



FY2021
Results Presentation

 **mitsubishi GAS CHEMICAL COMPANY, INC.**

May 16, 2022

TSE 4182



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2 | FY2022 Forecast

3 | Results and Forecast by Segment

4 | Medium-Term Management Plan Progress

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Net sales and profits grew, driven largely by robust demand for semiconductor-related products, recovery from the impact of the pandemic, and increased market prices

- Net sales: YoY growth driven largely by higher methanol prices and across-the-board increases in unit sales
- Operating profit:
 - (+) Growth in unit sales of semiconductor-related products
 - (+) Recovery in product demand depressed by pandemic
 - (+) Increased prices of general-purpose products
 - (+) Shift toward sales prices involving material/fuel cost inflation
 - (–) Raw material/fuel cost inflation
 - (–) Decreased unit sales of optical polymer
- Equity-method income: Growth in methanol and engineering-plastics affiliates' profits
- DPS: ¥80 [¥45 interim (¥35 ordinary dividend and ¥10 commemorative dividend)
+ ¥35 year-end dividend*] (+¥10 YoY, in line with initial forecast)

*Scheduled to be formally authorized by Board of Directors on May 26, 2022.

FY2021 Results



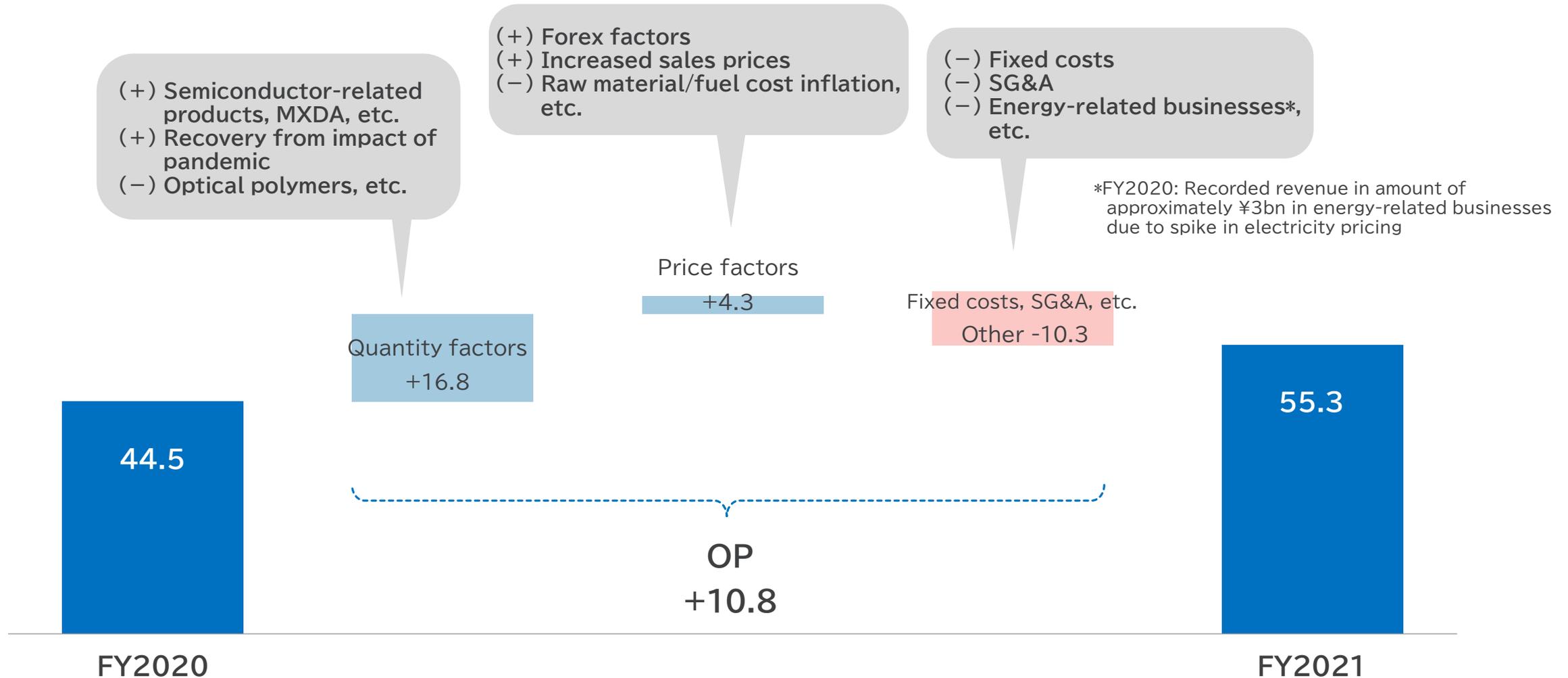
- Net sales and profits grew, driven largely by robust demand for semiconductor-related products, recovery from the impact of the pandemic, and increased market prices. ROE and ROIC also increased.

	FY2020	FY2021	Changes		FY2021 Previous Forecast*
			Amount	%	
Net Sales	595.7	705.6	109.9	18.5	700.0
Operating Income	44.5	55.3	10.8	24.4	55.0
(Equity in earnings of affiliates)	(5.1)	(14.8)	(9.7)	-	(17.4)
Ordinary Income	50.2	74.1	23.9	47.6	73.0
Net income attributable to owners of the parent	36.0	48.2	12.2	33.9	50.0
*Announced on Feb8, 2022					
E P S (JPY)	173.41	232.15			
R O E (%)	7.1	8.8			
R O I C (%)	7.7	10.4			
FX(JPY/USD)	106	112			

FY2021 Increase and Decrease Factors of Operating Profit (YoY)



[JPY in billions]



FY2021 Non-Operating & Extraordinary Items

[JPY in billions]



	FY2020	FY2021	Changes
Non-Operating items	5.7	18.7	13.0
Equity in earnings of affiliates	5.1	14.8	9.7
Financial income or losses	1.9	2.7	0.7
Foreign exchange gains or losses	0.8	2.5	1.6
Others	▲ 2.2	▲ 1.3	0.9
Extraordinary income	2.3	6.4	4.0
Gains on sales of investment securities	1.8	3.0	1.2
Insurance claim income	-	2.6	2.6
Gain on step acquisitions	-	0.7	0.7
Others	0.5	-	▲ 0.5
Extraordinary losses	▲ 3.6	▲ 10.9	▲ 7.3
Impairment losses	▲ 1.6	▲ 7.0	▲ 5.3
Provision for business restructuring	-	▲ 1.7	▲ 1.7
Provision allowance for doubtful accounts	-	▲ 0.9	▲ 0.9
Others	▲ 1.9	▲ 1.1	0.7

- **Equity in earnings of affiliates**
Basic Chemicals +3.1
Specialty Chemicals +6.5

FY2021 Balance Sheets

【JPY in billions】 

	Mar31,2021	Mar31,2022	Change
Current Assets	402.1	452.2	50.0
Cash and deposits	101.7	102.0	0.2
Trade notes and Accounts receivable	159.0	176.5	17.5
Inventories	121.2	155.6	34.3
Others	20.0	17.9	▲ 2.1
Non-current Assets	434.2	476.4	42.2
Tangible assets	249.9	276.3	26.4
Intangible assets	10.4	11.2	0.7
Investments and other assets	173.7	188.7	14.9
Total Assets	836.3	928.6	92.2

	Mar31,2021	Mar31,2022	Change
Liabilities	254.9	297.7	42.8
Trade note and accounts Payable	75.3	92.3	17.0
Interest-bearing debt	98.4	117.6	19.1
Others	81.1	87.7	6.5
Net Assets	581.4	630.8	49.4
Shareholders' equity	514.4	547.2	32.7
Accumulated other comprehensive income	9.7	21.5	11.7
Non controlling interest	57.1	62.1	4.9
Total liabilities and net assets	836.3	928.6	92.2
Equity Ratio	62.7%	61.2%	

FY2021 Cash Flows

[JPY in billions]



	FY2020	FY2021	Changes
Operating activity cash flow	55.4	52.0	▲ 3.3
Investing activity cash flows	▲ 40.3	▲ 64.9	▲ 24.5
Free cash flows	15.0	▲ 12.8	▲ 27.9
Financing activity cash flows	5.1	▲ 3.6	▲ 8.8
Effect of exchange rate change on cash and cash equivalents	0.6	6.5	5.8
Net increase (decrease) in cash and cash equivalents	20.9	▲ 10.0	▲ 30.9
Cash and cash equivalents at beginning of period	70.0	91.0	21.0
Increase in cash and cash equivalents resulting from inclusion of subsidiaries in consolidation	0.0	11.2	11.1
Cash and cash equivalents at end of period	91.0	92.2	1.1

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Although facing increased fixed costs and raw material/fuel cost inflation, growth forecast in net sales and profits, largely driven by increased unit sales and forex fluctuations

- Net sales: (+) Increase in sales volume, reflecting continuously robust semiconductor demand, etc.
 - (+) Yen depreciation
 - (+) Shift to sales prices involving raw material/fuel cost inflation
 - (+) Inclusion of subsidiary in consolidation (South Korean polyacetals sales company)
- Operating profit: (+) Increased unit sales
 - (+) Yen depreciation
 - (+) Shift to sales prices involving raw material/fuel cost inflation
 - (-) Increase of depreciation and amortization, R&D expenditures [-¥5.5bn]
 - (-) Increase in repair expenses at parent company (large-scale regular maintenance at Mizushima and Niigata Plants) [-¥3.5bn]
 - (-) Raw material/fuel cost inflation
- Equity-method income: Profit growth largely driven by equity-method investees in methanol
- DPS: Ordinary dividend of ¥80 (increase of ¥10 YoY) forecast

FY2022 Forecast



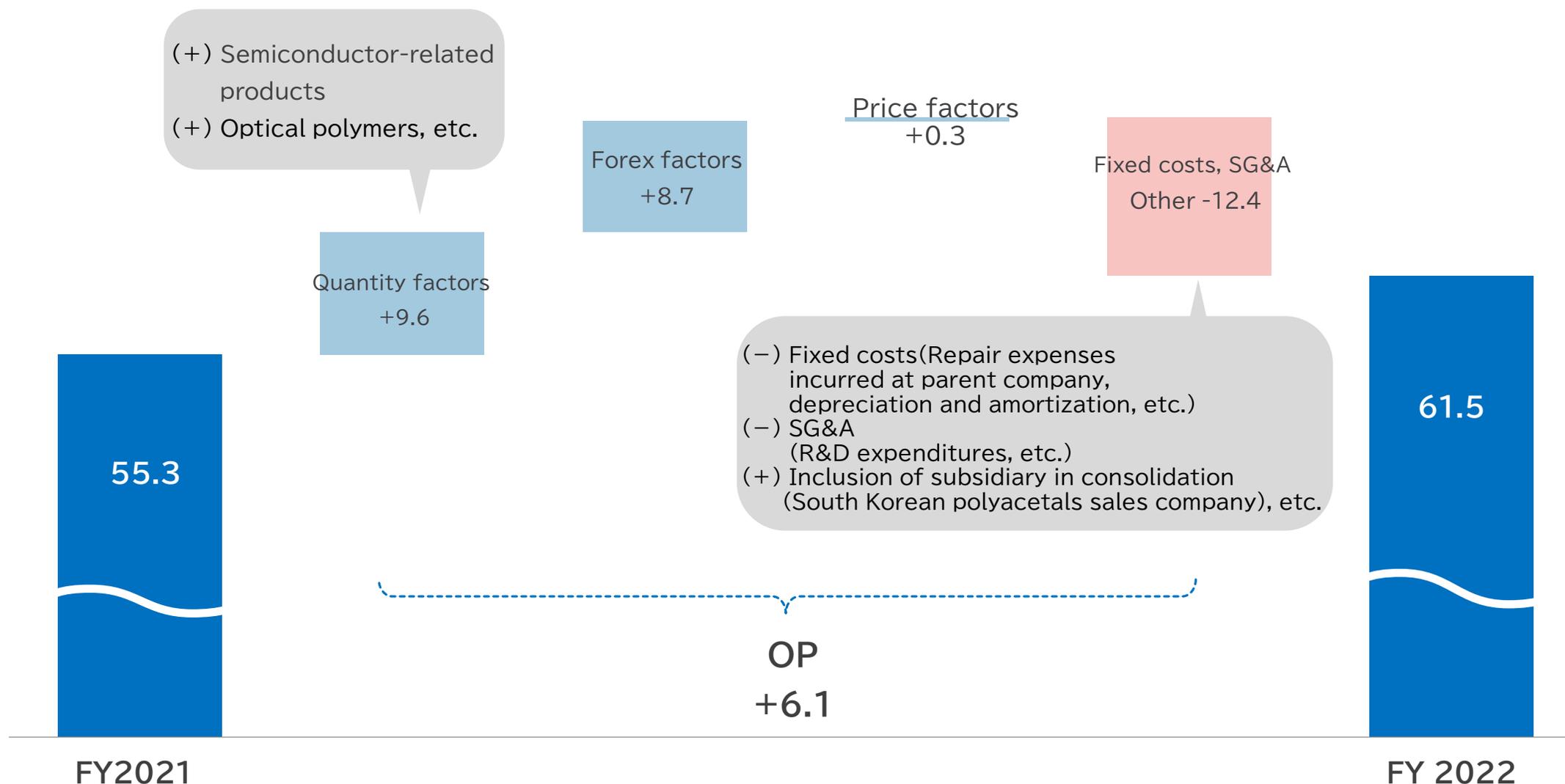
- We forecast growth of net sales and profits that will bring into view recording our highest-ever profit figures. We expect that ROE and ROIC will surpass 10%.

	FY2021	FY2022	Changes	
			Amount	%
Net Sales	705.6	800.0	94.3	13.4
Operating Income	55.3	61.5	6.1	11.1
(Equity in earnings of affiliates)	(14.8)	(20.6)	(5.7)	-
Ordinary Income	74.1	81.5	7.3	9.9
Net income attributable to owners of the parent	48.2	61.0	12.7	26.3
<hr/>				
E P S (JPY)	232.15	296.95		
R O E (%)	8.8	10.4		
R O I C (%)	10.4	10.4		
FX (JPY/USD)	112	125		

FY2022 Increase and Decrease Factors of Operating Profit (YoY)



[JPY in billions]



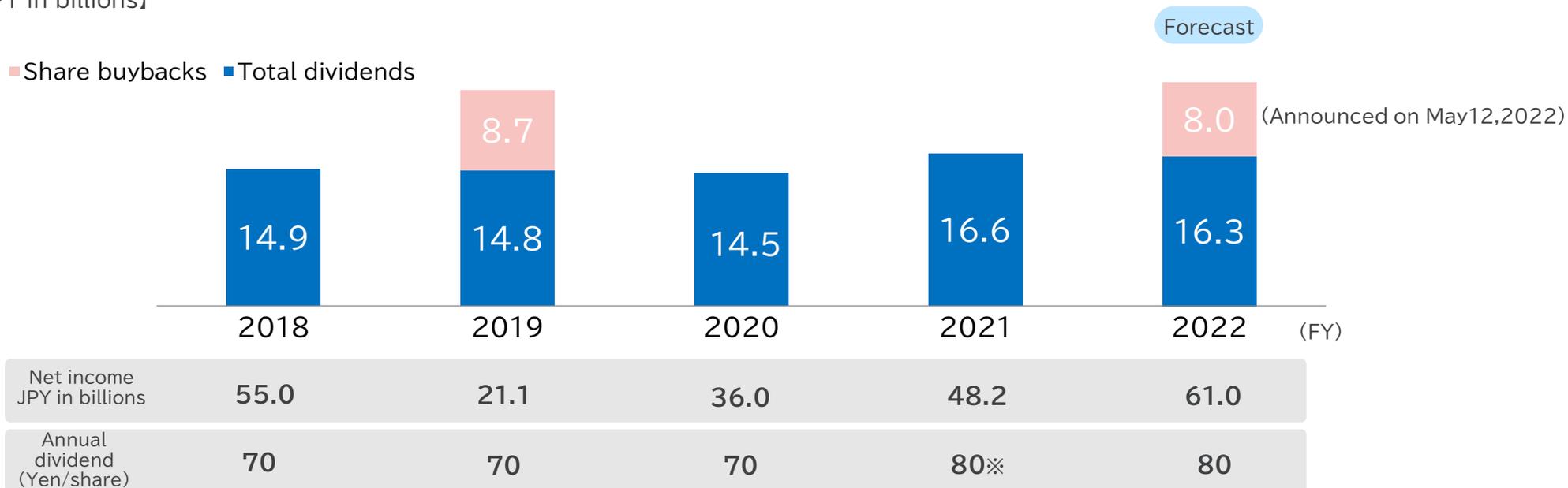
Shareholder return policy / Shareholder return

- The MGC Group places topmost management priority on enhancing corporate value. 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.
- Total payout ratio of 40% as a target for medium-term shareholder returns.



- Dividend for FY2022 is expected to be 80 yen (10 yen increase on an ordinary dividend basis)
- Announced on May 12, 2022: Repurchase (up to ¥8.0 billion, 3.5 million shares*) and cancel (3.5 million shares) of own Shares
- *Representing 1.68% of the total number of issued shares (excluding treasury shares)

【JPY in billions】



※Interim 45 yen (Commemorative 10 yen), Year-end (Forecast) 35 yen

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Results and Forecast by Segment

[JPY in billions] 

	FY2020			FY2021			FY2022 forecast		
	1H	2H	FY	1H	2H	FY	1H	2H	FY
Net sales	266.6	329.0	595.7	335.8	369.7	705.6	390.0	410.0	800.0
Basic Chemicals	146.8	190.9	335.7	200.9	224.4	425.3	223.3	236.5	459.8
Specialty Chemicals	124.0	143.7	267.8	137.5	147.9	285.5	169.7	176.3	346.0
Other and Adjustment	▲4.2	▲5.6	▲7.8	▲2.6	▲2.5	▲5.2	▲3.0	▲2.8	▲5.9
Operating income	14.3	30.1	44.5	30.0	25.3	55.3	30.0	31.5	61.5
Basic Chemicals	0.3	12.4	12.8	15.8	9.8	25.7	11.6	9.0	20.6
Specialty Chemicals	15.3	19.4	34.8	15.9	17.6	33.6	20.2	24.2	44.4
Other and Adjustment	▲1.3	▲1.8	▲3.1	▲1.8	▲2.1	▲4.0	▲1.8	▲1.7	▲3.5
Ordinary income	16.5	33.6	50.2	38.7	35.3	74.1	39.0	42.5	81.5
Basic Chemicals	1.4	12.8	14.2	19.1	10.9	30.0	17.1	15.8	33.0
Specialty Chemicals	15.9	21.6	37.5	20.7	24.6	45.4	23.2	28.7	52.0
Other and Adjustment	▲0.7	▲0.7	▲1.5	▲1.1	▲0.2	▲1.3	▲1.4	▲2.1	▲3.5

Effective from the fiscal year ending March 31, 2022, the Company has changed the segments of some of its products. Segment information for the previous fiscal year has also been prepared based on the classification method after the change.

FY2021 Results

Net sales and profits grew substantially, largely by virtue of a recovery in demand for products which had been impacted by the pandemic, increased unit sales for high-performance products, and increased methanol prices.

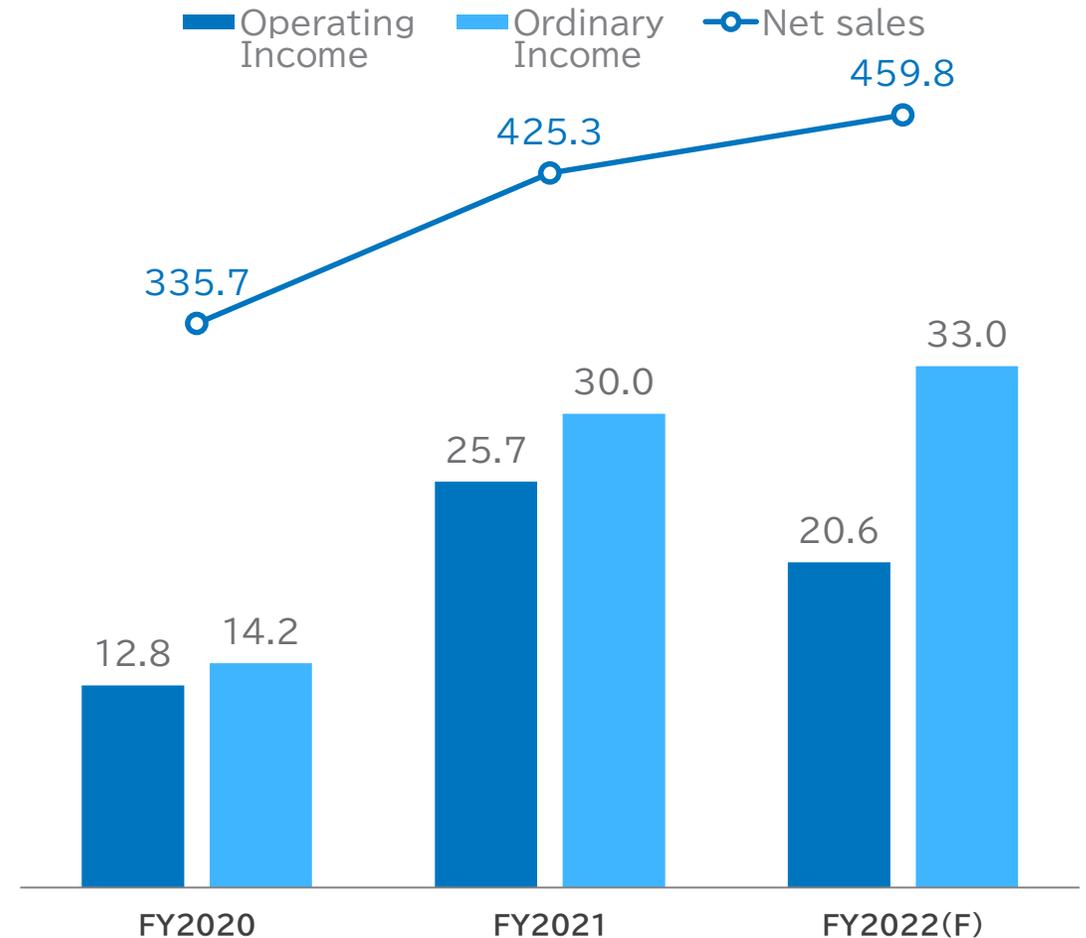
* Top-line impact of adoption of new accounting standard for revenue recognition: -¥14.9bn

FY2022 Forecast

We expect to see elements arise such as increased repair costs* and increased raw material/fuel costs. Operating profit is forecast to decrease. We expect to see profit growth in equity-method income driven by investees in methanol. We forecast an increase in ordinary profit.

*Large-scale regular maintenance taking place once every two years at Mizushima and Niigata Plants resulted in increase of approximately ¥3.5bn.

(JPY in billions)



FY2021 Results

- **Methanol:** Prices saw a significant increase in comparison with the previous period (\$256 in FY2020 to \$399 in FY2021) and net sales and profits grew.
- **Methanol/ammonia-based chemicals:** Net sales and profits grew, driven largely by higher neopentyl glycol prices and decreases seen in repair costs, even as raw material prices also increased.
- **High-performance products^{*1}:** Net sales and profits grew, boosted by buoyant sales of aromatic aldehydes in addition to a recovery in terms of demand for MXDA in comparison with the same period of the previous year, when performance had been impacted by the pandemic.
*1 Previously called specialty aromatic chemicals; includes MXDA, MX-Nylon, aromatic aldehydes
- **Xylene separators/derivatives^{*2}:** Net sales and profits grew, boosted by factors such as increased purified isophthalic acid (PIA) prices.
*2 Previously called general-purpose aromatic chemicals; includes MX, PIA
- **Foamed plastic (JSP):** While there was an increase in unit sales of automotive materials and protective materials for flat-panel displays, P/L figures fell below that of the previous period due to elements such as raw material/fuel cost inflation.

FY2022 Forecast

- **Methanol:** Prices are projected to transition at a high level (\$399 in FY2021 to \$420 in FY2022) and we expect equity in the earnings of affiliates to increase.
- **Methanol/ammonia-based chemicals:** We expect to see a decrease in profits due to factors such as increased repair costs and decreased neopentyl glycol prices.
- **High-performance products:** While we expect to see a solid transition in terms of sales, we also expect to see an increase in terms of income and a decrease in terms of profits due to factors such as increased repair costs.
- **Xylene separators/derivatives:** We expect to see a decrease in profits due to factors such as the worsening profitability of PIA resulting from raw material/fuel cost inflation, as well as increased repair costs.
- **JSP:** While we do forecast developments such as a recovery in terms of unit sales in the auto sector, P/L figures are forecast to be at the same level as the previous period owing to factors such as raw material/fuel cost inflation.

(JPY in billions)

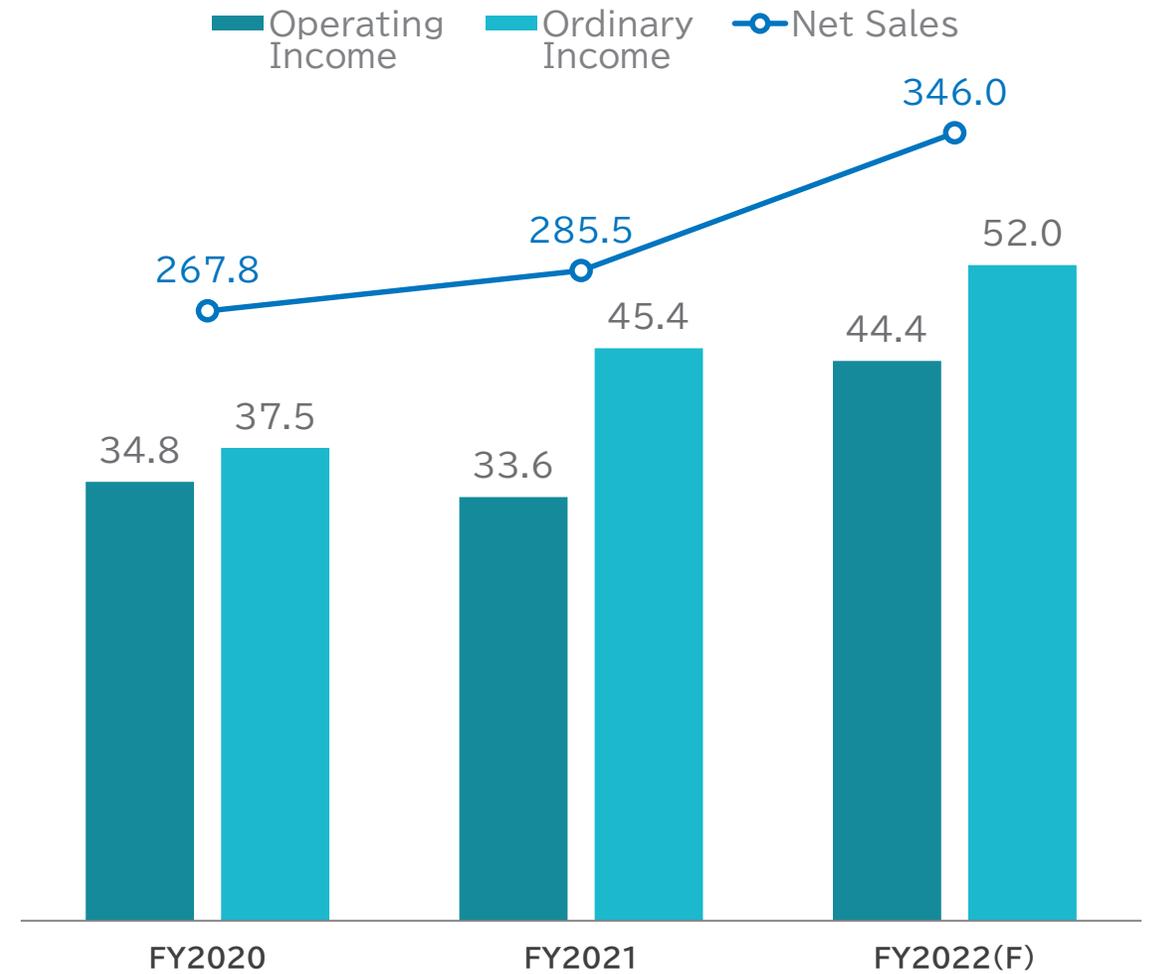
FY2021 Results

Net sales and ordinary profit grew largely due to increased unit sales of semiconductor-related products and strong sales for polyacetals (POM). Worsening profitability of polycarbonates (PC) and decreased unit sales for optical polymer served as negative factors.

* Top-line impact of adoption of new accounting standard for revenue recognition: -¥19.8bn

FY2022 Forecast

We forecast a continuation of strong sales of semiconductor-related products and POM. We also expect P/L figures to improve at our PC China base and expect to see a recovery terms of unit sales for optical polymers. We forecast net sales and profit growth.



FY2021 Results

- **Inorganic chemicals:** Net sales and profits improved due mainly to increased sales volume in chemicals for use in semiconductor manufacturing.
- **Engineering plastics:** Despite the worsening of profitability in terms of PC owing to raw material/fuel cost inflation, favorable sales of POM, a recovery in terms of unit sales primarily in the auto sector, and other factors, resulted in the growth of net sales and profits.
- **Optical materials:** While there was a shift toward a recovery in terms of demand for optical polymer products after figures had bottomed out during the first quarter, a decrease in net sales and profits occurred owing to factors such as decreases in unit sales resulting from issues such as inventory destocking undertaken by customers during 1H.
- **Electronic materials:** Net sales and profits increased as a result of such factors as increased unit sales, primarily during 1H, of general-purpose materials used in a wide variety of products, including electronics and PC-related hardware; moreover, there was also a strong transition seen in sales of materials for memory devices and 5G smartphones.
- **Oxygen absorbers:** P/L improved relative to the pandemic-stricken previous period, largely by virtue of a recovery in sales to the domestic food industry.

FY2022 Forecast

- **Inorganic chemicals:** We expect strong demand to continue when it comes to the sale of products to the semiconductor industry, and forecast an increase in net sales and profits.
- **Engineering plastics:** We expect net sales and profits to increase as a result of factors such as P/L improvements, seen at our PC China base, and continued strong sales of POM.
- **Optical materials:** We forecast a recovery of unit sales due to developments such as the absence of any impacts resulting from inventory destocking which took place during 1H of the previous year. We expect to see an increase in net sales and profits.
- **Electronic materials:** We expect to see a continued solid transition in demand for memory products for 5G smartphones and data centers. We also expect there to be an increase in unit sales of products for notebook computer processors, and forecast an increase in net sales and profits.
- **Oxygen absorbers:** Although we expect to see an increase in unit sales, primarily overseas, we forecast that P/L figures will be lower than that seen during the previous period, owing to factors such as raw material cost inflation and increased transportation costs.

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Medium-Term Management Plan: Numerical Targets for Grow UP 2023



- Sales, operating profit, and ordinary income for FY2021 approached FY2023 targets. Rate indicators also saw significant improvements.

(JPY in billions)

	FY2020	FY2021	FY2023 Target*
Net sales	595.7	705.6	730.0
Operating Income	44.5	55.3	70.0
Ordinary Income	50.2	74.1	80.0
R O I C	7.7%	10.4%	10% or higher
R O E	7.1%	8.8%	9% or higher

*Announced on May,2021

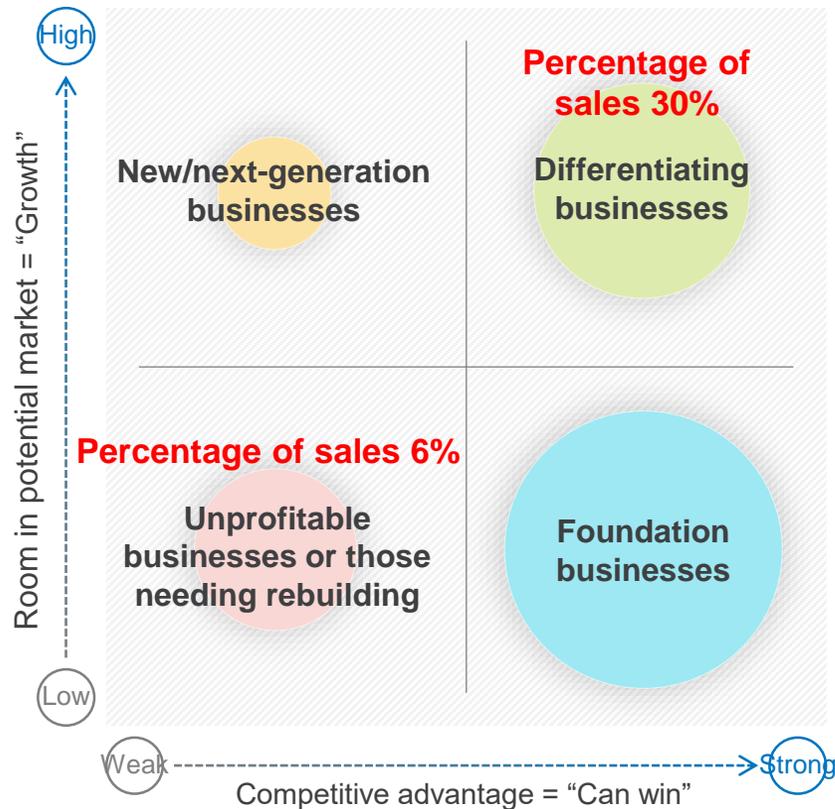
	FY2020	FY2021	FY2023 Target*
Methanol (US\$/MT)	256	399	325
Crude oil price (Dubai) (US\$/BBL)	45	78	60
Exchange rate (JPY/USD)	106	112	105

*Announced on May,2021

Business Portfolio Reform during Grow UP 2023

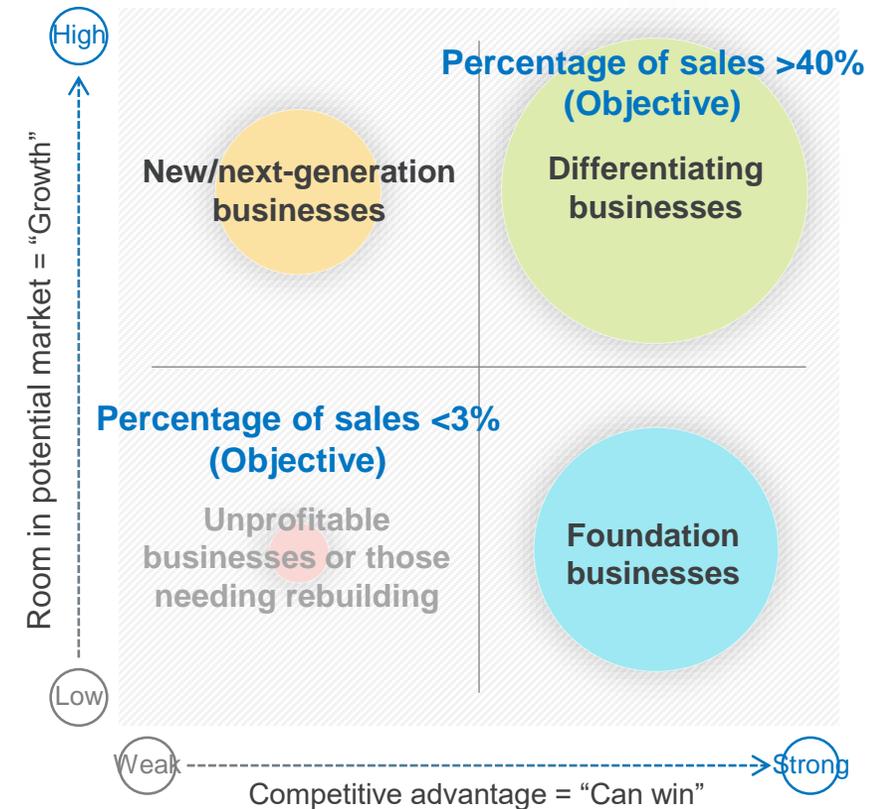
- During Grow UP 2023, we will pursue business portfolio reform by classifying each of our businesses into one of the four quadrants shown below.
- We have set final fiscal year targets of more than 40% of sales for differentiating businesses and under 3% of sales for unprofitable businesses or those needing rebuilding.

At Commencement of Grow UP 2023
FY2020 (Image)



- Further strengthen competitively advantageous businesses
- Accelerate creation and development of new businesses
- Bring higher added value and higher efficiency to foundation businesses
- Identify and reorganize unprofitable businesses

Final Fiscal Year Targets during Grow UP 2023
FY2023 (Image)



(Reference) Classification of Product Lines during Grow UP 2023

Medium-Term Management Plan Product Line Breakdown	Differentiating businesses	MXDA, aromatic aldehydes, MX-Nylon, electronic chemicals, polyacetal, optical polymers, ultra-high refractive lens monomer, IC plastic packaging BT material, and so forth
	New/next-generation businesses (Includes products in development stage)	Medical/Food: OXYCAPT, bio-products, contract manufacturing of antibody drugs, factory-grown vegetables, and so forth ICT/Mobility: Solid electrolytes, cellulose fiber composite materials, Neopulim transparent polyimide resin, semiconductor-related materials and so forth Environment/Energy: CO2-derived methanol, CO2-derived polycarbonate, methanol fuel cells and so forth
	Foundation businesses	Methanol, ammonia and amines, MMA products, energy resources and environmental businesses (geothermal and other types of power generation, water-soluble natural gas, iodine), foamed plastic (JSP), hydrogen peroxide, polycarbonate/sheet film, oxygen absorbers, and so forth
	Unprofitable businesses or those needing rebuilding	Formalin and polyol products, and xylene separators and derivatives

Strengths of the Group's business portfolio: Effectively-balanced deployment of unique, globally-competitive products

Differentiation **Foundation**

Meta-xylenediamine (MXDA)
Global market share #1
Superior rapid curing and chemical resistance
Primary applications: Epoxy resin curing agent, MX-Nylon (MXD6)

Methanol
Production capacity: global rank #3
World's only comprehensive manufacturer with proprietary catalyst technology and complete methanol value chain for derivatives, from manufacture to sales
Primary applications: Raw material for formalin, acetic acid, etc., intermediate materials

AGELESS™ Oxygen Absorbers
Global market share #1
Maintain extensive customer base as pioneer of food freshness agents
Primary applications: Food products (confectionery, processed meat products, etc.)

BT products
Global market share #1
Proprietary material meeting need for more compact, extremely thin IC plastic packaging offering higher performance
Primary applications: IC plastic package substrates

Polyacetal (POM)
Global market share #3
Engineering plastics offering superior abrasion resistance, sliding resistance and chemical resistance
Primary applications: Automotive components, electronic products

Geothermal power generation
Chemicals company: Only 1
Since 1981, 40 years of experience and results

Super-pure hydrogen peroxide
Global market share #1
Global production capability ensures stable supply of high-quality products to meet needs of most technologically-advanced customers
Primary applications: Cleaning agents for electronics industry, etching agents, resist stripping agents

Aromatic Aldehydes
Global market share #1
Proprietary production methods distinguished by efficiency and low environmental impact
Primary applications: Fragrances, resin additives

Foamed plastic
Global market share* #1
Superior weight saving, flexibility and durability
Primary applications: Automotive components, precision equipment packaging
*For automotive use

Optical resin polymers
Refractive index*: global rank #1
Features that balance high refractive index with low birefringence contribute to enhanced camera functionality
Primary applications: Smartphone and other compact camera lens materials
*As compact camera lens materials

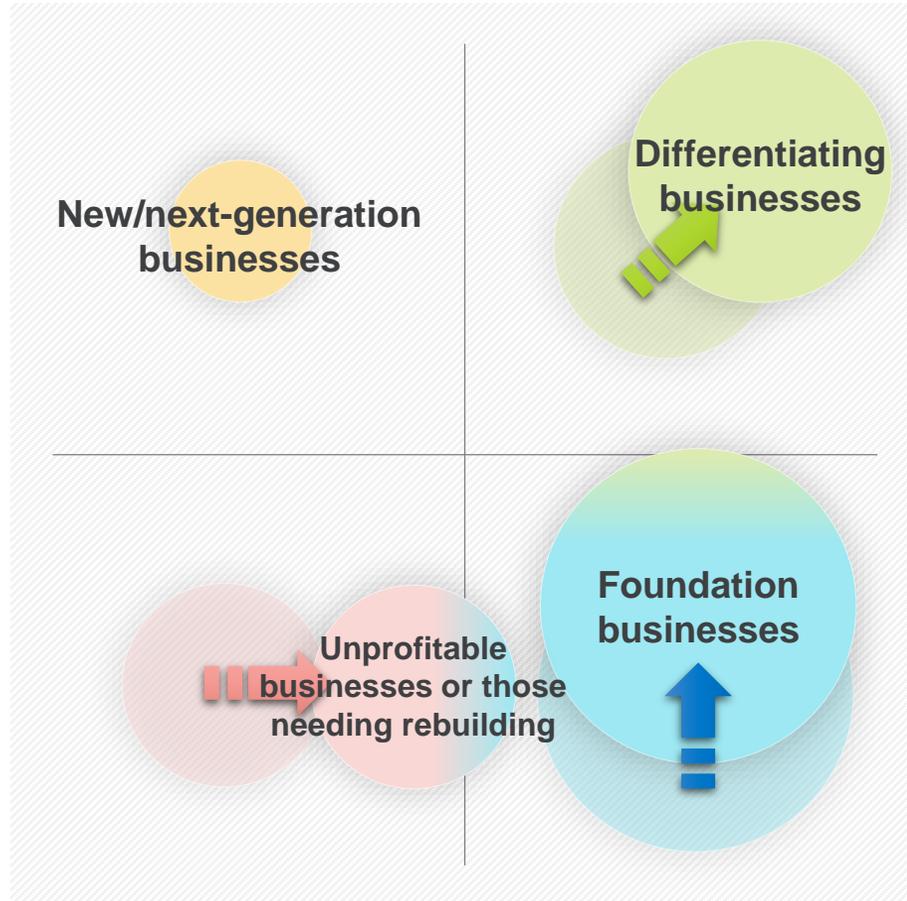
MX-Nylon
Global market share #1
Superior gas barrier properties, also contributes to reducing weight of PET bottles
Primary applications: Food product packaging, PET bottles, Engineering plastics

Polycarbonate resin (PC)
Supply capacity*: global rank #3
Also developing high-value-added products that are lightweight, highly transparent and high-strength
Primary applications: Interior and exterior materials (automotive), electronic components, office automation equipment
*In terms of the Mitsubishi Group

Business Portfolio Reform (1): Transition of Business Portfolio from FY2020 to FY2021

- Steady progress is being seen in our business portfolio reform toward a “business structure resilient to changes in the environment.”

Transition of Business Portfolio Reform from FY2020 to FY2021 (Image)



Differentiating businesses

- Executed growth investments aimed at growing markets. Steady growth seen in differentiating businesses across the board
- While profits decreased year on year for optical polymer products, growth seen in products in other differentiating businesses

Foundation businesses

- Earnings for all foundation businesses improved significantly
- Progress also made in efforts aimed at implementation of circular carbon methanol and CO₂-derived specialty chemicals, in addition to price improvements

Unprofitable businesses or those needing rebuilding

- Improved earnings structure of formalin and polyol business thanks to various efforts aimed at structural reform, in addition to price improvement for xylene separators/derivatives

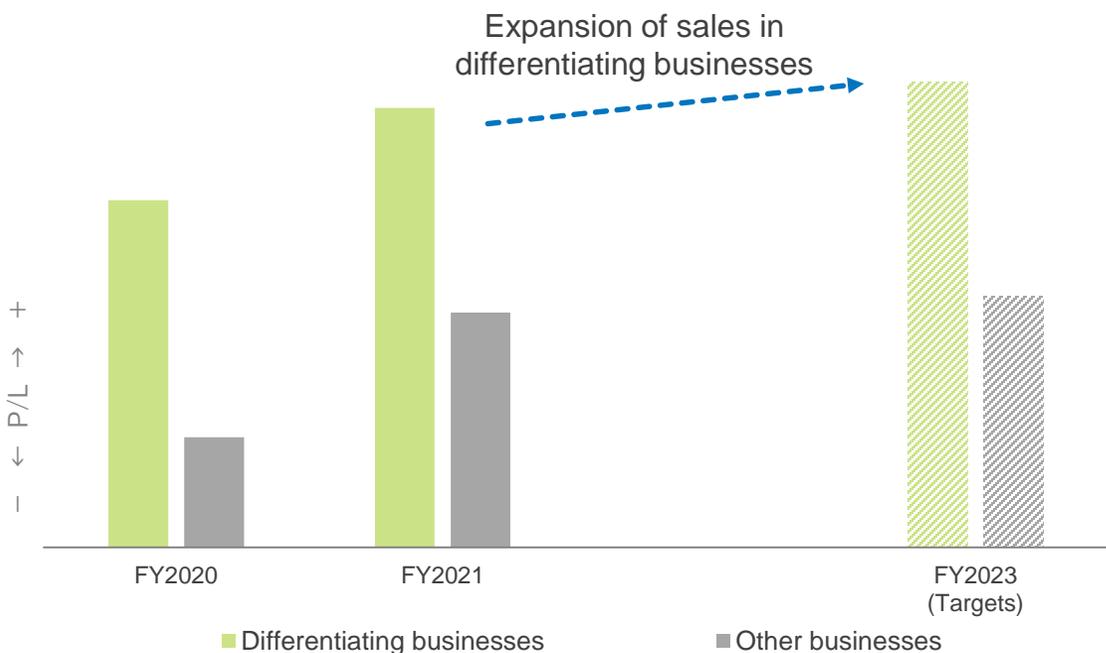
New/next-generation businesses

- Proactively injected resources into R&D. Also increased number of research personnel

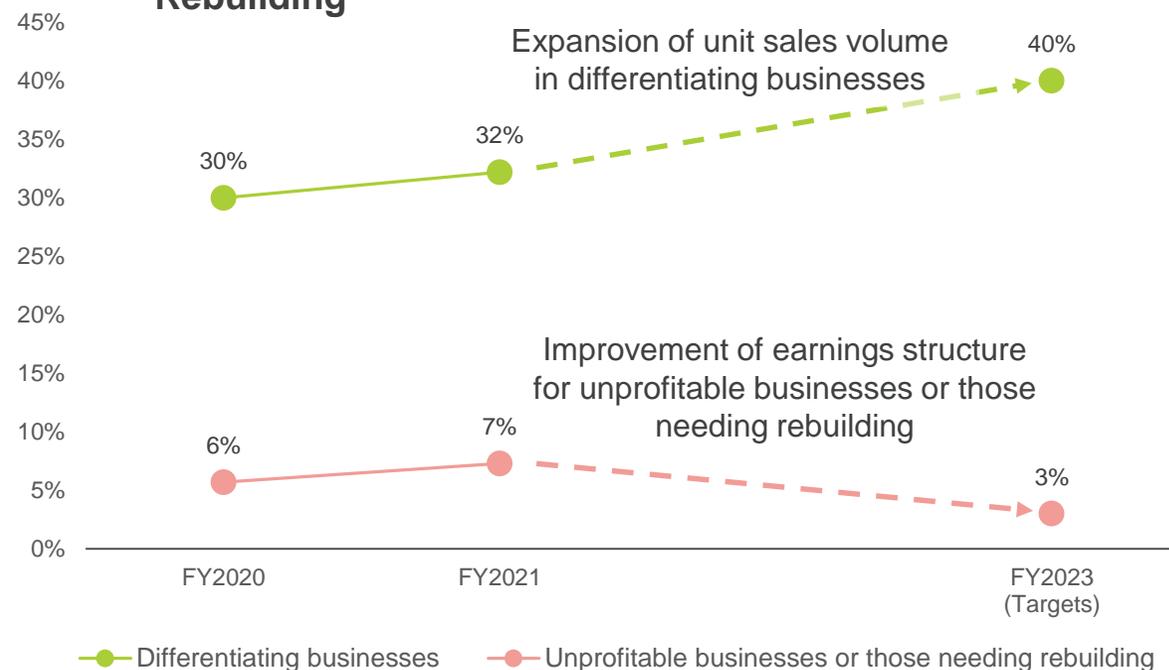
Business Portfolio Reform (2): Progress in Strengthening Differentiating Businesses and Rebuilding Unprofitable Businesses

- Steady growth was seen in sales and earnings in differentiating businesses. We expect that FY2022 will see further growth and higher levels of earnings.
- Acceleration of the action plan aimed at targets of more than 40% of sales for differentiating businesses and under 3% of sales for unprofitable businesses or those needing rebuilding, as outlined in Grow UP 2023.

Transition of Ordinary Income in Differentiating Businesses



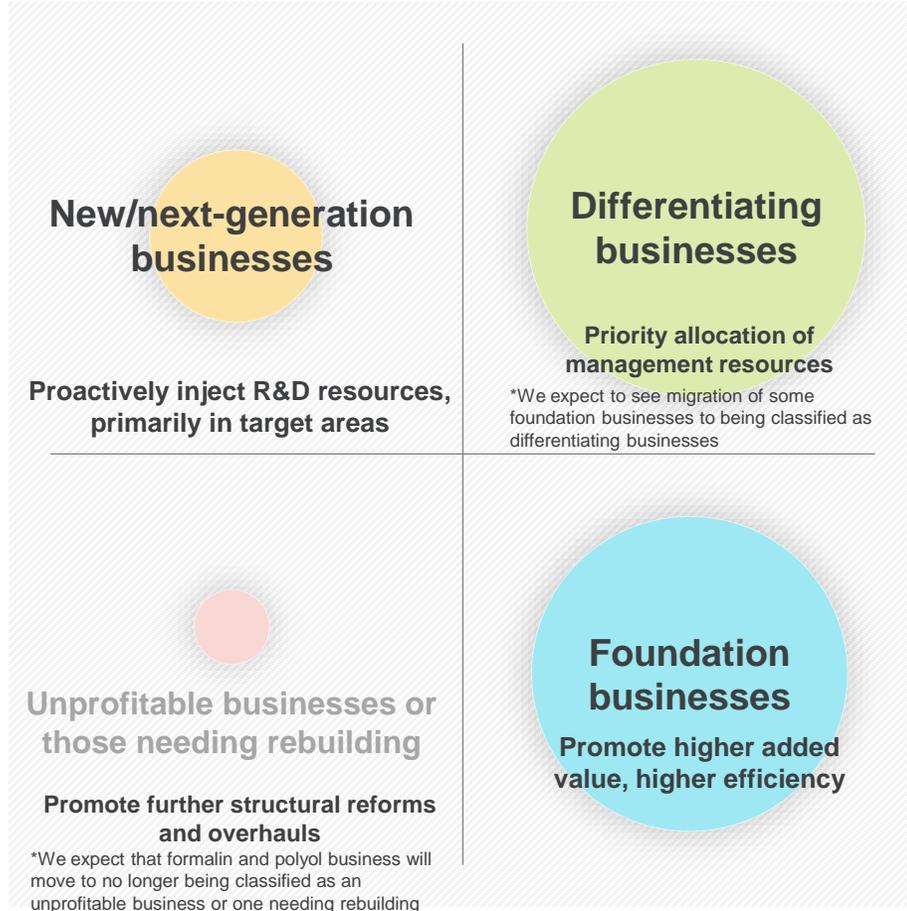
Percentage of Sales in Differentiating Businesses, and in Unprofitable Businesses /Businesses Needing Rebuilding



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

Business Portfolio Reform (3): Action Plan Aimed at Achievement of Grow UP 2023 Targets

Business Portfolio for Final Fiscal Year in Grow UP 2023 (Image)



Differentiating businesses

- Proactive investment primarily in differentiated products including MXDA, electronic chemicals (EL), and BT products. Priority allocation of management resources

Foundation businesses

- Accelerate various efforts for PC products and turn MEP* into consolidated subsidiary in FY2023
- Promote measures aimed at further increasing high levels of added value, and at streamlining for other foundation products as well, including methanol

*Mitsubishi Engineering-Plastics Corporation

Unprofitable businesses or those needing rebuilding

- Move forward with further structural changes and overhauls primarily in formalin and polyol business and aim to have business no longer classified as unprofitable business or one needing rebuilding

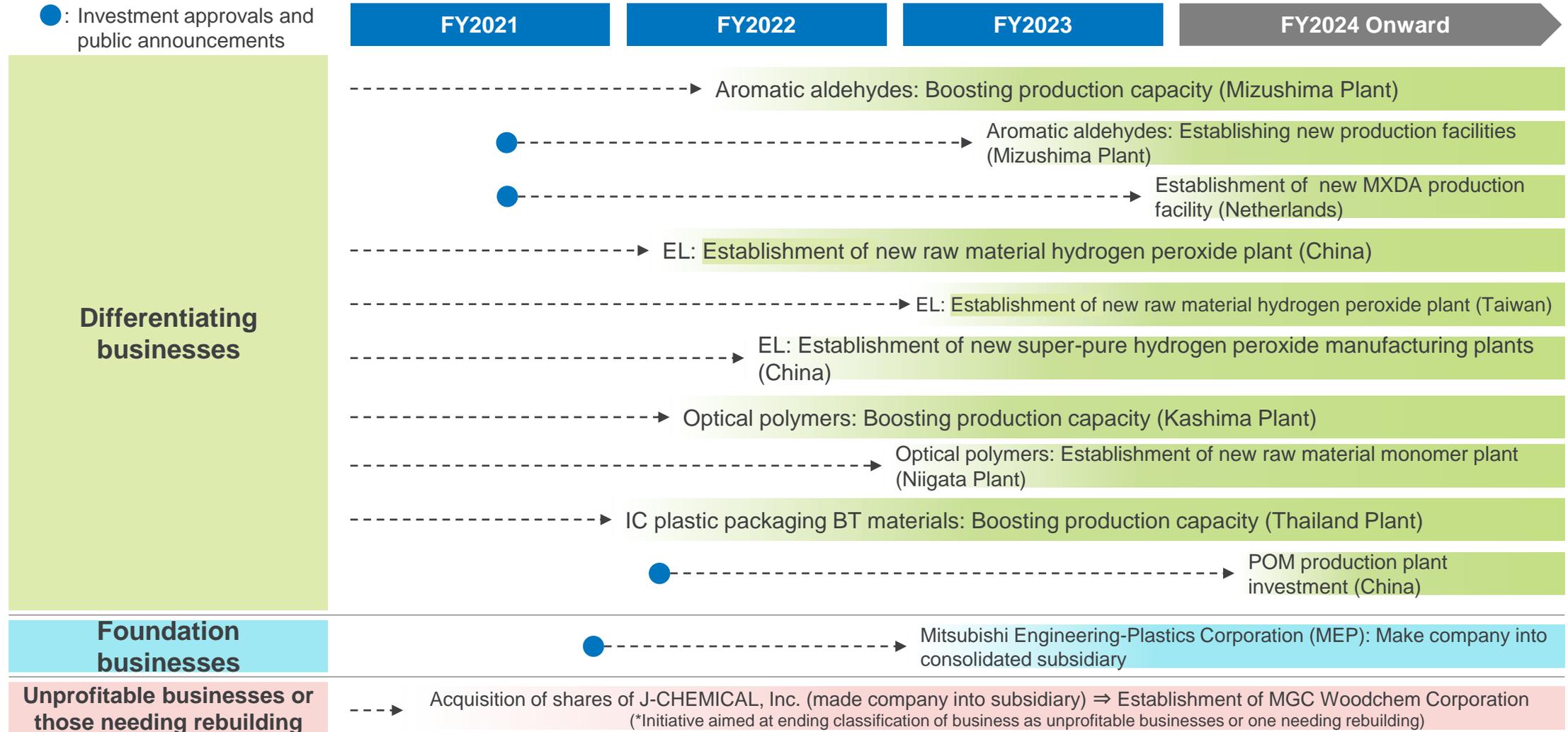
New/next-generation businesses

- Move forward with proactive injection of R&D resources with aim of creating and nurturing new/next-generation businesses

Progress for Major Investment Projects during Grow UP 2023



- Currently promoting these projects, primarily in differentiating businesses, in a manner roughly in line with plan figures (total amount of 240 billion yen).

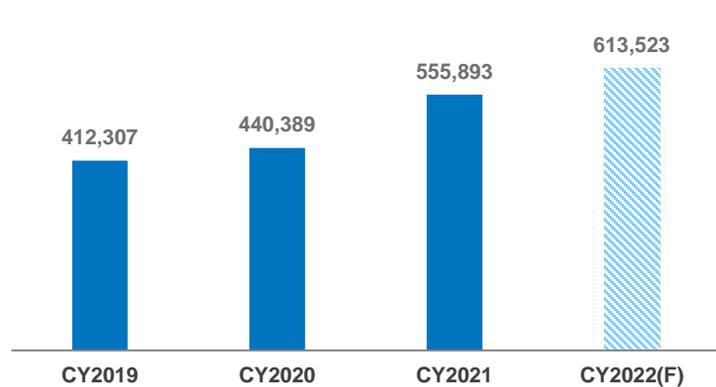


Further Strengthen Competitively Advantageous (“Differentiating”) Businesses (1): Products for Semiconductor Industry



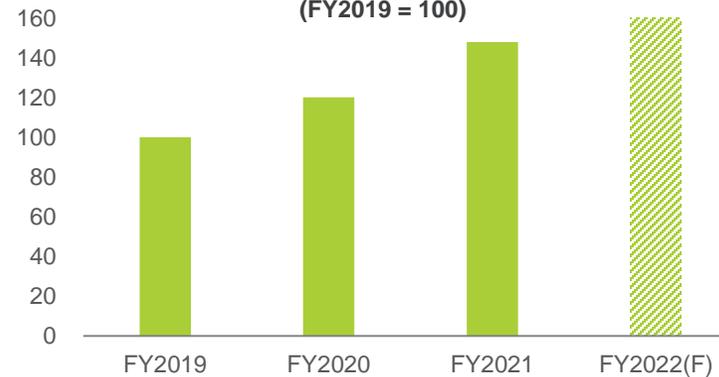
- Semiconductor market is growing in parallel with progress being seen in 5G and IoT. We are currently seeing growth of electronic chemicals (EL chemicals) and BT materials in parallel with the growth of semiconductors.
- BT materials: Addition of production capacity in Thailand completed in April 2022. EL chemicals: projects in Taiwan and PRC progressing well.

WSTS Semiconductor Market Forecasts US\$M

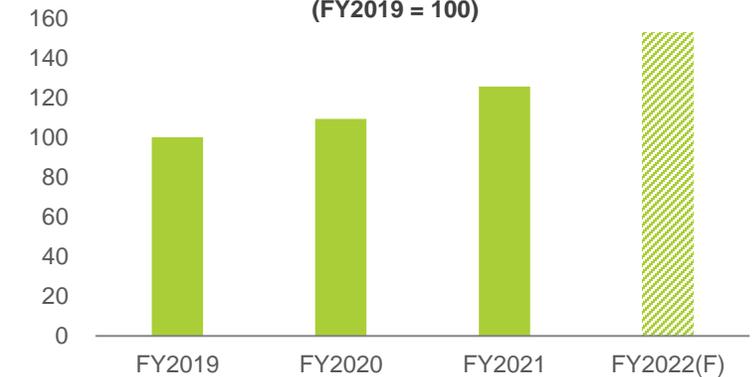


Source: WSTS (March 18, 2022)

BT Materials: Transition in Net Sales
(FY2019 = 100)



EL Chemicals: Transition in Net Sales
(FY2019 = 100)



BT materials, Thailand Plant: Increased production capacity for high-performance products in order to provide stable supply of products at two bases



EL chemicals, Taiwan base: Currently running project for integrated production using hydrogen peroxide feedstock

Further Strengthen Competitively Advantageous (“Differentiating”) Businesses (2): Polyacetal (POM)



- Gave GPAC*(fully-owned subsidiary) supervisory function for POM business so that production, sales and development pertaining to Group’s POM business is run in integrated manner.
- Decided on investment in new manufacturing company for polyacetals in China. Increased presence primarily in Asia, the area with greatest demand for POM.

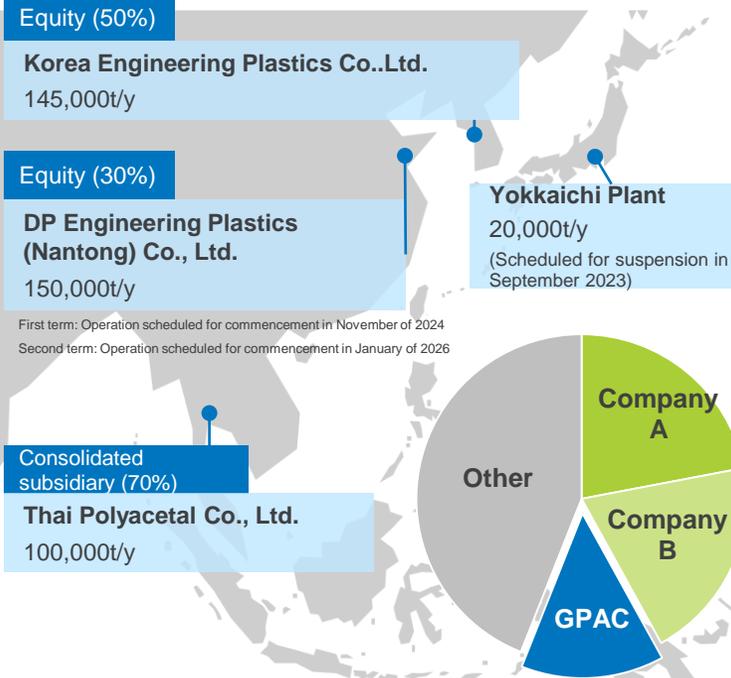
*Global Polyacetal Co., Ltd.: new engineering plastics company concentrating on POM, PPE and Reny.

Primary Applications

- Automobiles (mechanism components for turning signals, etc., and fuel pumps)
- Electronic products (printer gears and levers)
- Clothing and bag fasteners, etc.



POM Manufacturing Base

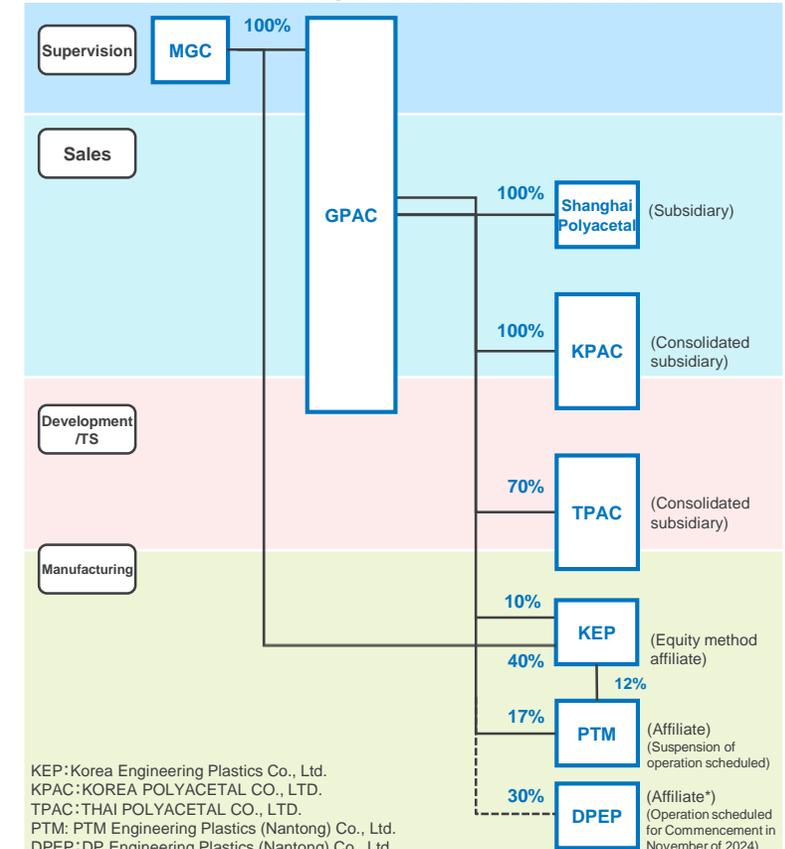


Source: FUJI KEIZAI

Global market share 14% (#3)
*Reference
China/Asia Pacific 16% (#2)
Japan 13% (#3)

Business Framework

Toward a flexible framework which allows for immediate responses to market needs



Bring Higher Added Value and Higher Efficiency to Foundation Businesses (1): Polycarbonates (PC) and Turning MEP* into a Consolidated Subsidiary

*Mitsubishi Engineering-Plastics Corporation

- MEP will be made a consolidated subsidiary starting in FY2023 (equity held by Company to go from 50% to 70%); new MEP will be fully dedicated to PC business.
- Various efforts will be accelerated to speed up decision-making at the initiative of the Company. Rather than pursuing scale, aim to transform to profit structure resilient to change in business environment by pursuing high-value-added activities and so forth.

PC Business Strategy of MGC with Higher Levels of Added Value Serving as Axis

- 1. Grade integration**
Streamlining of production through consolidation of grades and improvement of profitability via optimization of product structures
- 2. Generation of synergy between members of MGC Group**
Strengthening of generation of synergy with other engineering plastics businesses, such as MX nylon, JSP, and optical materials
- 3. Promotion of efforts aimed at achieving carbon neutrality**
Global deployment of CO2 to PC, currently being developed by the Company

MEP Strengths

- 1. Customer-focused technical services**
- 2. Marketing functions**
(businesses based in 27 locations in Japan and overseas)
- 3. Thai manufacturing base that offers superior cost-competitiveness and high profitability: THAI POLYCARBONATE CO., LTD.(TPCC)**
→ **Make TPCC consolidated subsidiary of Company as well**

Thoroughly pursue above efforts in speedy and flexible manner under Company initiative

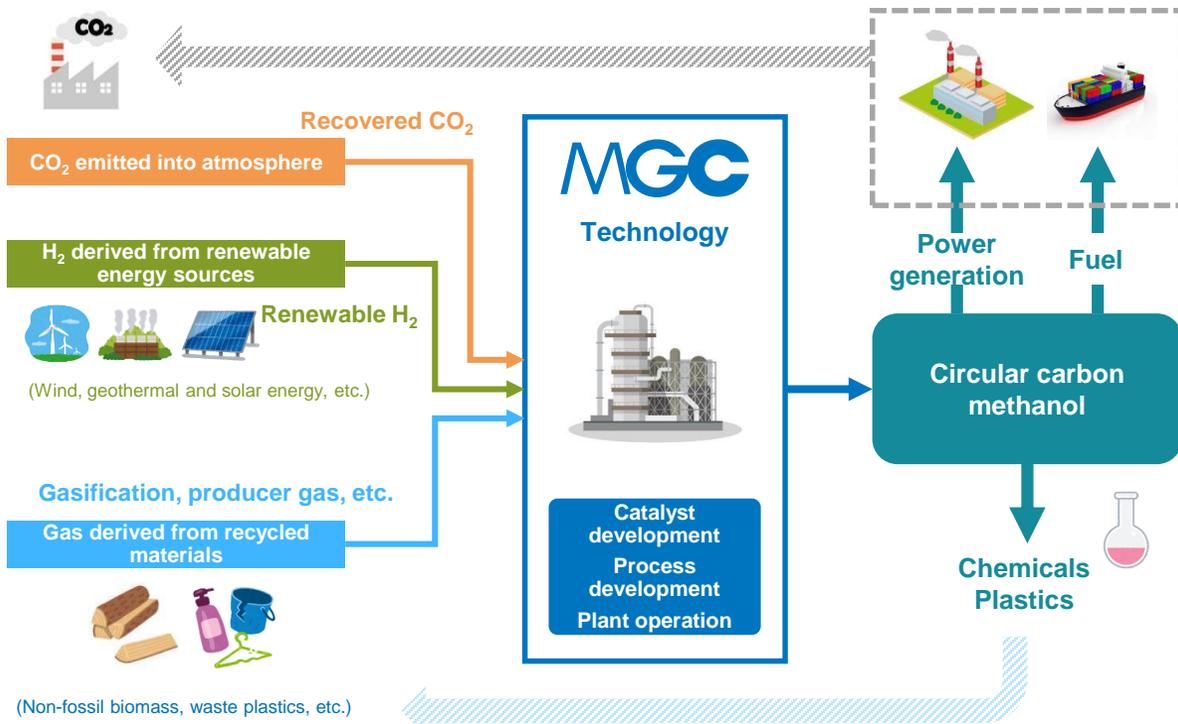
Generate value for sectors characterized by high added value, our target areas



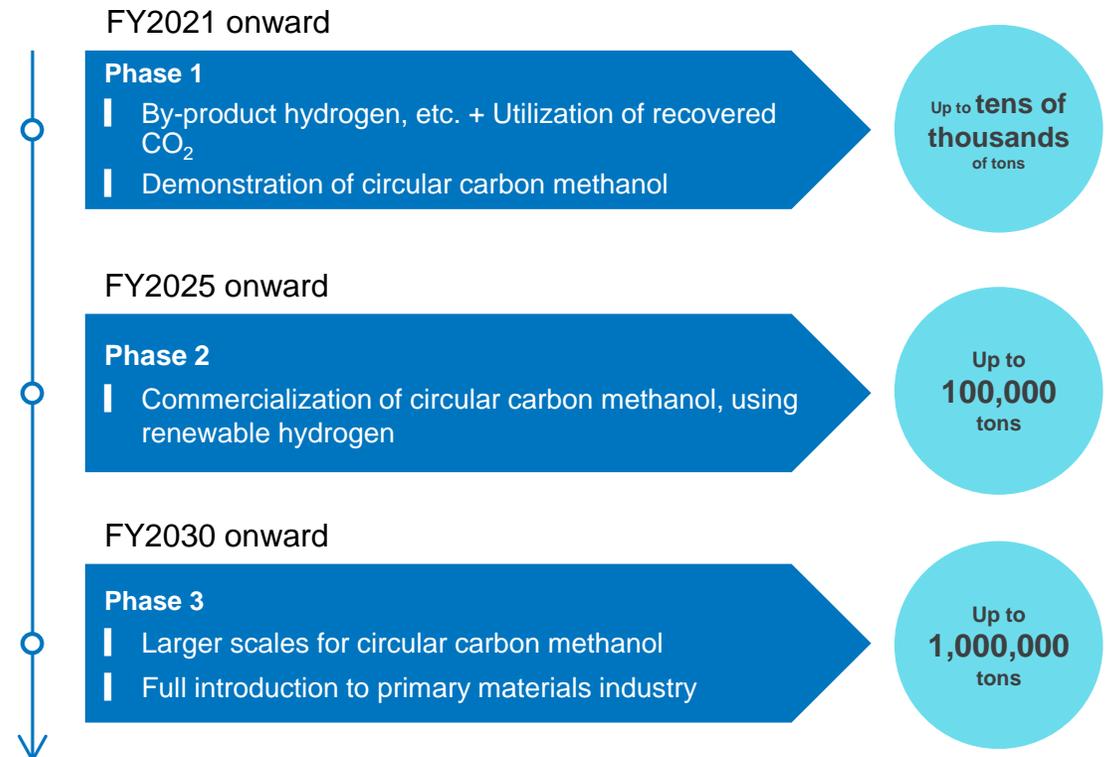
Bring Higher Added Value and Higher Efficiency to Foundation Businesses (2): Methanol

- Currently conducting proof of concept testing for manufacturing of methanol which uses CO₂ and hydrogen as raw materials, with the aim of achieving Circular Carbon Methanol Production.
- Market conditions for methanol are currently stable at a high level. The profitability and capital efficiency of the methanol business is at a level equivalent with that demonstrated by differentiating businesses.
- With a view to having the business migrate to being classified as a differentiating businesses, we will pursue measures and investments aimed at ensuring even higher levels of added value in the methanol business and an increased market presence.
- We will aim for the commercialization of circular carbon methanol in the amounts of tens of thousands of tons by FY2024, 100,000 tons by FY2030, and a maximum of 1,000,000 tons from FY2030 onward.

Overview of Circular Carbon Methanol



Outline of Methanol Commercialization and Increasing Scale



Formalin and Polyol Products

- **Promotion of streamlining via production suspension and consolidation**
 - ①Formalin: Decided to suspend production at the Niigata and Yokkaichi Plants. Streamlining production.
 - ②TMP (trimethylolpropane): Suspension of production at the Mizushima Plant.
 - ③Paraformaldehyde and hexamine: Decided to suspend production at the Niigata Plant.
- **Formalin: Built an integrated production system extending from formalin to downstream (adhesives) by turning J-CHEMICAL* into fully-owned subsidiary**

*April 2022: J-Chemical, Inc. and Yutaka Chemicals Corporation merged together, with the company name being changed to MGC Woodchem Corporation



Improvement of profitability in formalin and polyol businesses

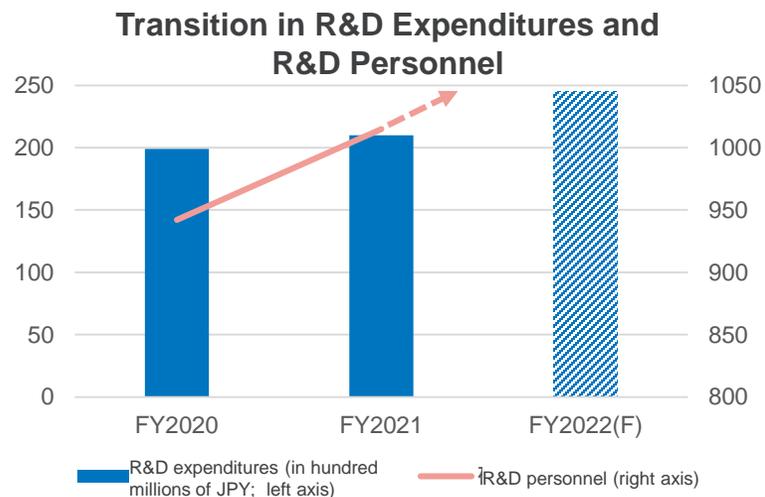
Both FY2021 results and the FY2022 forecast indicate the business is reaching a level equivalent to that of a foundation business; consequently, we expect it will no longer be classified as an unprofitable business or one needing rebuilding.

Xylene Separators and Derivatives

- **Currently promoting various efforts aimed at maximizing earnings in the business overall, including derivative products such as MXDA in the downstream**

Initiatives Aimed at Next-Generation Businesses

- Focused injection of management resources into R&D. Appropriation of development costs of approx. 1/3 for new/next-generation businesses, and acceleration of initiatives aimed at strengthening ability to generate new products.



Initiatives Undertaken by Advanced Business Development Division



Solid Electrolytes

Target: EVs
Research system expanding in anticipation of future market launch

New BT Materials

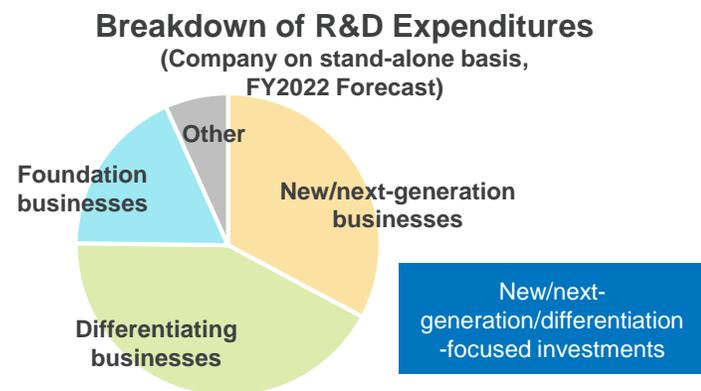
Meeting 5G needs with sheet products possessing superior dielectric characteristics in high-frequency ranges and are appropriate for thin layers

Cellulose Fiber Composite Material

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

Carbon Fiber Composite Material

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



OXYCAPT

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

Antibody Drug Manufacturing Business

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

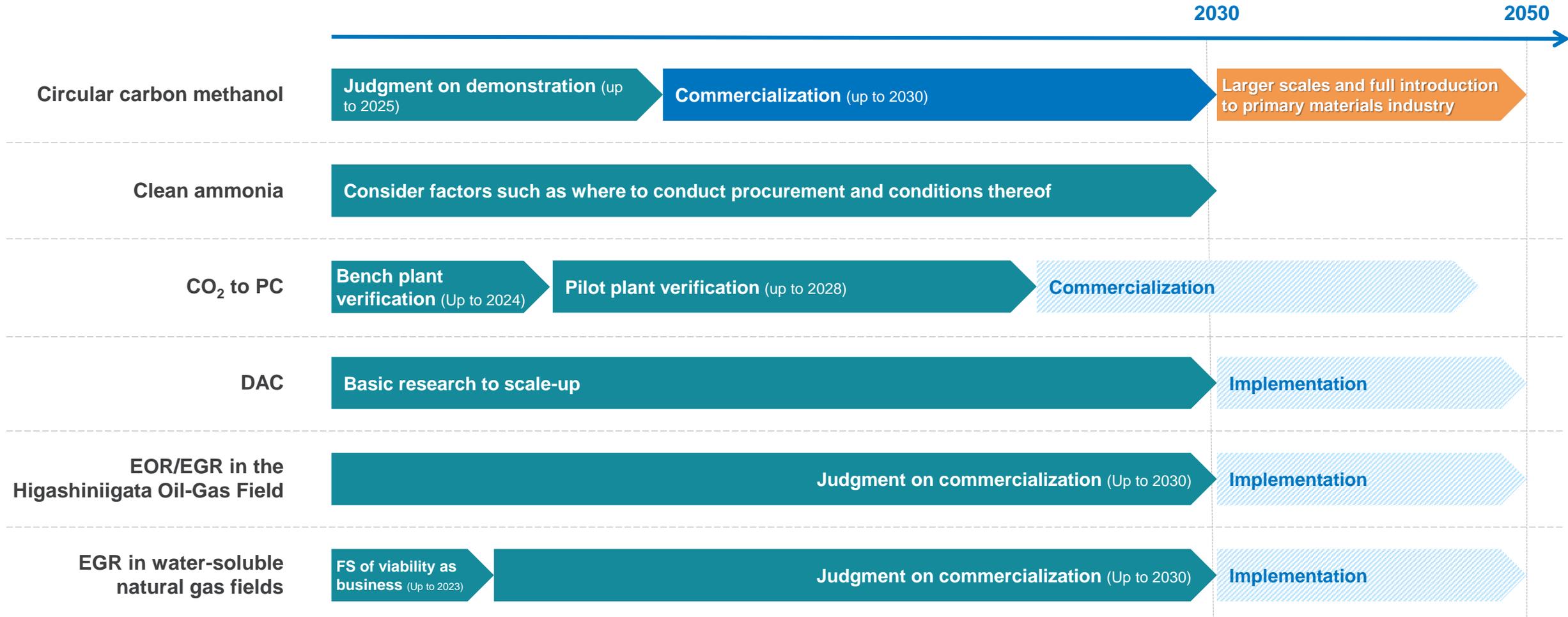
Allergy Test Chips

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

Bio-Products

Confirmation of growth inhibition effects for Feline Coronavirus and adiposity inhibition effects of BioPQQ

Reference: Initiatives Aimed at Carbon Neutrality (CN) [CN Promotion Goals]



Appendix

Reference: MGC's Roadmap toward its Ultimate Goal of Carbon Neutrality by 2050

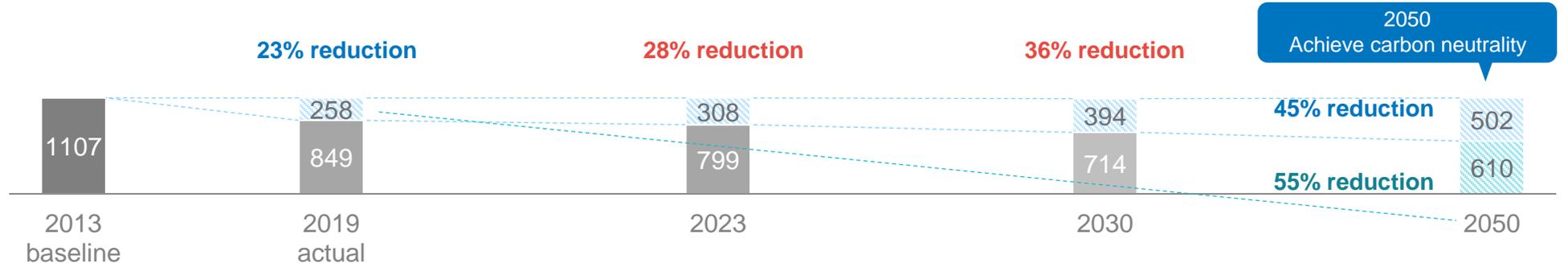


– Aim to achieve reduction of 36% by 2030 in comparison with 2013 and carbon neutrality by 2050* *Subject scope was expanded to entire Group in March 2022

Roadmap below depicts path to achievement of CN by MGC on stand-alone basis (Date of public announcement: March 29, 2021)

Scope	2013 - 2019	2020 - 2023	2024 - 2030	2030 - 2050		
Main initiatives (CO ₂ Reduction)	1	<ul style="list-style-type: none"> Improve energy efficiency Reconfigure business portfolio 258kt in total	<ul style="list-style-type: none"> Improve energy efficiency 16kt Stop using heavy oil 13kt 	<ul style="list-style-type: none"> Improve energy efficiency 28kt 	<ul style="list-style-type: none"> Improve energy efficiency 40kt 	
	2	—	<ul style="list-style-type: none"> Reconfigure business portfolio Deploy new energy systems/CCUS, switch feedstocks (R&D/collaboration) 14kt 	<ul style="list-style-type: none"> Reconfigure business portfolio Deploy new energy systems/CCUS, switch feedstocks (R&D/collaboration) 610kt in total 	<ul style="list-style-type: none"> Source 100% of energy from renewables 69kt 	
Businesses & technologies		 <p>Fukushima Natural Gas Power Plant Provided by: Fukushima Gas Power Co., Ltd.</p>	 <p>Wasabizawa Geothermal Power Station Provided by: Yuzawa Geothermal Power Corp</p>	 <p>For consideration of circular carbon methanol Pilot plant</p>	 <p>Collaboration</p>	 <p>Feedstock switching</p>

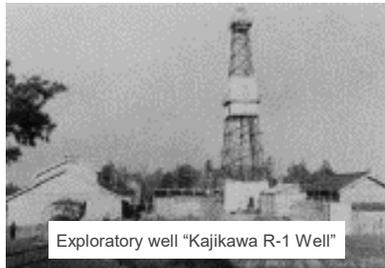
CO₂ emissions (kt of CO₂/year)



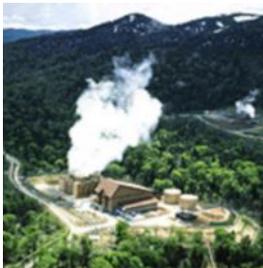
Date of public announcement: March 29, 2021

Reference: MGC's Strengths in Carbon-Neutral Technologies (Accumulation of Energy Resources and Environmental Technologies)

- Over a period of around 60 years, the company (on a stand-alone basis) deployed a business to develop natural gas. MGC has exploration and development technologies that are unique among those found at chemical manufacturers.
- Furthermore, MGC has implemented natural gas and crude oil exploration technologies on a joint basis with other resource development companies.
- MGC has deployed businesses in the compatible areas of geothermal development and LNG-fired power generation.
- Over many years, it also developed catalysts used in methanol synthesis.



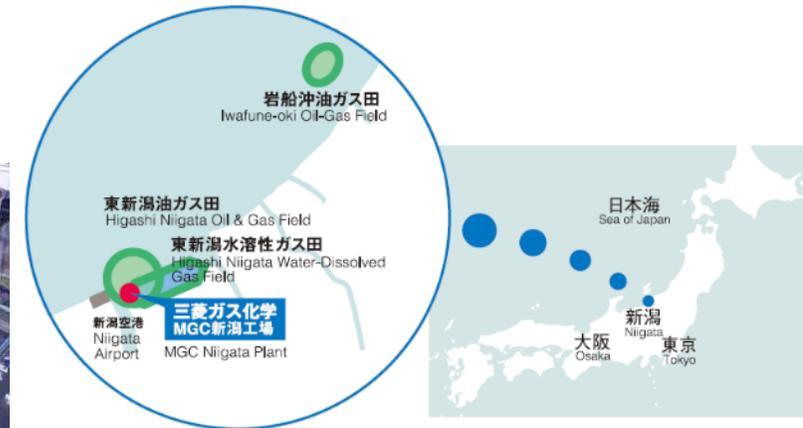
Exploratory well "Kajikawa R-1 Well"



Fukushima Natural Gas Power Plant
Provided by : Fukushima Gas Power Co., Ltd.



Tomakomai CCS Demonstration Project Center



1952
Methanol synthesis
1953

Development of water-soluble natural gas
1957

Ammonia synthesis

1981
Development of geothermal power

2016
LNG power generation^{*1}

2016
CCS^{*2}

2021
Production of water-soluble natural gas^{*3}

Accumulated intellectual property and know-how adapted and applied to capturing, storing and recycling CO₂, as well as to building of hydrogen supply chains

*1 Investment in Fukushima Gas Power Co., Ltd.

*2 Commenced press fitting of CO₂ within Carbon dioxide Capture & Storage (CCS) demonstration project conducted in Tomakomai City

*3 New production of water-soluble gas for first time in 50 years by TOHO EARTHTECH, INC., an MGC subsidiary

Reference: Toward Achieving Carbon Neutrality

- Pursue development of products and technologies conducive to decarbonization by leveraging distinctive technologies found only at MGC
- Move forward with efforts such as promotion of energy efficiency, introduction of new energy, CCUS* implementation, and feedstock switching to reduce GHG emissions (Scope 1)

*Carbon dioxide Capture, Utilization and Storage: Capturing, effective usage and storage of carbon dioxide emissions.

Development of Products and Technologies Conducive to Decarbonization



Methanol manufacturing technologies using CO₂ as raw materials



Hydrogen manufacturing technologies using methanol as raw materials (catalysts)



Polycarbonates using CO₂



Procurement of clean ammonia (fuels, green hydrogen raw materials)



Solid-state batteries (for EVs)
Fuel cells (for FCVs)



Energy control systems: Semiconductor materials



Biodegradable polymers



Chemical recycling

Direct air capture (DAC): Specialty amines

Methanol: Hydrogen carrier

Operational streamlining: Optical polymers for sensing cameras for automotive use

Initiatives Aimed at GHG Emission Reductions (Scope 1)

- Promotion of energy efficiency, end use of fuel oil
- New energy system/CCUS implementation
- Reconfiguring business portfolio
- Smart-Factory



Also contributing to reduction of energy derived from fossil fuels (Scope 2)



LNG-fired power generation + CCUS



Geothermal power generation

Appendix: Key Indicators (1)



【JPY in billions】	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022(F)
Capital expenditure (1H)	25.4 [13.8]	22.2 [10.3]	30.5 [14.9]	35.0 [13.7]	30.9 [13.9]	39.2 [18.6]	42.3 [22.4]	40.2 [15.8]	54.7 [22.0]	90.0 [49.0]
Depreciation & Amortization (1H)	23.5 [11.4]	23.7 [11.5]	26.7 [13.1]	25.6 [12.2]	27.0 [13.1]	27.4 [13.5]	29.5 [14.4]	30.6 [15.1]	31.9 [15.8]	34.0 [16.0]
R&D expenditure (1H)	16.1 [8.0]	16.8 [8.0]	18.9 [9.2]	19.2 [9.6]	18.9 [9.5]	18.6 [9.1]	19.6 [9.4]	19.9 [9.8]	21.0 [10.1]	24.5 [12.0]
Employees (as of Mar 31)	5,445	8,254	8,176	8,034	8,009	8,276	8,954	8,998	9,888	10,541
EPS (Yen)*	66	192	154	222	281	257	101	173	232	296
ROA (%)	4.8	5.8	5.9	8.4	10.6	8.7	3.9	6.2	8.4	8.5
ROE (%)	5.0	12.6	9.0	12.0	13.6	11.3	4.3	7.1	8.8	10.4
ROIC (%)	6.1	7.2	7.3	10.4	13.2	10.9	4.9	7.7	10.4	10.4
Dividend (yen)* (of which, Interim dividend)	24.0 [12.0]	28.0 [14.0]	32.0 [16.0]	38.0 [16.0]	59.0 [24.0]	70.0 [35.0]	70.0 [35.0]	70.0 [35.0]	80.0※ [45.0※]	80.0 [40.0]

*The Company conducted a consolidation of shares at a ratio of one share for every two shares effective October 1, 2016. EPS and dividends have been calculated by retroactive adjustment applying the above share consolidation to preceding periods as well.

※Commemorative dividend 10yen

Appendix:Key Indicator (2) Capex, depreciation and amortization by segment



	2013	2014	2015	2016	2017	2018	2019		2020	2021	
Capex	Natural Gas	4.5	5.7	5.3	9.0	6.0	5.7	7.2	Basic Chemicals	19.7	19.2
	Aromatic	2.3	4.0	10.6	10.5	11.3	14.6	15.0			
	Specialty	11.2	7.6	9.9	8.1	11.0	14.4	14.6	Specialty Chemicals	18.6	32.6
	Information & Advanced Materials	6.6	4.3	3.8	6.6	1.9	2.3	2.6			
	Other	0.5	0.3	0.7	0.5	0.6	2.1	2.7	Other	1.8	2.9
	Total	25.4	22.2	30.5	35.0	30.9	39.2	42.3	Total	40.2	54.7
Depreciation	Natural Gas	6.3	6.9	6.1	5.0	5.1	5.5	6.3	Basic Chemicals	16.4	17.1
	Aromatic	4.1	3.9	8.2	8.5	8.5	8.7	9.5			
	Specialty	9.5	9.2	8.8	8.6	9.1	8.7	8.7	Specialty Chemicals	13.0	13.0
	Information & Advanced Materials	3.1	3.3	3.0	3.0	3.5	3.6	3.8			
	Other	0.3	0.3	0.3	0.3	0.5	0.8	1.0	Other	1.1	1.7
	Total	23.5	23.7	26.7	25.6	27.0	27.4	29.5	Total	30.6	31.9

Appendix: Key Indicator (3)

	FY2018		FY2019		FY2020		FY2021		FY2022
	1H	2H	1H	2H	1H	2H	1H	2H	Forecast
FX(JPY/USD)	110	112	109	109	107	105	110	115	125
FX(JPY/EUR)	130	127	121	120	121	126	131	130	130
Crude Oil(Dubai) (US\$/BBL)	73	65	64	56	37	52	69	87	100
Methanol (US\$/MT)	408	335	277	245	194	319	370	428	420
Mixed Xylene(US\$/MT)	845	730	705	640	420	560	780	875	975
Bisphenol A (US\$/MT)*	1,600 ~1,900	1,200 ~1,800	1,000 ~1,450	1,050 ~1,350	900 ~1,450	1,400 ~3,300	2,750 ~3,700	2,100 ~3,150	1,700 ~2,300
Polycarbonate (US\$/MT)*	2,700 ~3,800	2,100 ~2,800	1,900 ~2,250	1,650 ~2,000	1,500 ~2,150	2,100 ~4,000	3,100 ~4,050	2,650 ~3,650	2,200 ~3,000

*Describe the minimum and maximum values during the period

Sensitivity (Rough estimates)

FX (USD) : with an appreciation(depreciation) of 1 yen against the USD, annual operating income falls (increase) by 0.6 billion yen, while annual ordinary income falls(increases) by 0.5 billion yen.

FX (EUR) : with an appreciation(depreciation) of 1 yen against the USD, annual operating income falls (increase) by 0.1 billion yen, while annual ordinary income falls(increases) by 0.1 billion yen.

Crude oil(Dubai) : A 1 dollar/BBL increase(drop) in crude oil reduces(raises) income by 0.15 billion yen. (exclude methanol affect)

Methanol : A 1 dollar/MT increase (drop) in market price raises (reduces) equity in earnings of affiliates by 0.1 billion yen.

【Reference】:Results and Forecast by Old Segment



	FY2020			FY2021			FY2022(F)		
	1H	2H	FY	1H	2H	FY	1H	2H	FY
Net Sales	266.6	329.0	595.7	335.8	369.7	705.6	390.0	410.0	800.0
Natural Gas	65.4	93.0	158.2	104.9	121.3	226.2	111.8	123.3	235.1
Aromatic	84.9	98.4	183.4	97.6	105.1	202.8	113.3	115.0	228.3
Specialty	96.4	111.0	207.4	102.3	111.8	214.1	132.1	137.6	269.8
Information & Advanced Materials	29.3	32.9	62.3	35.3	36.1	71.5	37.6	38.7	76.4
Corporate/Adjustment	▲9.6	▲6.4	▲15.8	▲4.3	▲4.6	▲9.1	▲4.9	▲4.7	▲9.7
Operating income	14.3	30.1	44.5	30.0	25.3	55.3	30.0	31.5	61.5
Natural Gas	▲3.5	4.5	0.9	5.4	4.3	9.7	3.9	3.2	7.2
Aromatic	3.8	7.9	11.7	10.4	5.5	16.0	7.6	5.7	13.4
Specialty	10.3	12.4	22.8	7.8	9.5	17.4	10.4	14.7	25.1
Information & Advanced Materials	4.9	6.9	11.9	8.0	8.1	16.1	9.7	9.4	19.2
Corporate/Adjustment	▲1.3	▲1.8	▲3.0	▲1.7	▲2.1	▲3.9	▲1.8	▲1.7	▲3.5
Ordinary Income	16.5	33.6	50.2	38.7	35.3	74.1	39.0	42.5	81.5
Natural Gas	▲2.3	4.9	2.6	8.5	5.4	14.0	9.5	10.4	19.9
Aromatic	3.7	7.8	11.6	10.5	5.5	16.0	7.6	5.4	13.0
Specialty	10.7	14.8	25.5	12.0	15.5	27.6	12.7	18.6	31.3
Information & Advanced Materials	5.1	6.8	11.9	8.6	9.1	17.8	10.5	10.1	20.7
Corporate/Adjustment	▲0.8	▲0.7	▲1.5	▲1.0	▲0.2	▲1.3	▲1.4	▲2.1	▲3.5

*The figures are reference figures that have been simply rearranged for comparison with the new segment.

These materials contain performance forecasts and other statements concerning the future.

These forward-looking statements are based on information available at the time.

These materials were prepared and on certain premises judged to be reasonable.

None of these forward-looking statements are intended to be guarantees of future performance.

Various factors may cause actual performance to differ significantly from forecasts.