

Operational Summary

for the First Half of the Fiscal Year Ending March 31, 2019

November 1, 2018

Mitsubishi Chemical Holdings Corporation

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Mitsubishi Chemical Holdings Corporation has adopted IFRS starting with FY2016 1Q.

List of Abbreviations

FY2018	April 1, 2018 – March 31, 2019	
	1st Quarter (1Q):	April 1, 2018 – June 30, 2018
	2nd Quarter (2Q):	July 1, 2018 – September 30, 2018
	1st Half (1H):	April 1, 2018 – September 30, 2018
	2nd Half (2H):	October 1, 2018 – March 31, 2019
FY2017	April 1, 2017 – March 31, 2018	
	1st Quarter (1Q):	April 1, 2017 – June 30, 2017
	2nd Quarter (2Q):	July 1, 2017 – September 30, 2017
	3rd Quarter (3Q):	October 1, 2017 – December 31, 2017
	4th Quarter (4Q):	January 1, 2018 – March 31, 2018
	1st Half (1H):	April 1, 2017 – September 30, 2017
MCHC	Mitsubishi Chemical Holdings Corporation	
MCC	Mitsubishi Chemical Corporation	
MTPC	Mitsubishi Tanabe Pharma Corporation	
LSII	Life Science Institute, Inc.	
TNSC	Taiyo Nippon Sanso Corporation	
NSCI	The Nippon Synthetic Chemical Industry Co., Ltd.	

Consolidated Statements of Operations

Exchange Rate (¥/\$)	109.5	119.5	110.7	111.3	(0.6)	(1%)
Naphtha Price (¥/kl)	48,700	53,500	51,100	37,600	13,500	36%

(Billions of Yen)

	1Q	2Q	FY2018 1H	FY2017 1H	Change	%
Sales Revenue	941.9	980.2	1,922.1	1,804.8	117.3	6%
Core Operating Income *	92.8	95.4	188.2	192.3	(4.1)	(2%)
Special Items	0.8	(2.4)	(1.6)	(7.0)	5.4	
Operating Income	93.6	93.0	186.6	185.3	1.3	1%
Financial Income/Expenses	0.9	(3.4)	(2.5)	(5.1)	2.6	
(Dividend included above)	[3.4]	[0.3]	[3.7]	[2.9]	[0.8]	
(Foreign Exchange Gain/Loss included above)	[0.8]	[0.0]	[0.8]	[(0.7)]	[1.5]	
Earnings before Taxes	94.5	89.6	184.1	180.2	3.9	
Income Taxes	(22.3)	(14.9)	(37.2)	(48.9)	11.7	
Net Income	72.2	74.7	146.9	131.3	15.6	
Net Income Attributable to Owners of the Parent	58.1	62.1	120.2	100.5	19.7	20%
Net Income Attributable to Non-Controlling Interests	14.1	12.6	26.7	30.8	(4.1)	
* Equity income included	8.6	7.6	16.2	11.6	4.6	

Core operating income is calculated as operating income (loss) excluding certain gains and expenses attributable to non-recurring factors (losses incurred by business withdrawal and contraction, etc.).

Sales Revenue and Core Operating Income by Business Segment

(Billions of Yen)

*All figures are approximation for reference purpose only.

		1Q	2Q	FY2018 1H	FY2017 1H	Change
Total Consolidated	Sales Revenue	941.9	980.2	1,922.1	1,804.8	117.3
	Core Operating Income	92.8	95.4	188.2	192.3	(4.1)
Functional Products	Sales Revenue	193.8	195.0	388.8	384.6	4.2
	Core Operating Income	14.3	10.6	24.9	32.9	(8.0)
Performance Chemicals	Sales Revenue	95.9	97.8	193.7	176.1	17.6
	Core Operating Income	9.6	9.9	19.5	17.9	1.6
Performance Products	Sales Revenue	289.7	292.8	582.5	560.7	21.8
	Core Operating Income	23.9	20.5	44.4	50.8	(6.4)
MMA	Sales Revenue	108.3	110.6	218.9	184.9	34.0
	Core Operating Income	31.0	32.5	63.5	52.2	11.3
Petrochemicals	Sales Revenue	132.5	157.2	289.7	258.4	31.3
	Core Operating Income	0.3	8.5	8.8	14.5	(5.7)
Carbon Products	Sales Revenue	72.5	64.7	137.2	128.3	8.9
	Core Operating Income	5.6	5.6	11.2	5.2	6.0
Chemicals	Sales Revenue	313.3	332.5	645.8	571.6	74.2
	Core Operating Income	36.9	46.6	83.5	71.9	11.6
Industrial Gases	Sales Revenue	156.8	168.9	325.7	302.2	23.5
	Core Operating Income	13.3	13.6	26.9	28.1	(1.2)
Health Care	Sales Revenue	135.6	133.9	269.5	273.2	(3.7)
	Core Operating Income	20.1	15.2	35.3	41.0	(5.7)
Others	Sales Revenue	46.5	52.1	98.6	97.1	1.5
	Core Operating Income	(1.4)	(0.5)	(1.9)	0.5	(2.4)

[Inventory valuation gain/loss]

Performance Chemicals	0.5	0.8	1.3	(0.6)	1.9
Petrochemicals	2.9	4.3	7.2	(1.7)	8.9
Carbon products	0.1	(0.4)	(0.3)	(0.9)	0.6
Total	3.5	4.7	8.2	(3.2)	11.4

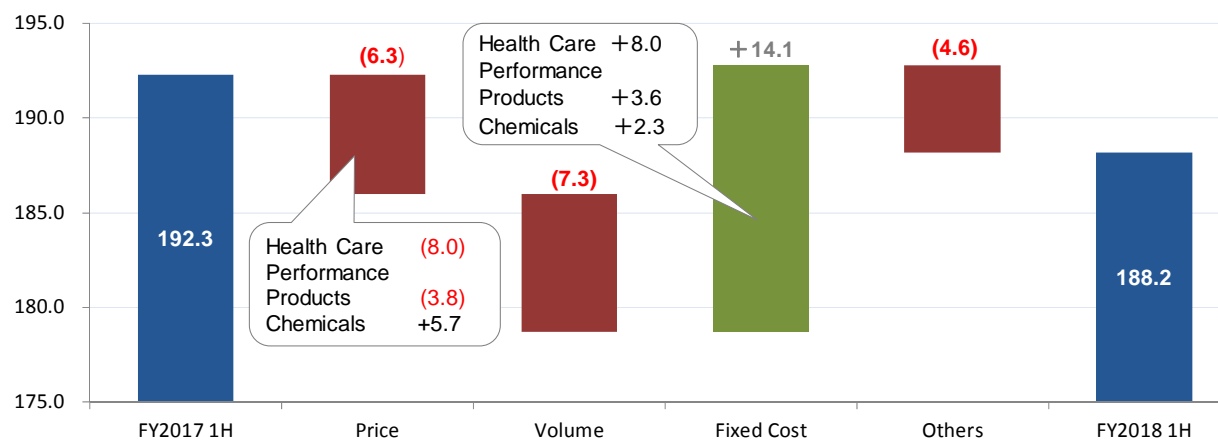
Analysis of Core Operating Income

(Billions of Yen)

	FY2018 1H	FY2017 1H	Change	Change			
				Price	Volume	Fixed Cost	Others *
Total Consolidated	188.2	192.3	(4.1)	(6.3)	(7.3)	14.1	(4.6)
Performance Products	44.4	50.8	(6.4)	(3.8)	(1.4)	3.6	(4.8)
Chemicals	83.5	71.9	11.6	5.7	(8.0)	2.3	11.6
Industrial Gases	26.9	28.1	(1.2)	(0.2)	0.1	0.2	(1.3)
Health Care	35.3	41.0	(5.7)	(8.0)	2.0	8.0	(7.7)
Others	(1.9)	0.5	(2.4)	0.0	0.0	0.0	(2.4)

* Items included are impacts from inventory valuation gain/loss and Equity Income, etc.

Changes in exchange rates	(0.2)	(0.2)	(0.1)	-	0.1
Changes in foreign currency translation included in above		(0.1)			



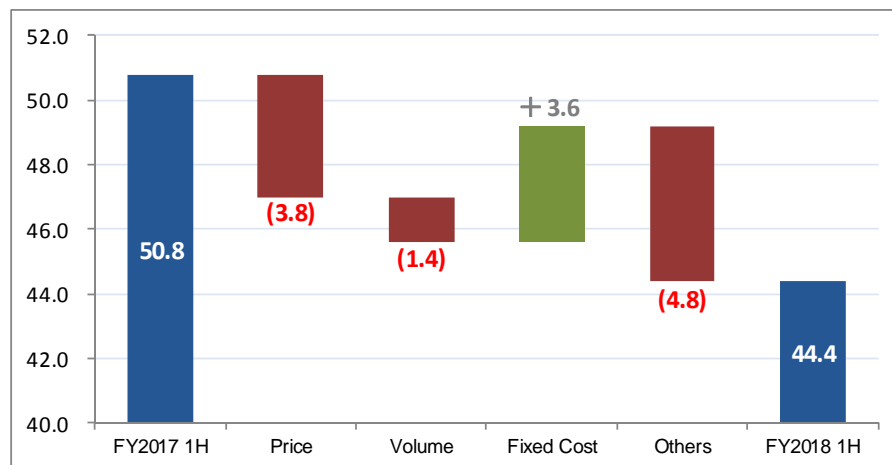
Performance Products Segment

(Billions of Yen)

		FY2018 1H	FY2017 1H	Change
Functional Products	Sales Revenue	388.8	384.6	4.2
	Core Operating Income	24.9	32.9	(8.0)
Performance Chemicals	Sales Revenue	193.7	176.1	17.6
	Core Operating Income	19.5	17.9	1.6
Performance Products	Sales Revenue	582.5	560.7	21.8
	Core Operating Income	44.4	50.8	(6.4)

Functional Products	
Sales revenue	Sales volumes of advanced moldings and composites, including high-performance engineering plastics and other products increased, despite slowing demand for some information and electronics related products.
Core operating income	Profit decreased mainly attributable to declining sales of some films for displays and to rising raw material costs and fixed costs, despite higher sales volumes in high-performance engineering plastics.
Performance Chemicals	
Sales revenue	Market prices in phenol-polycarbonate chain rose. In the new energy business, sales volumes of battery materials for automobiles increased.
Core operating income	Profit increased mainly attributable to a widened price spread between raw materials and products associated with market price rises and an increase of sales volumes in battery materials, despite an impact of scheduled maintenance and repairs in the phenol-polycarbonate chain.

< Analysis of Core Operating Income >



- In October 2018, MCC acquired Cleanpart Group GmbH, which provides semiconductor makers in Europe and the U.S. with precision cleaning and coating services for semiconductor manufacturing equipment, aiming at strengthening its position in the growing field of semiconductor-related services and providing global services.

<Major initiatives>

- MCC's consolidated subsidiary, NSCI, decided to expand a production facility for optical PVOH film, *OPL film*, in its Kumamoto Plant, in response to rising demand in polarizing film primarily due to spread of FPDs to emerging countries and an increase in screen size. The facility is slated to complete in March 2020. (Capacity increase: 106 million m²/y to 127 million m²/y)
- MCC decided to absorb its consolidated subsidiary, NSCI, as of April 1, 2019, to further group-wide growth of associated businesses, by increasing revenue of existing businesses and developing new applications and products.

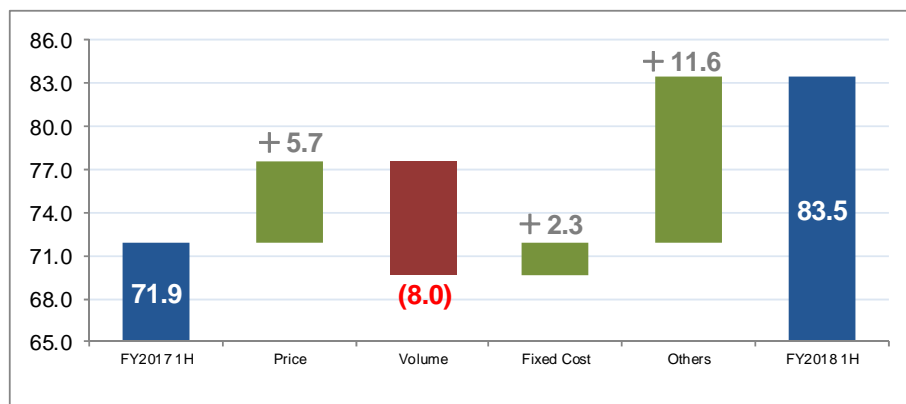
Chemicals Segment

(Billions of Yen)

		FY2018 1H	FY2017 1H	Change
MMA	Sales Revenue	218.9	184.9	34.0
	Core Operating Income	63.5	52.2	11.3
Petrochemicals	Sales Revenue	289.7	258.4	31.3
	Core Operating Income	8.8	14.5	(5.7)
Carbon products	Sales Revenue	137.2	128.3	8.9
	Core Operating Income	11.2	5.2	6.0
Chemicals	Sales Revenue	645.8	571.6	74.2
	Core Operating Income	83.5	71.9	11.6

MMA	
Sales revenue	Market prices increased in the continued firm demand for MMA monomer.
Core operating income	Profit increased due primarily to a widened price spread between raw materials and products associated with market price rises, and new plants going into operation.
Petrochemicals	
Sales revenue	Sales prices increased due to rising raw material prices, despite decreased sales volumes reflecting a larger impact from scheduled maintenance and repairs at an ethylene production facility.
Core operating income	Profit decreased mainly due to a narrowed price spread between raw materials and products, reflecting rising raw material prices for polyolefin, in addition to an impact of the scheduled maintenance and repairs at petrochemical production facilities.
Carbon	
Sales revenue	Sales prices increased due to higher market prices of needle coke brought on by the continued firm demand for coke and other products.
Core operating income	Profit increased mainly due to a widened price spread between raw materials and products, reflecting higher market prices of needle coke.

< Analysis of Core Operating Income >



<Major initiatives>

- The Saudi Methacrylates Company, a joint venture between MCC and Saudi Basic Industries Corporation commenced full-scale operation at its facilities for MMA monomer (250kt/y) and PMMA (40kt/y) in April 2018.
- MCC decided to transfer the acrylic sheet business in Europe operated by its subsidiary in the U.K. to Schweiter Technologies Group, in September 2018.

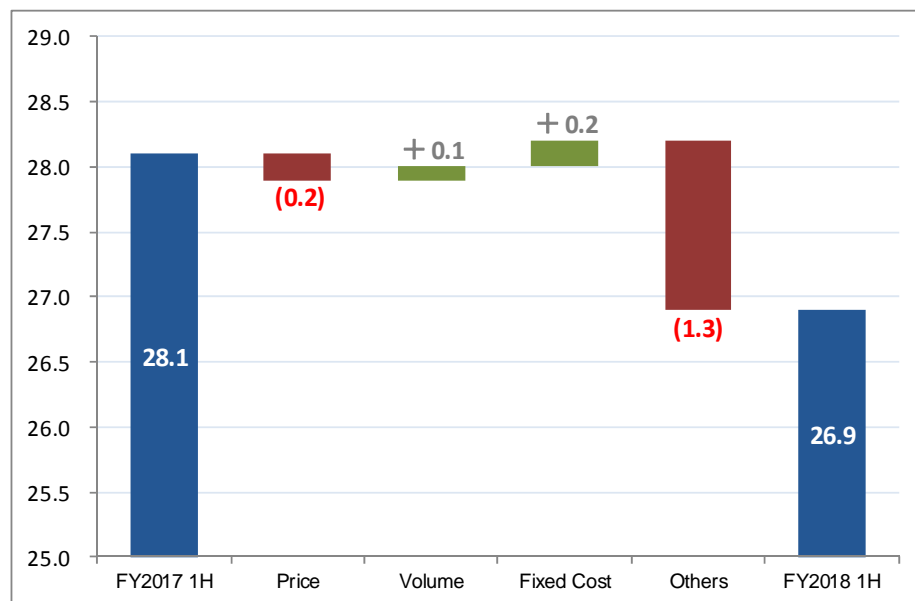
Industrial Gases Segment

(Billions of Yen)

		FY2018 1H	FY2017 1H	Change
Industrial Gases	Sales Revenue	325.7	302.2	23.5
	Core Operating Income	26.9	28.1	(1.2)

Industrial Gases	
Sales revenue	The overseas industrial gas business continued firm, in addition to an establishment of a new domestic onsite gas plant in October 2017.
Core operating income	Profit decreased attributable to increased costs related to the European business acquisition and rising raw material and fuel prices, despite continued firmness in the domestic and overseas gas businesses.

< Analysis of Core Operating Income >



<Major initiative>

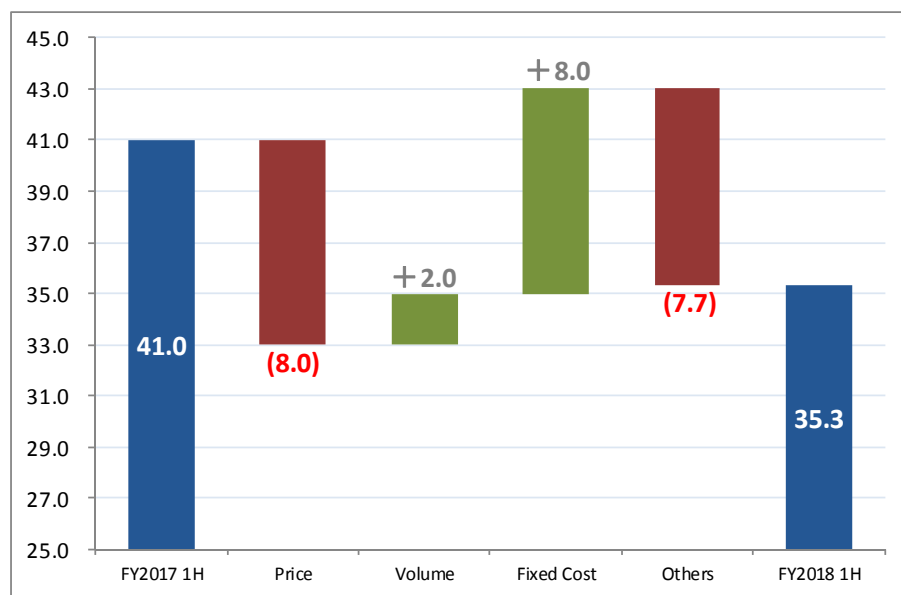
- TNSC announced a plan to acquire some of the European businesses of Praxair, Inc. including the industrial gas business in Germany, Spain, Portugal, and Italy, etc.; the carbon dioxide gas business in the U.K., etc.; and the helium-related business, with a total value of 5 billion euro. This move is aimed at accelerating TNSC's global expansion by acquiring businesses with certain shares in markets where the company has little or no market presence.

Health Care Segment

		(Billions of Yen)		
		FY2018 1H	FY2017 1H	Change
Health Care	Sales Revenue	269.5	273.2	(3.7)
	Core Operating Income	35.3	41.0	(5.7)

Health Care	
Sales revenue	In pharmaceuticals, sales revenue decreased due mainly to the impact of NHI price revision and lower sales brought on by a generic drug business transfer, despite sales contribution of <i>Radicava</i> , a treatment for amyotrophic lateral sclerosis (ALS) in the U.S. and domestic sales growth of priority ethical pharmaceutical products including <i>Simponi</i> , a treatment for rheumatoid arthritis, and other products.
Core operating income	Profit decreased mainly due to the impact of NHI price revision and increased R&D expenses brought on by acquisition of NeuroDerm Ltd., despite sales contribution of <i>Radiava</i> .

< Analysis of Core Operating Income >



<Major initiatives>

- MTPC submitted a new drug application for edaravone (generic name) (U.S. product name: *Radicava*) to treat amyotrophic lateral sclerosis (ALS) to Health Canada and European Medicines Agency. The applications were approved on April 6, 2018, and May 24, 2018, respectively.
- LSII launched an exploratory clinical trial with the Muse cell-based product "CL2020" on an ischemic stroke patient, following an earlier trial with an acute myocardial infarction patient, at Tohoku University Hospital in September 2018.

Consolidated Special Items

(Billions of Yen)

	1Q	2Q	FY2018 1H	FY2017 1H	Change
Total Special Items	0.8	(2.4)	(1.6)	(7.0)	5.4
Gain on sale of property, plant and equipment	2.2	0.2	2.4	0.2	2.2
Loss on sale and disposal of fixed assets	(0.8)	(1.8)	(2.6)	(1.1)	(1.5)
Impairment loss	(0.8)	(0.1)	(0.9)	(1.1)	0.2
Special retirement expenses	(0.2)	(0.0)	(0.2)	(1.9)	1.7
Integration-related expenses of MCC	-	-	-	(2.4)	2.4
Others	0.4	(0.7)	(0.3)	(0.7)	0.4

[Special Items by Business Segment]

Performance Products	(0.7)	(0.4)	(1.1)	(0.5)	(0.6)
Chemicals	(0.1)	(0.6)	(0.7)	(0.6)	(0.1)
Industrial Gases	0.3	(0.0)	0.3	(0.0)	0.3
Health Care	-	-	-	(2.9)	2.9
Others	1.3	(1.4)	(0.1)	(3.0)	2.9

Consolidated Cash Flows

	Based on statements of cash flows		Adjusted cash flows*		<reference> Target for FY2018 Forecast (announced on May 10)
	FY2018 1H	FY2017 1H	FY2018 1H	FY2017 1H	
Net cash provided by operating activities	221.5	189.2	221.5	189.2	394.0
Income before income taxes	184.1	180.2	184.1	180.2	325.0
Depreciation and amortization	93.4	88.0	93.4	88.0	185.0
Change in operating receivables/payables	13.6	(42.3)	13.6	(42.3)	} 0.0
Change in Inventories	(21.1)	(15.8)	(21.1)	(15.8)	
Others	(48.5)	(20.9)	(48.5)	(20.9)	(116.0)
Net cash used in investment activities	(114.8)	(27.4)	(99.6)	(121.8)	(254.0)
Capital expenditure	(102.4)	(105.3)	(102.4)	(105.3)	(264.0)
Sale of assets	11.6	6.4	11.6	6.4	} 10.0
Investment and loans receivable, etc.	(24.0)	71.5	(8.8)	(22.9)	
Free cash flow	106.7	161.8	121.9	67.4	140.0
Net cash used in financing activities	(124.4)	(113.9)			
Interest bearing debts	(64.0)	(76.4)			
Dividends, etc.	(60.4)	(37.5)			
Increase (Decrease) in cash and cash equivalents	(17.7)	47.9			
Effect of exchange rate changes and change in scope of consolidation	3.2	4.8			
Cash and cash equivalents at the beginning of the period	277.6	363.5			
Cash and cash equivalents at the end of the period	263.1	416.2			

* Adjusted cash flows based on actual results are calculated by excluding cash flows from investment of surplus funds for explanatory purposes.

Consolidated Statements of Financial Positions

	Sep. 30, 2018	Mar. 31, 2018	Change		Sep. 30, 2018	Mar. 31, 2018	Change
Cash and cash equivalents	263.1	277.6	(14.5)	Interest-bearing debts	1,566.9	1,606.1	(39.2)
Trade receivables	841.3	854.8	(13.5)	Trade payables	492.6	488.6	4.0
Inventories	632.1	607.7	24.4	Other liabilities	677.9	687.2	(9.3)
Other current assets	334.1	311.6	22.5	Total liabilities	2,737.4	2,781.9	(44.5)
Total current assets	2,070.6	2,051.7	18.9	Shareholders' equity	1,370.2	1,284.5	85.7
Tangible and Intangible fixed assets	1,840.7	1,788.7	52.0	Other components of equity	27.8	1.3	26.5
Goodwill	330.5	324.2	6.3	Total equity attributable to owners of the Parent	1,398.0	1,285.8	112.2
Investment and other non-current assets	554.9	536.8	18.1	Non-controlling interests	661.3	633.7	27.6
Total non-current assets	2,726.1	2,649.7	76.4	Total equity	2,059.3	1,919.5	139.8
Total assets	4,796.7	4,701.4	95.3	Total liabilities and equity	4,796.7	4,701.4	95.3

(Billions of Yen)

*As a result of MTPC's acquisition of NeuroDarm Ltd., the figures for "goodwill" and "other liabilities" at the end of March 2018 have been increased retroactively by 0.8 billion yen.

Net interest-bearing debts *1	1,095.6	1,139.5	(43.9)
Net D/E ratio	0.78	0.89	(0.11)
Ratio of equity attributable to owners of the Parent	29.1%	27.3%	1.8%
ROE *2	-	17.8%	-

*1 Net interest-bearing debts (End of Sep. 2018)
 = interest bearing debts (1,566.9 billion yen)
 - {cash and cash equivalents (263.1 billion yen) + investments of surplus funds (208.2 billion yen)}
 *2 Ratio of net income attributable to owners of the Parent

Consolidated Financial Results Forecasts for FY2018

Consolidated Statements of Operations

Exchange Rate (¥/\$)	110.7	110.0	110.4	105.0	5.4	110.7
Naphtha Price (¥/kl)	51,100	58,000	54,600	50,000	4,600	41,900

				(Billions of Yen)		%	<Reference> FY2017 Actual
	FY2018 1H (Actual)	FY2018 2H (Forecast)	FY2018 Forecast	FY2018 Forecast (Announced on May 10)	Change		
Sales Revenue	1,922.1	2,117.9	4,040.0	3,930.0	110.0	2.8%	3,724.4
Core Operating Income	188.2	179.8	368.0	355.0	13.0	3.7%	380.5
Special Items	(1.6)	(12.4)	(14.0)	(18.0)	4.0		(24.8)
Operating Income	186.6	167.4	354.0	337.0	17.0	5.0%	355.7
Financial Income/Expenses	(2.5)	(6.5)	(9.0)	(12.0)	3.0		(11.6)
Earnings before Taxes	184.1	160.9	345.0	325.0	20.0	6.2%	344.1
Income Taxes	(37.2)	(39.8)	(77.0)	(87.0)	10.0		(67.7)
Net Income	146.9	121.1	268.0	238.0	30.0	12.6%	276.4
Net Income Attributable to Owners of the Parent	120.2	92.8	213.0	184.0	29.0	15.8%	211.8
Net Income Attributable to Non-Controlling Interests	26.7	28.3	55.0	54.0	1.0	1.9%	64.6

Consolidated Sales Revenue and Core Operating Income by Business Segment

* All figures are approximation for reference purpose only.

					(Billions of Yen)		<Reference>
		FY2018 1H (Actual)	FY2018 2H (Forecast)	FY2018 Forecast	FY2018 Forecast (Announced on May 10)	Change	FY2017 Actual
Total Consolidated	Sales Revenue	1,922.1	2,117.9	4,040.0	3,930.0	110.0	3,724.4
	Core Operating Income	188.2	179.8	368.0	355.0	13.0	380.5
Functional Products	Sales Revenue	388.8	411.2	800.0	810.0	(10.0)	782.1
	Core Operating Income	24.9	24.1	49.0	62.5	(13.5)	58.0
Performance Chemicals	Sales Revenue	193.7	216.3	410.0	390.0	20.0	363.8
	Core Operating Income	19.5	19.0	38.5	32.5	6.0	36.0
Performance Products	Sales Revenue	582.5	627.5	1,210.0	1,200.0	10.0	1,145.9
	Core Operating Income	44.4	43.1	87.5	95.0	(7.5)	94.0
MMA	Sales Revenue	218.9	231.1	450.0	425.0	25.0	385.9
	Core Operating Income	63.5	44.5	108.0	91.0	17.0	109.6
Petrochemicals	Sales Revenue	289.7	370.3	660.0	600.0	60.0	538.0
	Core Operating Income	8.8	10.7	19.5	23.0	(3.5)	25.9
Carbon products	Sales Revenue	137.2	137.8	275.0	255.0	20.0	253.4
	Core Operating Income	11.2	12.8	24.0	16.5	7.5	12.4
Chemicals	Sales Revenue	645.8	739.2	1,385.0	1,280.0	105.0	1,177.3
	Core Operating Income	83.5	68.0	151.5	130.5	21.0	147.9
Industrial Gases	Sales Revenue	325.7	336.3	662.0	662.0	0.0	638.7
	Core Operating Income	26.9	34.6	61.5	61.5	0.0	57.5
Health Care	Sales Revenue	269.5	290.5	560.0	563.0	(3.0)	556.6
	Core Operating Income	35.3	37.2	72.5	73.0	(0.5)	81.2
Others	Sales Revenue	98.6	124.4	223.0	225.0	(2.0)	205.9
	Core Operating Income	Δ 1.9	(3.1)	(5.0)	(5.0)	0.0	(0.1)

Cash Dividends

MCHC's basic policy of returning profits to shareholders emphasizes enhancement of shareholder value by increasing the value of the company. Therefore, using 30% of the medium-term profit level as a guideline for the consolidated dividend payout ratio, we will make stable dividend payments, while maintaining sufficient internal reserves as resources to develop future businesses.

Based on the above stated policy, we raised the interim dividend by ¥3 from the previous forecast, to ¥20 and the year-end dividend by ¥3 from the previous forecast, to ¥20. Accordingly, the forecast for the annual dividend will be increased by ¥8 per share from fiscal 2017 to ¥40.

		IFRS				J-GAAP	
		FY2018 Forecast	Previous Forecast	FY2017 Actual	FY2016 Actual	FY2015 Actual	FY2014 Actual
Cash dividends per share (Yen)	Interim	20	17	15	8	7	6
	Year-end	*1 20	17	17	12	8	7
	Total (Annual)	*1 40	34	32	20	15	13
Net income per share (Yen)	Year-end	¥149.79	¥127.83	¥147.14	¥106.73	¥31.70	¥41.40
Consolidated dividend pay out ratio	Total (Annual)	26.7%	26.6%	21.7%	18.7%	47.3%	31.4%

*1 Forecast

References

Statement of Operations [Quarterly Data]

	FY2017				FY2018	
	1Q	2Q	3Q	4Q	1Q	2Q
Exchange Rate (¥/\$)	111.4	111.2	112.7	107.5	109.5	111.9
Naphtha Price (¥/kl)	39,100	36,100	44,600	47,900	48,700	53,500
	(Billions of Yen)					
Sales Revenue	898.0	906.8	957.4	962.2	941.9	980.2
Core Operating Income *	95.5	96.8	112.7	75.5	92.8	95.4
Special Items	(4.5)	(2.5)	(3.8)	(14.0)	0.8	(2.4)
Operating Income	91.0	94.3	108.9	61.5	93.6	93.0
Financial Income/Expenses	(1.4)	(3.7)	(1.4)	(5.1)	0.9	(3.4)
(Dividend included above)	2.6	0.3	1.1	0.3	3.4	0.3
(Foreign Exchange Gain/Loss included above)	(0.7)	0.0	0.2	(2.5)	0.8	0.0
Earnings before Taxes	89.6	90.6	107.5	56.4	94.5	89.6
Income Taxes	(26.3)	(22.6)	(15.0)	(3.8)	(22.3)	(14.9)
Net Income	63.3	68.0	92.5	52.6	72.2	74.7
Net Income Attributable to Owners of the Parent	47.7	52.8	68.5	42.8	58.1	62.1
Net Income Attributable to Non-Controlling Interests	15.6	15.2	24.0	9.8	14.1	12.6
* Equity income included	5.6	6.0	6.7	9.0	8.6	7.6

Sales Revenue and Core Operating Income by Business Segment [Quarterly Data]

(Billions of Yen)

* All figures are approximation for reference purpose only.

		FY2017				FY2018	
		1Q	2Q	3Q	4Q	1Q	2Q
Total Consolidated	Sales Revenue	898.0	906.8	957.4	962.2	941.9	980.2
	Core Operating Income	95.5	96.8	112.7	75.5	92.8	95.4
Functional Products	Sales Revenue	188.7	195.9	199.7	197.8	193.8	195.0
	Core Operating Income	16.7	16.2	15.4	9.7	14.3	10.6
Performance Chemicals	Sales Revenue	88.5	87.6	91.9	95.8	95.9	97.8
	Core Operating Income	9.8	8.1	9.7	8.4	9.6	9.9
Performance Products	Sales Revenue	277.2	283.5	291.6	293.6	289.7	292.8
	Core Operating Income	26.5	24.3	25.1	18.1	23.9	20.5
MMA	Sales Revenue	92.3	92.6	96.7	104.3	108.3	110.6
	Core Operating Income	24.3	27.9	29.2	28.2	31.0	32.5
Petrochemicals	Sales Revenue	127.5	130.9	141.6	138.0	132.5	157.2
	Core Operating Income	5.8	8.7	8.5	2.9	0.3	8.5
Carbon Products	Sales Revenue	68.1	60.2	59.5	65.6	72.5	64.7
	Core Operating Income	4.0	1.2	3.2	4.0	5.6	5.6
Chemicals	Sales Revenue	287.9	283.7	297.8	307.9	313.3	332.5
	Core Operating Income	34.1	37.8	40.9	35.1	36.9	46.6
Industrial Gases	Sales Revenue	149.1	153.1	163.7	172.8	156.8	168.9
	Core Operating Income	13.4	14.7	15.8	13.6	13.3	13.6
Health Care	Sales Revenue	138.1	135.1	155.6	127.8	135.6	133.9
	Core Operating Income	22.0	19.0	31.2	9.0	20.1	15.2
Others	Sales Revenue	45.7	51.4	48.7	60.1	46.5	52.1
	Core Operating Income	(0.5)	1.0	(0.3)	(0.3)	(1.4)	(0.5)

Capital Expenditure, Depreciation & Amortization, R&D Expenses, Number of Employees by Business Segment

(Billions of Yen, until otherwise noted)

	Capital Expenditure		Depreciation & Amortization		R&D Expenses		Number of Employees
	FY2018 1H	FY2017 1H	FY2018 1H	FY2017 1H	FY2018 1H	FY2017 1H	FY2018 1H (End of the period)
Performance Products	30.3	31.9	27.6	26.6	14.5	13.8	23,589
Chemicals	37.1	30.9	28.9	26.7	4.8	4.9	8,528
Industrial Gases	31.2	25.0	24.1	22.7	1.6	1.4	17,167
Health Care	8.0	16.1	9.8	9.3	41.5	43.3	12,053
Others	2.5	3.3	3.0	2.7	4.9	3.0	8,712
Total	109.1	107.2	93.4	88.0	67.3	66.4	70,049

Business Segment Information

Business Domain	Business Segment	Business Sub-Segment		
			Businesses	
Performance Products	Performance Products	Functional Products	Electronics and Displays	Optical films, Electronics and displays, Acetyl
			High Performance Films	Packaging films, Industrial films
			Environment and Living Solutions	Aqua and separator solutions, Infrastructure solutions and agricultural materials
			Advanced Moldings and Composites	High performance engineering plastics, Fibers and textile, Carbon fiber and composite materials, Functional moldings and composites, Almina fiber and light metal products
		Performance Chemicals	Advanced Polymers	Performance polymers, Engineering polymers, Sustainable resources
			High Performance Chemicals	Performance chemicals, Performance materials, Food ingredients
			New Energy	Lithium ion battery materials, Energy transduction device materials
Industrial Materials	Chemicals	MMA	MMA	MMA
		Petrochemicals	Petrochemicals	Basic petrochemicals, Polyolefins, Basic chemical derivatives
		Carbon	Carbon	Carbon products
	Industrial Gases		Industrial gases	
Health Care	Health Care		Pharmaceuticals	
			Life science	

The forward-looking statements are based largely on company expectations and information available as of the date hereof, and are subject to risks and uncertainties, which may be beyond company control.

Actual results could differ materially due to numerous factors, including without limitation, marketing conditions and the effects of industry competition.