

**MITSUBISHI GAS CHEMICAL COMPANY, INC.**

Mitsubishi Building 5-2, Marunouchi 2-chome Chiyoda-ku, Tokyo 100-8324  
Corporate Communications Division Tel: +81-3-3283-5041 Fax: +81-3-3287-0833  
<https://www.mgc.co.jp/eng/>



Corporate Report  
**2018**

## Philosophy for Being

MGC contributes to societal growth and harmony by creating a wide range of value through chemistry.

## MGC Group Vision

“Creating values to share with society”

## Management Concept

- MGC management is striving to create a place where there is job satisfaction and a dynamic group in which motivations and abilities are respected.
- Marketing that watches the world to ascertain needs, and expands/creates markets
- Creative research/development that deeply understands needs, and refines the seeds that will bring forth success
- Production activities that work toward improved technology, environmental preservation, ensure safety, and provide better products
- An open corporate culture in which each person can share their goals and actively participate

## Principles of Conduct

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

## Contents

### 3 Mitsubishi Gas Chemical at a Glance

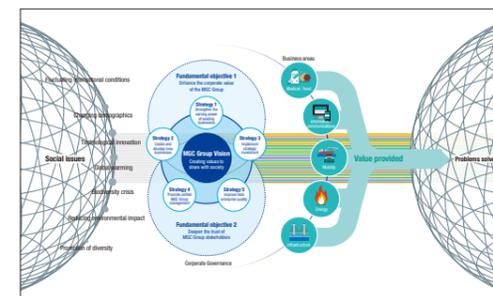
### 5 A History of Creating Value



### 7 To Our Stakeholders



### 11 New Medium-term Management Plan



13 Five strategies for achieving the fundamental objectives

19 Five target fields of business: examples of initiatives

### 24 Growth Strategy

- 25 ● Natural Gas Chemicals Company
- 27 ● Aromatic Chemicals Company
- 29 ● Specialty Chemicals Company
- 31 ● Information & Advanced Materials Company
- 33 ● New Businesses
- 35 ● Research and Development



### 37 Strengths Supporting Growth (CSR/ESG)

- 38 Environment and Safety Management (Responsible Care)
- 40 Concern for the Environment
- 41 MGC Group Eco-Friendly Products
- 43 Initiatives Toward Safe, Stable Operations
- 44 Together with Stakeholders
- 49 Corporate Governance
- 53 Compliance and Risk Management



### 56 Financial Information

### 66 Shareholder Information

### 67 Corporate Data

## Editorial Policy

Beginning this reporting period, Mitsubishi Gas Chemical has decided to consolidate its CSR Report, Data Book, and Annual Report and publish a single Corporate Report combining both financial and non-financial information. To offer an easy-to-follow description of the management strategies designed to achieve the MGC Group Vision of “Creating values to share with society,” it offers the perspective of an integrated report while bringing together information on MGC’s Medium-term Management Plan, growth strategy, and CSR/ESG information, as well as financial information and other data. We hope that by reviewing this report, our stakeholders will gain a deeper understanding of MGC Group.

### Scope of This Report

Mitsubishi Gas Chemical Company, Inc. (MGC) and MGC Group (where the scope of reporting differs, it is noted in the data).

### Reporting Period

April 1, 2017–March 31, 2018 (Some activities taking place in or after April 2018 are also noted.)

Note that Responsible Care activities cover only the period between January 1, 2017 and December 31, 2017 (Some activities taking place in or after January 2018 are also noted.)

### Published

September 2018

Launched as MGC  
**October 1, 1971**  
 Originally founded 1918; Incorporated 1951

Capital  
**41.97 billion yen**

Number of employees (consolidated)  
**8,009**

Number of employees (non-consolidated)  
**2,290**

Number of consolidated subsidiaries  
**70**

Number of equity-method subsidiaries  
**16**

Number of stockholders  
**20,088**

Net sales  
**635.9 billion yen**

Operating income  
**62.7 billion yen**

Ordinary income  
**80.7 billion yen**

Net income attributable to owners of the parent  
**60.5 billion yen**

Product varieties  
**Approx. 110**

Customer companies (MGC Group in Japan)  
**Approx. 13,000**

Suppliers (MGC Group in Japan)  
**Approx. 2,500**

R&D costs  
**18.9 billion yen**

Cost of environmentally friendly R&D  
**2.9 billion yen**

## Businesses and Main Products

### Natural Gas Chemicals Company

Methanol Business, Organic Chemicals Business and Life Science Business



The Methanol and Organic Chemicals business has an extensive lineup of products from basic chemicals which are methanol, ammonia and their various derivatives to functional chemicals for plastics, coating compounds, synthetic fibers, adhesive agents, artificial leather, agricultural chemicals, pharmaceuticals and foods. They support our daily life.

Energy & Resources Business



The Energy & Resources business conducts operations inside and outside of Japan in search of energy for chemical manufacturing, including exploration and development of natural gas and oil in Niigata Prefecture. The Energy & Resources business is undertaking a project to develop clean, renewable geothermal energy in Akita Prefecture as well as new geothermal energy developments in the Tohoku region.

### Aromatic Chemicals Company

Aromatic Chemicals Business



This unique product portfolio, which includes aromatic aldehydes—primarily metaxylene chains—and aromatic polycarbonates, provides intermediates used in pharmaceuticals, agricultural chemicals and aromatics, resin raw materials, and additives. MX-Nylon helps to retain the freshness of food and beverages and reduce the weight of packaging.

Foamed Plastic Business



Our foamed plastic provides a range of performance benefits including light weight, shock absorption, thermal and sound insulation, and recyclability. It is widely used in everyday life, for food containers, residential insulation, industrial packaging materials, and automotive components, contributing to energy and resource saving and environmental protection.

### Specialty Chemicals Company

Inorganic Chemicals Business



Our Inorganic Chemicals Business supplies hydrogen peroxide for industrial use, chemicals for use in the electronics industry, and environmental chemicals based on hydrogen peroxide which have low environmental impact and offer diverse functions such as bleaching, disinfecting, oxidizing, and metal polishing. We also offer monomers for ultra-high refractive index lenses and photoresist monomers.

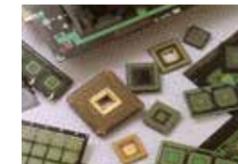
Engineering Plastics Business



Engineering plastics, such as polycarbonate and polyacetal, have contributed to reducing the weight of automobiles and machinery components. Our Engineering Plastics Business also offers special polycarbonates for optical applications and polycarbonate sheet (film) which has advantages for surface processing technologies.

### Information & Advanced Materials Company

Electronics Materials Business



The Electronics Material Business supplies electronics materials including laminates for printed circuit boards (PCBs) and drilling sheets used in the PCB manufacturing process, products that meet the cutting-edge needs of the industry. In particular, BT laminates expanded the possibility of plastics for semiconductor packaging, and still contribute to advances in semiconductor density.

Oxygen Absorbers Business

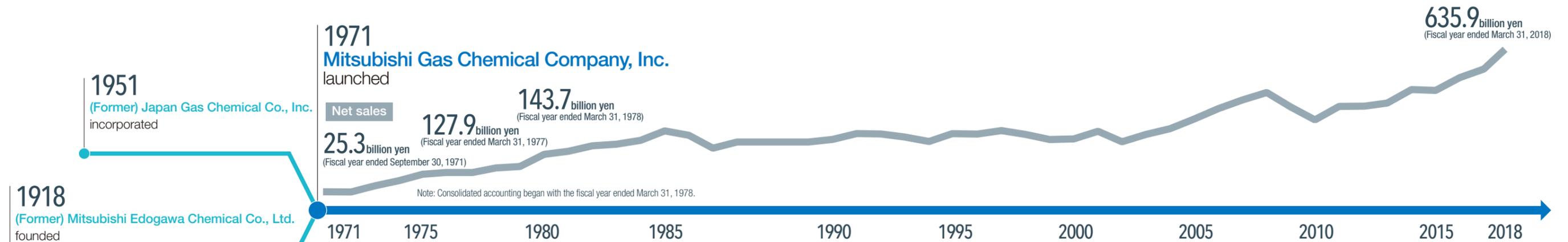


"Iron absorbs oxygen when it rusts."  
 "Prevent oxidation by eliminating oxygen."  
 Just by implementing a combination of such simple ideas, Mitsubishi Gas Chemical was able to develop AGELESS® the world's first oxygen absorber.

### New Businesses



MGC seeks to bring a consistent organizational process to its goal of creating and cultivating new businesses, one that extends from the selection of business domains, to the drafting of business concept proposals, exploratory research, market development, and finally, commercialization.



**1951**  
(Former) Japan Gas Chemical Co., Inc. incorporated

**1918**  
(Former) Mitsubishi Edogawa Chemical Co., Ltd. founded

**1971**  
Mitsubishi Gas Chemical Company, Inc. launched

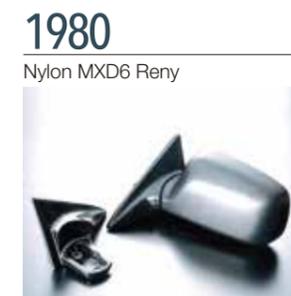
**1927**  
Formalin  
First in Japan to manufacture formalin.



**1952**  
Methanol  
First in Japan to manufacture methanol from natural gas.



**1971**  
Polycarbonate "Iupilon"  
Developed transparent resinous sheets as an alternative to glass.



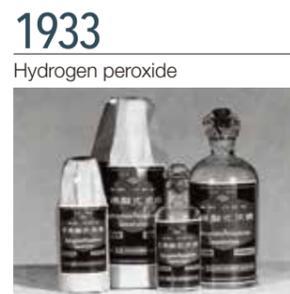
**1980**  
Nylon MXD6 Reny  
Used as an engineering plastic replacement for metal in automobiles, allowing for lighter-weight vehicles.



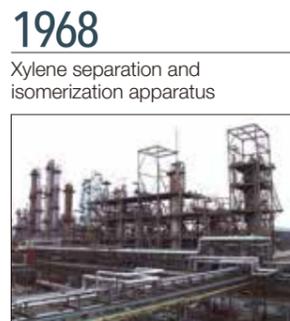
**1991**  
Plastic lens monomer  
Developed thin, lightweight plastic lenses as a replacement for glass.



**2015**  
OXYCAPT plastic syringes and vials  
Developed safe, reliable plastic medical instruments.



**1933**  
Hydrogen peroxide  
First in Japan to manufacture hydrogen peroxide using the electrolytic process.



**1968**  
Xylene separation and isomerization apparatus  
World's first use of superacid "HF-BF3" in industrial applications.



**1976**  
BT materials  
Used as replacement for then-mainstream ceramics in semiconductor packaging, contributing to the popularization of personal computers.



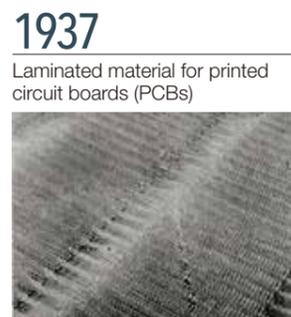
**1982**  
Foamed polypropylene  
Used in automobile bumpers. High shock absorptency contributes to enhanced safety performance, and light weight contributes to lighter-weight vehicles.



**1991**  
"PharmaKeep" "AnaeroPack"  
Expanded use of oxygen absorbing technology to the drug management and pathogen exam fields.



**2015**  
Pyrroloquinoline quinone (PQQ)  
Full-scale roll-out in Japan of a food ingredient that leads to healthy longevity.



**1937**  
Laminated material for printed circuit boards (PCBs)  
First in Japan to develop the base materials for PCBs.



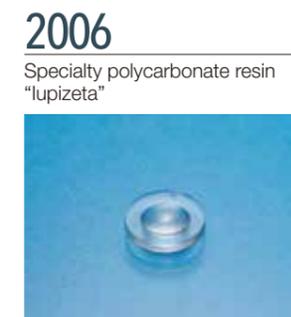
**1969**  
Meta-xylenediamine  
Developed coating raw material with excellent curability and durability.



**1977**  
AGELESS oxygen absorbers  
Enabled food to maintain its freshness.



**1984**  
MX Nylon  
Made it possible to replace glass bottles with plastic for carbonated beverages.



**2006**  
Specialty polycarbonate resin "Iupizeta"  
Enabled the achievement of compact, high-resolution cameras for smartphones and other mobile devices.  
Awarded the 49th Ichimura Prize in Industry in April 2017.



We are dedicated to fulfilling the MGC Group Vision to “Create values to share with society” and generate sustained business growth.

**Toshikiyo Kurai**  
President and Representative Director

**Q1** Could you please describe the Group Vision to “Create values to share with society.”

**A1** Our vision is to provide values that society needs and that it can use in a wide range of areas, and through that to generate business growth for our Group.

We are focusing our efforts on developing technologies and products that contribute to resolving the issues directly facing society. As the sales of these technologies and products increase, our business also grows. This is how we envision the MGC Group and is the essence of our Group Vision to “Create values to share with society.”

This vision was set as the primary objective of the MGC Advance2017 medium-term business plan, and there were two reasons for this.

The first was related to the plan’s basic initiative to reconstruct underperforming businesses and to reconsider our loss-producing businesses by asking “Is society benefitting from the products we are making and selling?”

The second was related to the basic initiative to strengthen the earning power of existing businesses with a

focus on the core businesses and also to create and develop new businesses. The objective was to clearly identify the areas where we can best apply our capabilities so we can clearly focus on the businesses where we can provide technologies and products that society needs.

Our efforts over the past three years have had a certain degree of success reconstructing underperforming businesses, and we are now focusing attention on creating and developing new businesses.

**Q2** Please review the Group performance in fiscal 2017, the final year of the MGC Advance2017 medium-term business plan.

**A2** We established a “muscular” operating structure and generated record-high sales and profits.

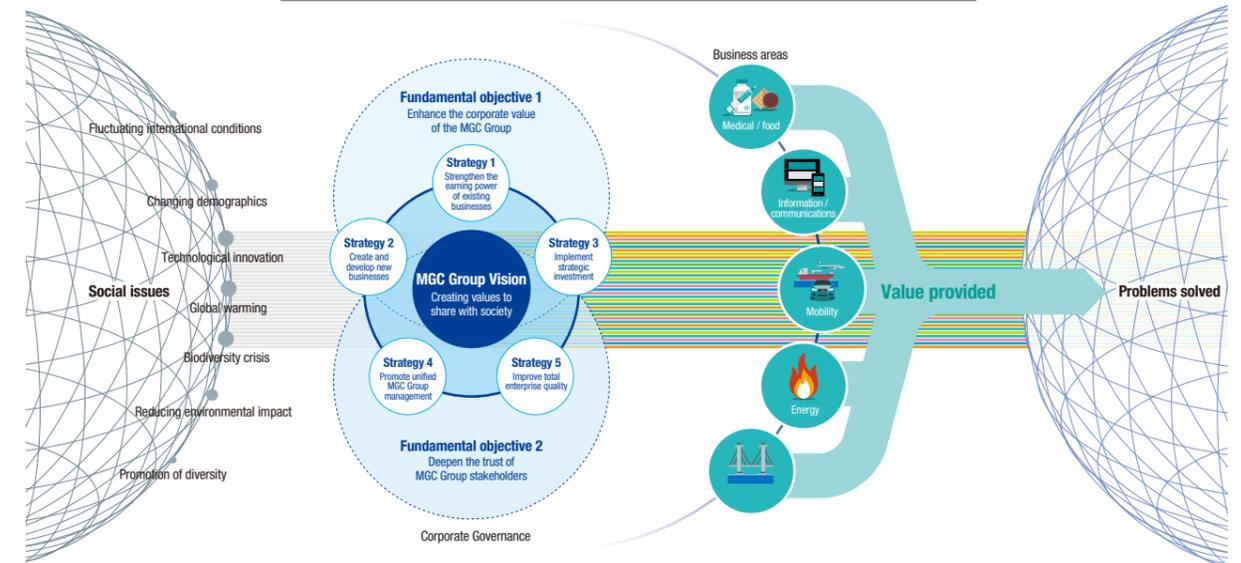
Our performance during the three years of the MGC Advance2017 medium-term business plan was very strong. We boosted sales and profits to record levels and achieved the plan’s profit targets ahead of schedule.

Several external factors worked in our favor, including stable foreign exchange rates and crude oil prices, rising

**MGC Advance2020**

A brighter future from bigger dreams!

The period from April 2018 to March 2021



prices for commodity products, and the tighter environmental regulations in China. Internally, we steadily advanced our structural reform and created a “muscular” operating structure. These elements combined to produce growth that was clearly evident in our operating income. In past years, assessments of the Group’s profit performance were mainly based on ordinary income because of the large contribution from our overseas equity-method affiliate companies, particularly group companies producing methanol. We plan to maintain consistent growth in both operating income and ordinary income.

We also achieved favorable results in the area of safety, as we had no serious accidents or troubles during the period. I believe that the smooth operations also helped us take advantage of the favorable business conditions. Our group-wide safety initiatives enabled us to advance the development of our manufacturing infrastructure and provided a foundation for our steady growth during the period.

**Q3** Could you please introduce the new MGC Advance2020 medium-term business plan that the Group launched this year.

**A3** The objectives of the new plan are to enhance our corporate value and deepen the trust of MGC Group stakeholders

The new medium-term business plan has two core objectives: to enhance the corporate value of the MGC

Group and to further build stakeholder trust in our enterprise.

Corporate value is a complex matrix of attributes starting with the quantitative elements of our sales, profits and assets and including the qualitative elements of our management and technological capabilities, marketing abilities, brand power, potential for future earnings growth, contribution to society and preserving the environment.

One way we are seeking to increase our quantitative value is by investing in our personnel. To make the MGC Group even stronger, it is essential to bring out the potential in each of our employees. I believe that creating a company where employees feel they can express themselves through their work and that they are motivated to work is fundamental to raising our corporate value.

Our quantitative consolidated performance targets for fiscal 2020 are sales of 750 billion yen, operating income of 65 billion yen, and ordinary income of 90 billion yen with ROE of at least 12%. We plan to use the “muscular” operating structure formulated during the previous medium-term business plan to leverage our safe and stable production infrastructure to realize consistent growth unaffected by changes in external conditions. We will also firmly establish the investment businesses overseas, including those in Trinidad and Tobago and the United States, and extend the progress of the previous plan by actively and tenaciously creating and developing new businesses.

**Q4** What business fields will you be focusing on?

**A4** We have set five fields as the business domains we should be advancing in: medical/food, information/communications, mobility, energy, and infrastructure.

When we think about how we can contribute to solving issues, we understand that we can best contribute through the MGC Group's domains of strength, which are medical/food, information/communications, mobility, energy, and infrastructure. We have designated these five fields as the business domains we should be advancing in. Among these, we are particularly focused on the medical/food, information/communication, and mobility fields.

In the medical/food domain, we established Cultivecs in June 2016, a joint venture with Nippon Kayaku, to be a contract manufacturer of antibody drugs. Antibody drug production operations had been highly dependent on overseas production, and creating the ability to expand operations within Japan and help lower local medical costs made this a very meaningful development.

Our contributions in the medical/food domain are truly diverse, and include developing the multilayer plastic container OXYCAPT to provide plastic containers as a solution for issues related to glass instruments as well as factory agricultural farms enabling safe and secure production and increased self-reliance for food production.

In the information/communications domain, we developed the transparent polyimide film Neopolim and several other high-performance resins that are contributing to increasing the technical functions of smartphones and other devices.

In the mobility domain, we supply a variety of high-performance materials including key automobile structural segments and parts, paint, and batteries that lighten vehicle weights and help advance the development of electric vehicles.

To further build on these successes, I believe we must conduct R&D geared toward creating value that society needs while also more actively communicating. The MGC Group provides "materials," and the full impact of the value these can provide to society cannot be realized without our engaging with the makers of the final products. We will

step up our communications with the final product makers and also seek to communicate more clearly with our stakeholders.

**Q5** What is the process for generating innovation through R&D?

**A5** We create innovation mainly through our R&D but also through all of our business segments.

The dramatic changes in the environment and increasing complexity of social issues in recent years has made it essential to accelerate R&D and our business development. One of the distinguishing features and the strength of the MGC Group is that we produce over 90% of our products using our own technologies. Nevertheless, we must be careful not to become too self-reliant. Led by our new business development department, we are engaging in collaborative open innovation, investing in venture companies, and conducting M&A.

Pursuing innovation is not limited to our R&D and new business development departments. Every employee must look for areas around them that could be improved and be proactive about proposing and implementing change. The small innovations add up to strengthening our overall organization.

**Q6** Sustainable Development Goals for the global society are becoming a forefront issue. What is the MGC Group's approach to SDGs?

**A6** We are deeply conscious of our responsibility as a maker of chemicals and seek to contribute to creating a sustainable society.

The 17 Sustainable Development Goals and 169 targets of the United Nations' 2030 Agenda for Sustainable Development very clearly shows the path we need to take as a corporation. For us, I believe Goal 12 to "ensure sustainable consumption and production patterns" is the most germane. Because the manufacture of chemicals is a materials industry, it is difficult to see how the final products made from the materials we produce will be used in society.

As a provider of chemicals, we have a social responsibility to follow how the products we supply affect society and the environment and to take an overall view across the complete upstream and downstream of our product supply chains to decrease the negative impact and increase the positive impact. As we do so, I believe we will find clues to how we can create new value.

It's also important to reduce the environmental impact from our business operations. We issue the MGC Group Environmental Sustainability Declaration in April 2018, and I believe that key to fulfilling our environmental objectives is take the approach that our environmental initiatives are not a burden, but an opportunity. Saving energy lowers energy costs; preserving resources reduces our input costs. Creating new product, technologies, and operations that are environmentally sustainable is good for both society and our company. I believe this is also furthers our vision to "create value to share with society."

**Q7** How do you view shareholders return?

**A7** Fundamental to shareholder return is maintaining stable dividends while also taking into account our business performance. We are also conscious of the total return ratio.

The MGC Group's basic policy is "building corporate value raises profits for shareholder and all stakeholders." Based on this, we seek to maintain an optimal balance of internal reserves and shareholder return.

In fiscal 2017, progress with our structural reforms helped us generate earnings surpassing our forecasts. Based on the strong result, we raised our dividend payment amount by 21 yen from the previous year\* to a total dividend payment per share for the year to 59 yen. The dividend distribution amount to shareholders is determined based on our policy to maintain dividend stability, in consideration of our business performance and future capital investment plans, and also with regard to our dividend on equity ratio. In addition, we also aim to maintain a certain level of total return ratio.

\* The 21 yen increase is based on the share consolidation effected on October 1, 2016



**Q8** Lastly, do you have a message you would like to communicate to stakeholders?

**A8** I look forward to ongoing dialogue with all stakeholders to help deepen understanding of Mitsubishi Gas Chemical.

I am looking forward to continuing our dialogue with all stakeholders to deepen their understanding of the MGC Group's strengths, our growth strategies, and our contributions to protecting the environment. We updated our website in May 2018 to make more information about our activities available, and I hope everyone will take time to look at it.

Hearing the honest opinions of our stakeholders is invaluable to the company. I look forward to hearing from you and making our company better.

**Toshikiyo Kurai**

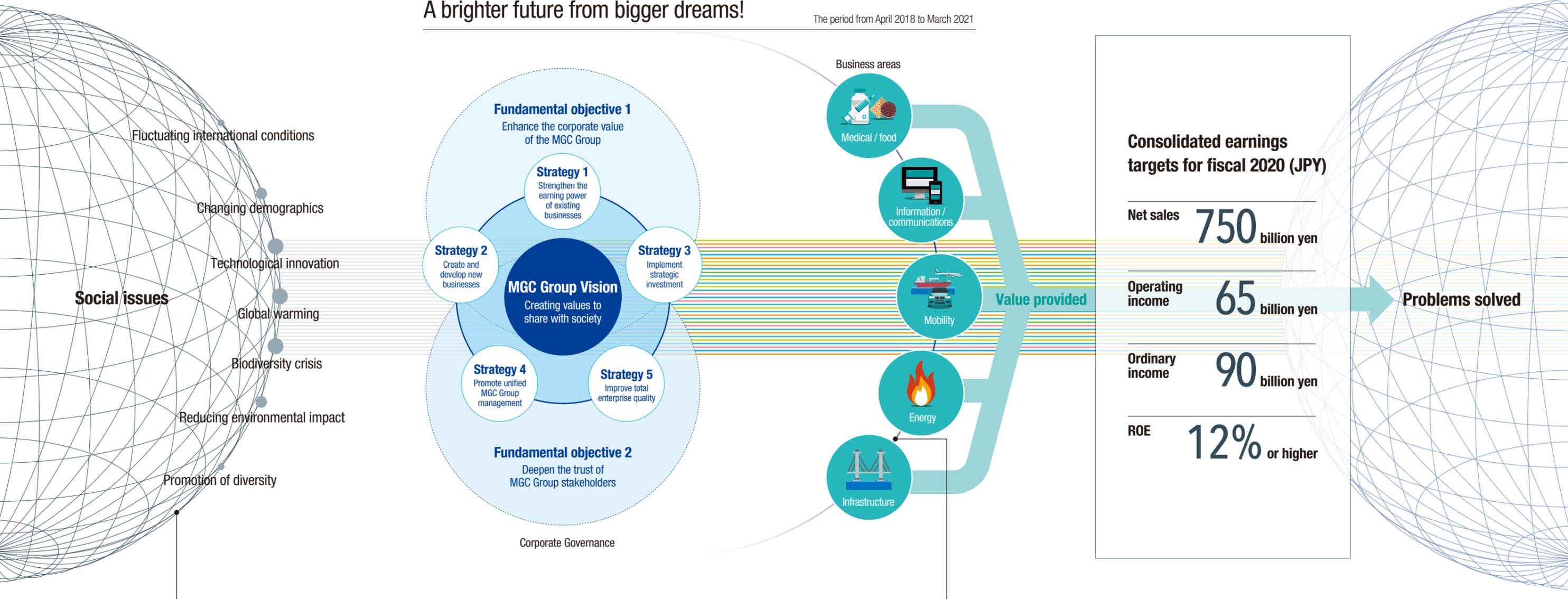
President and Representative Director

MGC advances to the next stage of growth after moving forward with restructuring of underperforming businesses

## MGC Advance2020

A brighter future from bigger dreams!

The period from April 2018 to March 2021



### Megatrends and important social issues

The business environment in which we operate is growing increasingly complex, bringing to the fore many issues that need resolving. These include global warming and the biodiversity crisis in the natural environment, demographic shifts, economic growth in emerging countries, and

technological innovations.

Aiming for further growth, we are identifying the business opportunities and risks these changes represent while mobilizing our expertise to help resolve social issues, and help realize a sustainable society.

### Five target fields of business

We harness the power of chemicals and the individual efforts of each person in the Group to create products and technologies that are needed by and provide value to society, to help resolve social issues, and help realize a sustainable society.

We continue to develop our wide range of diverse products in the five business fields where we can make the most profound contribution. While pursuing profit, our greater objective is to create social and environmental value that helps realize a safer and more secure society.

# Five strategies for achieving the fundamental objectives



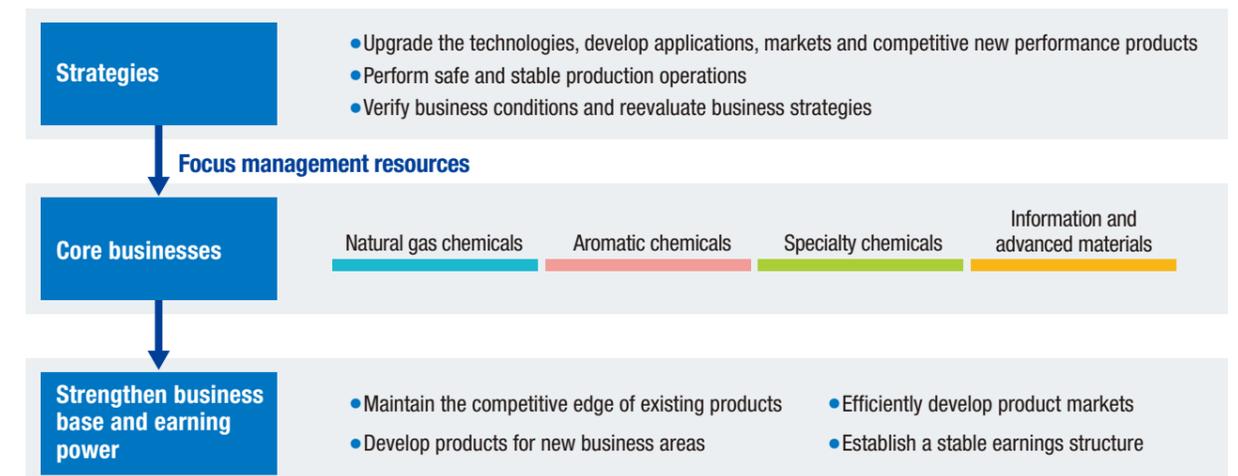
## Strategy 1 Strengthening the earning power of existing businesses with a focus on the core businesses

Focus management resources on the core businesses that are the company's strengths and enhance the profitability of existing businesses.

- We will enhance the profitability of existing businesses by improving our technology, maintaining our competitive advantage, and efficiently developing markets for our products.
- For our existing products, we will develop new applications and markets while also developing applications in new business areas.
- We will conduct safe and stable production operations to enhance our profitability and strengthen our business base.
- We will work to expand and strengthen our business base, through solid execution of our Trinidad and Tobago project, the smooth launch of our super-pure hydrogen peroxide plants in North America, and by boosting our capacity in special polycarbonate resins (2019), as well as considering domestic plant expansion and plans for new plants (2022) for meta-xylene diamine (MXDA).

### Examples of competitive performance products

■ Methanol derivatives	■ MXDA/MX-Nylon	■ Electronic chemicals	■ BT materials
■ Life science products	■ Aromatic aldehydes	■ High-performance polycarbonates	■ Oxygen absorbers



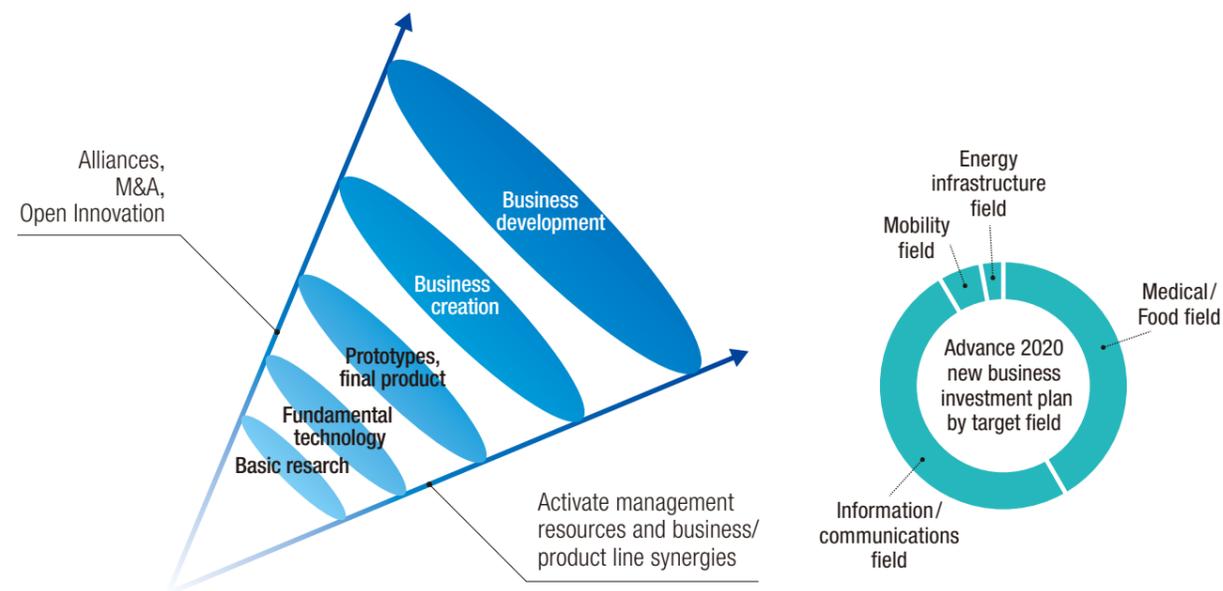
Five strategies for achieving the fundamental objectives

Strategy **2** **Creating and developing new businesses**

The MGC Group will ensure it continues flourishing by actively developing new technologies and products and creating and developing new businesses.

Specifically, we will aggressively invest in the fields of medical and food, information and communications, and mobility.

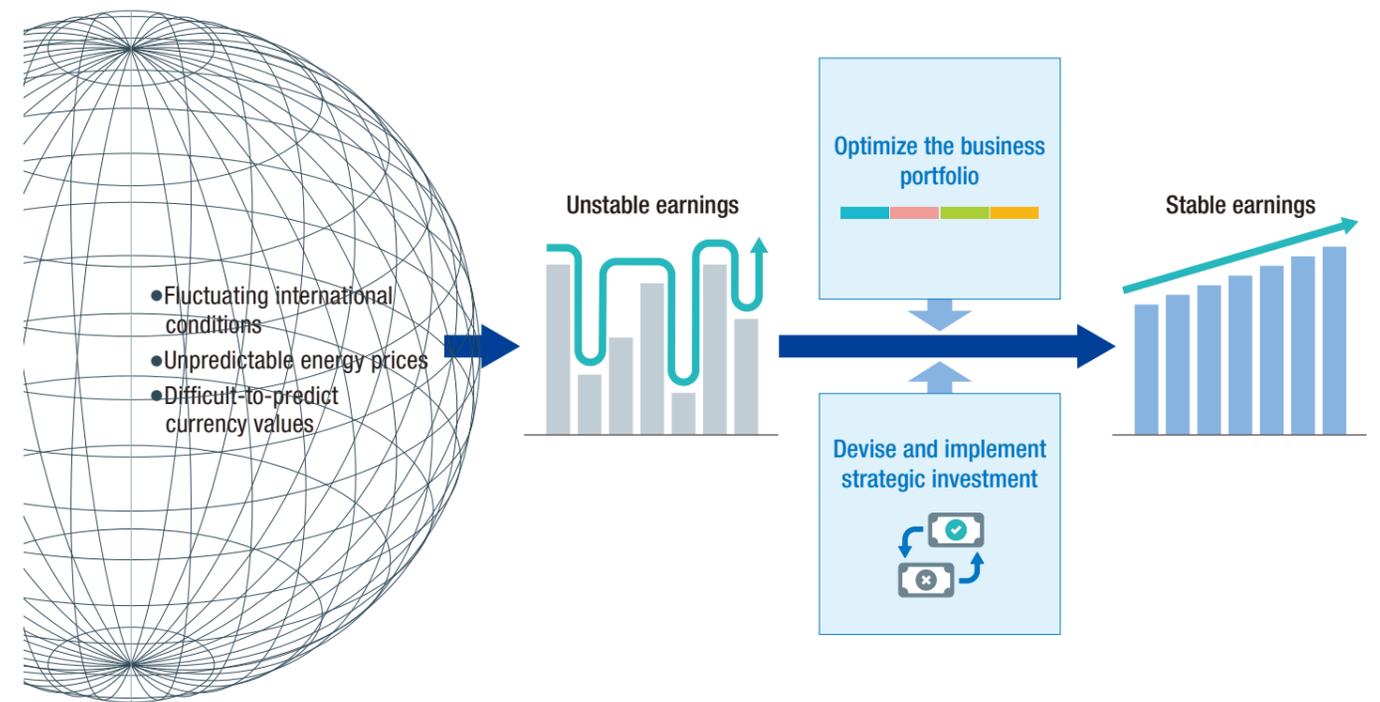
- We will develop and launch new technologies and products by increasing our sensitivity to market changes influenced by megatrends and to the speed of those changes. We will also identify specific target markets and seek to launch products in a timely manner to ensure maximum success.
- We will generate new business by incorporating new management approaches, such as partnerships and M&A, and by actively applying our management resources.
- We are focusing on creating and developing new businesses in antibody drugs and bioproducts, medical packaging materials, factory-produced vegetables, Neopulim, semiconductor-related materials (including 5G-compatible materials, semiconductor underlayer films, etc.), solid electrolytes and CFRP curing agents.



Strategy **3** **Implementing investment strategies to form an optimal business portfolio**

We will devise and implement an investment strategy for forming an optimal business portfolio to establish a stable earnings structure for the Group.

- We will devise and implement an investment strategy that diversifies revenue sources by constantly generating new technologies, products, and businesses, and that supports a balance of commodity, high-performance, specialty, and new products within the MGC Group.
- We will formulate investment strategies that take into account how megatrends are changing the markets for our products and how quickly the markets are changing. Investments will be geared to growth with the aim of enhancing our corporate value.



Five strategies for achieving the fundamental objectives

Strategy **4 Promoting unified MGC Group management**

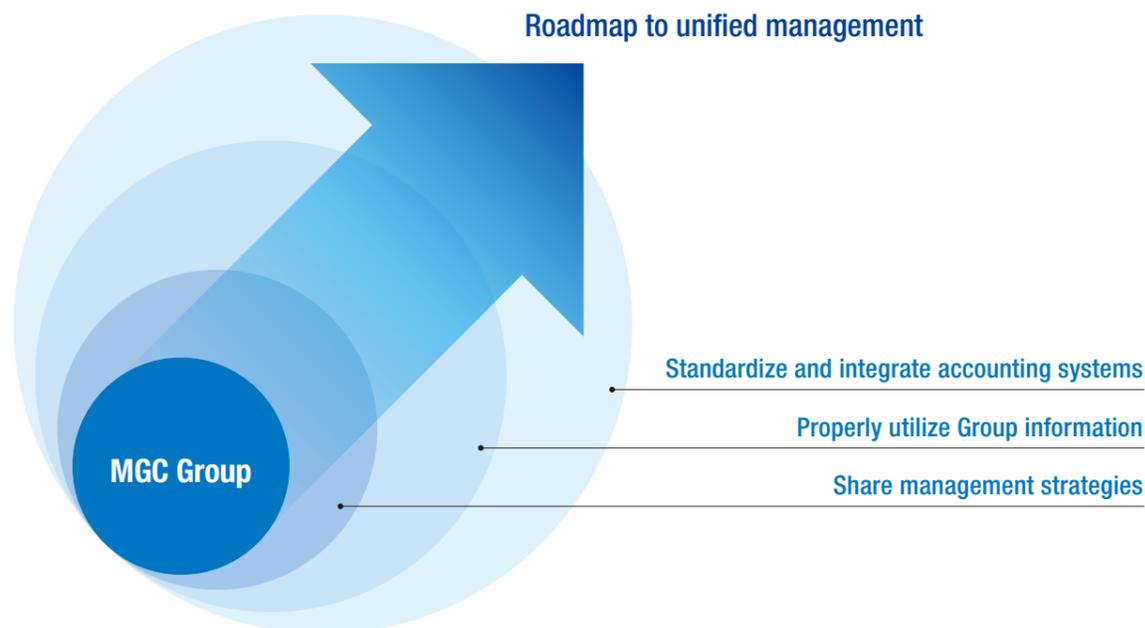
We will share management strategies throughout our organization and conduct daily operations as a united group of companies to enhance the overall corporate value of the MGC Group.

- We will accurately determine Group information and continue striving to improve the efficiency of our Group management by introducing business management units (BMU) to facilitate standardizing and integrating the three trade houses of the MGC Group as well as sharing and unifying the accounting systems within the Group.
- We will make our investment management methods more sophisticated from the Group perspective, including formulating an accurate performance evaluation system capable of appraising all of the various investment activities of the Group.

Strategy **5 Improving total enterprise quality to support sustainable growth**

We will constantly improve the qualities of management resources, including personnel, capital, technology, information, brand, and intellectual assets, and manage and apply these resources effectively.

- We will raise the level of our awareness and culture of safety in our operations and deepen its application throughout the Group.
- We will strive to operate an effective corporate governance system that we will continually reinforce.
- We will develop human resources.
- We will practice compliance while readying and strengthening systems for responding to any manner of risk.
- We will cultivate research and development capabilities that encourage innovation.
- We will improve the efficiency of our information systems.



# Five target fields of business: examples of initiatives

## Medical / food

### Antibody drugs

**Drugs that target only antigens, with few side effects and exceptional safety**

Mobilizing our expertise in animal cell culture technology and manufacturing process development, we handle all processes from initial-stage development of drug substances for antibody pharmaceuticals to their manufacture, contributing to high-quality, reliable treatments.



### OXYCAPT

**Plastic syringes and vials that block both oxygen and water vapor**

OXYCAPT is the only plastic syringe that provides a glass-like oxygen barrier. With light weight and low inorganic extractables compared to glass, these medical syringes and vials also eliminate the dangers associated with glass breaking.



### BioPQQ / ElionTM SA<sup>\*1</sup>

**Food compounds that benefit human health**

We offer a variety of food compounds created with biotechnology. These include functional ingredients such as pyrroloquinoline quinone (PQQ) with anticipated brain health benefits, S-adenosylmethionine (SAME), and spermidine (SPD), and functional dry yeast containing yeast culture.

<sup>\*1</sup> ElionTM SA: S-adenosylmethionine-containing yeast



### Oxygen absorbers / MX-Nylon

**Functional materials that absorb / block oxygen**

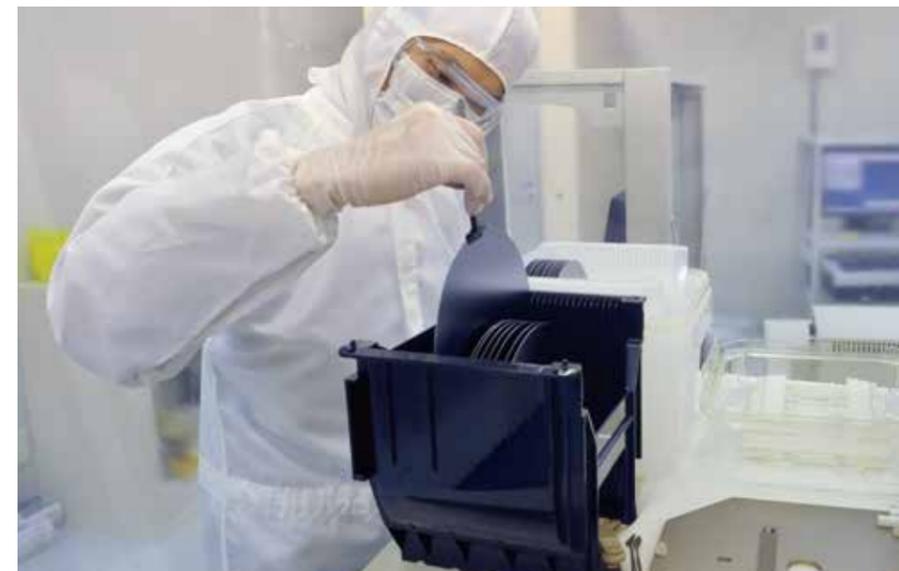
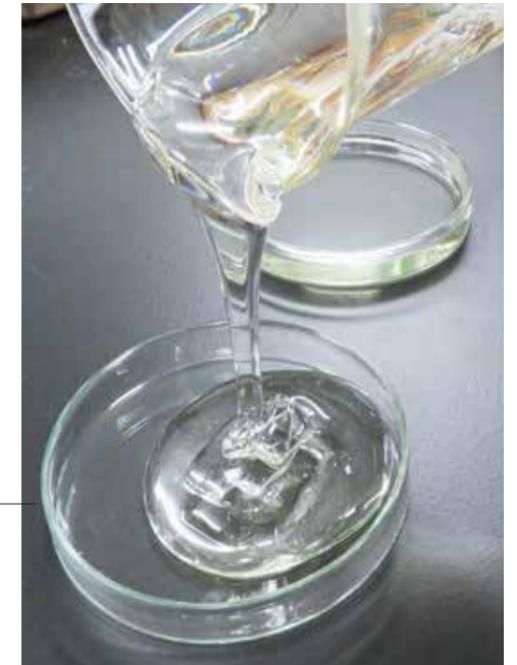
Oxygen absorber, AGELESS and MX-Nylon, an oxygen blocker, prevent foods and pharmaceuticals from deterioration caused by oxidation and are beneficial in maintaining quality and reducing product loss.

## Information / communications

### Neopulim (Transparent polyimide resin)

**Flexible, transparent resin film and varnish**

Thin, light, and flexible, Neopulim offers high heat resistance and excellent transparency. As an alternative to glass substrates, Neopulim resin films and varnishes aid the production of organic EL displays.



### Iupizeta EP (Special polycarbonate)

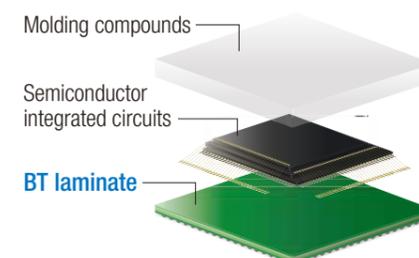
**Material enabling smaller, higher resolution mobile cameras**

Used in camera lenses for mobile devices, Iupizeta offers optical properties such as a high refractive index and low birefringence. Applications are expected to expand to on-board automotive cameras, surveillance cameras, and other devices.

### Chemicals for the electronics industry

**Electronics innovations made possible with high-purity chemical agents**

Our functional chemicals include ultra-pure hydrogen peroxide and ammonium hydroxide used in cleaning semiconductor devices as well as in the manufacturing of electronics such as liquid crystal displays and printed circuit boards. These chemical agents support the global electronics industry and contribute to technological innovations.



### BT materials

**Semiconductor packaging materials supporting electronic device innovations**

MGC was the first supplier of these substrate materials in the world. Offering both high heat resistance and excellent electrical properties, they contribute to making mobile devices, automobiles, and home electronics smaller, thinner, lighter, higher performing, and more energy efficient.

## Five target fields of business: examples of initiatives

### Polycarbonate / Polyacetal

#### Engineering plastics with superior rigidity and impact resistance

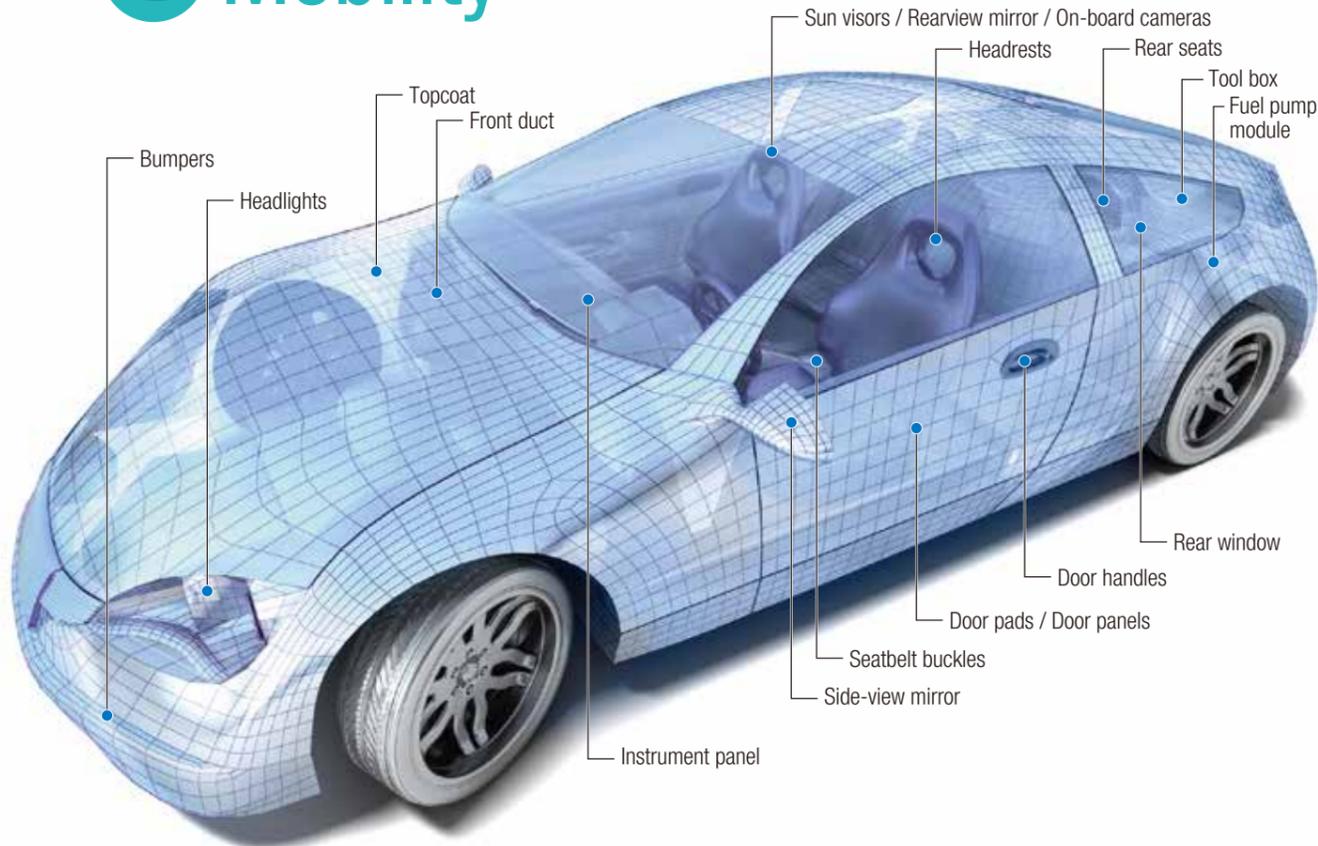
Because of its high impact resistance and transparency, polycarbonate is used in headlamps and door handles, while polyacetal, which is resistant to wear, abrasion, and chemicals, is used in fuel pumps, interior parts, and other components. Together, these engineering plastics contribute to improved fuel efficiency, enhanced workability, and better design.

### Foamed plastic

#### Meeting needs for lighter weight

Foamed plastics are widely used in bumpers as well as seats and other automotive interior parts. Offering superior cushioning, they help improve collision safety performance, reduce vehicle weight, and enhance fuel efficiency.

## Mobility



### Meta-xylenediamine (MXDA) / 1,3-Bis (Aminomethyl) cyclohexane (1,3-BAC)

#### Curing agent used in fiber-reinforced plastic production

Used as an epoxy curing agent in carbon fiber reinforced plastic (CFRP) and other products, meta-xylenediamine and 1,3-BAC contributes to reducing vehicle weight and improving fuel efficiency.

### Glycidyl methacrylate (GMA)

#### Automotive topcoat paints

This material is used in paints to make them more resistant to acid rain and scratches, resulting in improved weather resistance in automobiles.

## Energy

### Direct methanol fuel cell

#### Clean, quiet electricity generator

This fuel cell generates electricity from methanol and air and can provide electricity for several days or more. Because electricity is generated through a chemical reaction, the fuel cell is also quiet and does not pollute the air.



### Natural gas-fired power generation

#### Participating in new energy generation

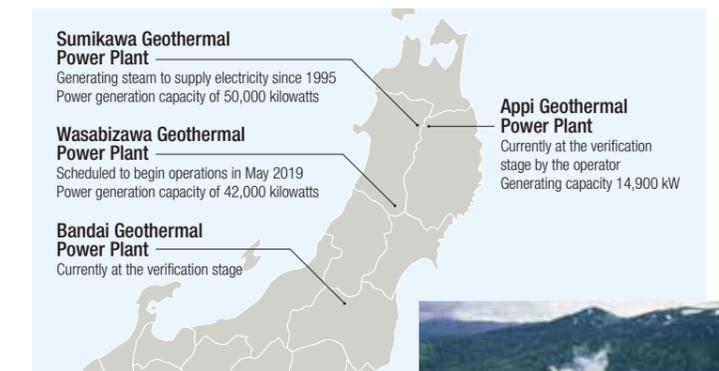
We are a partner in a gas-fired power plant at Soma Port, Fukushima Prefecture, that is fueled by natural gas with low environmental impact. The project helps provide a stable supply of energy as part of the New Energy Society initiative conducted under Fukushima's Innovation Coast Framework, established by the Japanese government in 2014.



### Ammonia

#### Denitration reducing agent for coal-fired power generation

Ammonia is used as a reducing agent for denitration to eliminate nitrogen oxide and help prevent air pollution.



### Geothermal power generation

#### Clean renewable energy

Geothermal energy is a renewable resource unaffected by weather or seasonal changes. As such, it contributes to power supply stability while also minimizing CO<sub>2</sub> emissions from power generation.



Five target fields of business:  
examples of initiatives

## Infrastructure

### Hydrogen peroxide

#### Environmental chemical for soil remediation

The Fenton method uses hydrogen peroxide and a catalyst to clean up soil contaminated with volatile organic compounds (VOCs).



### Meta-xylenediamine (MXDA)

#### Paint curing agent improves corrosion protection

Used in paints for bridges and other structures and in factory pipes and tanks, this curing agent prevents metal deterioration.



## Growth Strategy

Natural Gas Chemicals Company	25
Aromatic Chemicals Company	27
Specialty Chemicals Company	29
Information & Advanced Materials Company	31
New Businesses	33
Research and Development	35

# Natural Gas Chemicals Company

We are expanding our business areas more diversely and globally by taking advantage of our value chain, from resource mining to basic chemicals, derivatives and life science.



## Business and Major products

### Methanol, Organic Chemicals and Life Science

- Methanol
- Formalin
- Dimethyl ether (DME)
- Ammonia
- Polyols
- Amine
- Methyl methacrylate (MMA), Methacrylic acid (MAA), Methacrylate specialty esters
- Health food ingredients (PQQ)

### Energy & Resources

- Mining and exploring for natural gas
- Developing geothermal energy

## Review of Fiscal 2017 and the Medium-term Management Plan

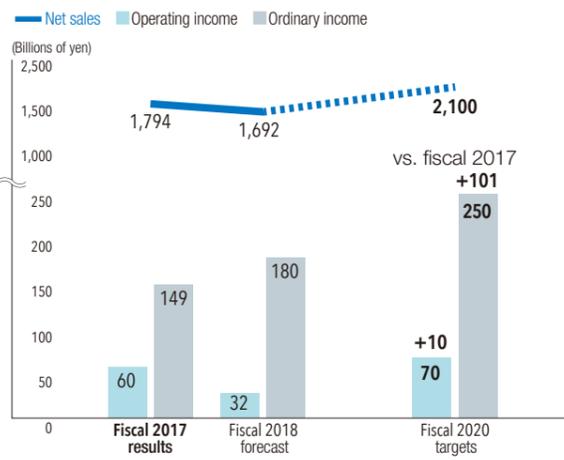
MGC's mainstay methanol business has maintained steady growth amid global growth in demand. In fiscal 2017, the Joint Venture Companies encountered unexpected circumstances, including trouble at a plant in Saudi Arabia and a change in the foreign exchange control system in Venezuela. Nevertheless, revenue increased substantially due to in part to rising methanol prices. The organic chemicals business achieved increases in revenue and earnings by strengthening its development of

high-value-added products such as MMA derivatives.

Although the shale gas project in Canada recorded an extraordinary loss due to the cancellation of the LNG project, the Energy and Resources Business has made sound strategic moves that will lead to future growth, including its natural gas power plant in Soma, Fukushima Prefecture and the geothermal power generation project in Yuzawa, Akita Prefecture.

Since the life sciences business just started up in fiscal 2016, its contribution to performance was limited during the term of the plan, but we hope it will be a future pillar of our business.

Fiscal 2017 Results and Fiscal 2020 Quantitative Targets



**Masashi Fujii**  
Director and Managing Executive Officer  
President, Natural Gas Chemicals Company

## Outlook

Planned figures for the Natural Gas Chemicals Company in MGC Advance2020, the new medium-term management plan that began in fiscal 2018, target a substantial increase in revenue and earnings in fiscal 2020, despite an expected decline in revenue in anticipation of a market decline in the first year.

The major driver of that increase is the start of commercial operation of the methanol plant in Trinidad and Tobago and the growth of the life sciences business centered on antibody drugs and healthy food materials. Regarding antibody drugs, the construction of the Niigata Plant of Cultivecs Inc., a joint venture with Nippon Kayaku Co., Ltd., was completed in February 2018. It has been attracting attention as a socially significant business that produces antibody drugs in Japan that had previously been imported from overseas. Health food materials such as SAMe (S-adenosylmethionine) yeast derived from natural sake yeast and SPD (spermidine) yeast, which is effective in maintaining and improving people's health, as well as PQQ (Pyrroloquinoline quinone), which is attracting interest both in and outside of Japan, are part of the successive development of products for which markets are expected to grow.

## Growth Initiatives

The strength of the Natural Gas Chemicals Company is in its integrated business system that starts with natural gas. The business begins with the mining of natural gas, proceeding to the development and production of basic chemicals, such as methanol produced from natural gas as a raw material, and various organic chemicals that are derived from these. We believe that evolving and expanding this value chain is essential for our future growth.

In the methanol business, in addition to considering new locations to follow Trinidad and Tobago, we are focused on natural gas dissolved in water. The gas fields of the Niigata Plain, where that business is expected to be commercialized, are also one of the world's rare iodine production areas., and we will also look into the commercialization of iodine derivatives. As a basic chemical derived from natural gas, we will also venture into the hydrogen derivative business. In the energy field, we will contribute to enhancing the competitiveness of the Group by not only engaging in resource exploration, but also power generation and supply to our corporate group.

## Focus

### Methanol Plant in Trinidad and Tobago Scheduled to Start Commercial Operation in Spring of 2019

The Republic of Trinidad and Tobago is a resource-rich country with abundant reserves of oil and natural gas. MGC is proceeding with a project to construct facilities for manufacturing methanol and DME in cooperation with Mitsubishi Corporation and Mitsubishi Heavy Industries, Ltd. Construction of the plant has proceeded since the final investment decision was made in September 2015, with completion of the plant and the start of commercial operation scheduled for the spring of 2019.

The plant's annual production capacity will be on large-scale, at one million tons of methanol and 20,000 tons of DME. We expect to meet global demand growth and contribute substantially to the economic growth of neighboring countries and the increased business performance of our corporate group.



### Functional Food Material PQQ Obtained the First Ever Anti-doping Certification in the Japanese Market

TPQQ is a type of coenzyme that assists enzyme functioning, and has been confirmed to have the ability to improve brain function, including enhancing memory and the ability to discriminate. Although it is generally produced through chemical synthesis, MGC produces it through biotechnology, and has succeeded in manufacturing it via fermentative production. It has been commercialized as the functional food material BioPQQ.

BioPQQ is said to be effective in strengthening the mitochondria, which produce energy in cells, and is used as a raw material for energy supplements. In March 2018, MGC obtained the first-ever anti-doping certification in the Japanese market. This will enable athletes to take PQQ without concern, and therefore we can expect to see it used more widely in sports supplements.



# Aromatic Chemicals Company

We will achieve a business portfolio that enables sustainable growth based on high-value-added specialty chemicals and commodity chemicals as stable earnings bases.



## Business and Major products

### Aromatic Chemicals

- Meta-xylene
- Meta-xylenediamine
- MX Nylon (MXD6)
- Aromatic aldehydes
- Aromatic polycarboxylic acids

- Purified isophthalic acid (PIA)
- Phthalic anhydride
- Plasticizers

### Foamed Plastic

- Expanded polypropylene
- Expanded polyethylene
- Molded products

## Review of Fiscal 2017 and the Medium-term Management Plan

Despite several years of declining profitability, after implementing business structural reforms, we rebounded to become a profit driver of the MGC Group.

In fiscal 2017, our mainstay commodity chemicals (Meta-xylene and PIA) achieved a significant increase in revenue and earnings due to a sharp rise in PIA market prices, which has increased demand for plastic bottles,

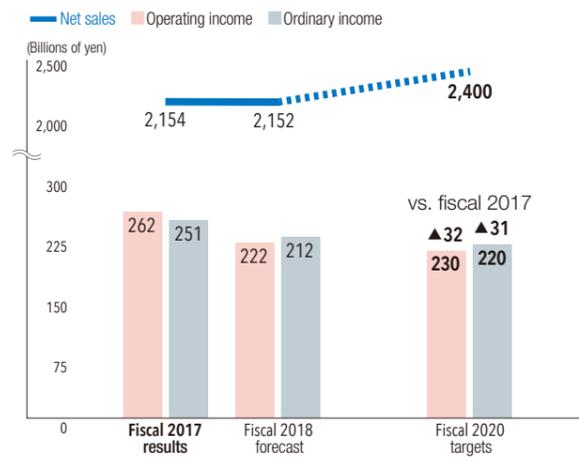
and the expansion of meta-xylene production. Sales volumes for specialty chemicals such as MXDA, its derivatives, and aromatic aldehydes have expanded, mainly in markets outside Japan. As a result, revenue and earnings increased in 2017. In contrast, earnings of the foamed plastics business developed by Group company JSP declined due to rising raw material costs, despite higher sales.



**Masato Inari**

Director and Managing Executive Officer  
President, Aromatic Chemicals Company

Fiscal 2017 Results and Fiscal 2020 Quantitative Targets



## Outlook

Commodity chemicals such as meta-xylene and PIA are major sales drivers, but we see a risk that the spread between market prices and raw material costs will affect earnings. This spread has been favorable in recent years, but is expected to contract in fiscal 2018, leading to a decline in earnings. In commodity chemicals, we will ensure safe and stable operations at production sites and increase its stability as a foundation business.

On the other hand, to raise the entire company's earnings, we seek to increase the proportion of specialty chemicals such as MXDA, MX nylon, aromatic aldehyde, and heat-resistant transparent polyimide through the development of new technologies and products, and through marketing in close cooperation with customers. In particular, we will promote the development of applications for MXDA, which has outstanding performance, and work to raise productivity and expand production capacity.

## Growth Initiatives

To optimize our business portfolio, we take a "product-out" approach and a "market-in" perspective.

Product-out is a product development method designed to gain a superior competitive position in new markets by using core technologies and the connection between existing products and the product being developed. In contrast, "market-in" seeks to create new technologies and products while working with the customer to determine the value they require and the issues they need to resolve.

To that end, we have set up a marketing team that includes members of the development division to facilitate proactive collaboration with both researchers and sales representatives. We will also improve technical support to gain an understanding of the functions and quality that customers truly want, and to help them properly use our products.

## Focus

### Heat-Resistant Transparent Polyimide Neopulim Facilitates Display Evolution

Neopulim is a high-performance material that is both highly transparent and heat-resistant. It has attracted attention as a resin film substrate that is an alternative to glass, especially for use in foldable OLED (organic light-emitting displays).

Flexible display panels are gaining momentum, even in the automotive field where the introduction of automated driving is advancing. Neopulim holds promise in the automobile industry due to its various properties including light weight, workability, chemical resistance, and low retardation.



### Expansion of MXDA Production Capacity due to Growth in Demand as a Product and Raw Material

While MXDA has a certain market share as an epoxy resin curing agent and corrosion-proof paint, it is one of the company's core products that is also a raw material for derivatives such as MX nylon, whose gas barrier properties are attracting much interest. In response to growing worldwide demand for MXDA as a product and raw material, we are considering the possibility of expanding production capacity, including at new production facilities outside of Japan.

At the same time, to expand sales to China, where demand for water-based paint is growing as environmental regulations tighten, we are also working on further application development by sending researchers to propose new formulations for MXDA and its derivative products.



# Specialty Chemicals Company

To further expand sales of high-value-added products, especially in advanced fields such as information-communications and mobility, we will focus on investments to strengthen our production system, including increased capacity and optimization, and drive profit growth for the Group.



## Business and Major products

### Inorganic Chemicals

- Hydrogen peroxide
- Persulfates
- Electronic chemicals (Chemicals for use in the electronics industry)
- Monomers for high refractive index plastic lenses

### Engineering Plastics

- lupilon (Polycarbonate), Polycarbonate sheet, Polycarbonate film
- lupizeta (Special polycarbonate)
- lupital (Polyacetal)
- Reny (Polyamide MXD6 molding compound)

## Review of Fiscal 2017 and the Medium-term Management Plan

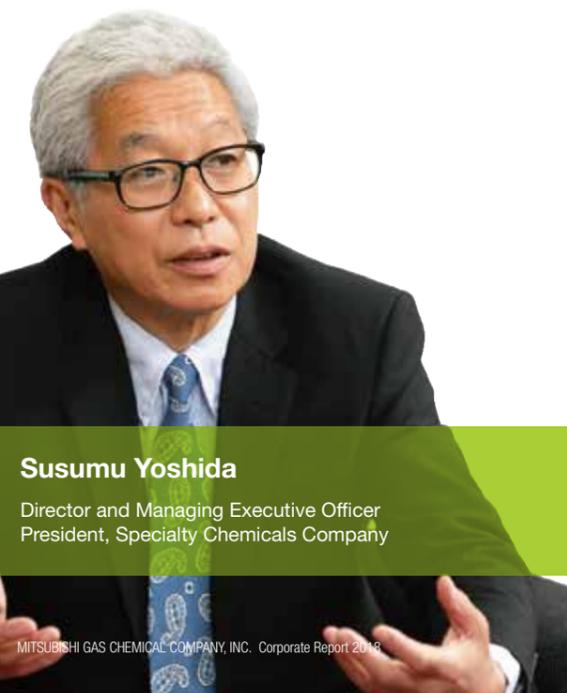
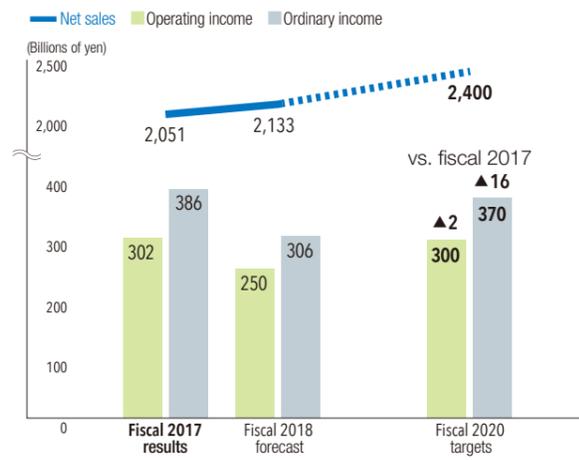
With the booming semiconductor and automobile markets, the Specialty Chemicals Company achieved significant growth in both revenue and earnings over the three-year period of the previous medium-term management plan, helping the company reach its target profit.

In the inorganic chemicals business, electronic chemicals (chemicals for use in the electronics industry) for

semiconductors and LCD manufacturing drove growth. Strengthening relations with local customers led to increased sales and higher revenue and earnings, especially in the United States and bases in Asia.

In the engineering plastics business, revenue and earnings increased significantly due to continued strong demand, mainly in China, resulting in rising polycarbonate prices, as well as strong sales of special polycarbonate resins and sheets.

Fiscal 2017 Results and Fiscal 2020 Quantitative Targets



**Susumu Yoshida**  
Director and Managing Executive Officer  
President, Specialty Chemicals Company

## Outlook

Demand for the company's products, both inorganic chemical products and engineering plastics, is robust. To maintain a strong competitive advantage, and further increase performance, we will focus on investments to reinforce production capacity starting in 2018.

In inorganic chemicals, we are building new super-pure hydrogen peroxide plants for cleaning semiconductor wafers for electronic devices at two locations, Oregon and Texas, in the United States. Both plants are scheduled to start operation in 2019 and, along with the existing Arizona Plant, will strengthen the supply system in the U.S. market.

For engineering plastics, the company is increasing manufacturing capacity for its super polycarbonate resin, lupizeta EP, which is experiencing sharply rising demand in the optical field for use in smartphone lenses and other applications. The plant is scheduled to begin operation in mid-2019.

In 2018, in addition to these investments, and with competition intensifying for electronic chemicals and the narrowing price spread for polycarbonate, we expect earnings to decline. Nevertheless, the production system, which will be significantly enhanced during the three years of the new medium-term management plan, will ensure the stronger presence of the Group in advanced markets such as information communications and mobility, and will serve as the basis for future growth.

## Growth Initiatives

To increase performance, we must strongly promote localization outside of Japan and shift to advanced fields.

We are expanding business outside of Japan in both inorganic chemicals and engineering plastics, and will pursue localization not only through production, but also raw material procurement, R&D, technical support, and other functions. We will ensure stable sales over the medium to long term by forging closer relationships with local customers.

In our shift to advanced fields, we will address technological innovations in key markets such as information communications and mobility. In the semiconductor field, microminiaturization and higher precision are advancing further, and electronic chemicals are also required to offer greater functionality and better quality than before. The company will differentiate itself from its industry peers by exercising the unique technological capabilities it has developed to meet requirements for high quality, and will support the evolution of semiconductors together with their manufacturers.

In the automotive field, we will further raise our presence by responding quickly to technological trends such as the growing demand for on-board devices accompanying the shift to electric vehicles (EVs), the evolution of in-vehicle displays that support automated driving, and the replacement of metal with resin to reduce weight.

## Focus

### Strengthen Product Development in the Optical Field Centered on Special Polycarbonate

Materials for camera lenses installed in smartphones and tablets require a high refractive index, which contributes to thinner lenses, and a low birefringence, which contributes to image sharpness. Super polycarbonate resin, lupizeta EP, which makes all of this possible, has the world's highest market share. In 2017, the Specialty Chemicals Company received the chemical industry's first Ichimura Prize in Industry for Outstanding Achievement for the Development of Special Polycarbonate Resin. With the growing demand for optical components, including in-vehicle cameras and surveillance cameras, the company is focused on product development that will drive the growth of this field.



### Promote Localization Outside Japan to Forge Closer Relationships with Customers

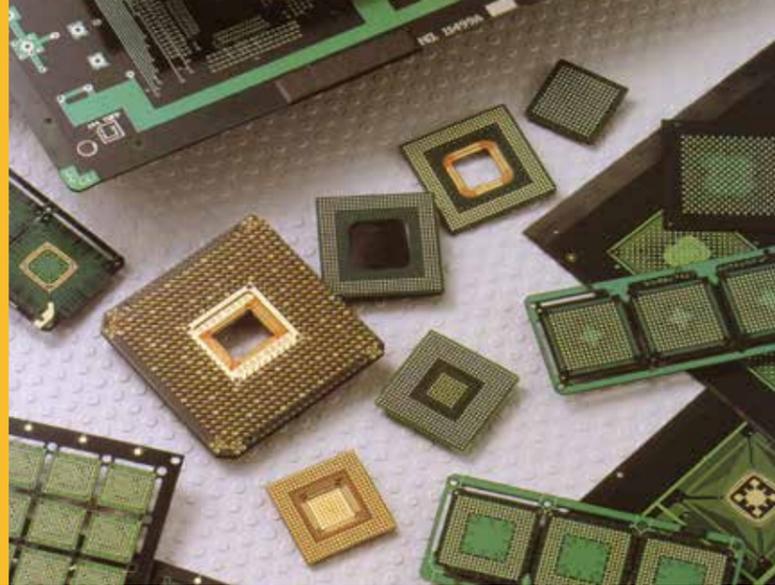
In the electronics industry, the target of electronic chemicals, the recent tightening of intellectual property controls has led to prohibitions against taking products or data overseas.

Therefore, localization is required not only for manufacturing, but also for R&D, technical support and other functions. Under these circumstances, we have established a new R&D building at our Taiwan subsidiary to build closer relationships with customers outside Japan.



# Information & Advanced Materials Company

We will implement a highly profitable business model by accelerating the research and development cycle and continuing to produce high-value-added technologies and products while anticipating the value needed by a changing society.



## Business and Major products

### Electronics Materials

- Laminate materials for printed circuit boards
- LE SHEET (auxiliary material for drilling)

### Oxygen Absorbers

- AGELESS
- AGELESS OMAC (oxygen absorbing film)
- PharmaKeep (for pharmaceuticals and medical equipment)
- AGELESS DRY (desiccant)
- Anaero Pack (anaerobic cultivation system)
- RP System (for electronic and machinery components)

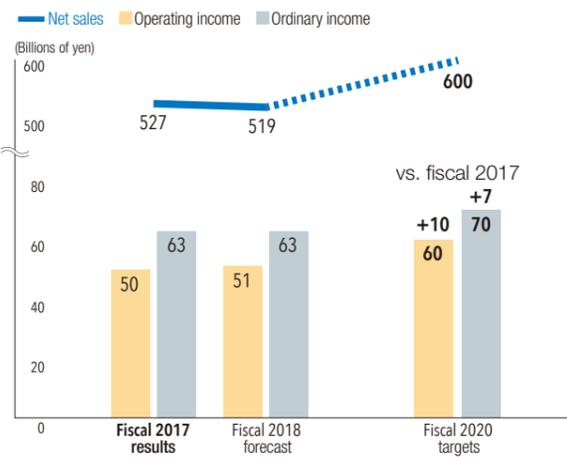
## Review of Fiscal 2017 and the Medium-term Management Plan

In the electronic materials business, we focused on developing products for the high performance, higher-priced high-end market. As a result, we achieved yearly sales growth and increased revenue and earnings in fiscal 2017. Optimizing the business chain including Group companies and withdrawing from low-profit and low-growth businesses, as well as improving the company's earnings structure contributed to the earnings increase.

The oxygen absorber business has continued to increase revenue by expanding sales to the pharmaceutical and overseas markets, as well as its mainstay domestic food market.

In fiscal 2017, although earnings declined due to the fixed cost burden of the new plant built in the QOL Innovation Center Shirakawa, the oxygen absorber business will be boosted by enhancing the production base in both Japan and Thailand.

Fiscal 2017 Results and Fiscal 2020 Quantitative Targets



## Outlook

The operating environment in the electronic materials business will continue to be brisk for the semiconductor market, especially memory chips. The spread of IoT, the computerization of automobiles, and other such trends are expanding demand for semiconductor devices across society as a whole, and at the same time, greater functionality is being required of those materials.

In materials that meet advanced requirements, we have already begun to produce results in leading-edge areas, such as fingerprint authentication and virtual currency data mining. Along with this sales expansion, we will speed up the development of next-generation products including collaboration with outside parties in areas such as open innovation and M&A.

In the oxygen absorber business, while seeking to increase our market share in the maturing domestic food market, we will continue to expand sales in overseas markets and develop new applications. We will also focus on providing solutions to higher value-added fields such as pharmaceuticals and the precision machinery industry.

## Growth Initiatives

As a company that provides high-performance products that are widely used in the electronics and medical fields, the Information & Advanced Materials Company seeks to be a high-profit R&D-centered company. With the successive development of technological innovations that produce major changes in society, such as IoT, AI, self-driving vehicles, and next-generation communications systems, the constant creation of new products is a prerequisite for sustained growth.

For example, in the electronic materials, demand for substrate materials for data centers is rapidly expanding business. Meeting the need for heat-resistant materials that can accommodate an increase in the amount of heat generation proportional to the volume of information helps curb air conditioning energy and offers a solution to both customer and social issues.

Even the oxygen absorber business triggers new demand both in and outside Japan by promoting advantages other than food safety and security, such as the impact of reducing food loss as a food resource countermeasure, and the effects of reducing the use of food additives to accommodate the health-conscious.

In this way, we will work to create new value and at the same time proactively take on new frontiers in collaboration with the Advanced Business Development Division.

## Focus

### Optimization of the Business Chain through Group Restructuring in the Electronic Materials Business

In December 2017, the Information & Advanced Materials Company reorganized its group subsidiaries to optimize the electronic materials business chain. Yonezawa Dia Electronics Co., Inc., which is responsible for manufacturing printed circuit boards and other items, was made a subsidiary of MGC Electrotechno Co., Ltd., which is responsible for the manufacture of copper clad laminates. We will expand sales by integrating both companies to raise effectiveness and efficiency. In addition, MGC Electrotechno Co., Ltd. will focus on the technology development functions of the Electronic Materials Division as a whole by effectively leveraging the technical resources of each group company, including production technology, quality assurance technology and technical service.



### Creation of the Shirakawa Plant of MGC AGELESS Co., Ltd., a New Production Base for the Oxygen Absorber Business,

MGC opened the MGC Ageless Company Limited's Shirakawa Plant in its QOL Innovation Center Shirakawa and began operation in April 2017. In addition to the stable production of high-quality products, MGC will create a supply system that is able to quickly respond to the sophisticated needs of its customers.



# New Businesses

Taking advantage of MGC's strengths, we will make proactive use of outside resources to rapidly establish new businesses that meet society's needs.



## The Role of the Advanced Business Development Division

The Advanced Business Development Division was established in April 2015. Comprising the Business Strategy Group, Business Development Group, and Advanced Business Research Center, it seeks to rapidly create and develop businesses in new domains by integrating processes up to commercialization, from selecting the target business domain to performing the necessary technical R&D, as well as market development.

Given our responsibility for business development in new domains, it is essential that we not think "what can we do with our technology," but rather "what does society need," and based on that, determine the fields that take advantage of our strengths. To do that, we will bring a broad, flexible approach and market perspective to creating a concrete path to commercialization.

## Policies for New Business Development

In addressing domains not currently part of the MGC Group, we must not rely solely on skills developed within the Group, but also introduce knowledge from outside. We will recruit experts with knowledge in various specialized fields, including medicine, pharmaceuticals, telecommunications and agriculture. We will also collaborate through open innovation, invest in venture companies, and actively cooperate with outside firms and research institutions, all with an eye to potential mergers and acquisitions.

Whatever the project, manufacturing requires materials, and by taking advantage of the Group's diverse materials, we will work toward early commercialization while maximizing synergies.



### Yoshihiro Kayano

Executive Officer  
General Manager, Advanced Business Development Division  
Deputy General Manager, Business Strategy Division

## Vision and Philosophy for Creating New Business

When creating a new business, it is important to develop a story that offers a concrete vision for a future beyond initial success, one that describes where and how the technology, products, and businesses that we create will be used in society and what kind of value they will generate. Even in collaborating with outside partners, communicating such a story will allow us to quickly and clearly share a sense of purpose and create a reliable partnership.

## Target Domains for New Business

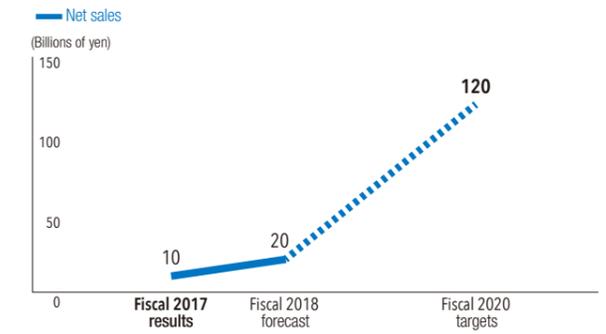
The Advanced Business Development Division targets the five business domains of medical/food, information/communications, mobility, energy, and infrastructure. We are placing particular focus on the medical/food field.

The table at upper right presents areas where a certain level of sales are already anticipated; the sales targets set for new businesses in the medium-term management plan are also based on these figures.

### Target Domains for New Business

Medical / food	Mobility	Information / communications	Infrastructure / Energy
Plastic vials and syringes OXYCAPT	All-solid-state lithium-ion batteries Complex hydride solid electrolyte		
Nucleic acid pharmaceuticals			
Factory farming business		Active optical cable	

### Sales Plan for New Businesses and Products



## Focus

### Entering the Factory Farming Business by Leveraging Knowledge of Chemistry

The vegetable factory is a cultivation facility capable of continuous and systematic production through the artificial control of environmental conditions such as light, temperature and humidity, carbon dioxide levels, moisture, and nutrients required for the growth of plants in the facility. MGC has built a large-scale vegetable factory with 100% artificial lighting using LED as its light source. The factory produces safe, reliable leafy vegetables in an optimal growth environment free from climatic influences, with the goal of providing a stable supply. In the factory-based vegetable production business, we seek to build a sustainable agricultural model by using MGC's wide-ranging knowledge of chemistry in the pursuit of a more efficient cultivation environment, and to provide safer, more reliable vegetables.



### OXYCAPT Plastic Vials and Syringes

MGC has developed OXYCAPT, the world's only multilayered plastic container that is highly resistant to cracking while offering high oxygen barrier properties similar to those of glass. In addition to low extractables of inorganic substances and the light weight, it also has superior UV barrier properties, thereby enabling the long-term storage of pharmaceuticals. The stability and effectiveness of this product can also be enhanced during its effective period of use.

These features have also been evaluated by pharmaceutical companies that handle bio-pharmaceuticals and emergency medicines such as epinephrine and dopamine.



# Research and Development

MGC has helped build a prosperous society and achieved sustainable growth, quickly giving shape to the value society seeks by maximizing technological synergies in and outside the Group.



## R&D Policy

Of the five measures listed MGC Advance2020, the medium-term business plan, “Strengthening the earning power of existing businesses with a focus on the core businesses” and “Creating and developing new businesses” in particular are closely connected to R&D.

We will conduct research and development in existing businesses that will help improve quality and enhance our cost-competitiveness, so that we can continue to support earnings as part of the backbone of the MGC Group.

At the same time, in the new businesses, it is required to quickly find research themes that match social trends. For example, one recent result of our development work was a special polycarbonate that is used as a lens material for cameras in smartphones and other devices; it succeeded because it was developed at a time when smartphones were coming into widespread use.

If we can quickly determine the kind of value society needs next and achieve that value in a timely manner, we can take the lead in fields with strong future prospects. This is the kind of R&D we will pursue in helping to create and develop promising new businesses.

## Promoting Research and Development

The third measure noted in the medium-term management plan is “Improving Group-wide operational efficiency.” To take full advantage of the Group’s technology and expertise, we are deepening collaboration between companies and Group companies in an effort to create synergies.

We emphasize sharing information and work on holding discussion with each other, such as holding a poster presentation that presents research results and discussing ideas by utilizing the internal network. In addition, since it is important to receive objective third-party assessments, we also give presentations at academic conferences, match businesses with venture companies, and promote exchanges with corporate customers.

## R&D Investment

To enhance the quality that supports sustainable growth, we focus on hiring and training R&D personnel and improving the research environment.

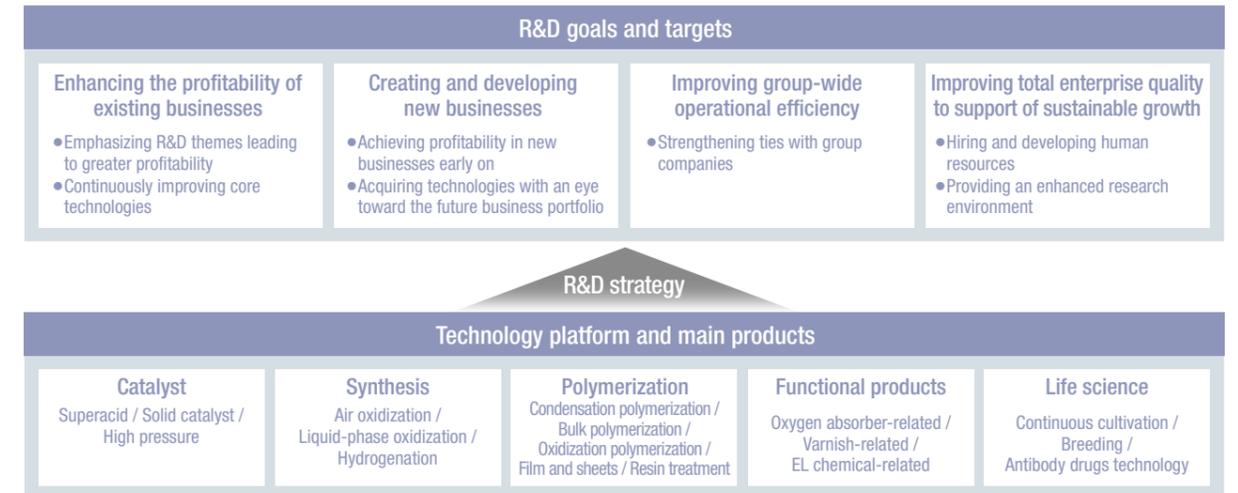
MGC also provides opportunities to not only gain cutting-edge knowledge aligned with specific research themes, but to learn skills that focus on the commercialization process, such as marketing and intellectual property.

We also create an environment that encourages dynamic, more efficient R&D, for example, by creating search sites where users can conduct document searches as well as market research, and by introducing research support tools.



**Masamichi Mizukami**

Director and Managing Executive Officer  
In charge of Research & Development Division,  
Advanced Business Development Division



## Research and Development Organization

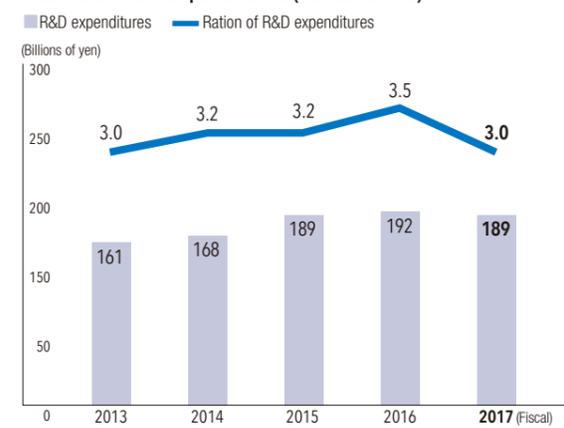
Company R&D	R&D Department
Natural Gas Chemicals Company	Niigata Research Laboratory
	R&D Department of Niigata Plant
Aromatic Chemicals Company	Hiratsuka Research Laboratory
	R&D Department of Mizushima Plant
Specialty Chemicals Company	Tokyo Research Laboratory
	R&D Department of Yokkaichi Plant
	R&D Department of Yamakita Plant
	R&D Department of Kashima Plant
Information & Advanced Materials Company	Research and Development Center

Corporate R&D	
Advanced Business Development Division	Advanced Business Research Center
Research and Development Division	R&D Administration Department
	Intellectual Property Department
	MGC Chemical Analysis Center

The primary purpose of company research is to make businesses with a competitive advantage stronger and to develop new products that are based on existing products and technologies. This work is mainly carried out in each company’s research and development division.

Corporate R&D works with the Advanced Business Development Division on R&D to create new core businesses in promising fields from a long-term perspective.

## Results of R&D expenditures (consolidated)



## Intellectual Property and Patents

Intellectual property plays an important role as a source of corporate competitiveness. At MGC, the Research and Development Division, the Business Division, and the Intellectual Property Group work together as one to formulate and pursue strategies for the effective use of intellectual property. Specifically, these divisions perform rigorous “technology clearance searches” to check for third-party infringement on patent rights and “prior art searches” to check whether research results can be patented. In addition, MGC aggressively protects and acquires the rights to the achievements produced by all core and new businesses.

# Strengths Supporting Growth (CSR/ESG)

Environment and Safety Management (Responsible Care) <b>E</b>	38
Concern for the Environment <b>E</b>	40
MGC Group Eco-Friendly Products <b>E</b>	41
Initiatives Toward Safe, Stable Operations <b>S</b>	43
Together with Stakeholders <b>S</b>	44
Corporate Governance <b>G</b>	49
Compliance and Risk Management <b>G</b>	53

## Environment and Safety Management (Responsible Care)

At MGC, sustainable development, building a recycling-based society, and safe operations are important management issues that determine how we conduct our business.

We promote Responsible Care (RC)<sup>1</sup> throughout MGC as a means to ensure we achieve our environmental and safety goals.

### The MGC Group Policies on Environment and Safety

As an important member of society, the MGC Group makes an effort to earn social trust by acknowledging our responsibility to contribute to the community, to preserve the environment and ensure safe working conditions, and to align our corporate activities with global environmental protection under the principle of sustainable development.

#### Environmental and Safety Targets

Zero Accidents,  
Zero Occupational Injuries,  
and Environmental  
Preservation

#### Basic Policies

- Maintain occupational health and safety processes across all operations
- Ensure process safety and security at work sites
- Reduce environmental impacts and contribute to the sustainable development of communities
- Ensure the safe handling, usage, and disposal of chemical products
- Ensure the safe transport and storage of chemicals and related products
- Build the trust of stakeholders
- Implement group-wide environmental and safety initiatives
- Improve environmental and safety management systems on a regular basis

### Message from the Director in Charge of Environment and Safety



**Kenji Inamasa**  
Representative Director,  
Senior Managing Executive Officer

Last year was the final year of our three-year Responsible Care (RC) Medium-term Plan 2017. In the fall of 2015, a fire and explosion at one of our hydrogen peroxide plants caused great public concern. Subsequently, we worked to thoroughly investigate and identify the cause of the accident, implement sound safety measures, and improve safety awareness company-wide. As a result of these activities, we succeeded in achieving zero lost time injuries and zero serious accidents in the two years following the accident. I believe this demonstrates that our efforts aimed at ensuring accident- and injury-free, safe and stable production have finally begun to show some success.

This year, we have revised the MGC Group Policies on Environment and Safety as part of the start of our new three-year RC Medium-term Plan 2020. It represents a renewal of our commitment to nurturing a broad trust with our stakeholders through our environmental and safety activities. Under the survey of CDP<sup>2</sup> Climate Change 2017, MGC again received a rating of A-, as we did the previous year. In addition to introducing MGC Group eco-friendly products that help reduce society's environmental impact, we have also announced the MGC Group Declaration on Environmental Sustainability, which sets out some of the ways the MGC Group is working to contribute to sustainable community growth.

Over the three years of our new medium-term plan, we seek to be an outstanding chemical company with original technologies and a strong presence in society, as we continue to pursue environmental and safety activities to ensure safety and security in our production operations.

<sup>1</sup> Responsible Care: The chemical industry's, including MGC, voluntary activities to harmonize business activities with global environment preservation through ensuring environment, safety and health in all stages of chemical substance life cycles from development, manufacture, distribution, use and final consumption to disposal.

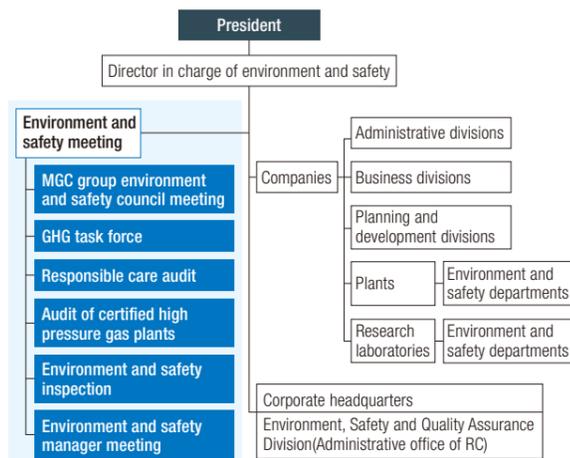


<sup>2</sup> CDP: A not-for-profit charity that runs the global disclosure system for investors, companies, cities, states and regions to manage their environmental impacts.

## Environment and Safety Management (Responsible Care)

### RC Promotion System

All of MGC's divisions, at both the segment and corporate level, follow the Policies on Environment and Safety that promote Responsible Care. Every December, MGC holds environment and safety meetings, which are chaired by the President and comprise all directors, audit and supervisory board members, company presidents, directors of plants and laboratories, and the general manager of the Production Technology Division. MGC also takes steps to make continuous improvements in the PDCA cycle based on the RC medium-term plan targets and annual activity targets.



### RC Audits in 2017

The director in charge of environment and safety, together with an auditing team, conducts the RC audit. This audit assesses the status of progress with RC action plans and priority audit items for the year at each of our sites.

In 2017, audits focused on (1) electrical equipment safety management; (2) progress in identifying machinery with high concentrations of PCBs; (3) partner company occupational injury prevention efforts; (4) maintenance of and improvements to construction starting procedures; (5) efforts to assess safety competency; (6) injury prevention efforts; and (7), management of records regarding distribution of safety data sheets.

#### ● Auditees

5 plants, 3 laboratories (including Tokyo Techno Park), 4 company business divisions, Purchasing & Logistics Center

#### ● Audit findings

Full conformity (25 cases)  
Non-conformity (no cases)  
Improvement orders (8 cases)  
Comments (23 cases)

### RC Medium-term Plan 2020 (2018-2020)

The descriptions in the Category of Activities concerning distribution safety, dialogue with society, and RC in general have been omitted.

Category of Activities	Basic Policy	Mid-term Plan
Occupational Health and Safety	Maintain occupational health and safety processes across all operations	Aim to eliminate occupational injuries at the worksites of MGC and its partner companies • Implement regular safety activities and ensure all personnel are informed of them • Share and utilize information about cases of occupational injuries • Maintain healthy workplace environments and make improvements when necessary
Process Safety and Accident Prevention	Ensure process safety and security at work sites	Aim to eliminate accidents in the workplace • Ensure proper management of equipment and facilities • Share and utilize information about cases of workplace accidents • Improve the ability of employees to ensure safety and manage workplaces through MGC's Bridge-II activities
Environmental Conservation	Reduce environmental impacts and contribute to the sustainable development of communities	Aim to protect the natural environment and contribute positively to communities through business activities • Fully comply with environmental regulatory requirements • Work to achieve environmental impact reduction targets • Contribute to improving MGC's credibility and reputation in society with respect to environmental conservation
Chemical and Product Safety	Ensure the safe handling, usage, and disposal of chemical products	Work to consistently maintain safety across the entire lifecycle of chemical products • Stay updated on chemical-related safety information and distribute such information when necessary • Practice risk management of chemical products • Comply with chemical management regulations in each country of operations and international rules and regulations

## Concern for the Environment

Climate change and other global-scale environmental issues have gained much attention in recent years. The MGC Group recognizes that environmental problems are an important issue with a significant impact on its business activities and is engaged in a variety of initiatives to address them.

### The MGC Group Declaration on Environmental Sustainability

The Mitsubishi Gas Chemical Group shall help communities develop more sustainably in the future by taking actions aimed at maintaining a healthy global environment going forward, including initiatives for tackling climate change, promoting community-based recycling, and protecting biodiversity.

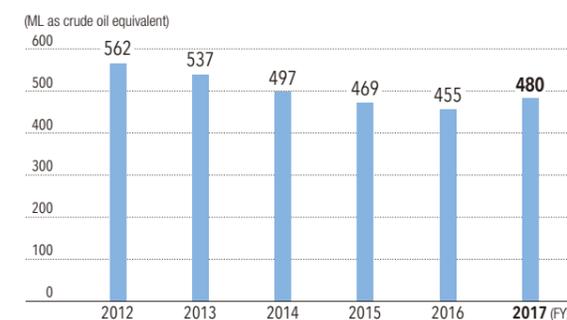
1. We shall strive to procure energy, raw materials, water, and other resources in a manner that minimizes environmental impact, and promote the efficient use of such resources.
2. We shall implement measures to reduce the environmental impact of greenhouse gases and other environmental pollutants.
3. We shall reduce waste through recycling and other initiatives, and properly manage and dispose of the waste we produce.
4. We shall promote the development and widespread use of products and technology that reduce environmental impact or help restore damaged ecosystems.
5. We shall fully comply with international rules and the environmental regulations of countries in which we operate.
6. We shall promptly and properly disclose information regarding our environmental initiatives and proactively engage with our communities.
7. We shall strive to raise awareness of environmental issues through education.

### MGC's Primary Environmental Impacts

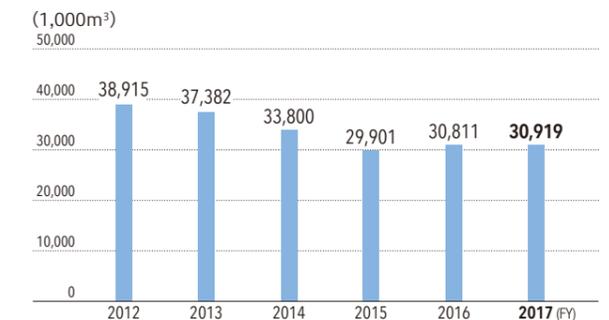
MGC considers climate change and water use to be important areas of risk that impact both the global environment and its business activities, and is working to reduce its environmental impact.

Details of the MGC Group's environmental impacts, including those not listed below, can be found on the Mitsubishi Gas Chemical website (information scheduled to be made available in November 2018).

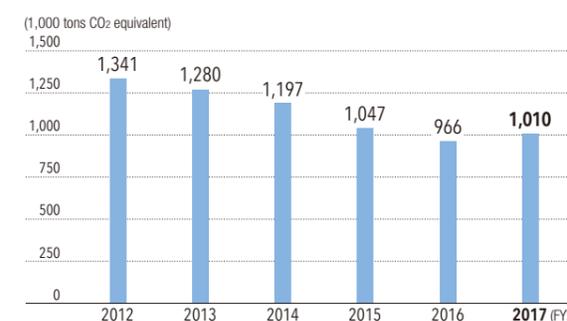
#### Energy consumption



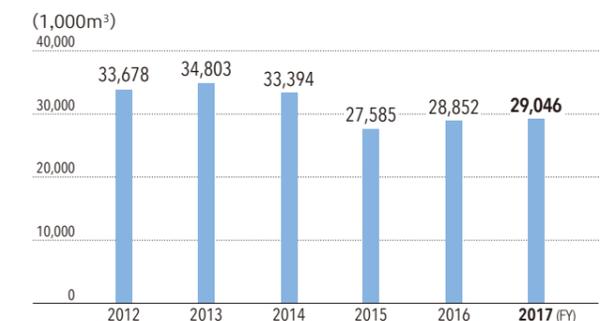
#### Water intake



#### GHG emissions



#### Wastewater



# MGC Group Eco-Friendly Products

MGC products can be useful in reducing environmental impact in various areas of society. These kinds of products have been designated by MGC as “MGC Group Eco-Friendly Products.”

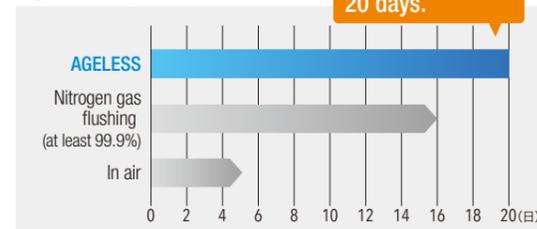
## Ageless oxygen absorbers | Preserves the freshness and taste of food for longer periods

### Reducing food waste loss

Benefits for the environment

Ageless can keep food tasting delicious and fresh for relatively long times, which leads to less food being thrown away due to mold, discoloration, or loss of flavor. That also helps reduce the amount of times food needs to be produced and delivered, which ultimately means less CO<sub>2</sub> emissions.

### Testing the ability of Ageless to prevent mold



Under experimental conditions, observations were made of blue mold colorization on castella sponge cake, in packaging containing an Ageless sachet, in nitrogen-flushed packaging, and when exposed to the air.

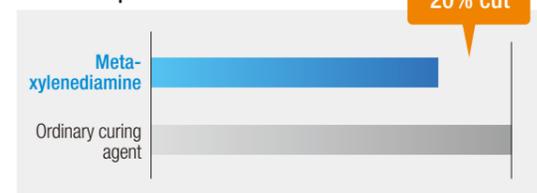
## Meta-xylenediamine | An environmentally- and health-friendly paint component

### Contains absolutely no organic solvents

Benefits for the environment

MGC's meta-xylenediamine (MXDA) epoxy coating is comparatively friendlier to human health and the environment than conventional products because it is water-based and contains no organic solvents, which are a cause of atmospheric pollution. Compared with ordinary curing agents, about 20% less volume of MXDA is needed to achieve the same hardening performance, which ultimately contributes to conserving oil resources.

### Comparing MXDA and an ordinary curing agent by the amount of needed for the same performance



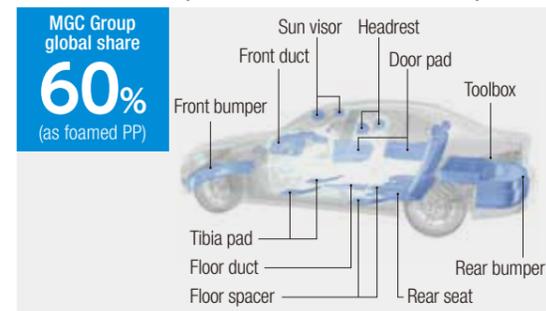
## Foamed plastic | A resin that contributes significantly to reducing weight and increasing fuel economy of automobiles

### Enables the weight of a car's rear seat to be reduced by 20 – 30% compared with previous products

Benefits for the environment

Widely used in automotive components, foamed plastic is a very lightweight and rigid material that contributes to improving the fuel efficiency of vehicles and reducing CO<sub>2</sub> emissions. Foamed plastic is also an environmentally friendly material that can be recycled.

### Automotive components made with foamed plastic



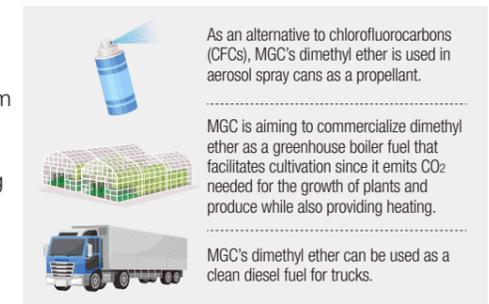
\* Products of JSP, a member of the MGC Group.

## Dimethyl ether | A clean fuels

### Emits comparatively low amounts of NOx and no SOx and PM matter during combustion

Benefits for the environment

MGC produces dimethyl ether as well as methanol from natural gas produced as a by-product of oil drilling, thereby making effective use of resources from an environmental perspective. Dimethyl ether is also being promoted as a clean fuel because it emits no sulfur oxide (SO<sub>x</sub>) and particulate matter (PM), which are emitted when burning diesel oil or kerosene.



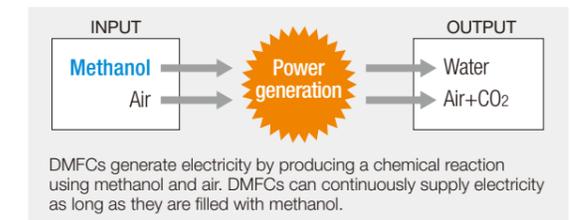
## Direct methanol fuel cells | Enabling quiet and clean power generation

### Supplies power without emitting any NOx, SOx, particulate matter or other atmospheric pollutants

Benefits for the environment

Direct methanol fuel cells (DMFCs) produce power through a chemical reaction, so they operate quietly and emit no atmospheric pollutants. They can also continuously supply electricity for several consecutive days and are becoming increasingly common as an emergency power source.

### How DMFCs work



## Geothermal power | A renewable and clean source of energy

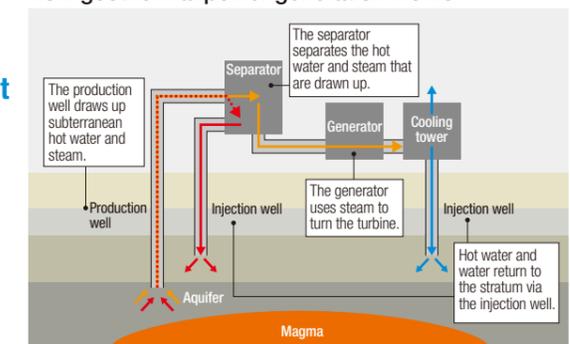
### CO<sub>2</sub> emissions over the lifecycle of a geothermal power\* are less than 2% of a coal-fired power plant

\*Refers to CO<sub>2</sub> emission over the lifecycle of a power plant, from construction to operation and dismantling.

Benefits for the environment

Geothermal power is generated by using heat from the Earth's core to produce steam. It is a renewable source of energy that can stably generate power without being affected by seasonal weather changes. In addition, geothermal power plants emit very little CO<sub>2</sub>, and contribute to preventing global warming.

### How geothermal power generation works



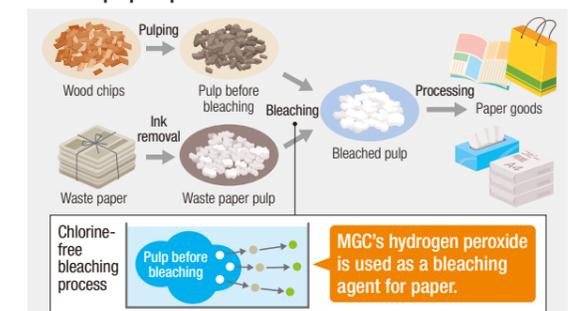
## Hydrogen peroxide | An environmentally-friendly bleaching agent

### Hydrogen peroxide is used as a bleaching agent that does not harm marine ecosystems because it decomposes into water and oxygen

Benefits for the environment

Hydrogen peroxide is a chemical compound that has been used as a bleaching agent and an oxidizer for many years. It produces no harmful by-products since it decomposes into water and oxygen. Consequently, hydrogen peroxide is in demand for various applications as an environmentally friendly chemical.

### Using hydrogen peroxide instead of chlorine to bleach paper products



# Initiatives Toward Safe, Stable Operations

MGC's top priority is to ensure safety, and we are engaged in proactive initiatives aimed at zero accidents and zero occupational injuries.

## Occupational Health and Safety

With the goal of achieving zero occupational injuries, we regularly conduct safety-related education and drills and occupational health and safety risk assessments. In addition, each workplace continuously engages in everyday safety tasks such as 5S activities, hazard prediction, and proposals for addressing Hiyari Hatto (near-miss) incidents. As in the previous year, there were no lost time accidents in 2017, four plants and one research laboratory were recognized with zero-accident awards based on company rules, and as of January 2018, we have exceeded 1,000 days in a row with zero lost time injuries at MGC.



Chemistry class (Mizushima Plant)



Hazard prediction drill for new employees

### Lost time injury frequency rate<sup>\*2</sup>

	2013	2014	2015	2016	2017
MGC	0	0	0.27	0	0
Chemical industry	0.82	0.76	0.81	0.88	0.81
Manufacturing industry	0.94	1.06	1.06	1.15	1.02

\*2 Frequency rate: Number of occupational injury casualties per one million working hours

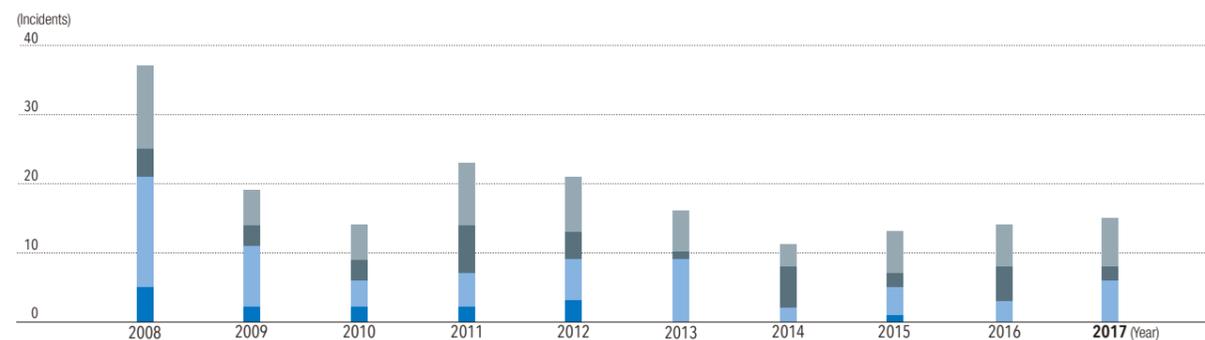
### Lost time injury severity rate<sup>\*3</sup>

	2013	2014	2015	2016	2017
MGC	0	0	0.00	0	0
Chemical industry	0.12	0.17	0.04	0.03	0.09
Manufacturing industry	0.10	0.09	0.06	0.07	0.08

\*3 Severity rate: Number of lost working days per 1,000 working hours

### Safety record (MGC and partner companies)

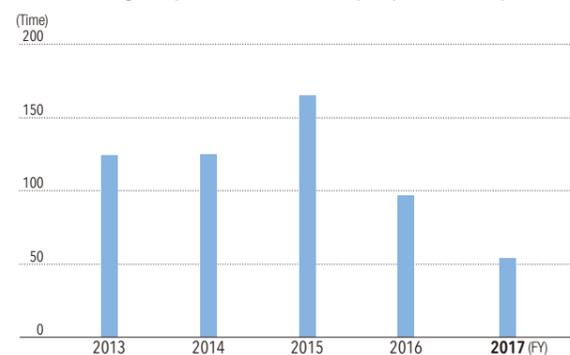
■ MGC lost time ■ MGC non-lost time ■ Partner lost time ■ Partner non-lost time



## Initiatives Toward Stable Operations

With the goal of reducing equipment breakdowns and production suspensions, we engage in systematic maintenance, while also working to enhance workplace skills. Our average unplanned down time per year per plant, a measure of the success of those activities, is trending downward. In fiscal 2017 in particular, the Yamakita, Mizushima, and Niigata plants received stable operation awards based on company rules, in recognition of their contribution to stable production.

### MGC average unplanned down time per plant for all plants



# Together with Stakeholders

MGC aims to earn society's trust and empathy by fulfilling its responsibilities to a variety of stakeholders and by contributing to local communities as a member of society.

## Together with Customers

### Quality assurance

In its MGC Corporate Behavior Guidelines, MGC outlines its commitment to ensuring customer and consumer satisfaction and trust, by responding to society's needs and by providing high-quality products and services that are useful, safe, and reliable. As part of achieving that goal, our product liability management rules establish that the Companies or the general manager of new business development have responsibility for quality assurance, and all of our plants have acquired ISO 9000 series quality management certification.

Other examples include MGC Ageless Co., Ltd. and AGELESS (Thailand) Co., Ltd., which manufacture the oxygen absorber AGELESS; they have obtained certification under the FSSC22000<sup>\*1</sup> food safety management system, and are working to build a quality assurance structure.

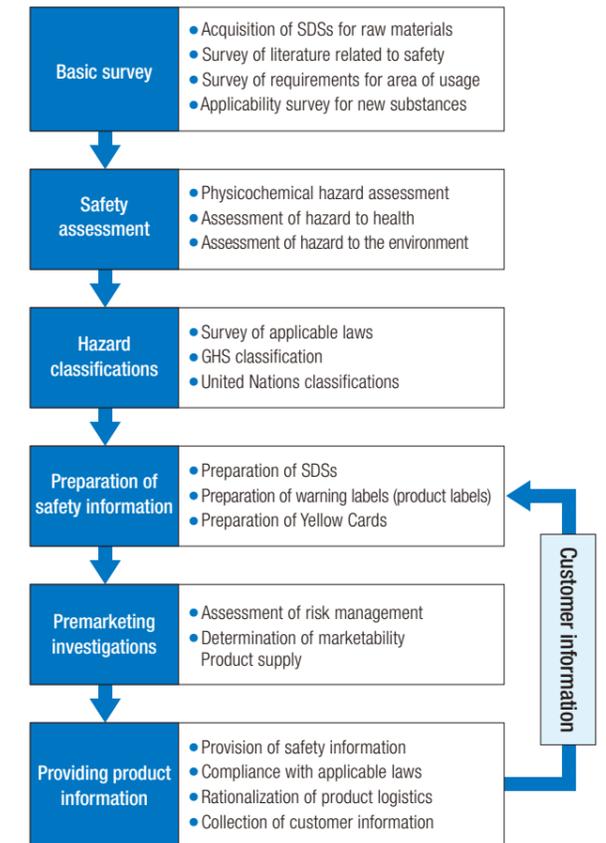
### Preventing Product-related Accidents

At MGC, we conduct basic surveys and safety assessments at the product development stage. When products correspond to new chemical substances, we first conduct safety testing and then classify the products according to whether they do or do not come under applicable regulations, as well as according to their degree of hazard under standards such as GHS,<sup>\*2</sup> before preparing safety information such as safety data sheets (SDSs). Based on these, we perform risk assessments (based on hazards of the substances themselves and hazards related to exposure) for every stage of a product, from manufacture to disposal. Products are offered once this screening is complete.

Many of MGC's products are chemicals, and potential product-related accidents include fires and chemical burns. In the event problems related to the Product Liability Law (PL Law) occur, the designated staff person in charge of complaints at each Company will work with the business division in question, the production divisions, research divisions, or logistics divisions to investigate the source of the problem and propose countermeasures. At the same time, the Product Liability Committee, which receives reports from the designated staff person in charge of complaints, will formulate and implement company-wide preventive measures.

It should be noted that, thus far, problems related to the Product Liability Law have not occurred at MGC.

\*1 FSSC22000 is an international standard adopted by major food manufacturers, retailers, and others worldwide as supply chain management guidelines.  
 \*2 GHS: The Globally Harmonized System of Classification and Labelling of Chemicals. Chemical hazards are classified under fixed standards and are indicated clearly with pictograms on labels and through SDS documentation. Ultimately, the information contributes to accident prevention and to protecting human health and the environment.



A SDS that conveys detailed information about the handling and safety of chemicals



A label printed with easy-to-understand warnings and safety information

## Together with Our Stakeholders

### Enhancing Customer Satisfaction

MGC offers a wide range of products. To respond to customer expectations and the trust they place in our products, MGC incorporates customer requests and feedback in product development and in improving its services.

For example, oxygen absorber “AGELESS” comes in a diverse lineup of product grades to meet the quality retention needs of customers in fields such as food products and medicine, and the attention we give to sanitation in the production process ensures we deliver products that are safe and reliable.

#### Recognized with Intel Corporation's SCQI Award

MGC has been recognized as a recipient of its prestigious 2017 Supplier Continuous Quality Improvement (SCQI) award by Intel Corporation, the global semiconductor manufacturer. The SCQI award is Intel's most prestigious recognition and signifies an elite performance in all critical management systems supporting quality, cost, availability, technology, customer service, and sustainability.

To qualify for SCQI status, Intel suppliers must exceed the highest expectations and aggressive performance goals while scoring at least 95 percent on an integrated report card that assesses performance throughout the year. Suppliers must also achieve 90 percent or greater on a challenging improvement plan and demonstrate outstanding quality and business systems.

MGC has been recognized with this award for eight consecutive years\* since 2010.

\*Recipient of the Preferred Quality Supplier (PQS) award in 2010, 2011, 2013, 2014, and 2015, and of the Supplier Continuous Quality Improvement (SCQI) award in 2012, 2016, and 2017.



### Compliance with the Act against Delay in Payment of Subcontract Proceeds, etc. to Subcontractors

Each year we check the entire company for compliance with this important law. We have also created a check sheet to verify the applicability of this law during new business transactions, and regularly hold in-house training sessions on the law to ensure complete compliance.

### Working with Partner Companies

With our construction partners, we share information on occupational injuries, and jointly conduct risk assessments, safety training, and disaster reduction drills in an effort to prevent industrial accidents. At some plants, we also recognize partner companies that have outstanding safety records during periodic maintenance work. We work closely with the shipping providers of our partner companies to ensure safety during transport, to enhance logistics quality, and to carry out a modal shift.

MGC is working with its partner companies to build better relationships, not only through efforts to ensure safety and preserve the environment, but by conducting audits and safety inspections of those partner companies.



Safety education during the first delivery under our modal shift.

### Concern for Our Contractors

To ensure employees of our contractors can work safely, we conduct environmental and safety audits and share information on industrial accidents and irregularities. We also exchange information by participating as observers on one another's Occupational Health and Safety committees and ask contractors to participate in MGC safety meetings. Through business audits, we also check on contractor enrollment in various types of insurance and employee pension programs.

## Together with Business Partners

### Procurement

One of the procurement criteria stipulated in MGC's procurement rules is supplier reliability, and we consider a supplier's CSR activity to be an important factor in this regard. In this way, we endeavor to build a supply chain that takes due account of regulatory compliance, the environment, and safety.

## Together with Employees

### Respect for Human Rights

At MGC, we adhere to strict Corporate Behavior Guidelines and the MGC Code of Conduct, which call for us to respect individual personality and human rights, and to do nothing that will hurt anyone by discriminating against them based on their race, gender, nationality, age, religion, or place of origin. Our Code of Conduct also articulates that sexual harassment and power harassment are prohibited. These guidelines and codes—along with the four fundamental principles<sup>1</sup> of the International Labor Organization (ILO)—have also been communicated to our Group companies overseas. We work to reinforce these principles on a day-to-day basis through training sessions and internal communications, and have also established a special consultation desk.

<sup>1</sup>1. Freedom of association and the right to collective bargaining; 2. Elimination of forced labor; 3. Effective abolition of child labor; 4. Elimination of discrimination with respect to employment and occupation.

### Promoting Diversity

We are striving to put in place an environment that respects diversity and enables our employees, themselves diverse individuals, to demonstrate their unique capabilities, and approach their work with a sense of purpose and meaning.

In promoting a more active role for women, we have prepared an action plan ending in 2021 that targets a four-fold increase in the percentage of female managers over fiscal 2015. Under the action plan, we are implementing measures to support career development and enhance programs that assist in balancing work and family life.

The re-employment rate for retirees desiring re-employment has reached 100% for nine years in a row from fiscal 2009 to fiscal 2017 as a result of our employment opportunities for retirees.

MGC also continues working to create a workplace environment that allows people with various disabilities to fully demonstrate their capabilities.

MGC's rate of employment for people with disabilities in fiscal 2017 was 2.27%, which was 0.27% above the legally mandated rate of 2.0%.

### Work-Life Balance

In terms of work-life balance, MGC is working to create programs and a culture in which each employee can feel secure and motivated by their work, taking an active role over long term in accordance with their individual circumstances.

We have established a system for child care that exceeds the statutory requirements, including childcare leave until a child reaches two years and one month, and a system of shorter working hours until a child enters elementary

school. We have achieved a 100% return-to-work rate after childcare leave for six years in a row. In June 2016, MGC was certified by the Minister of Health, Labour and Welfare as a company that supports child rearing and obtained the “Kurumin” next-generation support certification logo.

In response to diversifying ways of working and taking time off, MGC has established a flextime system, as well as a system for accumulating annual leave (up to 40 days) and various types of special leave, including leave for marriage, childbirth, work transfers, volunteering, medical donors, and others. We also have in place a system whereby those needing leave to care for family members can take up to one full year, exceeding statutory requirements. In terms of corporate culture, efforts include establishing a no-overtime day and measures to encourage employees to take their annual leave through such groups as the Shorter Hours Committee established by labor and management.

As a result of these initiatives, usage of annual leave was 90.3% in fiscal 2017 (versus 86.5% in fiscal 2016), and total working hours averaged 1,876.7 hours per employee (versus 1,867.5 hours in fiscal 2016).



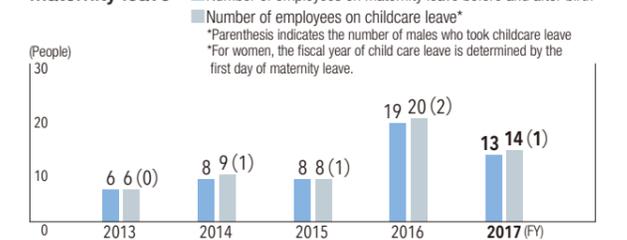
### Female employees and managers (non-consolidated)



### Employees and managers who are foreign nationals (non-consolidated)



### Maternity leave



## Together with Our Stakeholders

### Mental and Physical Health Care

We provide regular health checkups each year for all officers and employees, and our checkup compliance rate is nearly 100%. When the results of tests indicate the need for retesting or there are any specific findings, we work to promote employee health through guidance provided by industrial physicians and public health nurses.

MGC has also implemented a number of programs to ensure mental well-being. The Employee Assistance Program (EAP) is one of these, and provides employees an environment in which they can freely consult outside specialists regarding their concerns. In addition, to meet the requirement for stress checks stipulated by Japan's Industrial Safety and Health Act, we conduct an annual mental health diagnosis for self-evaluation of stress levels, and work to raise awareness of stress-related issues through workshops and other means. We also conduct mental health training during sessions designed for new employees and those scheduled for promotion.

### Human Resource Development at MGC

Our people are our most important asset. Based on our human resource development philosophy, MGC strives to enhance mechanisms for enabling employees to better themselves as professionals while improving their knowledge and capabilities, and to create a working environment invigorated by personal fulfillment.

MGC's personnel system is a multi-stream vocation qualification grading system based on management by objectives. Up to the standard age of 28, employees belong to the same basic career path regardless of gender or educational background, and then move on to select a course that will help them in their careers. We support all employees equally, providing them with a range of career opportunities in line with individual aspirations that meet their roles, achievements, and capabilities.

### 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 issues related to management and the business environment, including such themes as work styles, employee benefits, and treatment, and meetings of the Personnel System Review Committee for joint labor-management discussion of various programs. 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 other negotiations.

Note that there were 1,846 labor union members as of

the end of March, 2018 (a participation rate of 100% due to the union-shop system). Employee tenure was 18.5 years (18.6 years for men, 17.3 years for women).

## Together with the Community

### Involvement in Community Activities

We encourage interaction with the community through participation in local festivals, blood drives, and traffic safety campaigns on local roads.



Taking part in the local festival (Yamakita Plant)



Donating blood (Hiratsuka Research Laboratory)

### Local Environmental Preservation and Beautification Activities

At each of its sites, MGC participates in the preservation of nearby coastal forests, and in cleanup of local roads, riverbeds, and other beautification activities.



Community cleaning (Kashima Plant)

### MGC Advanced Polymers, Inc. Awarded Environmental Commendation for Fifth Consecutive Year

In September 2017, MGC Advanced Polymers, Inc. was the recipient of the Platinum Award, the highest honor under the Industrial Waste Pretreatment Program overseen by Chesterfield County in the state of Virginia. This was the fifth year in a row that MGC Advanced Polymers was so honored, and came in recognition of the company's having cleared all environmental regulations for 10 consecutive years. The company is currently working toward two major objectives in the area of the environment—reducing the volume of organic substances



The company's collection of trophies and commendations

in wastewater generated by production processes, and reducing the amount of nitrogen recovered from rainwater—efforts for which the county has high expectations.

### Environmental and Disaster Preparedness Activities in the Local Community

To further local community understanding of our environmental conservation and process safety activities, we continue to participate in local dialogue meetings held by the Japan Chemical Industry Association (JCIA). In addition, we are working with local communities to promote safety and disaster preparedness through joint drills with fire departments and through other means. All of MGC's plants have obtained ISO 14001 certification and continually strive to improve the quality of their environmental management systems.



Local dialogue meeting (Kashima Plant)

### Initiatives for the Next Generation

We host student visits and internships involving local junior high schools, high schools, technical junior colleges, and universities. We have also continued to provide chemistry experiment kits to junior high schools near our facilities since 2008, with the aim of helping students to realize that chemistry is useful in everyday life and preventing a declining interest in science. The kits help students learn about the oxidation of iron by making pocket heating pads.

Through these and other initiatives, we are stimulating interest in chemistry among children and students who represent the next generation.



Mirai Daigaku (Future University/Niigata Plant)



Chemistry experiment kits

## Together with Shareholders and Investors

To ensure shareholders and the investment community have a correct understanding of MGC, we strive to disclose information in a fair and transparent manner through information disclosures in accordance with laws and the rules of the stock exchanges, through the announcement of information on our website or through media outlets, and through reports to shareholders.

### Basic Policy on Profit Distribution

The MGC Group places topmost management priority on enhancing corporate value. Based on the belief that improving corporate value is in the interest of our shareholders and other stakeholders, we take into consideration planned investments and loans for business expansion, financial health, and future business trends, and work to achieve an optimal balance between retained earnings and shareholder returns. Retained earnings are applied to investments aimed at business expansion and growth and at strengthening our corporate structure. The Company will continuously provide stable dividends, while taking operating performance and other factors into account when determining the distribution amount. The Company's basic policy is to improve capital efficiency and enhance shareholder returns by flexibly purchasing treasury stock while considering the levels of internal reserves and returns to shareholders.

The full-year dividend for fiscal 2017 increased by 21 yen per share to 59 yen (taking into account the share consolidation conducted on October 1, 2016).

### General Meeting of Shareholders

The general meeting of shareholders is held avoiding peak days so that as many shareholders can attend as possible. To give shareholders more time to consider how to vote, MGC also endeavors to send out convocation notices early, and posts the information on the company website in advance of sending notices out. We also translate the convocation notice and other documents into English and have adopted an electronic voting platform in order to make the process more convenient for shareholders. The rate at which shareholders exercised their voting rights at the 91st general meeting held in June 2018 was 83.27% (versus 84.27% in 2017).

To provide shareholders with booklets that are easier to read, understand and handle, beginning with the 91st general meeting we also began printing the convocation notice in color, and have bound it together with our annual business report.

### Briefings for Shareholders, Institutional Investors and Securities Analysts

We hold a variety of earnings briefings and other business briefings for shareholders, institutional investors and securities analysts. We also post on our website reference materials from our earnings briefings as well as other explanatory materials in an effort to share information about MGC in a timely fashion.



Earnings briefing

# Corporate Governance

We strive to operate an effective corporate governance system and to continually reinforce and enhance our system in order to fulfill the expectations of all stakeholders.

## Corporate Governance Policy

Mitsubishi Gas Chemical Company, Inc. (MGC) shall strive to operate effective corporate governance systems and continuously reinforce and enhance those systems in order to meet the expectations of all stakeholders including shareholders. Accordingly, it shall adhere to the following basic principles:

- (1) Ensure the rights of and equality among shareholders.
- (2) Engage in appropriate collaboration with shareholders and other 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

MGC has adopted a corporate auditing system and, for the purpose of business execution, has established an executive officer system, which clearly separates management decision-making and supervisory functions from the business execution function. The Board of Directors decides the basic policies of management, as well as important matters relating to items decreed by law and the company's Articles of Incorporation. The Board of Directors oversees the execution of business, while executive officers are responsible for directly managing business affairs.

### Directors

MGC has set the term of office for directors at one year to clarify the accountability of management. There is also a stipulation that MGC's directors may concurrently serve as an officer at a maximum of three companies other than MGC Group companies, to ensure that they can fully concentrate on MGC's management.

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.

In addition, discussions incorporating a diverse range of opinions are held to evaluate the efficacy of the Board of Directors.

### Corporate Auditors

MGC's Audit & Supervisory Board is comprised of four corporate auditors, of which three are full-time and two are outside members. They 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 the law and corporate norms.

### Training of Directors and Corporate Auditors

MGC has newly appointed directors and corporate auditors attend mandatory seminars outside the company covering legal-related matters, particularly in connection with the Companies Act of Japan, in order to enhance their understanding of the roles, responsibilities and duties of their respective positions. When deemed necessary, MGC gives directors, corporate auditors, and other officers opportunities to attend external seminars covering various topics, including compliance, risk management, internal controls, and legal issues, and provides them with relevant books and other documents. Furthermore, all executive officers and directors overseeing business execution participate in workshops held each year, in which they discuss challenges and tasks for management in group settings. When appropriate, experts from outside the company are invited to give informative lectures on current topics such as revisions to laws.

In addition, MGC works to improve the efficacy and quality of its auditing by organizing study meetings for members of the Audit & Supervisory Board and providing opportunities for them to attend external seminars of their choosing in order to gain additional knowledge of relevant laws, auditing techniques, financial accounting, and other matters.

business execution and other important matters from directors and the office staff, request explanations whenever necessary and express opinions. The auditors also inspect important documents related to the execution of business and request explanations from directors and the office staff. The auditors can make use of specialists who are independent from the company, such as attorneys of law, for the purpose of making proper decisions related to auditing.

In addition, outside directors and corporate auditors are encouraged to share opinions and information at any time in an effort to promote cooperation between the outside directors and members of the Audit & Supervisory Board.

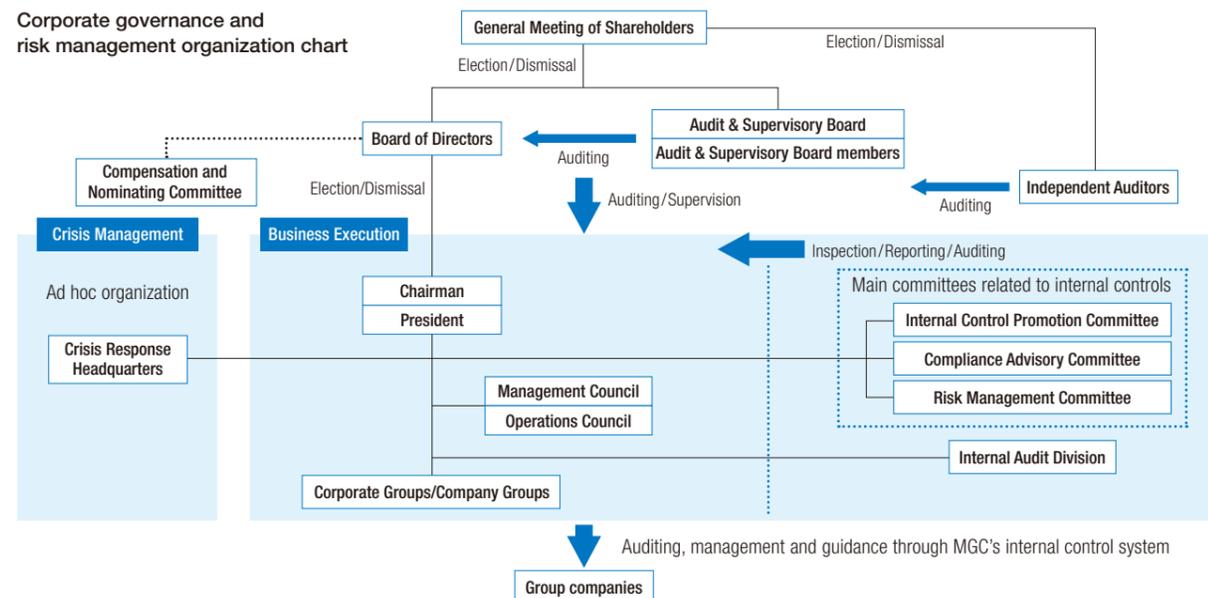
### Standards for Outside Directors and Outside Auditors

In order to ensure the fair and objective oversight of management, particular attention is paid to the independence of outside officers (outside directors and outside auditors), 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.

The Company defines as independent all outside officers who satisfy the requirements for being an independent officer.

In addition, that candidate is deemed to qualify as an independent officer as long as none of the following matters apply.

Corporate governance and risk management organization chart



### Compensation and Nominating Committee

MGC's Compensation and Nominating Committee was established for the purpose of ensuring transparency, objectivity, and proper conduct in the process of determining compensation for directors and executive officers, and of nominating and appointing directors, corporate auditors and executive officers.

Proposals for compensation and nominations are submitted to the committee, which is made up of the chairman of the Board, the president, and outside directors, prior to deliberations by the Board of Directors.

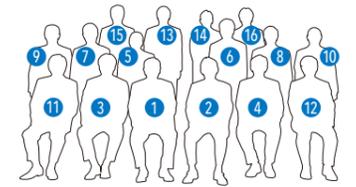
### Information Sharing and Support Network for Outside Directors

An employee not subject to instructions from directors has been assigned to assist corporate auditors with their duties. In addition to providing practical support for conducting audits, the employee facilitates communication between the auditors and coordinates their activities as the administrative staff of the Audit & Supervisory Board.

As members of the Audit & Supervisory Board, corporate auditors regularly exchange views with directors, periodically and promptly receive reports on the status of

1. If any of the following applies to the candidate.
  - Has been a business execution manager<sup>1</sup> of the Group.<sup>2</sup>
  - Is a major shareholder of MGC<sup>3</sup> or is or has been a business execution manager for a major shareholder company within the previous five years.
  - Is or has been a business execution manager within the previous five years of an important business partner.<sup>4</sup>
  - Has been dispatched from a company or organization that has established a relationship with the Group through the reciprocal appointment of outside officers.
  - Works for or has worked for an auditing firm within the previous five years that has conducted a statutory audit of MGC.
  - Provides or has provided consulting services other than statutory auditing to the Group within the previous three years, for which he or she has received high compensation.<sup>5</sup>
2. If any of the following applies to a close relation<sup>6</sup> of the candidate.
  - Is or has been an important business execution manager<sup>7</sup> of the Group within the previous five years.

## Corporate Governance



## Members of the Board of Directors and Audit & Supervisory Board



- Is a major shareholder of MGC or a business execution manager for a major shareholder company.
- Is or has been a business execution manager within the previous five years of an important business partner.
- Works for or has worked for an auditing firm within the previous five years that has conducted a statutory audit of MGC.
- Provides or has provided consulting services other than statutory auditing to the Group within the previous three years, for which he or she has received high compensation.

3. The candidate has another important vested interest in the Group and has been reasonably deemed to be unable to fulfill his or her duties as an independent officer.

\*1 Business execution manager: either a director overseeing business execution, an executive officer, other officer involved in business execution, or an employee

\*2 The Group: MGC or one of its subsidiaries

\*3 Major shareholder of MGC: a shareholder currently holding, either directly or indirectly, 10% or more of total shares issued and outstanding

\*4 Important business partner: a business partner that has made transactions, including buying and selling, amounting to 2% or more of consolidated net sales over the previous three consecutive years. Consolidated net sales pertains to the Group in the event the Group is the seller, or to the partner in the event the Group is the buyer.

\*5 High compensation: in the case of an individual, an annual amount of 10 million yen or more, or in the case of a member of company or organization, compensation exceeding 2% of its consolidated net sales or total revenue.

\*6 Close relation: either a spouse, first- or second-degree relative, or financial dependent

\*7 Important business execution manager: either a director overseeing business execution, an executive officer, or other officer involved in business execution

basic compensation amount decided in accordance with each director's position and duties, performance-based compensation reviewed every fiscal year, a reserved retirement benefit, and restricted stock. The reserved retirement benefit consists of a reserved sum that reflects each director's performance each fiscal year based on internal rules and is to be paid in full upon retirement of the director.

In order to share the value with shareholders and further motivate directors to work toward sustainable growth in corporate value, a number of MGC shares will be issued to directors as part of their compensation to be held for a certain period of time with a restriction on transfer. This system was newly introduced at the June 26, 2018 ordinary general meeting of shareholders.

In addition to these forms of compensation, a bonus amount that is considered appropriate may be paid upon resolution of a general meeting of shareholders.

Only basic compensation (fixed compensation) will be paid to outside directors.

Officer remuneration will be decided by the Board of Directors after comprehensively examining company performance, common corporate criteria, employee salary trends, etc., and after consultation with the Compensation and Nominating Committee, comprised of the chairman, president, and outside directors.

### ● Compensation to Corporate Auditors

Compensation to corporate auditors, who serve as members of the Audit & Supervisory Board, consists only of a basic compensation amount within a range stipulated by the general meeting of shareholders, which is determined through deliberations by the corporate auditors.

### Hostile Takeover Defense Plan

At present, MGC has not established a hostile takeover defense plan.

### Compensation of Directors and Auditors

#### ● Compensation to Directors

Compensation to directors (excluding outside directors) consists of monthly compensation, which is the total of a

#### Compensation (For Fiscal 2017)

Position	Total amount of compensation (millions of yen)	Total amount of compensation by type (millions of yen)		Number of people receiving compensation
		Basic compensation	Reserved retirement benefits	
Directors(excluding outside directors)	496	398	97	11
Auditors (excluding outside auditors)	52	52	—	2
Outside directors and auditors	54	54	—	5
Total	603	505	97	18

Note: In the above reserved retirement benefits for directors, provision has been made for the current fiscal year with respect to reserved retirement benefits for 12 directors other than outside directors. In addition, at the 91st Ordinary General Meeting of Shareholders held on June 26, 2018, it was decided to allot a total of 97 million yen in reserved retirement benefits for 10 directors excluding outside directors for their execution of duties between June 27, 2017 and June 26, 2018 to be paid at the time of retirement of each director.

**1 Kazuo Sakai**  
Representative Director, Chairman

**2 Toshikiyo Kurai**  
Representative Director, President

**3 Kenji Inamasa**  
Representative Director, Senior Managing Executive Officer

**4 Yasuhiro Sato**  
Representative Director, Senior Managing Executive Officer

**5 Masahiro Johno**  
Director, Managing Executive Officer

**6 Masashi Fujii**  
Director, Managing Executive Officer

**7 Susumu Yoshida**  
Director, Managing Executive Officer

**8 Masamichi Mizukami**  
Director, Managing Executive Officer

**9 Masato Inari**  
Director, Managing Executive Officer

**10 Nobuhisa Ariyoshi**  
Director, Managing Executive Officer

**11 Kazuo Tanigawa**  
Outside Director

**12 Tsugio Sato**  
Outside Director

**13 Takashi Kimura**  
Audit & Supervisory Board Member (Outside)

**14 Katsuhiko Sugita**  
Audit & Supervisory Board Member

**15 Kunio Kawa**  
Audit & Supervisory Board Member

**16 Yasuomi Matsuyama**  
Audit & Supervisory Board Member (Outside)

As of June 26, 2018

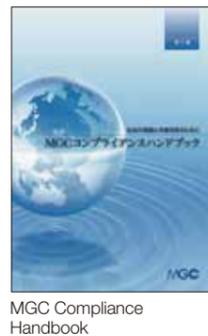
# Compliance and Risk Management

MGC practices compliance with the aim of earning the trust and understanding of the community, while putting in place and strengthening systems for responding to a wide variety of risks.

## Promoting Compliance

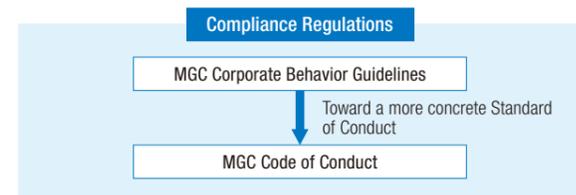
MGC Group takes a broad view of compliance, one that involves not only abiding by laws and company rules, but upholding the fair, transparent, and flexible conduct of business in acknowledgment of its responsibilities to society. Based on this understanding, we have summarized the conduct expected of our executive officers and employees in the MGC Corporate Behavior Guidelines and the MGC Code of Conduct, the contents of which are reviewed and revised from time to time based on changes taking place in society at large.

To ensure thorough compliance across the entire MGC Group, we distribute the MGC Compliance Handbook to all of our employees in Japan. For overseas Group companies, we have also created English, Chinese, and Thai language versions of the MGC Corporate Behavior Guidelines and the MGC Code of Conduct to ensure our approach to compliance is instilled in those companies as well.



MGC Compliance Handbook

### MGC compliance concepts

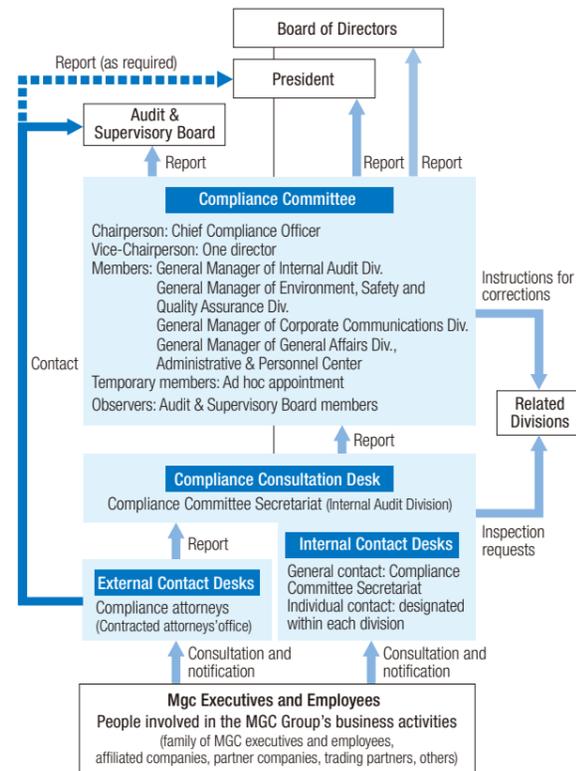


### Compliance System

MGC has established a Compliance Committee to supervise matters concerning the Group's compliance program, headed by the Chief Compliance Officer and reporting directly to the President. The Compliance Committee also includes a director (as vice-chairperson), heads of compliance-related departments, and others. The roles of the Committee are as follows:

1. Formulating and deliberating on the framework, policies, and implementation measures of MGC Group compliance.
2. Understanding the status of implementation of MGC Group compliance and providing necessary guidance and supervision.
3. Investigating instances of noncompliance and formulating and deliberating on corrective measures and prevention of recurrence.

### MGC compliance structure



Compliance policies, guidance and supervision, and steps taken to correct and prevent recurrence of noncompliance which are formulated and deliberated on by the Compliance Committee, are reported to the MGC president and the Audit & Supervisory Board, then implemented upon completion of 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 Department, 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.

Reports and consultations 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 determines any required corrective action or measures to prevent a recurrence after investigating the relevant facts. The results of these investigations and the details of said measures are also reported back to the party who submitted the original consultation or report.

## Compliance Education

In fiscal 2017 we renewed our study materials to make them compatible with the latest compliance trends, issues, and regulatory changes, and provided them to all employees through our intranet.

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 also working to enhance the quality of its compliance training for staff dispatched as officers to overseas affiliates.

## Security Export Control Initiatives

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

Export transactions subject to screening include all products exported by MGC or for which it provides technology (including basic chemicals, high-performance resins, electronic materials-related products, oxygen absorbers, life science products, and newly developed products), regardless of whether the transaction involves direct, indirect, or brokered trade, as well as all technology related to those products (including technology for manufacturing, handling, and analyzing them). Export screening is the responsibility of business divisions (head office divisions) familiar with the attributes and technology used in chemical products, and an independent export control division (Environment, Safety and Quality Assurance Division), who screen all exports to determine if cargo and technology restrictions apply, the final customer, destination and use.



Security export control education for new employees



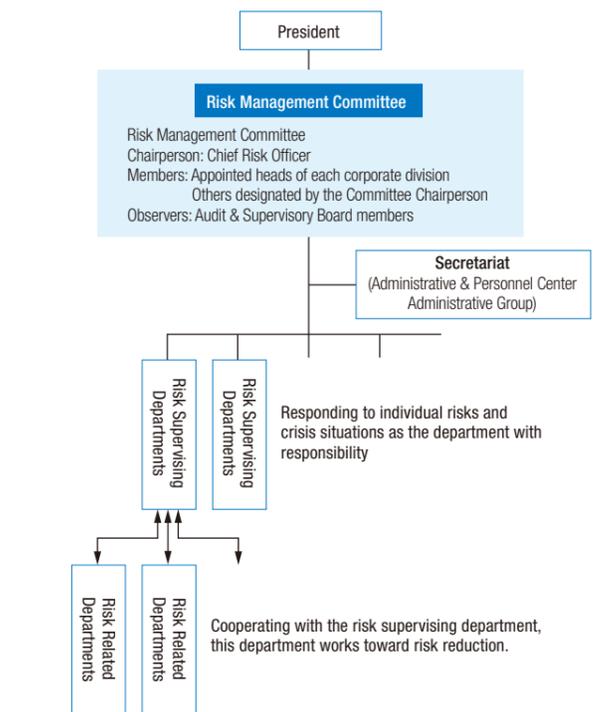
Screening demonstration using a computer

## Promoting Compliance

The four Companies conducting business activities and all corporate divisions actively assess and prioritize risk situations and devise risk reduction measures. The Risk Management Committee, headed by the Chief Risk Officer, provides direction and supervision for each department as well as deliberates on problems that require a company-wide response.

In terms of risks associated with business execution, we have developed an action plan to identify and evaluate risks inherent in our operations and internal control systems. We then take appropriate measures. In the event a serious risk is identified, we set up a special group to address it according to internal rules.

### Risk management promotion system



### Risk Management of Group Companies

MGC investigates and exchanges information regarding the status of risk management efforts at each of its group companies, while also requesting that they further enhance their risk management activities. MGC divisions in charge of each company also share information and address any issues when necessary. Risks that may have a significant impact on MGC are also reviewed by the Risk Management Committee.

## Together with Our Stakeholders

### Formulating and Implementing Business Continuity Plans

Business divisions responsible for important products at MGC formulate business continuity plans (BCPs).

To fulfill their obligation to supply core materials that have a significant impact on customers, each business division implements plans 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.

### Addressing Priority Risks

Among the various risks associated with its business activities, MGC considers earthquakes, leaks of poisonous and other hazardous substances, fires and explosions, and information leaks to be company-wide risks that need to be given special priority, and measures to address these are reviewed in collaboration between business sites.

#### 1. Measures Against Large-scale Natural Disasters

MGC has undertaken advance disaster reduction measures to improve its facilities and minimize damage, based on scenarios envisioning such natural disasters as a Nankai Trough earthquake or an earthquake directly below Tokyo, flooding, and volcanic eruptions. We have also deployed a company-wide safety confirmation system to cope with the aftermath of a large-scale natural disaster, along with wireless communication devices and other emergency devices, while also setting up reserve supplies of food, water, and other materials. Each year, we conduct emergency drills using these systems and equipment. We also work to ensure that in the event our headquarters are paralyzed by a natural disaster, each of our other facilities may continue supporting customers and maintaining other services, supplementing the headquarters' functions.



Wireless communication device for emergency use



Disaster reserve supplies

#### 2. Preventing Chemical Leaks

To prepare for an emergency situation, we have secured a supply of disaster preparedness materials and equipment and also conduct drills. We have created a wide-area support structure to ensure our business sites can collaborate and provide an emergency response in the event of an accident.

Further, in addition to conducting drills envisioning a logistics accident, we also conduct drills for deploying oil fences

in the event of a spill at sea during marine transport, and drills to address the possibility of an act of terrorism.



Ammonia spill response drill



Oil barrier deployment drill

#### 3. Preventing Fires and Explosions

To prevent accidents and injuries before they happen, it is important to ensure that processes are safe and equipment is sound, to allow stable operations to continue. Each MGC plant utilizes an equipment management system, and works to inspect, maintain, and upgrade equipment as necessary according to potential risk and importance. The plants also use the Japan Society for Safety Engineering's safety competency assessment system to strengthen any areas of vulnerability. Further, we reevaluate accidents that have occurred at MGC in the past, establishing countermeasures to prevent similar accidents from occurring, and conducting risk assessments based on assumed emergency stoppages.

To prepare for an accident, each business site has established a self-defense disaster preparedness system and conducts appropriate drills.



Disaster preparedness drill



Disaster preparedness drill

#### 4. Preventing Information Leaks

MGC has put in place a framework and rules for managing a variety of information—business information, technical information, personal information and others—and works to prevent leaks in terms of both hardware and soft skills, including everything from building information management systems to providing employee training and education.

We also work to prevent leaks by strengthening information system security using the latest available IT.

#### Ensuring the Safety of Employees Traveling or Posted Overseas

Working with an outside consultant, we have analyzed threats to safety by country and received advice about addressing those threats. This allows us to acquire immediate, accurate information, and, when necessary, provide that information to employees posted or traveling on business overseas.

# Financial Information

Consolidated financial summary	57
Consolidated Balance Sheet	59
Consolidated Statement of Income	61
Consolidated Statement of Comprehensive Income	62
Consolidated Statement of Changes in Net Assets	63
Consolidated Statement of Cash Flows	65

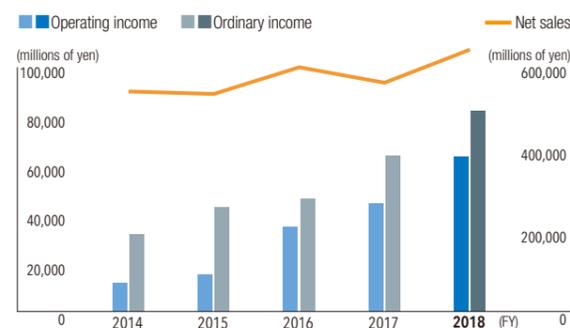
# Consolidated Financial Summary

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

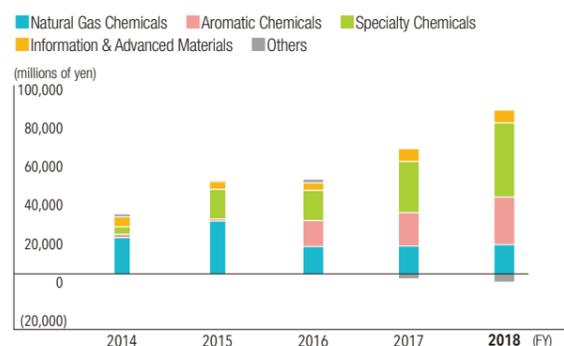
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2018
<b>Operating results (Millions of yen)</b>												(Thousands of U.S. dollars)*2
Net sales	¥519,329	447,647	384,528	451,033	452,217	467,979	534,443	529,570	593,502	556,480	<b>635,909</b>	<b>\$ 5,985,589</b>
Operating income	47,366	(3,103)	4,090	23,363	9,083	11,421	11,488	14,996	34,018	43,762	<b>62,741</b>	<b>590,559</b>
Ordinary income	61,759	6,975	7,365	36,394	26,116	27,651	30,804	42,000	45,432	62,430	<b>80,711</b>	<b>759,704</b>
Net income attributable to owners of the parent	40,209	7,014	5,827	18,950	12,327	(7,793)	14,921	43,346	34,134	48,013	<b>60,531</b>	<b>569,757</b>
Equity in earnings of affiliates	21,312	14,706	8,794	17,873	20,532	19,045	20,466	27,895	16,683	21,125	<b>18,277</b>	<b>172,035</b>
<b>Financial position (Millions of yen)</b>												(Thousands of U.S. dollars)*2
Current assets	¥268,659	215,298	218,082	244,522	254,037	261,397	287,642	372,166	341,237	326,674	<b>391,009</b>	<b>\$ 3,680,431</b>
Total assets	601,386	530,592	539,431	577,045	595,250	613,908	657,838	790,784	739,582	738,188	<b>792,489</b>	<b>7,459,422</b>
Current liabilities	213,530	161,088	160,297	182,527	193,464	195,438	178,897	225,068	214,676	188,426	<b>207,078</b>	<b>1,949,153</b>
Net assets	312,021	272,083	278,094	288,257	292,111	294,895	323,858	422,851	423,135	473,370	<b>519,144</b>	<b>4,886,521</b>
Interest-bearing debt	150,573	174,934	165,848	182,679	185,185	182,644	204,489	215,614	181,427	118,713	<b>106,964</b>	<b>1,006,815</b>
<b>Cash flows (Millions of yen)</b>												(Thousands of U.S. dollars)*2
Operating activity cash flow	¥ 40,394	49,027	31,326	39,773	37,348	31,169	27,182	76,982	84,671	82,711	<b>90,720</b>	<b>\$ 853,916</b>
Investing activity cash flow	(20,907)	(41,253)	(33,662)	(24,626)	(37,274)	(30,818)	(29,883)	(23,531)	(31,922)	(31,119)	<b>(33,614)</b>	<b>(316,397)</b>
Financing activity cash flow	(22,251)	11,541	(15,354)	(1,849)	(9,876)	(14,356)	7,124	(25,005)	(47,335)	(60,217)	<b>(33,038)</b>	<b>(310,975)</b>
Total cash and cash equivalents at end of year	37,235	53,065	36,048	46,768	35,701	26,907	37,310	72,678	75,828	67,177	<b>90,304</b>	<b>850,000</b>
<b>Per share data (Yen)</b>												(U.S. dollars)*2
Earnings per share (EPS)*1	¥ 174.02	30.61	25.78	83.85	54.56	(34.50)	66.07	191.94	153.85	221.83	<b>281.39</b>	<b>\$ 2.65</b>
Net assets per share *1	1,308.49	1,171.80	1,191.13	1,230.50	1,246.92	1,256.81	1,382.52	1,672.25	1,707.01	1,967.94	<b>2,187.99</b>	<b>\$ 20.60</b>
<b>Ratios (%)</b>												
Operating income margin	9.1	(0.7)	1.1	5.2	2.0	2.4	2.1	2.8	5.7	7.9	<b>9.9</b>	<b>9.9</b>
Return on equity (ROE)	13.7	2.5	2.2	6.9	4.4	(2.8)	5.0	12.6	9.0	12.0	<b>13.6</b>	<b>13.6</b>
Return on assets (ROA)	10.2	1.2	1.4	6.5	4.5	4.6	4.8	5.8	5.9	8.4	<b>10.5</b>	<b>10.5</b>
Equity ratio	50.3	49.9	49.9	48.2	47.3	46.2	47.5	47.8	51.0	57.5	<b>59.0</b>	<b>59.0</b>
<b>Others (Millions of yen)</b>												(Thousands of U.S. dollars)*2
Capital expenditure	¥ 39,448	35,119	27,567	35,400	42,423	30,982	25,409	22,226	30,512	35,010	<b>30,959</b>	<b>\$ 291,406</b>
Depreciation and amortization	24,521	28,934	29,535	28,950	27,763	23,096	23,528	23,770	26,705	25,631	<b>27,027</b>	<b>254,396</b>
Research and Development cost	13,562	14,707	16,198	16,380	17,449	15,332	16,122	16,873	18,936	19,267	<b>18,987</b>	<b>178,718</b>
Number of employees	4,686	4,902	4,920	4,979	5,216	5,323	5,445	8,254	8,176	8,034	<b>8,009</b>	<b>8,009</b>

\*1 With and 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 amounts per share in the above table are calculated assuming that the reverse stock split had been conducted at the beginning of FY2007.  
\*2 U.S. dollar amounts are translated from yen, for convenience only, at the approximate rate of ¥106.24= US\$1 prevailing on March 31, 2018.

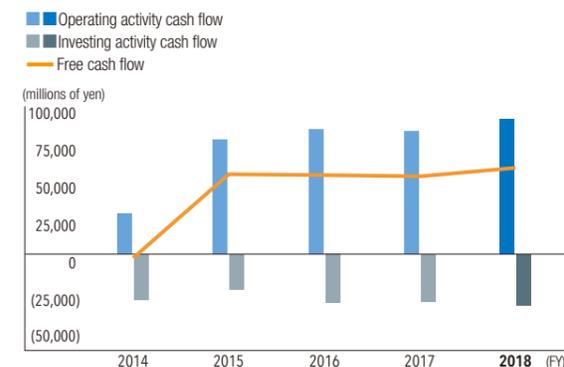
Net sales / Operating income / Ordinary income



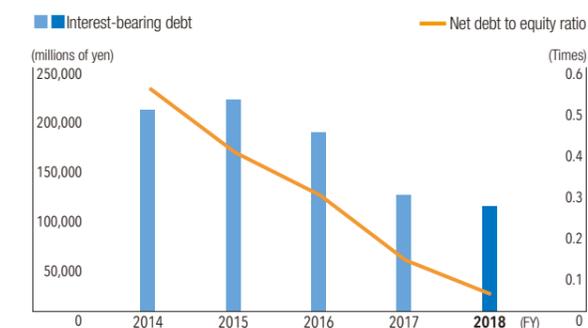
Ordinary income by business segment



Cash flows



Interest-bearing debt / Net debt to equity ratio



# Consolidated Balance Sheet

Mitsubishi Gas Chemical Company, Inc. and Consolidated Subsidiaries  
March 31, 2018

## Assets

	Millions of yen		Thousands of U.S. dollars
	2018	2017	2018
<b>Current assets:</b>			
Cash	¥ 101,090	¥ 75,017	\$ 951,525
Trade notes and accounts receivable	165,606	138,410	1,558,791
Short-term investments	121	139	1,139
Inventories	103,753	94,630	976,591
Deferred income taxes	6,759	5,818	63,620
Other current assets	14,847	13,725	139,750
Less allowance for doubtful receivables	1,170	1,067	11,013
Total current assets	391,009	326,674	3,680,431
<b>Property, plant and equipment:</b>			
Buildings and structures	203,544	199,782	1,915,889
Machinery, equipment and vehicles	450,543	449,490	4,240,804
Land	38,458	38,114	361,992
Leased assets	760	807	7,154
Construction in progress	12,347	12,233	116,218
Other	46,923	46,877	441,670
	752,577	747,305	7,083,744
Less accumulated depreciation	531,859	529,248	5,006,203
Net property, plant and equipment	220,717	218,057	2,077,532
<b>Intangible assets, net:</b>			
Goodwill	3,911	4,258	36,813
Leased assets	14	22	132
Software	2,141	1,722	20,152
Other	2,343	2,367	22,054
Net intangible assets	8,411	8,370	79,170
<b>Investments and other assets:</b>			
Investments in securities	161,391	175,461	1,519,117
Long-term loans receivable	2,632	2,658	24,774
Deferred income taxes	2,137	2,161	20,115
Net defined benefit asset	1,221	12	11,493
Other investments and other assets	5,522	5,475	51,977
Less allowance for doubtful receivables	555	683	5,224
Total investments and other assets	172,350	185,085	1,622,270
<b>Total assets</b>	<b>¥ 792,489</b>	<b>¥ 738,188</b>	<b>\$ 7,459,422</b>

## Liabilities and Net Assets

	Millions of yen		Thousands of U.S. dollars
	2018	2017	2018
<b>Current liabilities:</b>			
Trade notes and accounts payable	¥ 88,720	¥ 68,506	\$ 835,090
Short-term debt and current installments of long-term debt	71,256	74,770	670,708
Accrued expenses	16,591	15,171	156,165
Accrued income taxes	4,133	3,394	38,902
Accrued bonuses	5,422	5,351	51,035
Other current liabilities	20,954	21,233	197,233
Total current liabilities	207,078	188,426	1,949,153
<b>Non-current liabilities:</b>			
Long-term debt	35,707	43,942	336,098
Net defined benefit liability	4,592	5,936	43,223
Provision for directors' retirement benefits (note 8)	339	387	3,191
Deferred income taxes	16,640	17,309	156,627
Other non-current liabilities	8,986	8,814	84,582
Total non-current liabilities	66,266	76,391	623,739
Total liabilities	273,345	264,817	2,572,901
<b>Stockholders' equity:</b>			
Common stock			
Authorized 492,428,000 shares; issued 231,739,199 and 241,739,199 shares in 2018 and 2017	41,970	41,970	395,049
Additional paid-in capital	34,578	35,602	325,471
Retained earnings	399,033	357,245	3,755,958
Treasury stock, at cost; 18,135,027, and 25,923,628 shares in 2018 and 2017	(19,966)	(21,829)	(187,933)
Total stockholders' equity	455,616	412,989	4,288,554
<b>Accumulated other comprehensive income:</b>			
Net unrealized gain on other securities	17,261	18,101	162,472
Deferred losses on hedges	(0)	(0)	(0)
Surplus on revaluation of land	222	222	2,090
Foreign currency translation adjustments	(7,614)	(6,249)	(71,668)
Remeasurements of defined benefit plans	1,878	(351)	17,677
Total accumulated other comprehensive income	11,747	11,722	110,570
<b>Non-controlling interests</b>	<b>51,780</b>	<b>48,658</b>	<b>487,387</b>
Total net assets	519,144	473,370	4,886,521
<b>Commitments and contingencies</b>			
Total liabilities and net assets	¥ 792,489	¥ 738,188	\$ 7,459,422

## Consolidated Statement of Income

Mitsubishi Gas Chemical Company, Inc. and Consolidated Subsidiaries  
For the year ended March 31, 2018

	Millions of yen		Thousands of U.S. dollars
	2018	2017	2018
<b>Net sales</b>	<b>¥ 635,909</b>	<b>¥ 556,480</b>	<b>\$ 5,985,589</b>
<b>Cost of sales</b>	<b>481,326</b>	<b>425,231</b>	<b>4,530,553</b>
Gross profit	154,583	131,249	1,455,036
<b>Selling, general and administrative expenses</b>	<b>91,841</b>	<b>87,486</b>	<b>864,467</b>
Operating income	62,741	43,762	590,559
<b>Other income (expenses):</b>			
Interest income	485	423	4,565
Dividend income	2,096	1,789	19,729
Interest expenses	(1,069)	(1,346)	(10,062)
Equity in earnings of affiliates	18,277	21,125	172,035
Gain on sale of investments in securities	1,926	761	18,129
Rent expenses	(1,264)	(454)	(11,898)
Loss on valuation of investments in securities	(8,297)	—	(78,097)
Provision for loss on guarantees	(1,088)	—	(10,241)
Loss on liquidation of subsidiaries and affiliates	(162)	(667)	(1,525)
Personnel expenses for seconded employees	(1,449)	(1,646)	(13,639)
Loss on sale/disposal of property, plant and equipment	(1,115)	(634)	(10,495)
Impairment loss	(11)	(1,124)	(104)
Other, net	2,352	(888)	22,139
	<b>10,680</b>	<b>17,337</b>	<b>100,527</b>
Profit before income taxes	73,421	61,099	691,086
<b>Income taxes:</b>			
Current	9,330	7,640	87,820
Deferred	(1,842)	30	(17,338)
	<b>7,487</b>	<b>7,671</b>	<b>70,473</b>
Profit	¥ 65,933	¥ 53,427	\$ 620,604
<b>Profit attributable to non-controlling interests</b>	<b>5,402</b>	<b>5,414</b>	<b>50,847</b>
Profit attributable to owners of parent	¥ 60,531	¥ 48,013	\$ 569,757

## Consolidated Statement of Comprehensive Income

Mitsubishi Gas Chemical Company, Inc. and Consolidated Subsidiaries  
For the year ended March 31, 2018

	Millions of yen		Thousands of U.S. dollars
	2018	2017	2018
<b>Profit</b>	<b>¥ 65,933</b>	<b>¥ 53,427</b>	<b>\$ 620,604</b>
<b>Other comprehensive income arising during the year:</b>			
Net unrealized (loss) gain on other securities	(827)	8,264	(7,784)
Deferred (losses) gains on hedges	(0)	3	(0)
Foreign currency translation adjustments	2,102	(2,192)	19,785
Remeasurements of defined benefit plans	2,204	2,113	20,745
Shares of other comprehensive income of affiliates accounted for by the equity method	(1,775)	(297)	(16,707)
Total other comprehensive income arising during the year	1,702	7,891	16,020
<b>Comprehensive income</b>	<b>¥ 67,636</b>	<b>¥ 61,319</b>	<b>\$ 636,634</b>
<b>Comprehensive income attributable to:</b>			
Owners of the parent	¥ 60,555	¥ 56,908	\$ 569,983
Non-controlling interests	7,080	4,410	66,642

# Consolidated Statement of Changes in Net Assets

Mitsubishi Gas Chemical Company, Inc. and Consolidated Subsidiaries  
For the year ended March 31, 2018

	Millions of yen												
	Stockholders' equity				Accumulated other comprehensive income							Non-controlling interests	Total net assets
	Common stock	Additional paid-in capital	Retained earnings	Treasury stock	Total	Net unrealized gain on other securities	Deferred losses on hedges	Surplus on revaluation of land	Foreign currency translation adjustments	Remeasurements of defined benefit plans	Total		
<b>Balance as of April 1, 2016</b>	¥ 41,970	¥ 35,603	¥ 311,250	¥ (15,566)	¥ 373,258	¥ 9,816	¥ (3)	¥ 222	¥ (4,613)	¥ (1,736)	¥ 3,686	¥ 46,190	¥ 423,135
Cumulative effects of changes in accounting standards at overseas affiliates			(3,392)		(3,392)					(118)	(118)		(3,510)
<b>Restated balances as of April 1, 2016</b>	41,970	35,603	307,858	(15,566)	369,865	9,816	(3)	222	(4,613)	(1,855)	3,568	46,190	419,624
Changes arising during year:													
Cash dividends			(6,986)		(6,986)								(6,986)
Profit attributable to owners of parent			48,013		48,013								48,013
Change of the scope of consolidation			(16)		(16)								(16)
Change of the scope of equity method			8,377		8,377								8,377
Purchase of treasury stock				(6,264)	(6,264)								(6,264)
Disposition of treasury stock		0		0	1								1
Change in treasury stock of parent arising from transactions with non-controlling shareholders		(1)			(1)								(1)
Net changes other than stockholders' equity						8,284	3		(1,636)	1,503	8,154	2,467	10,622
Total changes during the year	—	(0)	49,387	(6,263)	43,123	8,284	3	—	(1,636)	1,503	8,154	2,467	53,746
<b>Balance as of March 31, 2017</b>	¥ 41,970	¥ 35,602	¥ 357,245	¥ (21,829)	¥ 412,989	¥ 18,101	¥ (0)	¥ 222	¥ (6,249)	¥ (351)	¥ 11,722	¥ 48,658	¥ 473,370
Changes arising during year:													
Cash dividends			(9,927)		(9,927)								(9,927)
Profit attributable to owners of parent			60,531		60,531								60,531
Purchase of treasury stock				(7,010)	(7,010)								(7,010)
Disposition of treasury stock		0		0	0								0
Retirement of treasury stock		(8,873)		8,873									—
Transfer to additional paid-in capital from retained earnings		8,816	(8,816)										—
Change in treasury stock of parent arising from transactions with non-controlling shareholders		(966)			(966)								(966)
Net changes other than stockholders' equity						(839)	(0)	—	(1,365)	2,229	24	3,122	3,146
Total changes during the year	—	(1,024)	41,787	1,863	42,626	(839)	(0)	—	(1,365)	2,229	24	3,122	45,773
<b>Balance as of March 31, 2018</b>	¥ 41,970	¥ 34,578	¥ 399,033	¥ (19,966)	¥ 455,616	¥ 17,261	¥ (0)	¥ 222	¥ (7,614)	¥ 1,878	¥ 11,747	¥ 51,780	¥ 519,144

	Thousands of U.S. dollars												
	Stockholders' equity				Accumulated other comprehensive income							Non-controlling interests	Total net assets
	Common stock	Additional paid-in capital	Retained earnings	Treasury stock	Total	Net unrealized gain on other securities	Deferred losses on hedges	Surplus on revaluation of land	Foreign currency translation adjustments	Remeasurements of defined benefit plans	Total		
<b>Balance as of April 1, 2016</b>	\$ 395,049	\$ 335,119	\$ 2,929,688	\$ (146,517)	\$ 3,513,347	\$ 92,395	\$ (28)	\$ 2,090	\$ (43,421)	\$ (16,340)	\$ 34,695	\$ 434,770	\$ 3,982,822
Cumulative effects of changes in accounting standards at overseas affiliates			(31,928)		(31,928)					(1,110)	(1,110)		(33,038)
<b>Restated balances as of April 1, 2016</b>	395,049	335,119	2,897,760	(146,517)	3,481,410	92,395	(28)	2,090	(43,421)	(17,460)	33,584	434,770	3,949,774
Changes arising during year:													
Cash dividends			(65,757)		(65,757)								(65,757)
Profit attributable to owners of parent			451,930		451,930								451,930
Change of the scope of consolidation			(151)		(151)								(151)
Change of the scope of equity method			78,850		78,850								78,850
Purchase of treasury stock				(58,961)	(58,961)								(58,961)
Disposition of treasury stock		0		0	9								9
Change in treasury stock of parent arising from transactions with non-controlling shareholders		(9)			(9)								(9)
Net changes other than stockholders' equity						77,974	28	—	(15,399)	14,147	76,751	23,221	99,981
Total changes during the year	—	(0)	464,863	(58,951)	405,902	77,974	28	—	(15,399)	14,147	76,751	23,221	505,892
<b>Balance as of March 31, 2017</b>	\$ 395,049	\$ 335,109	\$ 3,362,622	\$ (205,469)	\$ 3,887,321	\$ 170,378	\$ (0)	\$ 2,090	\$ (58,820)	\$ (3,304)	\$ 110,335	\$ 458,001	\$ 4,455,666
Changes arising during year:													
Cash dividends			(93,439)		(93,439)								(93,439)
Profit attributable to owners of parent			569,757		569,757								569,757
Purchase of treasury stock				(65,983)	(65,983)								(65,983)
Disposition of treasury stock		0		0	0								0
Retirement of treasury stock		(83,518)		83,518									—
Transfer to additional paid-in capital from retained earnings		82,982	(82,982)										—
Change in treasury stock of parent arising from transactions with non-controlling shareholders		(9,093)			(9,093)								(9,093)
Net changes other than stockholders' equity						(7,897)	(0)	—	(12,848)	20,981	226	29,386	29,612
Total changes during the year	—	(9,639)	393,326	17,536	401,224	(7,897)	(0)	—	(12,848)	20,981	226	29,386	430,845
<b>Balance as of March 31, 2018</b>	\$ 395,049	\$ 325,471	\$ 3,755,958	\$ (187,933)	\$ 4,288,554	\$ 162,472	\$ (0)	\$ 2,090	\$ (71,668)	\$ 17,677	\$ 110,570	\$ 487,387	\$ 4,886,521

# Consolidated Statement of Cash Flows

Mitsubishi Gas Chemical Company, Inc. and Consolidated Subsidiaries  
For the year ended March 31, 2018

	Millions of yen		Thousands of U.S. dollars
	2018	2017	2018
<b>Cash flows from operating activities:</b>			
Profit before income taxes	¥ 73,421	¥ 61,099	\$ 691,086
Adjustments to reconcile profit before income taxes to net cash provided by operating activities:			
Depreciation and amortization	27,027	25,631	254,396
Loss on sale/disposal of property, plant and equipment	1,094	538	10,297
Impairment loss	11	1,124	104
Loss on reduction of non-current assets	—	987	—
Loss on business withdrawal	236	870	2,221
Loss on liquidation of subsidiaries and affiliates	162	667	1,525
Equity in earnings of affiliates	(18,277)	(21,125)	(172,035)
Increase in allowance for doubtful receivables	4	246	38
Increase (decrease) in net defined benefit liability	43	(1,158)	405
Increase (decrease) in provision for directors' retirement benefits	33	(141)	311
Increase in provision for loss on guarantees	1,088	—	10,241
Interest and dividend income	(2,581)	(2,213)	(24,294)
Interest expenses	1,069	1,346	10,062
Gain on sale of short-term investments and investments in securities	(2,146)	(690)	(20,200)
Loss on devaluation of short-term investments and investments in securities	8,327	240	78,379
Increase in trade notes and accounts receivable	(28,607)	(3,930)	(269,268)
Increase (decrease) in inventories	(9,759)	3,948	(91,858)
Increase in trade notes and accounts payable	21,357	8,416	201,026
Other, net	2,443	(2,301)	22,995
Sub total	74,948	73,555	705,459
Interest and dividend received	2,545	2,409	23,955
Dividend received from affiliates accounted for by the equity method	20,008	12,288	188,328
Interest paid	(974)	(1,391)	(9,168)
Income taxes paid	(5,838)	(5,226)	(54,951)
Proceeds from subsidy income	—	1,015	—
Other, net	29	59	273
Net cash provided by operating activities	90,720	82,711	853,916
<b>Cash flows from investing activities:</b>			
Capital expenditures	(36,546)	(32,291)	(343,995)
Proceeds from sale of property, plant and equipment	2,141	875	20,152
Purchase of investments in securities and subsidiaries	(1,548)	(2,308)	(14,571)
Proceeds from sale of investments in securities	4,949	2,482	46,583
(Increase) decrease in long-term loans receivable	(642)	177	(6,043)
Proceeds from sales of shares of subsidiaries resulting in change in scope of consolidation	804	—	7,568
Payments for sales of shares of subsidiaries resulting in change in scope of consolidation	—	(313)	—
Other, net	(2,773)	260	(26,101)
Net cash used in investing activities	(33,614)	(31,119)	(316,397)
<b>Cash flows from financing activities:</b>			
Decrease in short-term debt	(7,300)	(4,063)	(68,712)
Proceeds from long-term debt	10,359	1,741	97,506
Payments on long-term debt	(14,143)	(27,828)	(133,123)
Redemption of bonds	—	(15,000)	—
Purchase of treasury stock	(7,010)	(6,266)	(65,983)
Dividends paid to stockholders	(9,927)	(6,986)	(93,439)
Dividends paid to non-controlling stockholders of subsidiaries	(2,024)	(1,654)	(19,051)
Payments from changes in ownership interests in subsidiaries that do not result in change in scope of consolidation	(2,883)	—	(27,137)
Other, net	(108)	(158)	(1,017)
Net cash used in financing activities	(33,038)	(60,217)	(310,975)
<b>Effect of exchange rate changes on cash and cash equivalents</b>	(939)	(48)	(8,838)
<b>Increase (decrease) in cash and cash equivalents</b>	<b>23,127</b>	<b>(8,673)</b>	<b>217,686</b>
<b>Cash and cash equivalents at beginning of year</b>	<b>67,177</b>	<b>75,828</b>	<b>632,314</b>
<b>Increase in cash and cash equivalents resulting from change of scope of consolidation</b>	<b>—</b>	<b>22</b>	<b>—</b>
<b>Cash and cash equivalents at end of year</b>	<b>¥ 90,304</b>	<b>¥ 67,177</b>	<b>\$ 850,000</b>

# Shareholder Information

Information for Shareholder (As of March 31, 2018)

## Listing

First Section of the Tokyo Stock Exchange

## Ticker symbol

4182

## Total number of authorized shares

492,428,000

## Number of outstanding shares

231,739,199

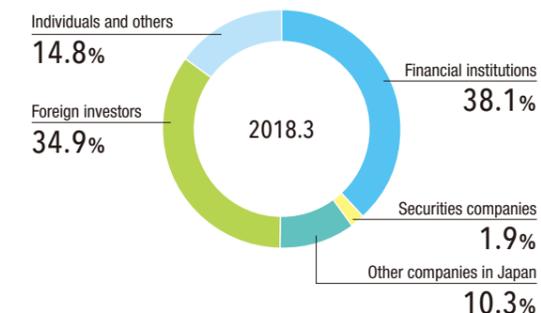
## Stock transaction units

100 - shares

## Number of shareholders

20,088

## Composition of shareholders



## Major shareholders

Name of shareholder	Number of shares held (thousands)	Percentage of total outstanding shares
Japan Trustee Services Bank, Ltd. (Trust Account)	10,155	4.8%
The Master Trust Bank of Japan, Ltd. (Trust Account)	9,119	4.3%
Meiji Yasuda Life Insurance Company	8,797	4.1%
Nippon Life Insurance Company	8,795	4.1%
The Norinchukin Bank	5,026	2.4%
Asahi Glass Co., Ltd.	4,835	2.3%
CHASE MANHATTAN BANK GTS CLIENTS ACCOUNT ESCROW	4,048	1.9%
GOVERNMENT OF NORWAY	3,896	1.8%
Japan Trustee Services Bank, Ltd. (Trust Account 9)	3,836	1.8%
Mitsubishi Tokyo UFJ Trust and Banking Corporation	3,506	1.6%

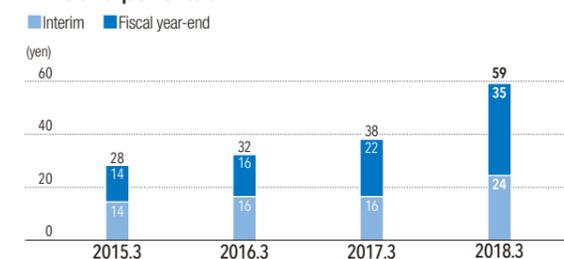
1. MGC holds 18,135 thousand shares of treasury stock, which is not included in the above list of major shareholders.

2. Percentage to Total Shares Outstanding does not include treasury stock.

## Monthly stock price range and trading volume



## Dividend per share



Notes: With and 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, the share price, market trading volume and dividend per share in the graph are calculated assuming that the reverse stock split had been conducted at the beginning of April, 2014.

## Corporate Information

### 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 consolidated subsidiaries/ equity-method subsidiaries

70 (consolidated subsidiaries)  
16 (equity-method subsidiaries)

### Number of employees

2,290 (non-consolidated)  
8,009 (consolidated)

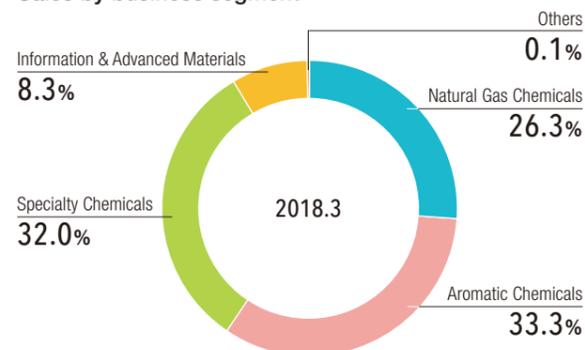
### Main Banks

The Bank of Tokyo-Mitsubishi UFJ, Ltd.  
Japan Bank for International Cooperation  
Mizuho Bank, Ltd.  
Mitsubishi UFJ Trust and Banking Corporation  
The Norinchukin Bank  
The Bank of Yokohama, Ltd.

### Net sales

635.9 billion yen

### Sales by business segment



## Business Locations

### Branch Offices

Osaka Branch  
Shanghai Office  
Taiwan Office

### Research Institutes

Tokyo Techno Park (TTP)
 

- Tokyo Research Laboratory
- MGC Chemical Analysis Center

 Niigata Research Laboratory  
Hiratsuka Research Laboratory  
QOL Innovation Center Shirakawa

### Plants

Niigata Plant  
Mizushima Plant  
Yokkaichi Plant
 

- Naniwa Plant
- Saga Plant

 Yamakita Plant  
Kashima Plant

## Major Group Companies

### Domestic

EIWA CHEMICAL IND. CO., LTD. [C]  
FUDOW COMPANY LTD. [C]  
GRANOPT CO., LTD. [E]  
JAPAN FINECHEM COMPANY, INC. [C]  
Japan Saudi Arabia Methanol Company, Inc. [E]  
Japan U-PiCA Company, Ltd. [E]  
JSP CORPORATION [C]  
Kaiyou Unyu Co., Ltd. [C]  
Kinoue Terminal Co., Inc. [C]  
KYOUDOU KASANKASUISO CORP. [C]  
MGC Advanced Chemical Inc. [C]  
MGC Electrotechno Co., Ltd. [C]  
MGC Filmsheet Co., Ltd. [C]  
Mitsubishi Engineering-Plastics Corporation [E]  
Polyols Asia Company, Inc. [C]  
Ryoko Chemical Co., Ltd [C]  
Ryowa Enterprise Co., Ltd. [C]  
RYOYO TRADING CO., LTD. [C]  
Tokyo Shokai, Ltd. [C]  
Toyo Kagaku Co., Ltd. [C]  
Yonezawa Dia Electronics Co., Inc. [C]

[C] Consolidated subsidiary  
[E] Equity-method subsidiary

### Overseas

BRUNEI METHANOL COMPANY SDN. BHD [E]  
JSP International Group LTD. [C]  
KOREA ENGINEERING PLASTICS CO., LTD. [E]  
METANOL DE ORIENTE, METOR, S.A [E]  
MGC ADVANCED POLYMERS, INC. [C]  
MGC ELECTROTECHNO (THAILAND) CO., LTD. [C]  
MGC MONTNEY HOLDINGS LTD. [C]  
MGC PURE CHEMICALS AMERICA, INC. [C]  
MGC PURE CHEMICALS SINGAPORE PTE. LTD. [C]  
MGC PURE CHEMICALS TAIWAN, INC. [C]  
MGC TRADING (THAILAND) LTD.  
MITSUBISHI GAS CHEMICAL AMERICA, INC. [C]  
MITSUBISHI GAS CHEMICAL ENGINEERING-PLASTICS (SHANGHAI) CO., LTD. [C]  
MITSUBISHI GAS CHEMICAL EUROPE GMBH  
MITSUBISHI GAS CHEMICAL SHANGHAI COMMERCE LTD.  
MITSUBISHI GAS CHEMICAL SINGAPORE PTE. LTD. [C]  
PT PEROKSIDA INDONESIA PRATAMA [C]  
SAMYOUNG PURE CHEMICALS CO., LTD. [C]  
SUZHOU MGC SUHUA PEROXIDE CO., LTD. [C]  
TAI HONG CIRCUIT INDUSTRIAL CO., LTD. [C]  
THAI POLYACETAL CO., LTD. [C]  
THAI POLYCARBONATE CO., LTD. [E]

### We have renewed our website.

As well as adding contents introducing our business in an easy-to-understand manner, we have made it easier to search for information. The website can also be viewed by smartphone.



URL: <https://www.mgc.co.jp/eng/>



### 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, and 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.