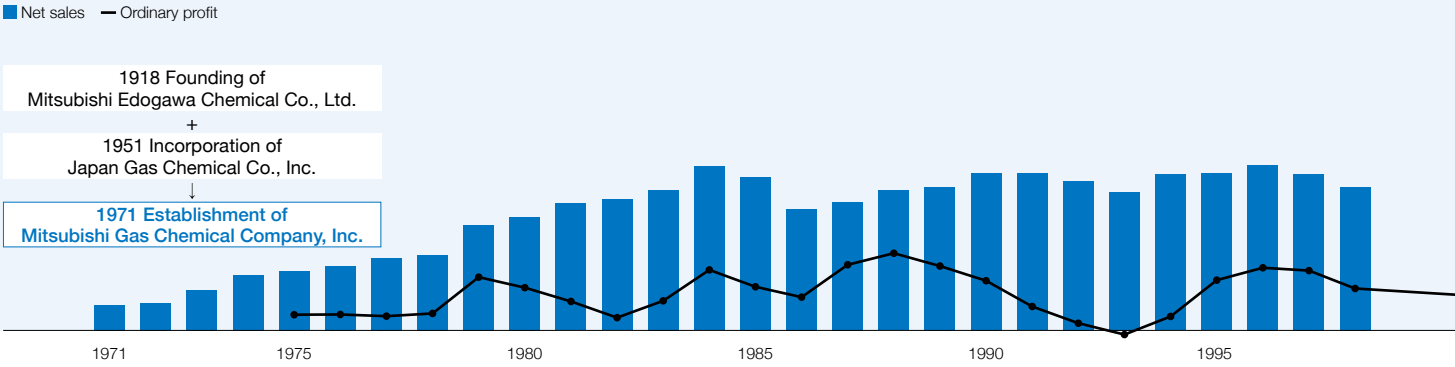
A History of Reform Through Selection and Concentration

Always true to its distinctive character, the MGC Group anticipates society's future needs and takes advantage of unique technologies to tenaciously advance research, development, and business activities across a wide range of fields. As a result, we have built a portfolio around products that reflect the needs of the times and achieved continuous growth.



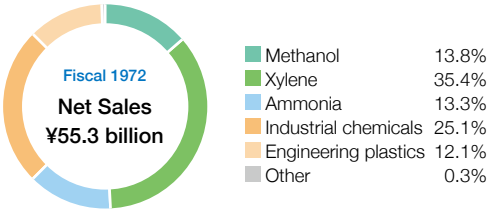
Changes in Our Mainstay Fields and Business Portfolio

1970s

Thanks to the merger, the realization of complementary product lines, joint procurement of resources and raw materials, and highly efficient integrated production

Mainstay Fields

Aromatic chemicals (xylene separators and derivatives) / Electronics materials / Information and advanced materials (oxygen absorbers)

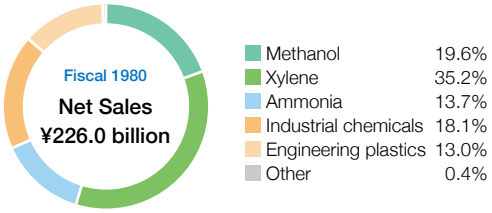


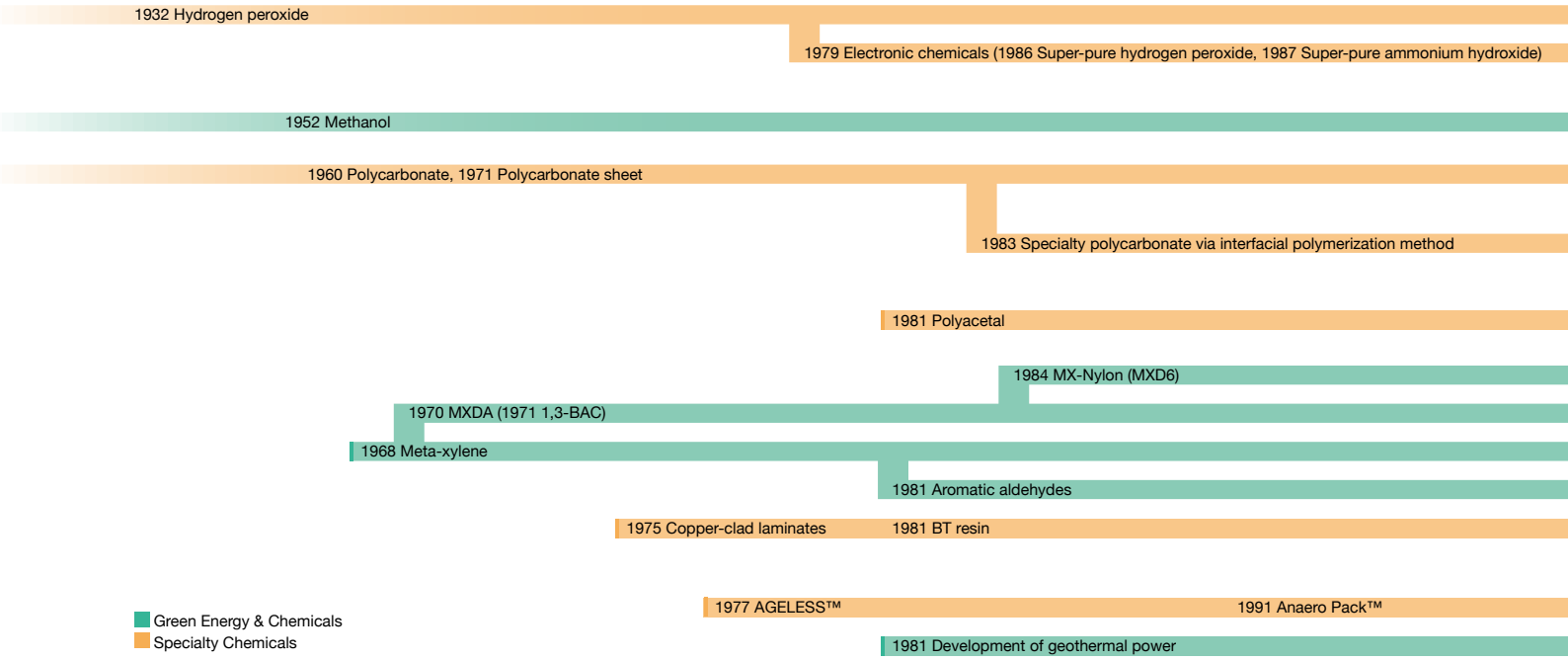
1980–2000

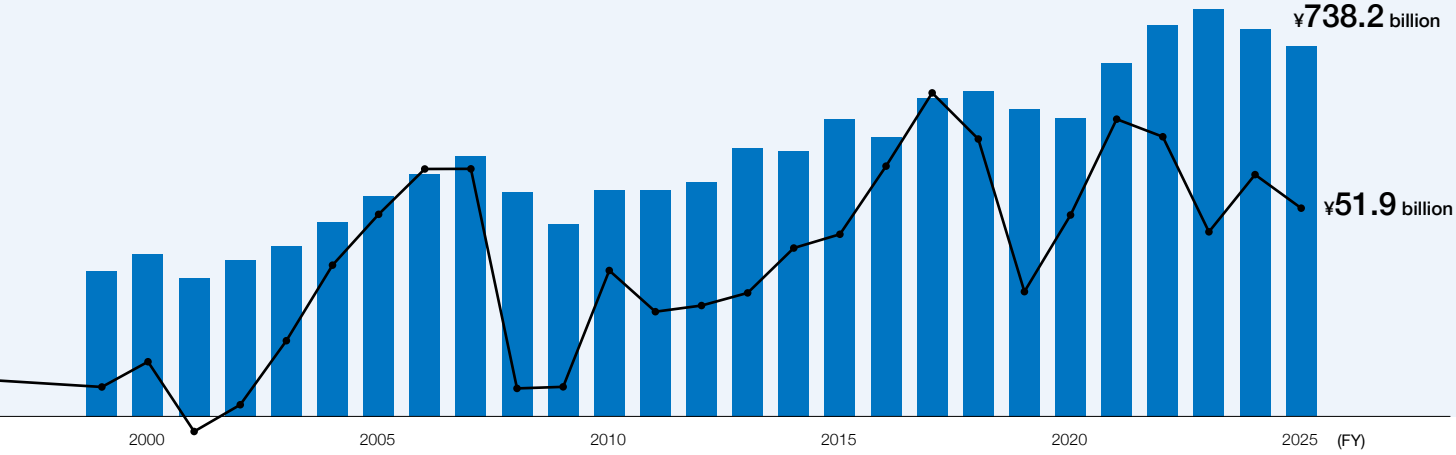
In response to changes in the business environment, expansion of overseas production bases and strengthening of businesses with competitive advantages

Mainstay Fields

Super-pure hydrogen peroxide / Lens monomers / Polycarbonate / Overseas methanol







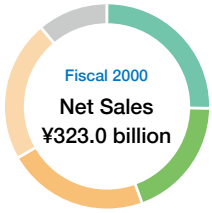
Note: Non-consolidated figures shown for fiscal 1971–1976; consolidated figures shown for fiscal 1977 onward.

2000–2020

Advancement of differentiation strategies and restructuring of unprofitable operations, as well as strengthening of corporate foundation and business expansion through globalization

Mainstay Fields

BT materials / Electronic chemicals (EL chemicals) / Optical polymers / High-performance products (MXDA, MX-Nylon)



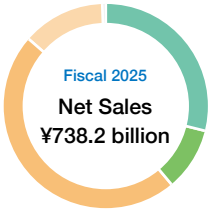
Natural gas chemicals	25.5%
Aromatic chemicals	19.0%
Specialty chemicals	22.4%
Information and advanced materials	22.1%
Other	11.0%

Since 2020

Creation of differentiated products and businesses that balance social and economic value

Mainstay Fields

ICT and semiconductor materials (electronics materials, EL chemicals) / Consumer and social fields (oxygen absorbers, medical, food) / Life sciences



Natural gas chemicals	28.9%
Aromatic chemicals	10.0%
Specialty chemicals	47.5%
Information and advanced materials	13.2%
Other	0.3%

2000 Melt polymerization special PC (Optical polymers)

1998 Lens monomers

2013 OPE™ (Oligo phenylene ether)

1994 RP System™

2002 PharmaKeep™

Acceleration of Initiatives for Strengthening the Resilience of Our Business Portfolio

Current Issues and Short-Term Intensive Improvement Measures

In accordance with the current medium-term management plan (MTMP 2026), we have taken into consideration economic value, business potential, and social value and broken down our portfolio into four categories: U&P businesses, foundation businesses, new/next-generation businesses, and businesses requiring intensive management. In particular, we have strengthened the resilience of our business portfolio by focusing efforts on U&P businesses—differentiated businesses that excel because they are "Growing," "Winning," and "Sustainable" and which promise to continued growth while achieving both social and economic value. Although sales of BT materials for IC plastic packaging and optical materials remain brisk, the business environment is changing rapidly and becoming increasingly challenging due to economic stagnation in Europe and China, as well as intensifying competition, particularly in the general-purpose sector.

The profitability of certain businesses has declined. In fiscal 2025, we recorded a significant impairment loss, which resulted in a bottom-line deficit. In response to this situation, we must implement fundamental structural reforms based on a thorough assessment of business growth potential and capital efficiency.

Previous reforms were improvements based on the extension of existing operations and were conceived and led primarily by individual business sectors. Going forward, however, we need to advance reforms more swiftly and on a Groupwide, cross-sector basis.

To step up business structural reforms and short-term performance improvements, in the fall of 2025 we launched the Business Portfolio Resilience Strengthening Task Force, led by the president and comprising personnel from the Green Energy & Chemicals and the Specialty Chemicals businesses, the Corporate Planning Division, the Finance & Accounting Division, the Investor Relations Department, and other divisions. Since then, the task force has been undertaking Groupwide structural reforms. Through measures such as cost reductions without exceptions, further promotion of an asset-light strategy, achievement of results from large-scale investments centered on the three ICT businesses, and prompt measures for businesses requiring intensive management, we will strengthen the resilience of our business portfolio and heighten profitability and capital efficiency, thereby enabling the achievement of sustained growth in corporate value.

Business portfolio classification at the start of MTMP 2026

Uniqueness & Presence	Foundation	New/Next-generation	Requiring intensive management
Three ICT businesses = Growth drivers • Electronics materials • Electronic chemicals (EL chemicals) • Optical materials	• Methanol • Energy resources and environment businesses • POM • MXDA/Aromatic aldehydes • Polymer materials	• Methylamine-and ammonia-related products • MMA-related products • Formalin and polyol-related products • Oxygen absorbers	• Life science-related • New/Next-generation	• PC-related products • Xylene separators and derivatives

Recognition of current challenges

- While the outlook for semiconductor market expansion remains unchanged, the external environment is harsh due to factors including the imposition of U.S. tariffs, stagnation in European and Chinese economies, and intensification of competition, particularly in the general-purpose sector.
- Due to recording an impairment loss, net profit deteriorated sharply in fiscal 2025.

▶ **Fundamental structural reforms, not merely a continuation of current practices, are thus necessary.**

Short-term intensive improvement measures

Fiscal 2025 Measures

- Cost cutting without exceptions, further promotion of asset-light strategy (sale of non-business assets including social welfare facilities), and further reduction of strategic shareholdings
- Faster achievement of results from large-scale investments
- Businesses requiring intensive management (PC-related products, xylene separators and derivatives): Promote initiatives with a sense of speed
- Strengthening of investment discipline: Rigorous selection of capital investment projects, optimization of implementation timing, and stricter return requirements

Short-term intensive improvement measures

Measures for Businesses Requiring Intensive Management

Polycarbonate | Sheet film

The polycarbonate business continues to experience sluggish market conditions due to oversupply and other factors. As an improvement in profitability seems unlikely, we have decided to discontinue polycarbonate production at the Kashima Plant by March 2028. Going forward, we will improve profitability and capital efficiency by utilizing products from overseas plants, optimizing production capacity, and heightening the added value of products even further.

The sheet film business has achieved cost reductions through consolidation of production bases, including the completion of a withdrawal of the Osaka Plant of MGC Filsheet Co., Ltd. Aiming to improve profitability by securing new projects, we will concentrate management resources on priority areas and strengthen sales and technical support.

Strategy implementation status	· Decision to discontinue production at the Kashima Plant's PC production facility in March 2028 since it has remained unprofitable Promoting production capacity optimization (End of March 2028: Approx. 25% reduction) · Offtake agreements for PCs with partners will be terminated as of the end of March 2028. · Profitability improved versus the plan due to progress in line with our high-value-added strategy (increased sales for EVs in China, etc.) and cost reductions at sites in China · Concentrate sheet film production sites (withdrawal from Osaka Plant of MGC Filsheet Co., Ltd.): Completed at end of March 2026 as planned · Effect from MEP*1 reorganization not yet fully realized
Future initiatives	· Promote radical structural reforms assuming a continued harsh business environment · Continue discussions with the Business Portfolio Resilience Strengthening Task Force. Plan a pathway to achieve ROIC exceeding the cost of capital in the PC-related chain · Promote restructuring of overseas sales sites and technical service and R&D systems. Accelerate realization of effect from MEP reorganization · Advance strategy to add higher value and reduce costs at sites in China · With production consolidation in the sheet film business completed, narrow target fields and aim for further productivity improvement

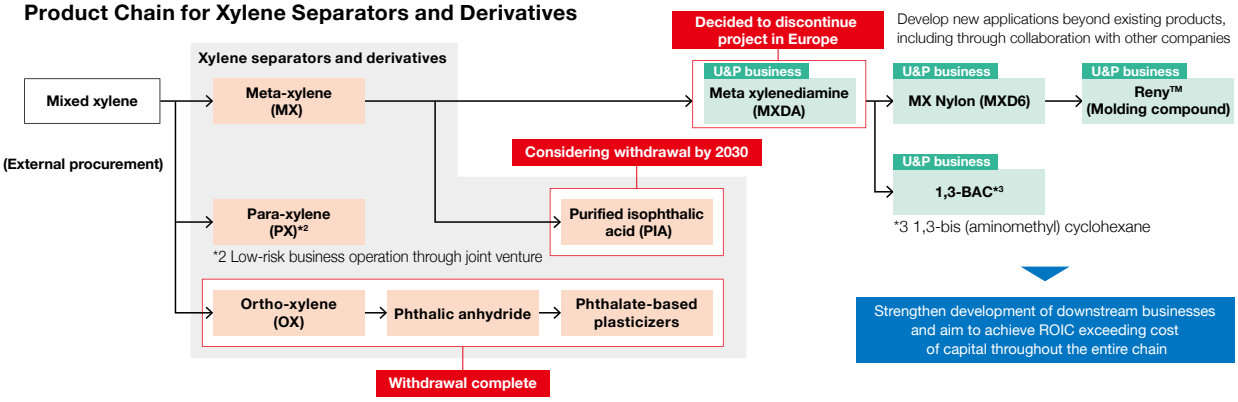
*1 Mitsubishi Engineering-Plastics Corporation

Xylene separators and derivatives

Xylene separators and derivatives are a product group that serves an infrastructure-like role by supporting downstream meta-xylenediamine (MXDA) businesses and other U&P businesses. Currently, however, this product group is facing profitability challenges. In fiscal 2024, we completed a withdrawal from the ortho-xylene chain business, which had remained unprofitable. We are also considering withdrawing from operations for purified isophthalic acid due to a persistent oversupply of the product.

The business environment for the downstream meta-xylene business has also become challenging. For example, our construction of an MXDA plant in Europe has been discontinued because of soaring energy prices, rising construction costs, and the emergence of competitors. To improve profitability and maximize earnings, we must proceed with optimization and business structural reforms across the entire xylene chain.

Product Chain for Xylene Separators and Derivatives



Toward the Realization of Our Vision

Implementation of Fundamental Structural Reforms

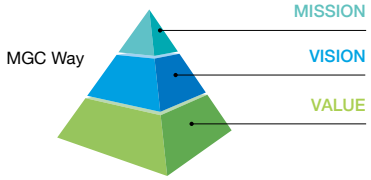
Our vision is to be “an excellent company with uniqueness and presence built on chemistry.” We aim to be a truly R&D-oriented company that not only produces high-quality products but also tackles the challenges of customers head-on and continues to create indispensable value for them through proprietary technologies and innovative R&D. In realizing our vision, a “market-out” approach of creating markets based on the latent needs of customers is important. By rapidly identifying the issues of customers that they have yet to articulate or define and advancing R&D in partnership with them, we will form markets that are well suited to us and that minimize price competition.

As well as implementing short-term intensive improvement measures, we will backcast from our vision to establish goals for a range of initiatives aimed at fundamental structural reforms, which we will implement in the period from fiscal 2026 through to the end of our next medium-term management plan. In particular, while concentrating the allocation of management resources mainly on ICT-related businesses that are “Growing” and “Winning,” in technology fields where differentiation is possible we will accelerate the creation of new businesses that allow us to maintain pricing power. In conjunction with these efforts, we will proceed with the restructuring of our business portfolio from the viewpoint of the best ownership structure possible and reform the business models of operations that have profitability issues.

Further, we will transition toward business management that places even greater emphasis on capital profitability and efficiency, placing ROIC and other capital efficiency metrics at the core of management decisions. Meanwhile, many businesses that are focused on the creation of social value, such as those related to carbon neutrality, continue to face issues in terms of profitability and cater to markets that need time to take shape. While appropriately managing risks, we will actively utilize external partners and government support with the aim of establishing social value-focused business models that continuously generate earnings. In initiatives such as carbon recycling based on Carbopath™, we will take advantage of our unique strengths to simultaneously deliver economic and social value.

Toward the realization of our vision

VISION An excellent company with uniqueness and presence built on chemistry



A truly R&D-oriented company

- Focus on customer challenges, thoroughly implement a market-out approach
- Expand connections with customers from isolated points to comprehensive areas through unique technologies and original R&D

Fundamental structural reforms

Fiscal 2026 and the Next Medium-Term Management Plan

Strengthening the resilience of our business portfolio	• Further concentration of management resources on “Growing” and “Winning” businesses including ICT-related businesses ◦ Creation of new businesses that provide strong price negotiation power ◦ Promotion of business portfolio replacement from the perspectives of profitability and the best ownership structure
Shift from expansion of scale to an emphasis on capital profitability	◦ Improvement in operating profit margin, ROIC, and ROE

For social value-leading businesses, actively utilize external partners and public support to establish revenue models while managing risks appropriately

Fundamental structural reforms

Further Concentration on Businesses That Are “Growing” and “Winning”

BT materials

Establishment of the BT Brand and Market Leadership

Developed by the MGC Group using proprietary technology, BT resin enjoys a favorable reputation as it has heat resistance and electrical properties comparable with those of ceramics. In 1985, it became the first resin material to be adopted for laminates (printed circuit boards) used in IC plastic packaging.*1 In the 1990s, BT resin rapidly penetrated domestic and international markets because it offered performance equivalent to that of ceramic substrates—which was the mainstream choice for laminates at the time—while being less expensive and easier to process. More than 40 years since its initial adoption, BT resin continues to be used worldwide as a laminate material for IC plastic packaging.

The differentiated advanced properties of our BT materials, including a high level of heat resistance, low thermal expansion, high electrical insulation, and excellent electrical properties, are achieved based on proprietary molecular design technology and resin synthesis and formulation technologies developed over many years. Backed by our proprietary production technologies, advanced development capabilities, and a track record of reliably supplying high-quality products, our products have become widely known in the market under the “BT” brand name and account for approximately 40% of the global market, which is the leading market share.

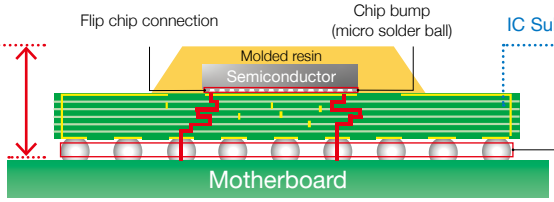
Our market-out approach to development involves anticipating and giving shape to the performance our customers seek and working with them to create new markets. The process is the source of our competitive advantages as our products become deeply embedded in specific applications and customer operations and therefore difficult to replace. Material design optimized for specific applications and customers has given us an extensive range of products. Also, by providing technical support that takes into consideration customers’ circuit designs and manufacturing processes, we have built capabilities for providing materials-based solutions to customer issues. The long-term relationships of trust with customers born of such close interaction are a key element of this business. Trust creates a virtuous cycle in which we are the first company customers consult when developing new products, making it easier for us to develop leading-edge products and helping us maintain a large market share.

*1 A substrate that connects a semiconductor chip to the main board (motherboard)

IC plastic packaging (outlined red)



Combining various semiconductor chips and substrates mounted on a motherboard (green board)

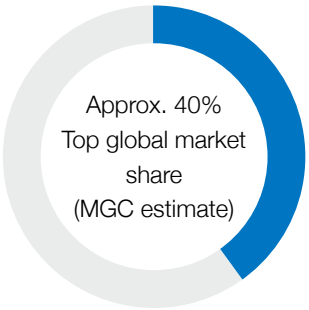


Cross section of IC plastic packaging (FC-BGA)

The Advantages of MGC’s BT Materials

Industry-leading performance and quality	Heat resistance, low thermal expansion Resistant to heat generated during semiconductor operation; thin and easy to process High electrical insulation Effective control of metal ion migration Outstanding electrical properties Lower permittivity and dissipation factor than other heat-hardened resins
Stable supply capabilities	· Since their commercial introduction, our BT products have earned the trust of customers. · Efficient production structure at two facilities, one in Japan and one in Thailand
Proprietary production technologies and strong development capabilities	· Our unique BT resins are “one and only” products made using proprietary technologies. · Drawing on years of R&D progress and accumulated data, we continue to create state-of-the art products.

Share of substrate materials market held by our BT resins



The Growth Potential of BT Materials

The semiconductor market is expected to continue growing over the medium to long term as demand is increasing significantly not only in relation to electronic devices such as personal computers, smartphones, and game consoles but also in relation to the data centers and high-performance computing needed for the rapid advancement of generative AI. Currently, BT materials have a significant share of the market for compact substrates used in smartphones and other mobile devices. However, demand is likely to grow for BT substrate materials that are essential for leading-edge semiconductors such as graphics processing units (GPUs) and application-specific integrated circuits (ASICs). With this in mind, we are focusing efforts on increasing sales of new grades. Further, substrates are becoming larger as packaging with chiplet architecture*2 becomes mainstream for the advanced flip chip ball grid array (FC-BGA) substrates*3 that are primarily used for AI servers.

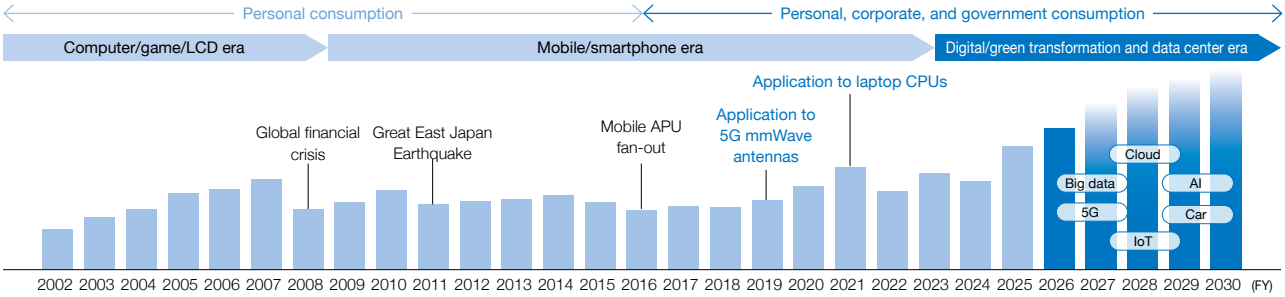
Given the aforementioned market and technology trends, we are developing new BT laminate materials mainly for use in FC-BGA substrates for AI applications while working to increase our share of markets in leading-edge fields. BT laminate materials for advanced substrates promise to be utilized in various fields as they feature flatness, superior low-warpage, and excellent machinability and can be adapted to a wide range of packaging types. Going forward, we will continue drawing on our advanced technological capabilities to develop new products that match market demand and customer needs and to broaden the scope of potential applications for BT materials. In this way, we will contribute to the development of an information-driven society.

*2 This is a design and manufacturing concept in which components such as central processing units (CPUs) and GPUs are designed and manufactured individually and then integrated and packaged to form a single semiconductor.
*3 "Flip chip (FC)" refers to turning a chip upside down for direct attachment. A ball grid array (BGA) is a substrate with ball-shaped solder pads arranged in a grid pattern on its underside. "FC-BGA" refers to a BGA substrate that has been turned upside down so that the ball-shaped solder pads attach to the main board (motherboard).

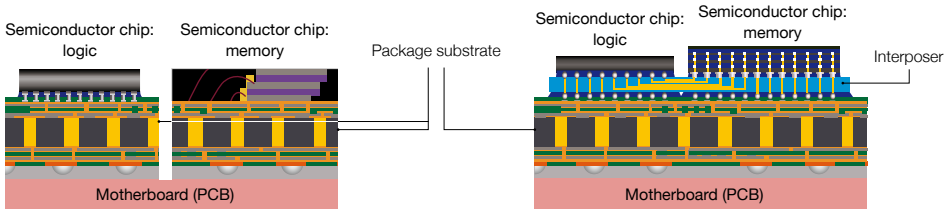
Performance Requirements for Semiconductor Substrates

Packaging substrates that mount semiconductor chips are subject to warpage (thermal expansion) when heated. During mounting on the motherboard, this warpage can lead to open circuits, short circuits, and other solder joint defects, which cause malfunctions in electronic devices such as smartphones. For this reason, substrate materials must possess heat resistance, low thermal expansion, high electrical insulation, and excellent electrical properties. Moreover, these properties are becoming increasingly important as they directly influence the performance of devices.

Sales of BT Laminate Materials



Applications	Until now: Computers, games, telecommunications devices and base stations, servers	From now on: AI, ADAS, servers
Technical trends	· Shortening data transfer distances and increasing transmission speeds via high-density implementation · Lower cost and higher performance via smaller dimensions and chip lamination	
Packaging trends	FC-BGA	2.xD packaging



FC-BGA
· Each semiconductor chip is mounted on its own packaging substrate.
· Data is transmitted through the motherboard (PCB).

2.xD packaging
· Multiple semiconductor chips are mounted on an interposer.
· Data is transmitted through the interposer.

Fundamental structural reforms

Making Social Value-Driven Businesses Profitable

Carbon-neutrality initiatives

Solutions to Social Issues That Leverage MGC's Unique Management Resources

In the chemical industry, which relies on fossil resources for raw materials, achieving carbon neutrality in the upstream segment of the value chain is a major challenge. The MGC Group is using this segment as a starting point for the construction of new energy systems and the expansion of a lineup of products that contribute to carbon neutrality. Methanol is a raw material for chemical products essential to modern life, such as plastics, synthetic fibers, adhesives, and fuels, while ammonia is gaining attention as a decarbonized fuel. In particular, methanol derived from renewable resources is not only low carbon but also becoming increasingly important from the perspective of energy security. With this in mind, we will capitalize on our technologies and expertise accumulated over approximately 70 years in areas ranging from the development and production of natural gas through to the derivation of chemicals therefrom to strategically create and expand businesses that help solve social issues.

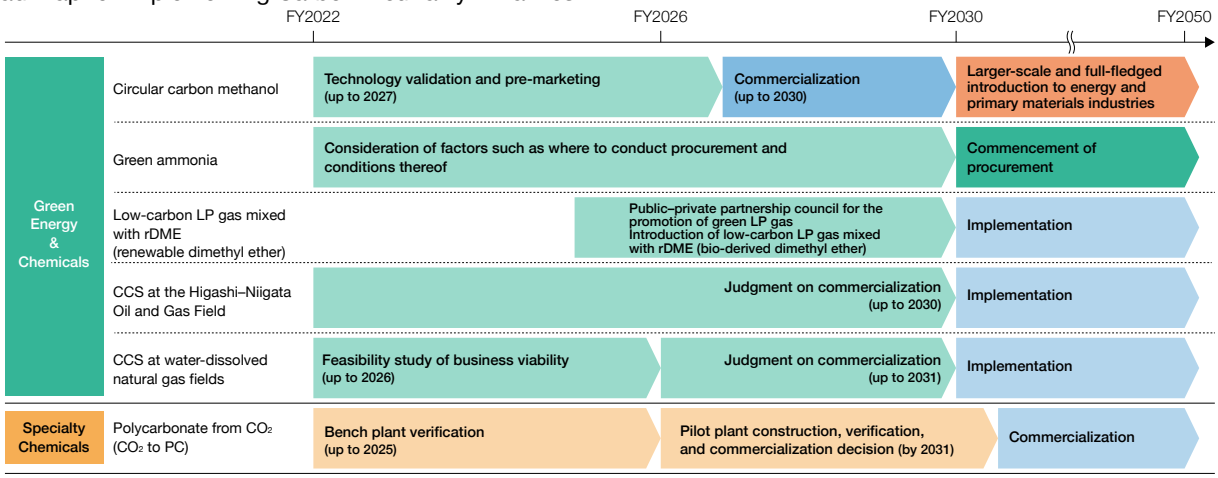
Although the establishment of markets for the aforementioned businesses will take time, their importance is undoubtedly growing. By actively utilizing external partners and government support while managing risks appropriately, we will steadily move forward with preparations for commercialization that is in line with market trends and aimed at the achievement of high added value and sustainable growth.

Main Products, Technologies, and Initiatives Contributing to Carbon Neutrality

		Managing sectors and division
Green energy, raw materials for green materials	Promotion of environmentally circular carbon platform Carbopath™	Green Energy & Chemicals
	Procurement of green ammonia (raw material, fuel, and raw material for green hydrogen)	
Green fuel	Production and sale of ISCC PLUS-certified rDME*4	Green Energy & Chemicals
Power generation business	Geothermal power generation	Green Energy & Chemicals
	High-efficiency LNG (gas turbine combined cycle) power generation	
Use of CO_2 as a raw material	Development of technologies for manufacturing polycarbonates from CO_2	Specialty Chemicals
Improving operational efficiency	Development of optical polymer for use in sensing cameras for automobiles	Specialty Chemicals
Research and development	Development of chemical recycling technology	Specialty Chemicals / Research & Development
	Solid-state battery (for EVs), fuel-cell battery (for FCVs*5)	Research & Development
	Development of direct air capture (DAC) technology using special amines	

*4 An abbreviation for "renewable DME," referring to dimethyl ether produced using raw materials such as biomass and industrial waste
*5 Fuel-cell vehicle

Road Map for Implementing Carbon-Neutrality Initiatives



Toward the Realization of Our Vision

For details on Carbopath™, please visit the dedicated Carbopath™ website below.
https://www.carbopath.mgc.co.jp/en/

Carbopath™ Initiatives

The social implementation of the Carbopath™ environmentally circular carbon platform is our most pivotal initiative. Methanol is used in various applications across the chemical industry. The platform aims to realize a circular economy by replacing methanol derived from fossil resources with circular carbon methanol derived from CO_2 and waste materials and utilizing it to produce energy and materials. We will undertake all aspects of this initiative, from investing in businesses engaged in the manufacture of circular carbon methanol; licensing methanol synthesis technology; and providing support services for autonomous operation, remote monitoring, and maintenance through to the transportation and sale of products and the rollout of methanol derivatives.

Progress

In advancing toward real-world implementation, we are following a road map. To establish the supply chain, we are accelerating cross-industry collaboration with companies and municipal authorities that possess the biomass, waste and CO_2 emission sources, and renewable energy-derived hydrogen necessary for methanol manufacture. In fiscal 2024, we began manufacturing biomethanol by using digester gas from a sewage treatment plant.

In fiscal 2026, plans call for commencing the verification of methanol manufacturing that uses a by-product gas from a steelmaking process. In addition, we are proceeding with the procurement of low-carbon methanol from overseas while intensifying efforts to establish a supply system therefor.

Our initiatives with methanol users are also progressing. For example, we are stepping up efforts to create a market through partnerships with infrastructure and fuel companies. Most recently, we have been working to establish a supply system in the shipping industry because stricter international regulation of global greenhouse gas emissions is likely to increase demand for methanol as a marine fuel. In September 2024, the MGC Group, the City of Yokohama, and five other parties conducted a methanol bunkering simulation, which served as a crucial stepping stone toward the establishment of an operational system in Japan. In February 2026, the parties collaborated to realize Japan's first methanol bunkering of a ship at an anchorage. Moreover, MGC-manufactured biomethanol was used as a bunker fuel. The bunkering operation marked a major step forward for the domestic maritime shipping industry in the drive to lower emissions. With respect to material applications, in various industries we are collaborating with companies that are leaders in

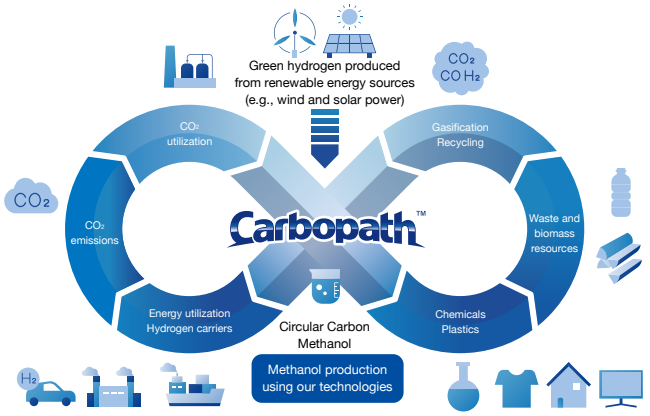
Why We Can Realize Carbopath™

A major company with a top-three share of the global market

Possession of a wide range of technologies for deriving methanol from renewable resources, such as CO_2 and hydrogen technologies

Extensive expertise and experience encompassing the entire methanol value chain

Environmentally Circular Carbon Methanol Carbopath™



Road Map to Large-Scale Commercialization of Carbopath™

Commercialization of circular carbon methanol, using CO_2, hydrogen, biomass, and waste

- Overseas: Expansion of market for fuel and primary materials
- Domestic: Start of circular carbon methanol value creation

→**Establishment as a manufacturing and sales business**

- Participation in international projects and domestic renewable energy-based projects and utilization of existing business
- Utilization of biomass and waste
- Utilization of domestic excess renewable energy, etc.

Larger scale for circular carbon methanol Full-fledged introduction to primary materials industry

- Expanding value of circular carbon methanol
- Value creation for unused resources
- Decarbonization of domestic petrochemical complexes

→ **Improvement and extension of business**

- Utilization of large-scale renewable energy overseas
- Social implementation of chemical recycling
- Promotion of MTO-enabled chemical applications

Contribution to achieving carbon neutrality through circular carbon methanol

- Manufacturing carbon-neutral methanol in Japan and overseas
- Raw material conversion for application in a wide range of chemicals
- Supplying to meet growing energy-related demand for methanol

- Further development as a basic raw material for green chemicals
- Supplying fuel for expanding applications in marine, aviation, and automotive sectors

FY2025 — Up to 100,000 t-CO_2-e — **FY2030** — Up to 1 million t-CO_2-e — **FY2040**

green transformation,*6 focusing our efforts on realizing high-value-added products made from CO_2 and waste and on stimulating demand for them.

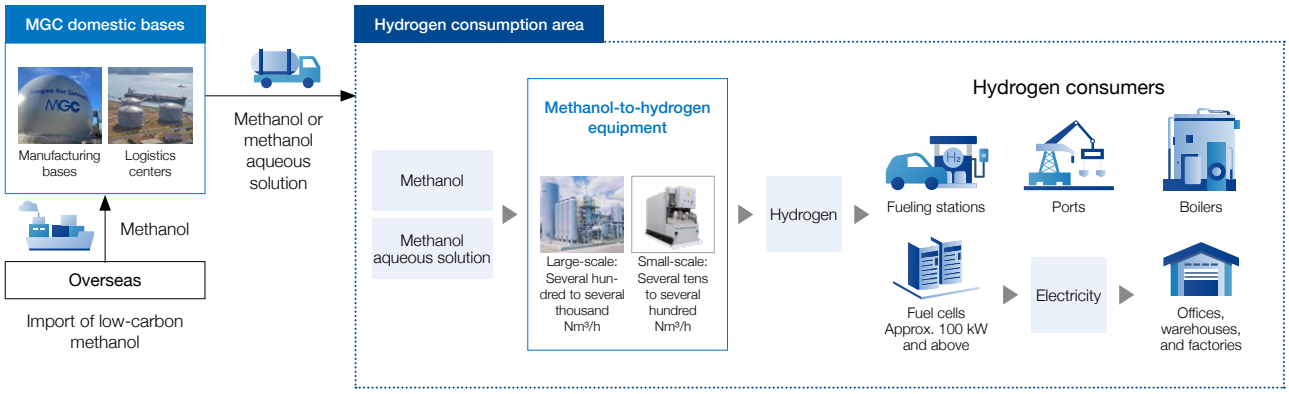
*6 Initiatives to reduce the environmental impact of business activities and realize a sustainable society

The Methanol-to-Hydrogen Process for Producing Hydrogen from Methanol

Methanol is promising as an efficient carrier of hydrogen because methanol has the advantage of being a liquid at room temperature, making it easy to handle. This ease of handling together with the fact that a logistics network has already been established for methanol mean that it will be able to facilitate the expansion of hydrogen use more rapidly than other hydrogen carriers. Further, storing methanol is simple. In combination with fuel cells, it enables the realization of the power supply systems needed to support long-term business continuity plans.

We own a methanol-to-hydrogen production process that utilizes an in-house developed catalyst. Since 1985, we have delivered more than 100 units of equipment for the process in Japan and overseas. We are reducing the carbon footprint of the entire methanol-to-hydrogen process by using this technology in combination with Carbopath™ circular carbon methanol. At the same time, the Group is promoting the widespread adoption of methanol as a hydrogen carrier. Specifically, we aim to establish a decentralized model for hydrogen utilization in which Carbopath™ circular carbon methanol or its aqueous solution are transported to consumption areas for the on-site production of hydrogen. To this end, we are collaborating with Methanol Reformer S.L. and Element 1® Corp. to verify and introduce the mass production of portable hydrogen generators domestically. The Group is also partnering with Fuji Electric Co., Ltd. in the joint implementation of demonstration tests of a power generation system that integrates fuel cells and hydrogen generators.

Hydrogen Supply Chain Based on Carbopath™ Circular Carbon Methanol

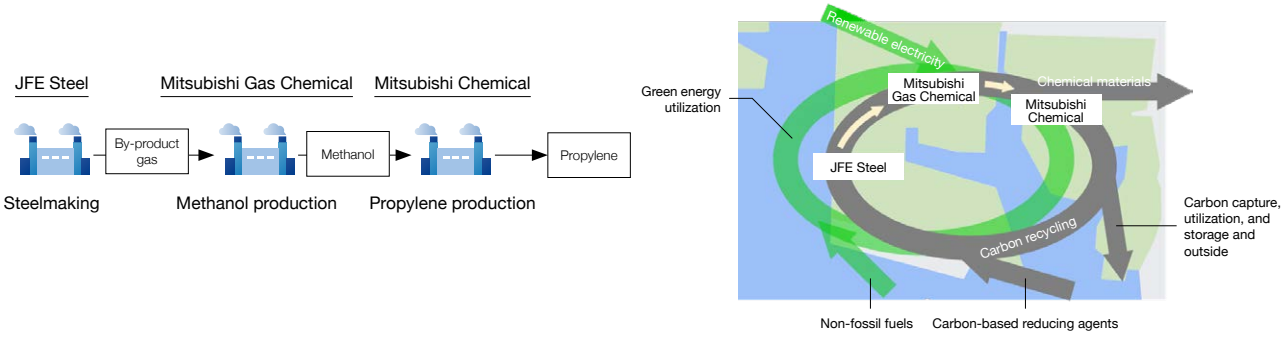


Note: Electricity is generated from hydrogen and supplied to offices, warehouses, factories, and other locations.

Supply Chain Demonstration Project at the Mizushima Complex—Aiming to Realize a Carbon-Recycling Society

At the Mizushima Complex in Kurashiki, Okayama Prefecture, we are conducting a verification project aimed at producing methanol from a by-product gas emitted during a steelmaking process and further utilizing the methanol to produce propylene, a key raw material for plastics.

We are constructing a new plant to conduct demonstrations of methanol production that uses by-product gas as a raw material.



Blending rDME with LPG to Realize Low-Carbon LPG

The MGC Group is Japan's only manufacturer of dimethyl ether (DME), a compound produced through the dehydration of methanol. While DME has primarily been used as a propellant in aerosol cans and as a foaming agent, demand for DME as a clean fuel is growing because it has physical properties similar to those of LPG—namely, low toxicity and a gaseous state at room temperature—and because DME emits few harmful substances during combustion. Consequently, Japan's Seventh Strategic Energy Plan has wresources, called renewable DME (rDME), as a means of realizing low-carbon LPG. In response, the LPG industry, which sets targets for the import and domestic production of green LPG, has formed a group tasked with studying the introduction of rDME blended with LPG. A participant in this public–private study group, the Group will utilize its expertise as a DME producer and leverage the Carbopath™ platform as the basis for providing support for the commencement of verification tests and the social implementation of rDME blended with LPG in 2028.


Our DME plant at the Niigata Plant

Examining the Commercialization of CCS

Another pillar of efforts to realize carbon neutrality is the real-world implementation of carbon capture and storage (CCS). The technologies for natural gas exploration and development that we have fostered since our founding are highly compatible with CCS. Building on these strengths, we have participated in multiple large-scale demonstration projects and furthered analysis focused on the commercialization of CCS.

In 2024, we participated in Japanese Advanced CCS Projects selected by the Japan Organization for Metals and Energy Security in Higashi–Niigata and offshore Sarawak in Malaysia. Particularly in Higashi–Niigata, we are implementing initiatives that highlight the outstanding technologies and partnerships we have developed over many years. As this region has water-dissolved natural gas fields, we have focused on an existing operational process for such gas. In the process, natural gas and iodine are separated from formation water pumped from underground. To prevent ground subsidence, the formation water is then reinjected underground. By dissolving CO_2 into the water before reinjection, we can store CO_2 at low cost and without the need to use additional power for injection.

CCS has the potential to develop into and expand as a negative credit business.*7 We are exploring the possibility of building a more efficient and high-value-added business structure by not only commercializing CCS itself but also addressing areas that promise synergies. These efforts include the examination of the potential for blue hydrogen production in combination with CCS and the development of CO_2 absorbents. Going forward, we will continue to pursue value creation with a focus on our customers and society—the ultimate beneficiaries of our businesses—through the simultaneous advancement of technologies and the expansion of business scope.

*7 A business that captures CO_2 directly from the atmosphere or from biomass and injects it underground, then converts the amount of carbon reduction into credits.

Our Advantages in CCS

- Possession of natural gas and water-dissolved natural gas reserves such as the Higashi–Niigata Oil and Gas Field and the Iwafune–Oki Oil and Gas Field
- Potential to develop existing natural gas fields into carbon-neutral infrastructure for CO_2 storage and utilization

Examination of CCS at Water-Dissolved Natural Gas Fields

