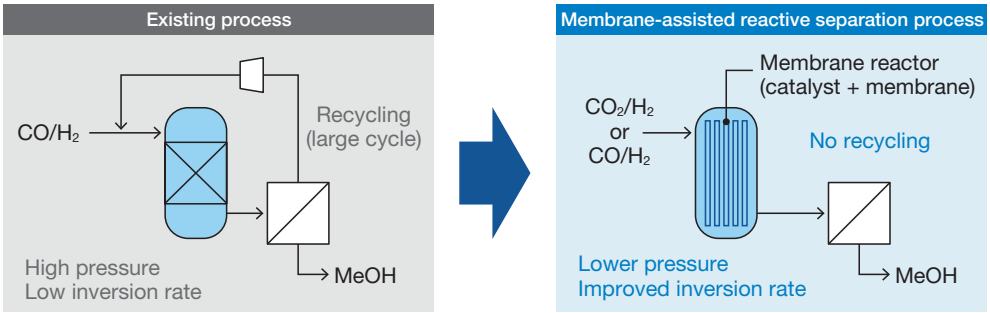
MGC was quick to begin working on development of methanol production technology using CO_2 and hydrogen as raw materials, and launched methanol production using the methanol pilot facility at the Niigata Plant. At the same time, we are proceeding with efforts aimed at achieving a decarbonized society 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.

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. In fiscal 2020, we worked on the New Energy and Industrial Technology Development Organization (NEDO)’s Leading Research Program to develop technology for directly synthesizing dialkyl carbonate, a polycarbonate intermediate, from CO_2, and found that it has the potential to reduce CO_2 emissions when compared to existing processes. In fiscal 2021, we considered scaling up the process and reducing energy consumption in preparation for implementing the technology.

Please refer to “Contribution to Carbon Neutrality” on page 19 for details on research themes.

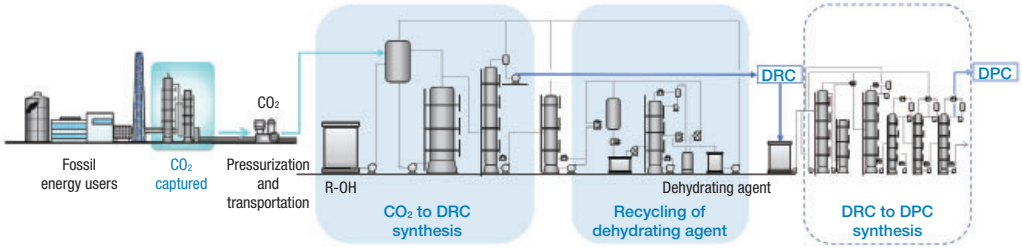
Overview of Green Innovation Fund Projects

Synthesis of Methanol from CO_2

Project overview	Development for commercialization of chemical raw material production through artificial photosynthesis*2 Development of new membrane-assisted reactive separation process with aim of significant improvement of reaction efficiency
Implementation structure	Mitsubishi Chemical (the contact company), MGC, Artificial Photosynthetic Chemical Process (ARPChem)
Project duration	Fiscal 2021—Fiscal 2028 (8 years)
Project illustration	 • At present, synthetic gas CO/H_2 materials are mainly used • With CO_2/H_2 materials, reaction efficiency is poor even under high pressure conditions, necessitating recycling 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

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

Message from the Executive Officer in Charge

We are promoting the creation of systems enabling multi-faceted verification and demonstration of the soundness of production activity.

Masato Inari
Representative Director, Senior Managing Executive Officer
Responsible for Production Technology, in charge of Environment
Safety & Quality Assurance Division, Purchasing & Logistics Division

Promoting DX, Preventing Accidents and Optimizing Inventory

Under the SMART-MGC DX promotion project launched in 2021, we are implementing initiatives from two directions: SMART-FACTORY, an activity in production sites, and SMART-OFFICE, for the purpose of rationalizing supply chains.

Under SMART-FACTORY, we are currently conducting trial operation of digital tools enabling feedback by detecting signs of anomalies based on plant operation data. We have implemented trials combining equipment maintenance tools utilizing AI, and begun implementing them on-site after confirming their effectiveness. Such innovations will enable us to not only prevent accidents and problems by supplementing people's senses and judgment with technology, but also serve to create economic value by halving opportunity loss.

Meanwhile, under SMART-OFFICE, we began activities aimed at the reduction of inventory. Because the MGC Group has developed a diverse range of businesses and products, it has proven difficult to get this theme underway, but we will take this opportunity to optimize our inventory and improve our capital efficiency.

In accordance with CSR procurement outlined in the guidelines in 2020, we conducted a large-scale investigation of purchased materials for all business partners in September 2021. Going forward, we will conduct regular monitoring, and endeavor to build environmentally friendly and safe supply chains.

Aiming to Maintain and Improve Environmental, Safety and Quality Governance

I believe my role is to identify management risks related to production, the environment and quality assurance, and take action before problems emerge. We are utilizing RC for environmental and safety matters, and the Q-MGC*1 system for quality control, in order to support production activities in general. In RC, we are addressing individual issues by identifying business risks through audits, activities spanning sites, and process risk assessment, and then quantifying them through linking with process safety and disaster assessment tools. Meanwhile, in quality control, we are implementing activities to ensure quality governance that does not harm corporate value, while covering any risks caused by deficiencies in contracts and communication with business partners. We have quantitatively assessed the status of governance, and completed the codification of checkpoints to enable continual improvement based on Q-MGC. These methods will also be applied to group companies in future.

In response to the strong social demand for carbon neutrality, we are promoting steady implementation in line with long-term goals based on realistic reduction methods from the perspective of reviewing the status of responses to climate change problems. Furthermore, as a new initiative leading to biodiversity conservation, we will consider investment plans for the purpose of maintaining a natural environment conducive to living organisms in the Niigata Plant and the surrounding region.

Needless to say, employees play a central role in the reflection of these measures and systems in day-to-day behavior to create values to share with society. It could be said that the ability to swiftly respond to minor changes and anomalies in production sites, and the experience to make independent decisions have led to the strengths of the MGC Group as a whole. I will also constantly support the workplace as I oversee the environment, safety, quality, production and supply chains without neglecting to keep an overall perspective. By directing our production activities to make them sound, and then verifying and demonstrating said soundness from various angles, I will continue to endeavor to obtain the trust of stakeholders.

*1 A system for positioning quality assurance as an activity for all MGC Group companies and sectors while working toward continuous improvement

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.

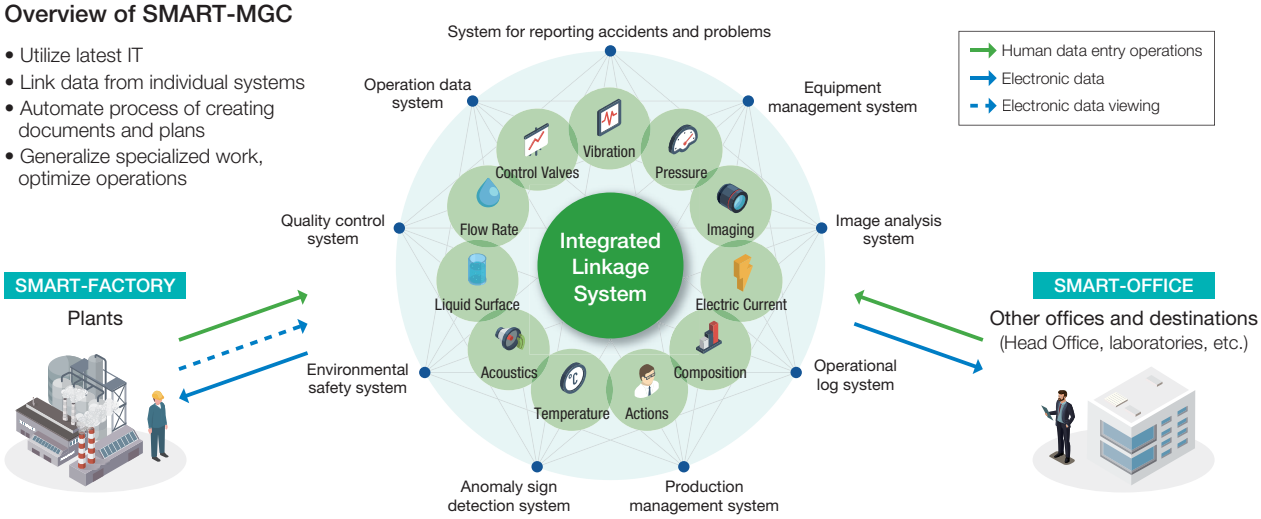
We have endeavored to ensure the safety and stability of production activities through the technical improvement of processes and facilities, and will focus on initiatives aimed at the realization of SMART-FACTORY to promote the utilization of DX technologies such as sensors, systems and mobile devices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

In fiscal 2021, we promoted the introduction of a data management system that collects information on all aspects of the condition of production facilities as digital data so that the data can be utilized in real time at any location. Furthermore, we conducted trials of quality forecasting and anomaly sign detection systems using digital data, 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. 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.

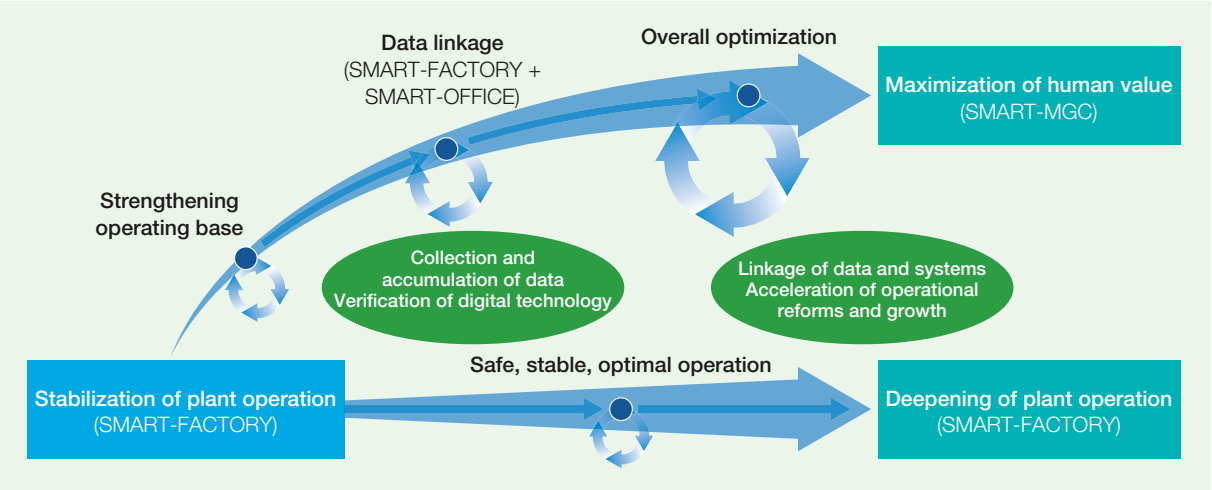
By utilizing such new technologies, we aim to prevent accidents and other problems, and improve the efficiency of routine operations, in addition to supplementing people's senses and judgment to realize a higher level of stable plant operation.

Overview of SMART-MGC

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



Toward the Realization of SMART-MGC



CSR Procurement

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. In fiscal 2021, we received responses from 189 companies. Going forward, we will further promote CSR activities in the supply chain by asking our suppliers to respond to the SAQ when beginning new transactions.

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

Occupational Safety and Health / Process Safety and Disaster Prevention

Based on our Safety Philosophy that “ensuring safety is the top priority of our business activities,” MGC formulated a Safety Code of Conduct 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 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 and filling work. Moreover, we have created a system enabling the implementation of process risk assessments through HAZOP*2 in all plants to extract and identify risks. In addition, we implement qualitative 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 inspections 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 Abbreviation of Hazard and Operability Studies, a technique for identifying risks for complex processes and equipment

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

Quality Assurance and Chemical Management

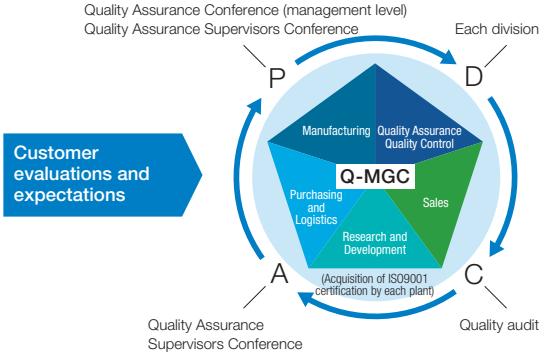
MGC promotes company-wide quality assurance activities (Q-MGC) throughout supply chains under its own quality policy in order to provide products and services with a high level of safety and reliability.

In fiscal 2021, we established the MGC Group Quality Management Promotion Meeting to create a groupwide risk management system. It facilitates sharing Q-MGC, supporting activities, and strengthening the quality assurance system through quality audits and interviews. Furthermore, we conducted support for the creation of safety data sheets (SDSs) and education and auditing on security trade control for group companies.

In addition, we are proceeding with the implementation of IT and automation of operations, such as introducing LIMS*3 and creating a product specification database with the aim of developing a quality assurance platform to support sustained growth. In chemical management, we completed the introduction of an automated SDS creation system and the SDS registration of existing products, and began full-scale operation. Going forward, we will execute ongoing risk evaluation and management, and engage in support for overseas chemical management laws and the creation of a regional information-gathering system.

*3 An acronym for Laboratory Information Management System

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



Proactive Response to Environmental Problems

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 at the Mizushima and Yokkaichi plants, reducing 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.

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. 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 study of the matters involved has already begun.

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 the zero waste emission rate to 0.3% or lower. In addition to fractional recovery of waste, we endeavor to ensure stable operation to prevent unforeseen waste arising from anomalies during operation. We are also focusing on the reduction of waste from prototypes, etc.

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. To contribute to the global plastics issue, the company is aiming for practical application by building a cross-industry alliance encompassing sorting and processing of collected plastics, monomer production, polymer production, packaging and container manufacturing, trading companies, food and beverage manufacturers, and others.

Addressing Water Resource Risks

MGC uses large quantities of water, both as a raw material of 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.

In the last fiscal year, we conducted business site hearings and document-based investigations to identify water risks at domestic manufacturing sites. Furthermore, we have already conducted document-based screenings of overseas sites. Although no problematic risks were discovered as a result, we will continue to conduct investigations as needed in 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, a movement to plant flowers at our worksites, and addressing the marine plastic problem by participating in clean-up of rivers and harbors adjacent to our sites.

The establishment of a biotope is being planned at Niigata Plant. We will work with not only employees and 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. In future, we would like to conduct studies on the surrounding natural environment and living organisms, and employee surveys on preserving biodiversity to enable employees to think together to create a place facilitating the experience of the appeal of biodiversity.

We also participate in Bookcase for Biodiversity, a donation program implemented by the Japan Committee for UNDB (United Nations Decade of Biodiversity), and have made six donations as of the end of last fiscal year.

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

Response to Climate Change (Disclosure Based on TCFD Recommendations)

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 2021, we confirmed the impact of the increased severity of climate damage to our business sites, and implemented new scenario analysis on the polycarbonates and MXDA 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.

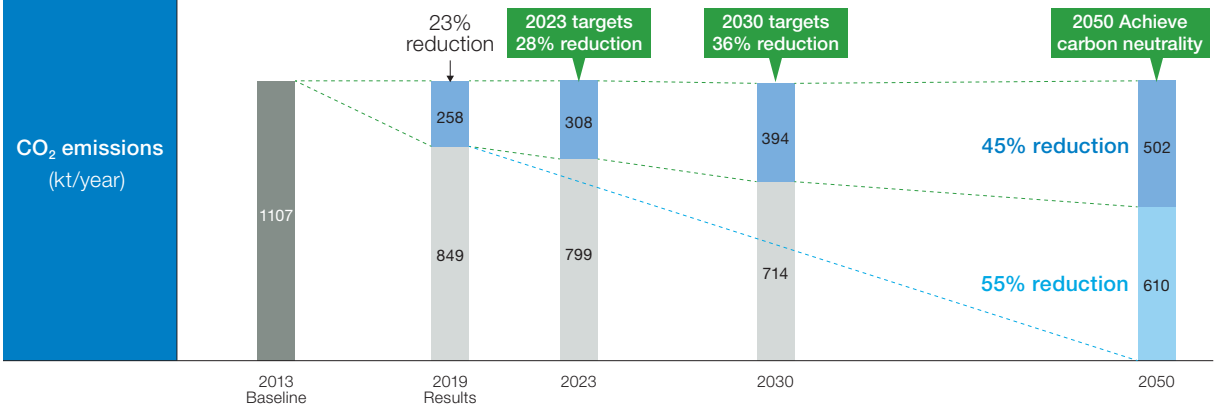
*4 Scope 1 emissions are GHG emissions directly generated by MGC; Scope 2 emissions are indirect GHG emissions associated with use of energy (mainly electric power) purchased from external suppliers

*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

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

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 258kt in total	•Improve energy efficiency 16kt •Stop using heavy oil 13kt	•Improve energy efficiency 28kt	•Improve energy efficiency 40kt
			•Reconfigure business portfolio •Deploy new energy systems/CCUS, switch feedstocks (R&D/collaboration) 610kt in total		
	2	—	•Source 10% of energy from renewables 14kt •Use transitional energy 10kt	•Source 50% of energy from renewables 55kt	•Source 100% of energy from renewables 69kt



Newly-Implemented Scenario Analysis (fiscal 2021)

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 RCP4.5 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.

Transition Risks and Opportunities

Assumptions behind Scenario Analysis

- Evaluation points: 2030, 2050
- Scenario: Increased temperature
  Main external information referred to in decarbonization scenario
  – 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
  – 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: Polycarbonate and MXDA 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	■ Strict regulations such as carbon tax ■● Shift to renewable resources ■● Popularization of biomass plastics ● Reduction of fossil resource prices due to shift from fossil resources ■● Rapid advancement of technological development ● Popularization of renewable energy ● Increase in demand for lighter-weight auto bodies	• Further improve energy use efficiency and develop decarbonization processes • Decarbonize raw fuels • Develop decarbonized products • Develop new products that meet the needs of a decarbonized society
Risks and opportunities in baseline scenario	■ Increased fossil resource prices due to dependence on fossil resources ■ Slowing of increase in demand for infrastructure such as renewable energy	• Transition from fossil resources • Increase rate of recycled materials • Bring higher added value to products

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

To develop a response to climate change, MGC has established the Climate Change Action Technical Committee (CAT), 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 CAT 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.

Message from the Executive Officer in Charge

We aim to be a group with vibrant people and organizations under a management philosophy centered on employees, who are our most important stakeholders and the source of value creation.

Nobuhisa Ariyoshi

Representative Director, Senior Managing Executive Officer
In charge of Internal Control & Risk Management, responsible for Finance & Accounting, in charge of Administrative & Personnel Division and Information Systems Division

The Distinctive Character of Mitsubishi Gas Chemical: The Importance of Individuality

MGC is focused on “Small numbers, exceptional talent.” It is our view that the development of individuals and groups into an elite workforce marks an organization or company as exceptional, and we recognize the importance of individual motivation to grow and creating an environment for organizations.

We place importance on the employee-centric management philosophy of “creating a place with job satisfaction and a dynamic group in which motivations and abilities are respected,” and believe that moving toward overall optimization while placing importance on localized optimization emphasizing individuals is truly the distinctive character of Mitsubishi Gas Chemical.

The Group handles a diverse range of products through its affiliates in a variety of countries and regions. As the origins of each company are different, we have aimed for optimization of individual companies by creating unique mechanisms, systems, characteristics and cultures based on the history, culture, thought and laws of each country and region, and would like them to value the approach of “seeking overall optimization of the Group while placing importance on individuals.”

Diversity and Inclusion (D&I)

Promoting awareness, creating an accommodating environment, developing personnel and promoting health enabling everyone to fulfill their potential are included as "Diversity and Inclusion Basic Policy,” reflecting the management concept of “An open corporate culture in which each person can share their goals and actively participate.”

We believe that continuing to foster a culture in which each person thinks independently, actively says what they think, and respectfully listen to comments from the people around them leads to the creation of an open corporate culture.

I think each person seeking to improve self-awareness, intellect, communication skills and the ability to understand and tolerate others, as well as actively making comments leveraging diverse individual attributes such as character, sensitivity, knowledge and thinking, and seeking this from each other in turn, is what comes together to create a diverse and welcoming organization where everyone can participate. This, moreover, enhances individual happiness and satisfaction, and leads to improved well-being as a result.

Furthermore, by working as one in the same direction with a shared objective through discussion, the organization’s goals can also more readily come to fruition, and I think this ultimately leads to the enhancement of the strength of the organization and Company, and thereby the enhancement of corporate value.

I would like individuals to heighten their sensitivity and intellect by viewing things from a variety of directions and perspectives, and thinking, speaking and listening while keeping in mind the concept of overall optimization.

Human Resource Development

The human resource vision articulated in the human resource development basic policy is for individuals to aim to be “autonomous and highly-motivated employees,” “warm-hearted and sensitive employees” and “employees that think and learn through work,” with managers and the Company seeing development as a responsibility and providing avenues for the development of skills. I think the basic form of human resource development is truly individuals working as one with their superiors and organizations in the pursuit of growth.

There is no single way for people to grow, and there are various opportunities and degrees. For this reason, it is necessary for individuals, the people around them, and the Company as a whole to find the best way that matches various individuals.

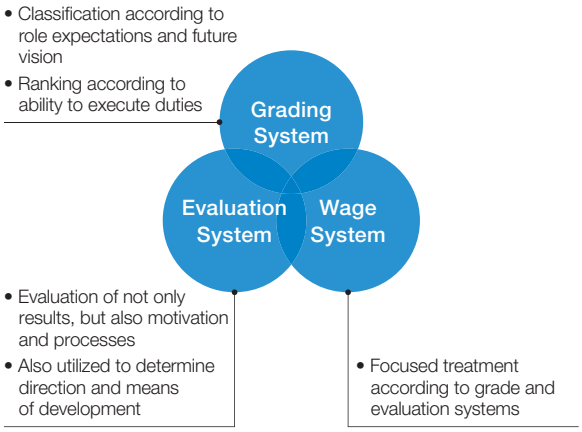
Comprehensive thinking and new ideas are also engendered by understanding the positioning in the big picture rather than looking at things, operations and businesses from just a single point. I would like people to look at everything from a broad and multi-faceted perspective instead of one-dimensionally, and ascertain the essence of things, operations and businesses through their own diverse experiences based on various occupational duties, scopes of responsibility, skill levels, and numerous other angles and combinations thereof. I think it is ideal for everyone to increase their skills and continue to grow in line with their individuality and characteristics throughout the entire period from joining to leaving the Company. In addition to improving various skills through the day-to-day execution of work, I would like each person to see all situations such as routine conversation, reading and training both inside and outside the company as potential opportunities for learning, and to be constantly aware of the growth and development of themselves and those around them.

Human Resource Development

Our people are our most important asset. With the aim of realizing our mission of "creating value to share with society," we work to create systems for employees to improve their knowledge and capabilities while refining their individuality as professionals, as well as workplaces and environments that are infused with vibrancy through self-improvement.

The personnel system is characterized by individual management based on the aptitudes, skills and goals of each person, with 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 is promoting human resource management for increasing the job satisfaction of each person as a medium- to long-term policy.

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. Therefore, we believe it is important to perform appropriate human resource management with an adequate understanding of what constitutes the job satisfaction of each employee.

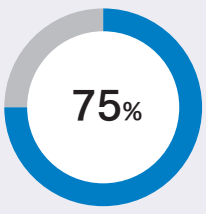
Based on these, we foster the independent career development of each employee through measures such as the implementation of career interviews discussing medium- to long-term career formation with superiors, and the promotion of the assignment of personnel according to individual skills and preferences. 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.

Implementation of Employee Awareness Surveys

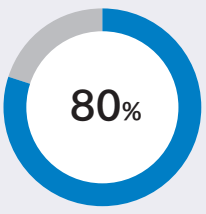
We conducted an employee awareness survey in July 2021 to investigate employees' thoughts and feelings on satisfaction working at MGC, job satisfaction, and the status of their workplace/work to facilitate the creation of a friendly working environment offering job satisfaction. Based on the survey results,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

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

Satisfied or somewhat satisfied working at the Company



Want or somewhat want to continue working at the Company



Top five factors with an impact on job satisfaction

#1 Sense of accomplishment in work
#2 Meaning and purpose of work
#3 Sense of adaptability to work
#4 Recognition of own growth
#5 Monetary compensation

Factors that influence job satisfaction vary by age and position, but it is believed that there are many employees who feel that it is worth working for "internal compensation" such as a sense of achievement and a feeling of personal growth.

Note: All employees except those on loan (non-consolidated) (response rate of 71.9%)

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 hours and locations in order to enable work styles that are diverse, flexible and do not rely on long work hours.

We have been conducting trial operation of teleworking systems from fiscal 2020, and investigated the usage of, and issues involved with, teleworking in fiscal 2021, resulting in the revision of the Teleworking Guidelines. At the same time, we are promoting the improvement of efficiency as well as the digitalization and systemization 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. We are fostering employee awareness and establishing an accommodating workplace environment in order to achieve the fiscal 2023 goal of 0% of employees taking fewer than 10 days of annual paid leave.

Review of Education and Training

MGC is reviewing its education and training system centered on grade-specific training with the aim of conducting human resource development for utilizing the individuality of all employees and enabling diverse participation. In fiscal 2021, MGC established objectives and policies for reviewing the education and training system, and considered issues in human resource management and development, as well as the relationship between promotion and education and training.

Going forward, as a new education system we will create programs for supporting development of leadership and management skills by grade along with diverse career design for all grades.

New employee training (fiscal 2022)

Revitalization of Organizations

MGC aims to create revitalized organizations based on the physical and mental health of individuals, enabling each employee to vibrantly and independently work toward the execution of the organization's goals.

Specifically, we utilize a database of research personnel to perform job rotation and strategic assignment of researchers. We intend to engage in the creation of a human resource management system, proceed with the visualization of human resources, and link these to flexible strategic assignment.

In addition, we will conduct facilitation skill training for promoting the revitalization of organizations, stress check group analysis, activities to foster D&I awareness, and initiatives aimed at the promotion of employee health.

Promotion of Diversity and Inclusion

MGC defines diversity and inclusion (D&I) as all employees utilizing their individuality to diversely work together while recognizing one another.

By promoting D&I, we aim to maximize the performance of people and organizations through various activities, in which diverse human resources exhibit their individuality and skills; engender innovation; and improve decision-making quality, all through collaboration among human resources with diverse values, approaches, views and knowledge.

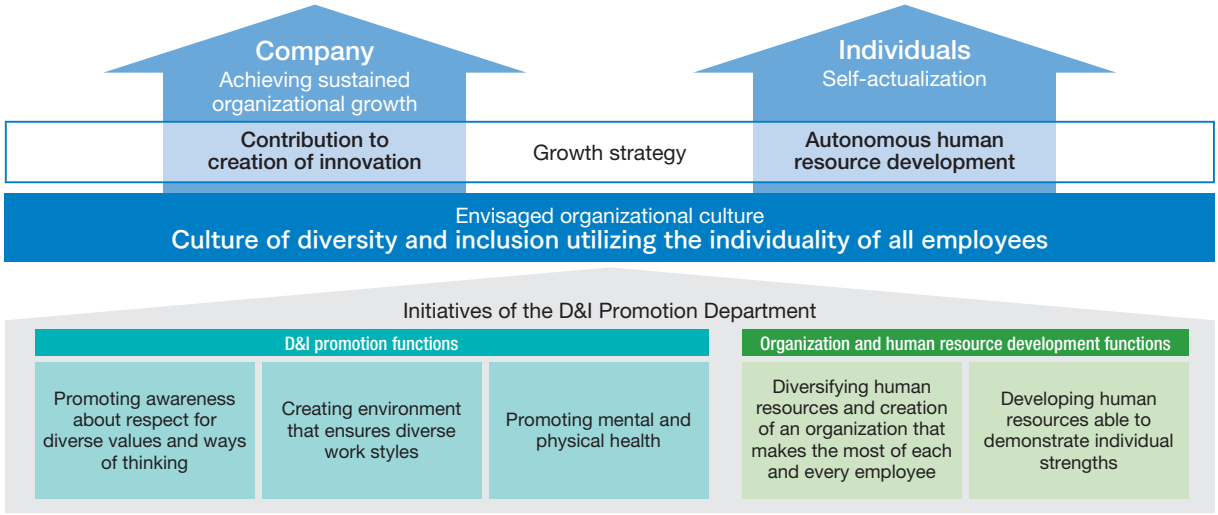
As a specific action, we formulated the "Diversity and Inclusion Basic Policy" in 2020, and commenced companywide D&I promotion activities based on this policy. Through these activities, we selected fostering awareness, raising awareness for human rights, work style reforms, women's empowerment, diversification 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.

Furthermore, in 2021 we reorganized the D&I promotion organization and changed its name from the Personnel Department Diversity Promotion Office to the D&I Promotion Department to reflect the D&I MGC has its sights on.

August 2019	Established the Diversity Promotion Office within the Personnel Department of the Administrative & Personnel Division to strengthen D&I initiatives
January 2020	Formulated the Diversity and Inclusion Basic Policy
April 2020	Identified promotion of diversity and inclusion as a materiality
June 2020	Established the Diversity and Inclusion Promotion Technical Committee as a Company-wide organization, and formulated the MGC D&I Promotion Activity Plan. Commenced D&I promotion activities at all business sites
October 2021	Reorganized the Diversity Promotion Office into the D&I Promotion Department equivalent to a division-level organization

Vision for D&I Promotion Activities

MGC engages in D&I promotion activities aimed at balancing the sustained growth of organizations and the self-actualization of individual employees. By promoting D&I and human resource development 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. Furthermore, 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 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 within company
	Raising awareness for human rights	• Promotion of human rights awareness activities • Strengthening of measures to prevent harassment
Creating 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	• Employment 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	• Visualization of organization issues • 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”

Review of Personnel System

We are proceeding to review our personnel system with the aim of enabling all employees to better participate by utilizing their individuality.

In fiscal 2021, we reviewed the re-employment of retired employees system (known as the Senior Active System), with the goal of increasing participation by senior employees. Furthermore, we examined the wage curve of the current generation and implemented a revision of the wage system in order to facilitate the acquisition of talented young personnel. In future, we will continue to discuss the grade system primarily for young personnel, and conduct an examination of the wage curve and wage levels. Furthermore, we will also review managerial positions as needed to ensure results lead to appropriate benefits.

Drafting and Execution of Hiring Strategy

MGC had approximately 550 research personnel as of fiscal 2020, but we plan to conduct strategic hiring to raise this number to over 600*2 by fiscal 2023.

In terms of the hiring of new graduates (technical college or higher) for technical roles, 59 people joined MGC in fiscal 2021 and 65 joined in fiscal 2022. As for mid-career hiring, we are focusing on information outreach aimed at securing talented human resources, and hired 13 research personnel in fiscal 2021. In future, we will also focus on hiring research personnel to play central roles in DX, as well as on active hiring of foreign nationals.

*2 On non-consolidated basis

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 four fundamental principles*3 of the International Labor Organization (ILO) – have also been communicated to our Group companies overseas.

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 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*4 on "protection of human rights," "elimination of unjust labor," "support for the environment" and "anti-corruption."

*3 (i) Freedom of association and the right to collective bargaining, (ii) elimination of forced labor, (iii) effective abolition of child labor, and (iv) elimination of discrimination in respect of employment and occupation

*4 The Ten Principles of the UN Global Compact (external website) https://www.unglobalcompact.org/what-is-gc/mission/principles

Promoting Health Management

The checkup compliance rate for regular health checkups of all officers and employees was over 99% in fiscal 2021; 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.

In addition to health promotion activities conducted at each business site, we work to further increase activity and awareness through such initiatives as starting the Company-wide Workplace Health Promotion Program, which is an on-demand exercise and stretching video streaming service based on the increase in teleworkers and the change in work environment due to COVID-19.

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, 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 of the Ministry of Economy, Trade and Industry in fiscal 2021 for the third 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 re-employment 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 1,902 labor union members as of the end of March, 2022. Employee tenure was 18.7 years (19.1 years for men, 15.3 years for women).

Members of the Board of Directors and Audit & Supervisory Board

(As of June 30, 2022)

Directors

Toshikiyo Kurai

Representative Director, Chairman

Attendance of Board of Directors Meetings: 12/12 (FY2021)

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 the important positions, mainly in the Specialty Chemicals Department, and his presiding over R&D, manufacture and whole business of the Inorganic Chemicals Division and the Engineering Plastics Division, he was appointed to be a 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 (FY2021)

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, the Natural Gas Chemicals Department, he was appointed to be a Director in June 2015 and presided over 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.

Masato Inari

Representative Director, Senior Managing Executive Officer
Responsible for Production Technology, in charge of Environment Safety & Quality Assurance Division, Purchasing & Logistics Division

Attendance of Board of Directors Meetings: 12/12 (FY2021)

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 (to present)

Reason for election: Following his engagement mainly in the R&D of the Aromatic Chemicals Departments, he served in important positions in the Natural Gas Chemicals and Aromatic Chemicals Departments, presided over Aromatic Chemicals Department, was appointed to be a Director in June 2017, and has abundant experience and knowledge of R&D and business management, etc.

Nobuhisa Ariyoshi

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

Attendance of Board of Directors Meetings: 12/12 (FY2021)

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 Department, he served in important positions in the Administrative & Personnel and Information & Advanced Materials Departments, and was appointed to be a 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.

Kenji Kato

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

Attendance of Board of Directors Meetings: 12/12 (FY2021)

April 1987	Joined MGC
April 2016	Executive Officer, and Plant Manager, Kashima Plant, Specialty Chemicals Company
April 2018	Executive Officer, General Manager, Electronic Materials Division, Information & Advanced Materials Company
June 2019	Director, Managing Executive Officer, President of Information & Advanced Materials Company
April 2020	Director, Managing Executive Officer, in charge of Research & Development Sector
April 2021	Director, Managing Executive Officer, responsible for Research & Development, in charge of Intellectual Infrastructure Center (to present)

Reason for election: Following his engagement mainly in the R&D of Specialty Chemicals, he served in important positions in the Specialty Chemicals and Information & Advanced Materials Departments, was appointed to be a Director in June 2019, presided over the Information & Advanced Materials Department, and has abundant experience and knowledge of R&D and business management, etc.

Naruyuki Nagaoka

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

Attendance of Board of Directors Meetings: 12/12 (FY2021)

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 to be a 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: 9/9 (FY2021)

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 to be a 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

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, Manager, 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, and has abundant experience and knowledge of MGC's business and administration of management, etc.

Tsugio Sato

Outside Director Independent

Attendance of Board of Directors Meetings: 12/12 (FY2021)

April 1975	Assistant, Applied Chemistry, Faculty of Engineering, Tohoku University
April 1994	Professor, Institute for Chemical Reaction Science, Tohoku University
April 2001	Professor, Institute of Multidisciplinary Research for Advanced Materials, Tohoku University
April 2010	Deputy Director, Institute of Multidisciplinary Research for Advanced Materials, Tohoku University
April 2013	Director, Center for Exploration of New Inorganic Materials, Institute of Multidisciplinary Research for Advanced Materials, Tohoku University
August 2013	Director, The Foundation for Japanese Chemical Research
April 2016	Professor Emeritus, Tohoku University (to present)
June 2017	Outside Director, MGC (to present)

Reason for election: He has highly advanced expertise in wide fields of study in chemicals, such as inorganic materials chemistry. He has served in important positions at university research institutions, and it is deemed that he would perform his duties as Outside Director appropriately.

Haruko Hirose

Outside Director Independent

Attendance of Board of Directors Meetings: 12/12 (FY2021)

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, 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 (FY2021)

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.
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: 9/9 (FY2021)

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.

Audit & Supervisory Board Members

Masamichi Mizukami

Audit & Supervisory Board Member

Attendance of Board of Directors Meetings: 14/14 (FY2021)

April 1983
Joined MGC
June 2016
Director, Managing Executive Officer, Chairman of The 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.

Kenji Inamasa

Audit & Supervisory Board Member

Attendance of Board of Directors Meetings: 14/14 (FY2021)

April 1984
Joined MGC
June 2014
Director, Managing Executive Officer, and Administrative Management of Production Technology Division and Environment & Safety Division
April 2016
Representative Director, Senior Managing Executive Officer, Administrative Management of Production Technology Division, Environment & Safety Division and Business Strategy Division
June 2019
Representative Director, MGC Pharma Co., Ltd.
June 2021
Audit & Supervisory Board Member, MGC (to present)

Reason for election: He has served in important positions in Production Technology, Environment & Safety, R&D, etc., and has abundant experience with MGC's business and corporate management.

Go Watanabe

Outside Audit & Supervisory Board Member
Independent

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
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 Board of Directors Meetings: 14/14 (FY2021)

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 been involved with financial institutions for a number of years, has experience in corporate management through his role in charge of the Accounting Division, and possesses a considerable degree of knowledge regarding 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	●		●		●	●	
Masato Inari	●	●	●		●		
Nobuhisa Ariyoshi	●			●	●	●	
Kenji Kato	●	●	●			●	
Naruyuki Nagaoka	●		●	●	●		
Motoyasu Kitagawa	●			●		●	●
Ryozo Yamaguchi	●				●	●	●
Tsugio Sato		●					●
Haruko Hirose					●	●	●
Toru Suzuki	●		●				●
Yasushi Manabe	●		●				●
Audit & Supervisory Board Members							
Masamichi Mizukami	●	●	●	●			
Kenji Inamasa	●	●	●				
Go Watanabe	●			●	●		●
Yasuomi Matsuyama	●			●			●

Messages from the Outside Directors

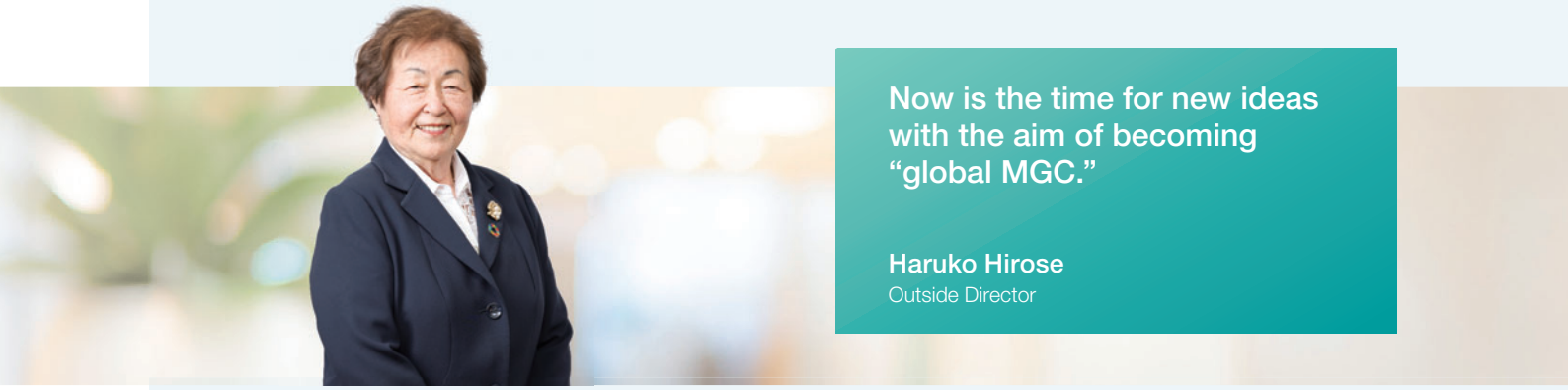
I believe continuation of R&D investment and rapid responses to customers are important for sustained growth.

Tsugio Sato
Outside Director

In fiscal 2021, several large investment projects were presented to the Board of Directors, which discussed them carefully. For example, the measure of establishing a new MXDA production site in Europe is effective for the enhancement of corporate value, but considerable investment is required. I asked for adequate consideration to ensure this would not significantly exceed the planned cost. Discussion aimed at the achievement of carbon neutrality also became more animated over the past year. A pilot plant test synthesizing methanol from CO_2 steadily produced results aimed at practical application. I myself am focusing on the method for obtaining the hydrogen required for converting CO_2 into methanol.

When a defect in a rival company's product was reported in 2018, a review of the product inspection system was quickly conducted at the President's instruction, and I felt that governance is functioning effectively. Furthermore, it is my assessment that systems such as the whistleblowing system are also being operated correctly. Looking ahead, I expect initiatives aimed at diversity to increase corporate value in the medium to long term.

MGC is a company with excellent technological capability producing over 90% of its products with technology developed in-house, and I think it is important to continue investment in R&D and human resources in future while swiftly responding to customers based on the mission of "creating value to share with society" in order to achieve sustained growth and enhancement of corporate value.



Now is the time for new ideas with the aim of becoming "global MGC."

Haruko Hirose
Outside Director

Over two years have passed since I was appointed as an Outside Director, and I am constantly reminded that this is a company with many talented and conscientious personnel, that seriously engages with the issues it faces. I think the Medium-Term Management Plan that started in fiscal 2021 also shows the future direction in an easily understandable way by separating diverse product groups into four categories. Meanwhile, it is necessary to make a decisive change in thinking that is not an extension of the past in order to achieve the ambitious goals symbolized by carbon neutrality. Based on my own experience overseas, it is common to establish a place called a "retreat" where people can step away from their own position and responsibilities, and exchange opinions without being constrained by aspects such as feasibility, whereupon many innovative ideas are born. First, I think consciously adopting such communication customs in the form of relaxed lunch meetings would be an effective method.

At present, MGC's overseas sales ratio is approaching 60%, but in meetings of the Board of Directors, I have urged that the Company aim to become "global MGC" in the truest sense. It is necessary to respond to major changes in the global market, and take a big step in that direction by drawing up a vision that drives change. I will endeavor to make an active contribution to the creation of such a vibrant organization, by providing knowledge for the promotion of diversity and development of human resources from an objective perspective.

A management stance respectful of stakeholders is vital.

Toru Suzuki
Outside Director

I am working to assist with further strengthening of differentiating businesses in fields difficult for other companies to enter, and with the promotion of human resource development for accelerating globalization in the aim of enhancing the corporate value of MGC. In meetings of the Board of Directors in fiscal 2021, I provided advice on the importance of optimal assignment of personnel handling new projects. Something that is frequently seen in corporate organizations is that the managers in charge of each division tend to be averse to providing talented subordinates to other divisions and new projects. I think it is essential to overcome this mindset to assign and develop human resources from a companywide perspective in order to lead projects to success.

Furthermore, deeper communication with domestic and overseas subsidiaries and affiliates is also important. Although Group management is obviously led by headquarters, it is also important to respect the culture and business operations of each company. I would like our Group to endeavor to foster further mutual understanding with emphasis on bidirectional dialogue. I always want to play a role that can provide some kind of inspiration to the current management by utilizing my own management experience to provide suggestions from such a perspective.

Going forward, in addition to detailed communication for shareholders and investors, I think it will be important to adopt a stance of sharing information on management policies and business strategies with all employees, including those of overseas subsidiaries, as well as emphasizing managing the company with mutual understanding.

The question is how to execute and realize the MGC Way.

Yasushi Manabe
Outside Director

The creation of innovation is essential for the sustained growth of a company. Looking at the path taken by MGC over the past half-century, we can see that it possesses unique R&D capabilities anticipating market needs, and that the pioneering spirit that led it to conduct business in emerging countries ahead of other Japanese companies has also been passed on to the current generation. This is an embodiment of “Courage that does not shy away from change” and “Aim for lofty goals,” stated in the MGC Way. The question is how we will execute and realize these in future.

In order to create products with innovative value, the most important thing is for the employees that make up the company to be satisfied and highly motivated, rather than simply being obedient as they engage in work without a sense of conviction. In a recent employee awareness survey, 80% responded that they “want to continue working at MGC,” with a generally high level of satisfaction being obtained in the results. Based on the high scores in the “sense of accomplishment in work” categories, and “meaning and purpose of work” and the extremely low churn of new employees, I think the business operations of each division are being properly managed in compliance with the Corporate Governance Code.

The future issue that I am focused upon is the promotion of diversity. In particular, for promoting women’s empowerment it is necessary to further advance the improvement of the female share of management personnel and the promotion of women to executive positions.

Corporate Governance

Basic Approach

MGC strives to operate effective corporate governance systems, and continuously reinforce and enhance those systems, in order to meet the expectations of all stakeholders, beginning with our shareholders.

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

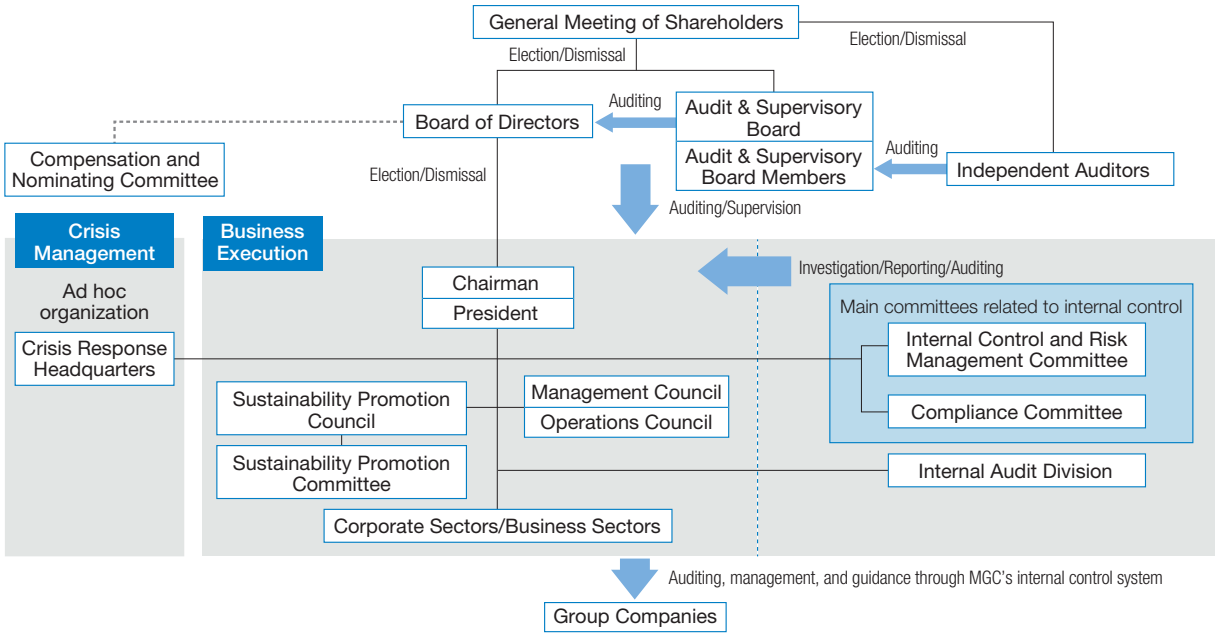
As a company with an Audit & Supervisory Board, MGC has, for the purpose of business execution, established an executive officer system that clearly separates management decision-making and supervisory functions from the business execution function. The Board of Directors decides basic management policies, 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, two senior managing executive officers, four managing executive officers)
Composition of the Operations Council	Twenty-two (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 2021: 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 2021: 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 2021: 5]

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 2021: 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 Company-wide 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 68.

Compliance Committee [Meetings held in fiscal 2021: 3]

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 69.

Management Council [Meetings held in fiscal 2021: 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 2021: 25]

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 2021: 1]

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 2021: 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 FY2021 was conducted in April 2022.

In terms of the results of that survey, the Board of Directors was assessed highly in terms of its structure. An assessment was also provided to the effect that lively discussions were being held (including with outside directors) in relation to various important management and other issues, along with an assessment to the effect that effective supervision and sharing of information were both being undertaken, which was evidenced by elements such as the fact that full reports on the status of execution of duties were being provided appropriately and the fact that lively discussions were also taking place in relation thereto. As such, the Company recognizes that the Board of Directors has achieved a certain level of effectiveness.

Meanwhile, opinions were also provided which hinted at there being room for further consideration of elements such as the manner of explanations concerning matters described within the materials utilized at the Board of Directors (particularly with respect to unique/technical matters) and the volume of content contained within said materials. Thus, we will continue considering measures serving to facilitate the further improvement of the understanding levels of directors (particularly in relation to outside directors) and encourage deeper discussions to

take place.

Based on the above assessment results, the Board of Directors will undertake a necessary review 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 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), 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 60.

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.

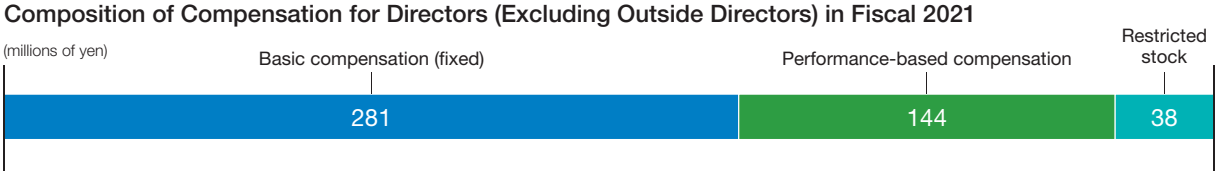
Annual director compensation is determined by the Board of Directors upon comprehensive consideration of Company performance, common standards, employee salary trends, and so forth, after consultation with the Compensation and Nominating Committee. In addition, allocation of individual compensation is 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 2021



Total Officer Compensation in Fiscal 2021

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)	464	281	144	38	9
Audit & Supervisory Board Members (excluding outside Audit & Supervisory Board members)	52	52	—	—	3
Outside Directors and Audit & Supervisory Board Members	75	75	—	—	7
Total	593	410	144	38	19

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, has been set up at JSP for the purpose of enhancing corporate governance by ensuring adequate protection of the interests of minority shareholders through ensuring fairness, transparency and objectivity in relation to transactions carried out by JSP with the parent company and its subsidiaries. The committee's members are made up of independent outside directors elected by resolution of the Board of Directors.

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 2021, MGC sold four equity holdings in part and four in their 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.

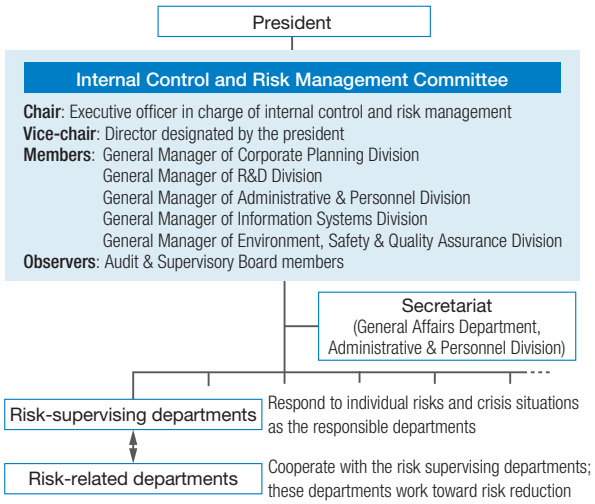
	Number of issues	Total value on balance sheet (millions of yen)
Unlisted shares	58	3,102
Shares other than unlisted shares	41	27,145

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 Company-wide 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 2021)

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

- Reports on risk-related incidents
- Company's response to the spread of COVID-19 (Progress report)

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 upholding the fair, transparent, and flexible conduct of business 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.

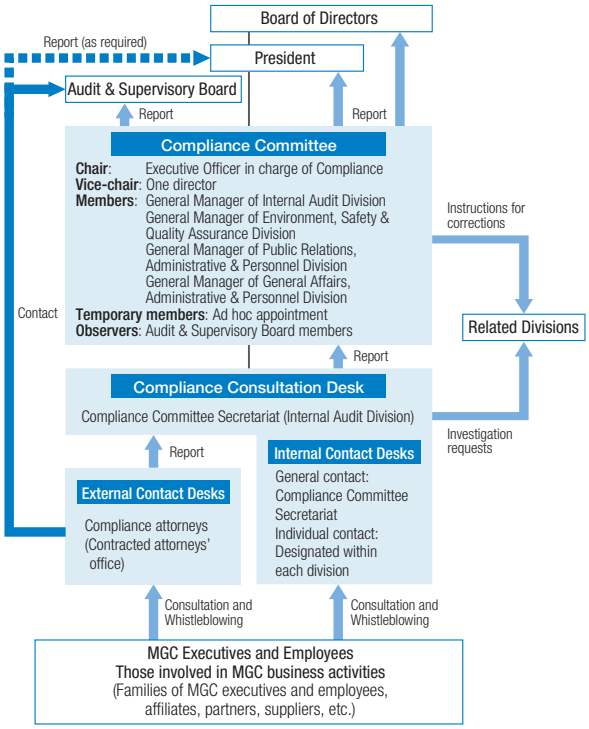
MGC decides policies, measures, and plans relating to the compliance system in the Internal Control and Risk Management Committee. In addition, as an organization to deal with individual cases of compliance violation, the Compliance Committee has been set up as an independent body reporting directly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

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.

In addition, MGC has set up a Compliance Consultation Desk, intended to aid the early detection of unethical practices and implement preventive steps. Our internal contact desks are staffed by the Internal Audit Division, while outside consultation is available through the offices of specialized attorneys, including access to female attorneys. These attorneys also provide advice to the Compliance Committee and assist with the training of relevant departments.

Consultations and whistleblowing brought to the attention of the Consultation Desk and deemed potentially serious compliance violations are promptly reported to the Compliance Committee chairperson. The Compliance Committee, after investigating the relevant facts, determines any required corrective action or measures to prevent a recurrence. The results of these investigations and the details of said measures are also reported back to the party who submitted the original consultation or whistleblowing.

MGC Compliance Structure



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 illegal payoffs, at 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.

Financial Information

Consolidated Financial and Non-Financial Summary

Fiscal year period: April 1 to March 31

	FY2011	FY2012	FY2013	FY2014	FY2015
Operating results (millions of yen)					
Net sales	¥ 452,217	467,979	534,443	529,570	593,502
Operating profit	9,083	11,421	11,488	14,996	34,018
Ordinary profit	26,116	27,651	30,804	42,000	45,432
Profit (loss) attributable to owners of parent	12,327	(7,793)	14,921	43,346	34,134
Share of profit of entities accounted for using equity method	20,532	19,045	20,466	27,895	16,683
Financial position (millions of yen)					
Current assets	¥ 254,037	261,397	287,642	372,166	341,237
Total assets	595,250	613,908	657,838	790,784	739,582
Current liabilities	193,464	195,438	178,897	225,068	214,676
Net assets	292,111	294,895	323,858	422,851	423,135
Interest-bearing debt	185,185	182,644	204,489	215,614	181,427
Cash flows (millions of yen)					
Operating activity cash flow	¥ 37,348	31,169	27,182	76,982	84,671
Investing activity cash flow	(37,274)	(30,818)	(29,883)	(23,531)	(31,922)
Financing activity cash flow	(9,876)	(14,356)	7,124	(25,005)	(47,335)
Total cash and cash equivalents at end of year	35,701	26,907	37,310	72,678	75,828
Per share data (yen)					
Earnings per share (EPS)*1	¥ 54.56	(34.50)	66.07	191.94	153.85
Net assets per share*1	1,246.92	1,256.81	1,382.52	1,672.25	1,707.01
Ratios (%)					
Operating profit margin	2.0	2.4	2.1	2.8	5.7
Return on equity (ROE)	4.4	(2.8)	5.0	12.6	9.0
Return on assets (ROA)	4.5	4.6	4.8	5.8	5.9
Return on invested capital (ROIC)	5.5	5.8	6.1	7.2	7.3
Equity ratio	47.3	46.2	47.5	47.8	51.0
Others					
Capital expenditures (millions of yen)	¥ 42,423	30,982	25,409	22,226	30,512
Depreciation and amortization (millions of yen)	27,763	23,096	23,528	23,770	26,705
Research and development costs (millions of yen)	17,449	15,332	16,122	16,873	18,936
Number of employees	5,216	5,323	5,445	8,254	8,176
Work-life balanace (MGC alone)					
Ratio of taking annual leave (union members) (%)	83.6	86.7	87.6	91.0	91.0
Average overtime per month (union members) (hours)	13.0	13.2	12.9	13.0	13.4
Environmental management					
GHG emissions*2,3 (kt-CO_2-e)	1,312	1,341	1,106	1,085	1,082
Lost-time injury frequency rate (MGC alone)	0.54	0.80	0	0	0.27
Lost-time injury severity rate (MGC alone)	0.006	0.011	0	0	0.002

*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 are calculated by retroactive adjustment applying the above share consolidation to preceding periods as well.

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

*3 Scope of consolidated subsidiaries changed in fiscal 2021

*4 U.S. dollar amounts are translated from yen, for convenience only, at the approximate rate of ¥122.39 = US$1 prevailing on March 31, 2022.

FY2016	FY2017	FY2018	FY2019	FY2020	**FY2021**	**FY2021**
						(thousands of U.S. dollars)[*4]
556,480	635,909	648,986	613,344	595,718	**705,656**	**$ 5,765,634**
43,762	62,741	41,386	34,260	44,510	**55,360**	**452,325**
62,430	80,711	69,199	31,116	50,240	**74,152**	**605,866**
48,013	60,531	55,000	21,158	36,070	**48,295**	**394,599**
21,125	18,277	28,408	(1,282)	5,162	**14,883**	**121,603**
						(thousands of U.S. dollars)[*4]
326,674	384,249	378,845	358,669	402,141	**452,210**	**$ 3,694,828**
738,188	785,687	804,038	771,733	836,364	**928,651**	**7,587,638**
188,426	206,835	188,420	163,574	167,947	**198,969**	**1,625,697**
473,370	519,144	553,282	548,141	581,411	**630,887**	**5,154,727**
118,713	106,964	95,751	74,713	98,476	**117,650**	**961,271**
						(thousands of U.S. dollars)[*4]
82,711	90,720	64,042	74,234	55,464	**52,090**	**$ 425,607**
(31,119)	(33,614)	(42,761)	(33,922)	(40,370)	**(64,954)**	**(530,713)**
(60,217)	(33,038)	(31,396)	(49,563)	5,154	**(3,666)**	**(29,953)**
67,177	90,304	80,379	70,043	91,075	**92,257**	**753,795**
						(U.S. dollars)[*4]
221.83	281.39	257.46	100.50	173.41	**232.15**	**$ 1.90**
1,967.94	2,187.99	2,354.25	2,368.11	2,520.34	**2,733.86**	**22.34**
7.9	9.9	6.4	5.6	7.5	**7.8**	**7.8**
12.0	13.6	11.3	4.3	7.1	**8.8**	**8.8**
8.4	10.6	8.7	3.9	6.2	**8.4**	**8.4**
10.4	13.2	10.9	4.9	7.7	**10.4**	**10.4**
57.5	59.5	62.6	63.8	62.7	**61.2**	**61.2**
						(thousands of U.S. dollars)[*4]
35,010	30,959	39,279	42,389	40,282	**54,793**	**$ 447,692**
25,631	27,027	27,451	29,591	30,686	**31,999**	**261,451**
19,267	18,987	18,607	19,696	19,905	**21,093**	**172,343**
8,034	8,009	8,276	8,954	8,998	**9,888**	**9,888**
86.0	90.3	91.0	95.7	85.3	**89.8**	**89.8**
13.8	14.1	13.8	13.2	12.6	**14.2**	**14.2**
1,006	1,355	1,401	1,371	1,363	**1,482**	**1,482**
0	0	0.29	0	0.28	**0.28**	**0.28**
0	0	0.000	0	0.008	**0.000**	**0.000**

Consolidated Balance Sheet

Mitsubishi Gas Chemical Company, Inc. and Consolidated Subsidiaries
March 31, 2022

	Millions of yen		Thousands of U.S. dollars
	2022	2021	**2022**
Assets			
Current assets:			
Cash and deposits	**¥ 102,049**	¥ 101,785	**$ 833,802**
Notes and accounts receivable - trade	**—**	159,018	**—**
Notes and accounts receivable - trade, and contract assets	**176,556**	—	**1,442,569**
Securities	**6**	269	**49**
Inventories	**155,670**	121,275	**1,271,918**
Other	**19,381**	20,209	**158,354**
Less allowance for doubtful receivables	**(1,453)**	(416)	**(11,872)**
Total current assets	**452,210**	402,141	**3,694,828**
Non-current assets:			
Property, plant and equipment:			
Buildings and structures	**254,276**	234,992	**2,077,588**
Machinery, equipment and vehicles	**523,244**	501,700	**4,275,219**
Land	**42,889**	40,774	**350,429**
Leased assets	**3,622**	3,429	**29,594**
Construction in progress	**42,385**	24,766	**346,311**
Other	**55,361**	53,054	**452,333**
	921,780	858,718	**7,531,498**
Less accumulated depreciation	**(645,396)**	(608,786)	**(5,273,274)**
Total property, plant and equipment	**276,384**	249,931	**2,258,224**
Intangible assets, net:			
Goodwill	**4,811**	4,914	**39,309**
Leased assets	**4**	5	**33**
Software	**2,992**	2,456	**24,446**
Other	**3,482**	3,123	**28,450**
Total intangible assets	**11,290**	10,499	**92,246**
Investments and other assets:			
Investment in securities	**171,446**	158,718	**1,400,817**
Long-term loans receivable	**5,159**	5,012	**42,152**
Deferred tax assets	**3,493**	3,145	**28,540**
Retirement benefit asset	**1,226**	1,396	**10,017**
Other investments and other assets	**8,047**	6,064	**65,749**
Less allowance for doubtful receivables	**(607)**	(545)	**(4,960)**
Total investments and other assets	**188,765**	173,792	**1,542,324**
Total non-current assets	**476,440**	434,223	**3,892,802**
Total assets	**¥ 928,651**	¥ 836,364	**$ 7,587,638**

	Millions of yen		Thousands of U.S. dollars
	2022	2021	**2022**
Liabilities and Net Assets			
Current liabilities:			
Notes and accounts payable – trade	**¥ 92,387**	¥ 75,308	**$ 754,857**
Short-term borrowings and current installments of long-term borrowings	**38,925**	40,087	**318,041**
Lease obligations	**565**	543	**4,616**
Accrued expenses	**19,187**	20,225	**156,769**
Income taxes payable	**11,997**	5,809	**98,023**
Provision for bonuses	**6,144**	5,770	**50,200**
Other	**29,760**	20,201	**243,157**
Total current liabilities	**198,969**	167,947	**1,625,697**
Non-current liabilities:			
Long-term borrowings	**66,621**	56,202	**544,334**
Lease obligations	**1,537**	1,643	**12,558**
Retirement benefit liability	**6,252**	7,150	**51,083**
Provision for directors' retirement benefits	**285**	217	**2,329**
Deferred tax liabilities	**11,458**	11,828	**93,619**
Asset retirement obligations	**5,216**	5,113	**42,618**
Provision for business restructuring	**2,305**	760	**18,833**
Other	**5,115**	4,089	**41,793**
Total non-current liabilities	**98,794**	87,006	**807,206**
Total liabilities	**297,763**	254,953	**2,432,903**
Stockholders' equity:			
Common stock; Authorized 492,428,000 shares; issued 225,739,199 shares in 2022 and 2021	**41,970**	41,970	**342,920**
Additional paid-in capital	**34,339**	34,301	**280,570**
Retained earnings	**492,455**	459,790	**4,023,654**
Treasury stock, at cost; 17,693,673 and 17,726,057 shares in 2022 and 2021	**(21,525)**	(21,562)	**(175,872)**
Total stockholders' equity	**547,239**	514,499	**4,471,272**
Accumulated other comprehensive income:			
Valuation difference on available-for-sale securities	**11,376**	14,419	**92,949**
Deferred losses on hedges	**(326)**	(618)	**(2,664)**
Foreign currency translation adjustments	**9,861**	(3,542)	**80,570**
Remeasurements of defined benefit plans	**614**	(494)	**5,017**
Total accumulated other comprehensive income	**21,526**	9,765	**175,880**
Non-controlling interests	**62,121**	57,146	**507,566**
Total net assets	**630,887**	581,411	**5,154,727**
Total liabilities and net assets	**928,651**	836,364	**7,587,638**

Consolidated Statement of Income

Mitsubishi Gas Chemical Company, Inc. and Consolidated Subsidiaries
For the year ended March 31, 2022

	Millions of yen		Thousands of U.S. dollars
	2022	2021	**2022**
Net sales	**¥ 705,656**	¥ 595,718	**$ 5,765,634**
Cost of sales	**543,070**	454,760	**4,437,209**
Gross profit	**162,586**	140,958	**1,328,426**
Selling, general and administrative expenses	**107,225**	96,448	**876,093**
Operating profit	**55,360**	44,510	**452,325**
Other income (expenses):			
Interest income	**346**	362	**2,827**
Dividend income	**3,218**	2,391	**26,293**
Interest expenses	**(858)**	(800)	**(7,010)**
Share of profit of entities accounted for using equity method	**14,883**	5,162	**121,603**
Gain on sale of investments in securities	**3,011**	1,800	**24,602**
Rent expenses	**(818)**	(1,396)	**(6,684)**
Loss on valuation of investments in securities	**(286)**	(107)	**(2,337)**
Personnel expenses for seconded employees	**(1,361)**	(1,368)	**(11,120)**
Gain on sale of non-current assets	**—**	257	**—**
Impairment loss	**(7,059)**	(1,695)	**(57,676)**
Loss from money transfer scam at subsidiary	**—**	(984)	**—**
Loss on withdrawal from business	**—**	(287)	**—**
Loss on liquidation of subsidiaries	**—**	(242)	**—**
Loss on sale/disposal of non-current assets	**(1,833)**	(1,461)	**(14,977)**
Insurance claim income	**2,616**	—	**21,374**
Gain on step acquisitions	**796**	—	**6,504**
Provision for business restructuring	**(1,733)**	—	**(14,160)**
Provision of allowance for doubtful accounts	**(960)**	—	**(7,844)**
Provision for loss on business of subsidiaries and associates	**(188)**	—	**(1,536)**
Fire loss	**(128)**	—	**(1,046)**
Loss on change in retirement benefit plan at subsidiary	**(109)**	—	**(891)**
Other, net	**4,734**	2,812	**38,680**
Total other income (expenses)	**14,267**	4,441	**116,570**
Profit before income taxes	**69,628**	48,951	**568,903**
Income taxes:			
Current	**16,542**	10,180	**135,158**
Deferred	**555**	(611)	**4,535**
Total income taxes	**17,098**	9,568	**139,701**
Profit	**¥ 52,530**	¥ 39,383	**$ 429,202**
Profit attributable to non-controlling interests	**4,235**	3,312	**34,603**
Profit attributable to owners of parent	**¥ 48,295**	¥ 36,070	**$ 394,599**

Consolidated Statement of Comprehensive Income

Mitsubishi Gas Chemical Company, Inc. and Consolidated Subsidiaries
For the year ended March 31, 2022

	Millions of yen		Thousands of U.S. dollars
	2022	2021	**2022**
Profit	**¥ 52,530**	¥ 39,383	**$ 429,202**
Other comprehensive income arising during the year:			
Valuation difference on available-for-sale securities	**(3,118)**	6,737	**(25,476)**
Deferred losses on hedges	**(14)**	(24)	**(114)**
Foreign currency translation adjustments	**9,330**	3,036	**76,232**
Remeasurements of defined benefit plans	**1,032**	2,829	**8,432**
Shares of other comprehensive income of entities accounted for by the equity method	**6,471**	1,137	**52,872**
Total other comprehensive income arising during the year	**13,701**	13,718	**111,945**
Comprehensive income	**¥ 66,232**	¥ 53,101	**$ 541,155**
Comprehensive income attributable to:			
Owners of the parent	**¥ 60,083**	¥ 49,213	**$ 490,914**
Non-controlling interests	**6,149**	3,887	**50,241**

Consolidated Statement of Cash Flows

Mitsubishi Gas Chemical Company, Inc. and Consolidated Subsidiaries
For the year ended March 31, 2022

	Millions of yen		Thousands of U.S. dollars
	2022	2021	**2022**
Cash flows from operating activities:			
Profit before income taxes	**69,628**	48,951	**568,903**
Adjustments to reconcile profit before income taxes to net cash provided by operating activities:			
Depreciation and amortization	**31,999**	30,686	**261,451**
Amortization of goodwill	**396**	371	**3,236**
Loss on sale/disposal of non-current assets	**1,630**	1,165	**13,318**
Impairment loss	**7,059**	1,695	**57,676**
Share of profit of entities accounted for using equity method	**(14,883)**	(5,162)	**(121,603)**
Increase (decrease) in allowance for doubtful receivables	**1,027**	(773)	**8,391**
Increase in net defined benefit liability	**140**	609	**1,144**
Increase (decrease) in provision for directors' retirement benefits	**49**	(184)	**400**
Provision for business restructuring	**1,733**	—	**14,160**
Interest and dividend income	**(3,564)**	(2,754)	**(29,120)**
Interest expenses	**858**	800	**7,010**
Gain on sale of short-term investments and investments in securities	**(3,041)**	(1,766)	**(24,847)**
Loss on devaluation of short-term investments and investments in securities	**332**	347	**2,713**
Increase in trade notes and accounts receivable	**(9,273)**	(16,283)	**(75,766)**
Increase in inventories	**(28,992)**	(5,527)	**(236,882)**
Increase in trade notes and accounts payable	**9,792**	2,687	**80,007**
Other, net	**(12,396)**	(1,271)	**(101,283)**
Sub total	**52,497**	53,221	**428,932**
Interest and dividend received	**3,526**	2,725	**28,810**
Dividend received from entities accounted for using equity method	**4,439**	3,577	**36,269**
Interest paid	**(818)**	(791)	**(6,684)**
Loss from money transfer scam at subsidiary	**—**	(984)	**—**
Income taxes paid	**(10,386)**	(9,259)	**(84,860)**
Other, net	**2,831**	6,975	**23,131**
Net cash provided by operating activities	**52,090**	55,464	**425,607**
Cash flows from investing activities:			
Purchase of non-current assets	**(56,347)**	(38,234)	**(460,389)**
Proceeds from sale of non-current assets	**463**	805	**3,783**
Proceeds from sale of investments in securities	**5,724**	4,951	**46,769**
Purchase of investments in securities and subsidiaries	**(11,849)**	(4,619)	**(96,813)**
Loan advances	**(824)**	(4,375)	**(6,733)**
Proceeds from collection of loans receivable	**101**	429	**825**
Purchase of shares of subsidiaries resulting in change in scope of consolidation	**(2,668)**	—	**(21,799)**
Other, net	**445**	672	**3,636**
Net cash used in investing activities	**(64,954)**	(40,370)	**(530,713)**
Cash flows from financing activities:			
Increase in short-term borrowings	**316**	967	**2,582**
Proceeds from long-term borrowings	**16,641**	17,508	**135,967**
Payments on long-term borrowings	**(10,641)**	(5,886)	**(86,943)**
Proceeds from issuance of bonds	**—**	20,000	**—**
Redemption of bonds	**—**	(10,000)	**—**
Purchase of treasury stock	**(5)**	(4)	**(41)**
Proceeds from sale of treasury stock	**0**	0	**0**
Dividends paid to stockholders	**(16,642)**	(14,559)	**(135,975)**
Dividends paid to non-controlling interests	**(2,551)**	(1,906)	**(20,843)**
Payments from changes in ownership interests in subsidiaries that do not result in change in scope of consolidation	**—**	(396)	**—**
Other, net	**9,216**	(568)	**75,300**
Net cash (used in) provided by financing activities	**(3,666)**	5,154	**(29,953)**
Effect of exchange rate changes on cash and cash equivalents	**6,502**	698	**53,125**
(Decrease) increase in cash and cash equivalents	**(10,028)**	20,947	**(81,935)**
Cash and cash equivalents at beginning of year	**91,075**	70,043	**744,138**
Increase in cash and cash equivalents resulting from inclusion of subsidiaries in consolidation	**11,210**	84	**91,592**
Cash and cash equivalents at end of year	**¥ 92,257**	¥ 91,075	**753,795**

Consolidated Statement of Changes in Net Assets

Mitsubishi Gas Chemical Company, Inc. and Consolidated Subsidiaries
For the year ended March 31, 2022

	Stockholders' equity				
	Common stock	Additional paid-in capital	Retained earnings	Treasury stock	Total
Balance as of April 1, 2020	¥ 41,970	¥ 34,234	¥ 439,701	¥ (21,600)	¥ 494,306
Changes arising during year:					
Cash dividends			(14,559)		(14,559)
Profit attributable to owners of parent			36,070		36,070
Purchase of treasury stock				(4)	(4)
Disposition of treasury stock		14		42	57
Change in scope of consolidation			(3)		(3)
Change in scope of equity method			(1,418)		(1,418)
Change in treasury stock of parent arising from transactions with non-controlling interests		51			51
Net changes other than stockholders' equity					
Total changes during the year	—	66	20,088	37	20,192
Balance as of March 31, 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**

	Stockholders' equity				
	Common stock	Additional paid-in capital	Retained earnings	Treasury stock	Total
Balance as of March 31, 2021	$ 342,920	$ 280,260	$ 3,756,761	$ (176,175)	$ 4,203,767
Cumulative effects of changes in accounting policies			**(409)**		**(409)**
Restated balance	**342,920**	**280,260**	**3,756,344**	**(176,175)**	**4,203,350**
Changes arising during year:					
Cash dividends			**(135,975)**		**(135,975)**
Profit attributable to owners of parent			**394,599**		**394,599**
Purchase of treasury stock				**(41)**	**(41)**
Disposition of treasury stock		**319**		**343**	**662**
Change in scope of consolidation			**3,603**		**3,603**
Change in scope of equity method			**5,066**		**5,066**
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	**—**	**310**	**267,301**	**294**	**267,922**
Balance as of March 31, 2022	**$ 342,920**	**$ 280,570**	**$ 4,023,654**	**$ (175,872)**	**$ 4,471,272**

Millions of yen

Accumulated other comprehensive income					Non-controlling interests	Total net assets
Valuation difference on available-for-sale securities	Deferred (losses) gains on hedges	Foreign currency translation adjustments	Remeasure-ments of defined benefit plans	Total		
¥ 7,789	¥ 4	¥ (6,701)	¥ (2,877)	¥ (1,785)	¥ 55,619	¥ 548,141
						(14,559)
						36,070
						(4)
						57
						(3)
						(1,418)
						51
6,630	(622)	3,159	2,382	11,550	1,526	13,077
6,630	(622)	3,159	2,382	11,550	1,526	33,269
¥ 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**

Thousands of U.S. dollars

Accumulated other comprehensive income					Non-controlling interests	Total net assets
Valuation difference on available-for-sale securities	Deferred (losses) gains on hedges	Foreign currency translation adjustments	Remeasure-ments of defined benefit plans	Total		
$ 117,812	$ (5,049)	$ (28,940)	$ (4,036)	$ 79,786	$ 466,917	$ 4,750,478
						(409)
117,812	**(5,049)**	**(28,940)**	**(4,036)**	**79,786**	**466,917**	**4,750,061**
						(135,975)
						394,599
						(41)
						662
						3,603
						5,066
						(0)
(24,863)	**2,378**	**109,519**	**9,053**	**96,094**	**40,641**	**136,743**
(24,863)	**2,378**	**109,519**	**9,053**	**96,094**	**40,641**	**404,665**
$ 92,949	**$ (2,664)**	**$ 80,570**	**$ 5,017**	**$ 175,880**	**$ 507,566**	**$ 5,154,727**

Corporate Data

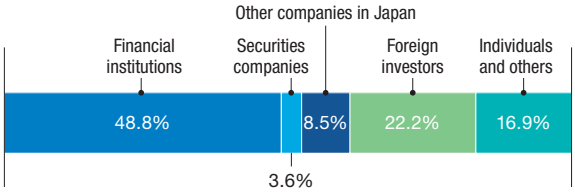
Corporate Information (As of March 31, 2022)

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	2,461 (non-consolidated) 9,888 (consolidated)

Shareholder Information (As of March 31, 2022)

Listing	First Section of the Tokyo Stock Exchange*
Ticker symbol	4182
Total number of authorized shares	492,428,000
Number of outstanding shares	225,739,199
Stock transaction unit	100
Number of shareholders	32,175

Composition of shareholders



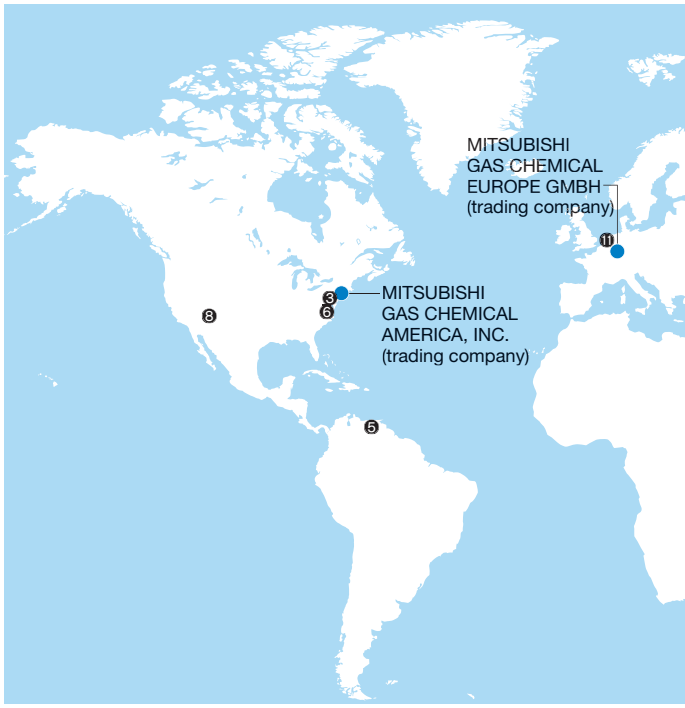
* Transitioned to the Tokyo Stock Exchange Prime Market on April 4, 2022

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)	35,163	16.9
Custody Bank of Japan, Ltd. (Trust Account)	17,472	8.4
Meiji Yasuda Life Insurance Company	8,797	4.2
Nippon Life Insurance Company	7,326	3.5
The Norinchukin Bank	5,026	2.4
AGC Inc.	3,929	1.8
Custody Bank of Japan, Ltd. (Trust Account 4)	3,574	1.7
The Bank of Yokohama, Ltd.	3,085	1.4
JPMorgan Securities Japan Co., Ltd.	3,076	1.4
MUFG Bank, Ltd.	2,700	1.3

Notes: 1. MGC holds 17,693 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 METANOL DE ORIENTE, METOR, S.A. E
(Manufacturing and sale of methanol)

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

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

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

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

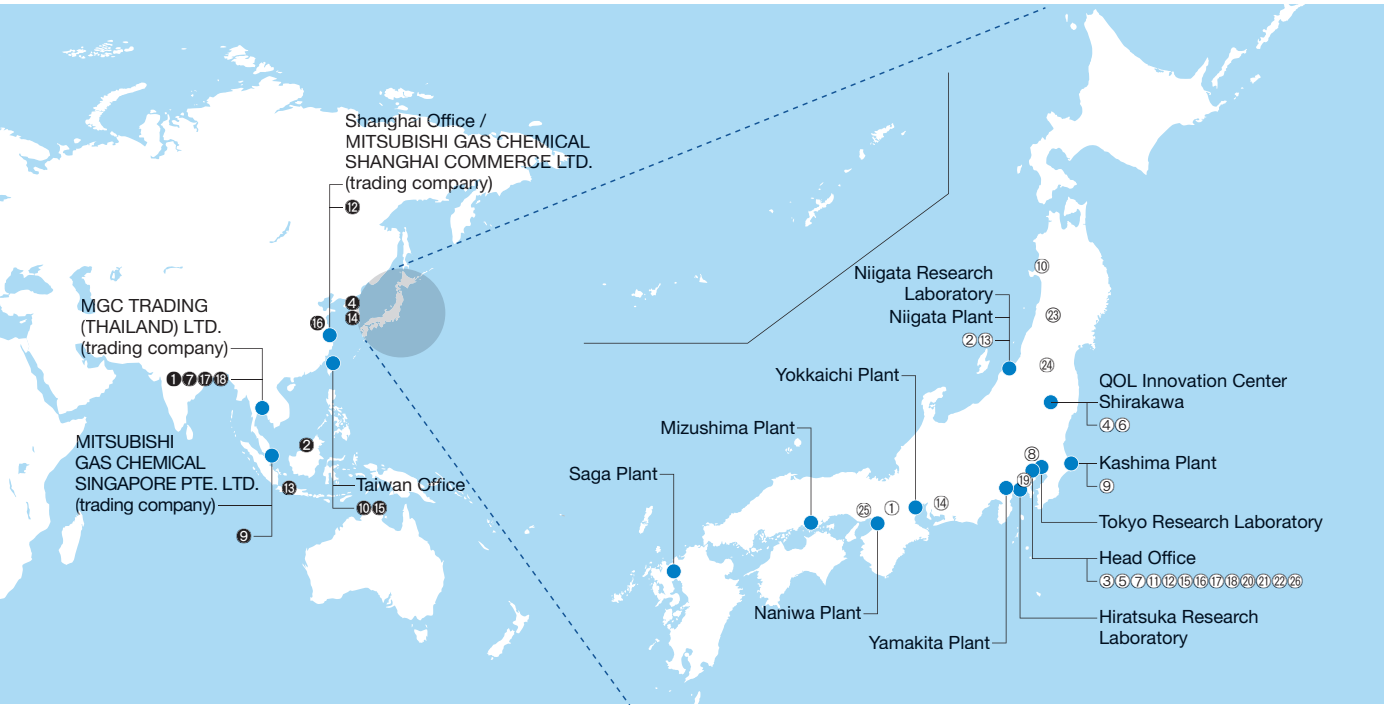
❿ MGC PURE CHEMICALS TAIWAN, INC. C
(Manufacturing and sale of super-pure hydrogen peroxide/performance chemicals)

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

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

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

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



⑮ TAI HONG CIRCUIT INDUSTRIAL CO., LTD. E
(Manufacturing and sale of materials for printed wiring board)

⑯ TAIXING MGC LINGSU CO., LTD. C
(Manufacturing and sale of hydrogen peroxide/performance chemicals)

⑰ THAI POLYACETAL CO., LTD. C
(Manufacturing of polyacetal)

⑱ THAI POLYCARBONATE CO., LTD. E
(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.
(Manufacturing and technical service for AGELESS)

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

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

⑦ MGC Terminal Company, Inc. C
(Storage terminal for methanol and chemicals)

⑧ MGC Filsheet Co., Ltd. C
(Manufacturing of polycarbonate sheets and films)

⑨ KYOUDOU KASANKASUISO CORP. C
(Manufacturing of hydrogen peroxide)

⑩ GRANOPT CO., LTD. E
(Manufacturing and sale of magneto-optic crystals)

⑪ Global Polyacetal Co., Ltd. C
(Manufacturing and sale of engineering plastics)

⑫ JSP CORPORATION C
(Manufacturing and sale of foamed plastic)

⑬ TOHO EARTHTECH, INC. C
(Manufacturing and sale of natural gas and iodine, seismic reinforcement work)

⑭ Toyo Kagaku Co., Ltd. C
(Manufacturing and sale of plastic injection molding)

⑮ Japan Saudi Arabia Methanol Company, Inc. E
(Business administration for AR-RAZI)

⑯ Japan Trinidad Methanol Company, Inc. E
(Investing in Trinidad and Tobago)

⑰ JAPAN FINECHEM COMPANY, INC. C
(Manufacturing and sale of fine chemicals and electronic products)

⑱ Japan U-PiCA Company, Ltd. C
(Manufacturing and sale of unsaturated polyester resins)

⑲ FUDOW COMPANY LTD. C
(Manufacturing and sale of thermoset resin molding compounds, thermoplastic resin molding and various plastics)

⑳ Polyols Asia Company, Inc. C
(Sale of polyhydric alcohols)

㉑ Mitsubishi Engineering-Plastics Corporation E
(Manufacturing and sale of engineering plastics)

㉒ Mitsubishi Gas Chemical Trading, Inc. C
(Sale of chemicals, electronic materials and polymers)

㉓ Yuzawa Geothermal Power Corporation E
(Development and provision of geothermal energy resources)

㉔ Yonezawa Dia Electronics Co., Inc. C
(Manufacturing of mass molding laminates, process development)

㉕ RYODEN KASEI CO., LTD. E
(Manufacturing and sale of insulating materials)

㉖ Ryowa Enterprise Co., Ltd. C
(Property management/business support)

MITSUBISHI GAS CHEMICAL COMPANY, INC.

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