



## Kureha Corporation Reports Interim Results April – September 2018 (IFRS)

**Tokyo, Japan, December 2018** – Kureha Corporation (“Kureha”), a leading global supplier of specialty chemicals and plastics, has reported earnings for the first half of the year ending March 2019 (FY2018), the final year of the company’s mid-term management plan, Kureha's Challenge 2018. On a consolidated basis, revenue increased 4.3% to 72.5 billion yen year-on-year while operating profit decreased 2.5% to 7.1 billion yen. Profit before income tax rose by 2.1% to 7.3 billion yen. Profit attributable to the owners of Kureha fell by 7.7% to 5.3 billion yen.

While profits were affected by adverse circumstances, the results also reflect positive factors including better-than-expected performance in the Advanced Materials segment, front-loaded delivery recorded in the Specialty Chemicals segment and higher revenue growth from value-added products. We also recorded fewer expenses in the first half, although we expect expense spending for the full year to remain unchanged.

In Advanced Materials, Kureha continued to see volume growth in advanced plastics and carbon products, although profits were affected by temporary costs related to the polyglycolic acid (PGA) plant operation in the United States. Segment performance was also affected by Hurricane Florence in the United States in September, which disrupted production of polyphenylene sulfide (PPS) at Fortron Industries, Kureha’s joint venture with Celanese in North Carolina.

Specialty Chemicals and Specialty Plastics both saw growth in revenue and profits, the former due to solid sales volumes of agrochemicals compensating for slower performance in the pharmaceuticals business, and the latter due to stronger sales volumes of packaging film. Performance in the Construction segment was impacted by a drop in private-sector construction projects, while Other Operations saw revenue and profit growth due to higher sales volumes in the environmental business.

Yutaka Kobayashi, President and Chief Executive Officer, said, “I am pleased to report that performance in the first half of FY2018, the final year of Kureha’s Challenge 2018, surpassed forecasts despite continued market challenges and the unexpected force majeure factor in North Carolina. Looking ahead to the second half, I believe we are on track to reaching the plan’s target of 14.0 billion yen in operating profit.”

“That said, 14.0 billion yen is the minimum line. We are moving forward aggressively with strengthening Kureha’s product offering, innovative capabilities and operational efficiency, and have made 2020 the new target year for the mid-term plan’s two central qualitative targets: expanding the PGA business and enhancing the management foundation.”

Elaborating on Kureha’s growth strategy, Mr. Kobayashi added, “Functional products will be key growth drivers. Accordingly, we are steadily expanding production capacity in our high-demand businesses, PVDF and PPS. In the PGA business, we took the decision to further strengthen our product offering in the United States by developing three new frac plug grades, which break down in different temperatures. One of them, a new ultra-low temperature grade product, was successfully launched this fall. Following tests and approval by a major operator for full-bore use, we now look forward to receiving orders.

“While these efforts led to a delay from the initial plan, I believe it is the right strategy to thoroughly establish Kureha’s differentiation in the market. On this foundation, we predict a return to profitability for the PGA business in the next fiscal year and are determined to reach a profit level above 1.5 billion yen by 2020.”

## Consolidated interim results

(Billions of yen, except where stated)

	Sep. 2017	Sep. 2018	Change (%)
Revenue	69.5	72.5	4.3
Operating profit	7.2	7.1	-2.5
Profit before income tax	7.2	7.3	2.1
Profit attributable to owners of Kureha	5.8	5.3	-7.7
Dividend per share (yen)	55.00	70.00	-

## Consolidated interim results by segment

(Billions of yen)

Segment		Sep. 2017	Sep. 2018	Change (%)
Advanced Materials	Revenue	19.8	22.6	14
	Operating profit (loss)	1.4	0.7	-53
Specialty Chemicals	Revenue	12.6	14.1	11
	Operating profit (loss)	1.9	2.1	9
Specialty Plastics	Revenue	22.2	22.8	2
	Operating profit (loss)	3.3	3.4	3
Construction	Revenue	7.2	5.0	-31
	Operating profit (loss)	0.2	0.1	-42
Other Operations	Revenue	7.6	8.1	7
	Operating profit (loss)	0.6	0.8	29
Adjustments		-0.2	-0.0	-
<b>Total</b>	<b>Revenue</b>	69.5	72.5	4.3
	<b>Operating profit (loss)</b>	7.2	7.1	-2.5

## Performance by Segment

### Advanced Materials

*Major product areas: advanced plastics (PPS, PVDF, PGA), carbon materials*

In the first-half period, revenue in the Advanced Materials segment increased by 14% to 22.6 billion yen from 19.8 billion yen. Operating profit decreased by 53% to 0.7 billion yen, mainly due to temporary PGA-related costs.

#### **Advanced plastics: Revenue up but temporary PGA costs affect profits**

Revenue in the advanced plastics business continued to see healthy growth, up 12%. This growth was spurred in particular by continued strong demand for polyvinylidene fluoride (PVDF), which is used in lithium-ion battery (LiB) binder materials for electric vehicles. In the PGA business, while revenue continued to grow, temporary costs resulting from a temporary halt of operation at the resin manufacturing plant in the United States affected profits. In the PPS business, which continued to enjoy growing demand for automotive applications, performance was affected by the force majeure situation caused by Hurricane Florence in the United States.

#### **Carbon products: Continued growth in revenue and profits**

The carbon products business continued its upward trajectory during the first-half period. Revenue rose 4% to 2.7 billion yen due to continued demand for heat-insulating materials used in the manufacturing of silicon ingots for semiconductors, leading to an increase in operating profit.

**Outlook:** In the PGA business, Kureha expects to see stronger business growth, which will lead to a narrowing of the operating loss. We will focus our business expansion on the Permian Basin and Eagle Ford Shale regions, which are hotspots of U.S. shale oil production, and expect to see a return to profitability in the next fiscal year. Our degradable frac plugs are currently being used by eight oil field operators, with whom we are working closely to gather feedback for product refinements.

In the PVDF business, demand will continue to be strong. In response, annual production capacity at Kureha's Iwaki Plant will increase by 2,000 tons annually from January next year as new facilities become operational. In China, where Kureha is currently capable of producing 5,000 tons annually, we are awaiting official approval to produce additional grades of LiB binder materials for the rapidly expanding electric vehicle market.

In the PPS business, Kureha expects a significant profit decline, mostly due to the force majeure disruption seen in the first half in the United States. However, we forecast continued demand for automotive applications, as PPS, which is both lightweight and has excellent heat stability, has proven to be an excellent replacement for metals. Consequently, we are moving forward with plans to raise production capacity at the Iwaki Plant by 5,000 tons/year to a total of 15,700 tons/year by 2021.

In carbon products, revenue and operating profit are likely to decline slightly although price adjustments and continued cost reductions will have a cushioning effect.

Segment revenue for the full fiscal year is projected to be 47.0 billion yen, up 13% year-on-year, while operating profit is expected to rise by 74% to 2.9 billion yen.

## **Specialty Chemicals**

*Major product areas – industrial chemicals, agrochemicals, pharmaceuticals*

In the first-half period, the Specialty Chemicals segment recorded revenue of 14.1 billion yen, an increase of 11%, and operating profit of 2.1 billion yen, up 9% from 1.9 billion yen. These results were driven by revenue increases across all businesses in the segment.

### **Agrochemicals: Increases in both revenue and operating profit**

Sales volumes of the fungicide *Metconazole* rose due to front-loaded delivery and sustained market demand, leading to increases in both revenue and operating profit.

### **Pharmaceuticals: Higher sales volumes, but profits affected by price revisions**

Kureha saw increased sales volumes of *Kremezin*, a therapeutic agent for chronic kidney disease. However, although revenue increased, operating profit was affected by government-mandated drug price revisions.

### **Industrial chemicals: Healthy sales, but high costs impact profits**

Continued high demand for industrial chemicals led to healthy revenue growth. However, operating profit remained largely unchanged year-on-year due to high raw material prices and fuel costs.

**Outlook:** In the second half of the fiscal year, operating profit from the agrochemicals business will decrease due to lower sales volumes of fungicides, although yen depreciation against the US dollar will have a cushioning effect. In the pharmaceuticals business, sales volumes of *Kremezin* are expected to grow, although government-mandated drug price revisions will lead operating profit to remain flat. The industrial

chemicals business will return to revenue and profit growth as a result of price adjustments and continued cost reduction efforts.

Segment revenue for the full fiscal year is projected to rise by 5% to 27.5 billion yen year-on-year, while operating profit will decrease by 6% to 3.2 billion yen.

## **Specialty Plastics**

*Major product areas – food packaging materials, household products*

In the first-half period, revenue increased 2% to 22.8 billion yen from 22.2 billion yen, while operating profit was up 3% from 3.3 billion yen to 3.4 billion yen. These results were driven by robust growth in synthetic fiber products and packaging materials.

### **Consumer goods: Higher costs affect profits**

In consumer goods, *NEW Krewrap* plastic wrap and *Seaguar* fishing lines continued to see revenue growth, although as expected higher costs for raw materials and promotion led to a decrease in operating profits.

### **Packaging materials: Continued healthy sales of heat-shrink film**

Commercial-use food packaging materials continued to benefit from last fiscal year's restructuring of Kureha's food packaging sales and production network in the EU and Australia as well as a revised sales expansion strategy for heat-shrink multilayer film. Both revenue and operating profit increased, driven by higher sales volumes of heat-shrink multilayer film.

**Outlook:** In consumer goods, Kureha forecasts further healthy sales volume gains for *NEW Krewrap* plastic wrap, the *Kitchinto-san* series, and *Seaguar* fishing lines, although high raw material and promotional costs will affect operating profit for the segment as a whole. In packaging materials, Kureha forecasts continued expansion of global sales on the back of solid demand for advanced heat-shrink multilayer film products, leading to increases in both revenue and operating profit.

Segment revenue for the full fiscal year is expected to increase slightly to 46.0 billion yen, while operating profit is projected to decrease by 10% to 6.2 billion yen.

## **Construction / Other Operations**

*Major product areas – construction and engineering, environmental engineering, logistics, trading related businesses*

### **Construction: Drop in private-sector projects affects revenue and profits**

Kureha's Construction segment saw steady growth in public-sector construction projects. However, a fall in the number of private-sector projects, together with higher labor and raw material costs, affected revenue and operating profits. As a result, revenue in the Construction segment declined 31% to 5.0 billion yen, while operating profit fell 42% to 0.1 billion yen from 0.2 billion yen.

### **Other Operations: Increases in both revenue and profit**

In the environmental business, the industrial waste treatment business continued to perform well, leading to increases in revenue and operating profit that more than compensated for logistics and hospital operations, where operating profit remained flat. As a result, revenue in Other Operations rose by 7% to 8.1 billion yen, and operating profit increased 29% to 0.8 billion yen from 0.6 billion yen.

**Outlook:** In the Construction segment, revenue and operating profit are projected to decrease due to fewer post-earthquake construction projects and continued increases in labor and raw material costs. Revenue is projected to fall 25% to 13.0 billion yen, while operating profit will decrease 52% to 0.5 billion yen.

In Other Operations, Kureha forecasts that the industrial waste treatment business will continue to see strong demand. However, intensifying competition, particularly in the micro-level PCB waste treatment business, will negatively affect revenue and profit. In response, Kureha will continue its cost-cutting and efficiency-raising measures. Revenue is projected to decrease slightly by 2% to 16.5 billion yen, while operating profit will fall 6% to 1.7 billion yen.

## Capex, Depreciation, R&D and Debt

(Billions of yen)

	Sep. 2017	Sep. 2018	March 2019 (forecasts)
Capital expenditure	4.0	5.8	14.5
Depreciation	4.9	5.0	10.3
R&D	2.3	2.5	5.8
Interest-bearing debt	56.0	45.9	45.4

Capital expenditure during the first-half period increased from 4.0 billion yen to 5.8 billion yen. For the full fiscal year, Kureha expects to allocate 14.5 billion yen, up from 9.8 billion yen in FY2017. This capital will be used to raise Kureha's PVDF and PPS production capacity in response to intense demand and upgrade production processes for existing products. Depreciation, mainly related to expanded production facilities, rose slightly to 5.0 billion yen and is expected to reach 10.3 billion yen for the full fiscal year.

R&D expenditure rose slightly to 2.5 billion yen in the first half. For the full fiscal year, the allocation will rise from 5.0 billion to 5.8 billion yen. As per the mid-term management plan, Kureha's Challenge 2018, this additional investment in R&D will focus on enhancing existing products and processes, and developing next-generation products through collaboration with companies, universities and organizations.

Kureha continues to successfully reduce interest-bearing debt. In the first-half period, interest-bearing debt decreased from 56.0 billion yen to 45.9 billion yen. For the full fiscal year, it is projected to reach 45.4 billion yen

## Outlook for the Full Fiscal Year

(Billions of yen, except where stated)

	March 2018	March 2019	Change (%)
Revenue	147.3	150.0	1.8
Operating profit	13.0	14.0	7.9
Profit before income tax	12.7	14.0	10.4
Profit attributable to the owners of Kureha	9.7	10.5	8.3
Earnings per share (yen)	507.48	508.36	
Dividend per share (yen)*	125.0	140.0	

(Billions of yen)

Division		March 2018	March 2019	Change (%)
Advanced Materials	Revenue	41.6	47.0	13
	Operating profit (loss)	1.7	2.9	74
Specialty Chemicals	Revenue	26.2	27.5	5
	Operating profit (loss)	3.4	3.2	-6
Specialty Plastics	Revenue	45.4	46.0	1
	Operating profit (loss)	6.9	6.2	-10
Construction	Revenue	17.4	13.0	-25
	Operating profit (loss)	1.0	0.5	-52
Other Operations	Revenue	16.8	16.5	-2
	Operating profit (loss)	1.8	1.7	-6
Adjustments		-1.9		-0.5
<b>Total</b>	<b>Revenue</b>	<b>147.3</b>	<b>150.0</b>	<b>1.8</b>
	<b>Operating profit (loss)</b>	<b>13.0</b>	<b>14.0</b>	<b>7.9</b>

FY2016-2018 has been designated as a period to lay the foundation for Kureha's future expansion. The performance in the first half of FY2018 puts us on track to raising operating profit by 7.9% to 14.0 billion yen, which is the target figure stated in Kureha's Challenge 2018. Alongside this rise in operating profit, revenue will increase by 1.8% to 150.0 billion yen. Profit before income tax is expected to grow 10.4% to 14.0 billion yen. As a result, profit attributable to the owners of Kureha is forecast to increase 8.3% to 10.5 billion yen for the full fiscal year.

Kureha will continue to face a challenging market environment in the second half, including factors such as higher costs for raw materials and promotion in the Specialty Plastics segment. Growth will thus be mainly driven by the Advanced Materials segment. An important goal will be to solidify the revenue base for the PGA business in North America, which is positioned to become one of Kureha's future growth drivers. In the second half, Kureha expects to successfully narrow the operating loss for this business. Together with continued strong sales volumes of PVDF, this will more than compensate for lower gains in the PPS business.

Alongside efforts to strengthen existing businesses, we will focus on new business creation and the commercialization of promising R&D themes. We will also continue our efforts to raise productivity, promote group-wide digitization and enhance the ways in which we can fully utilize the wide-ranging talent that exists within Kureha Group.

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**For further information, please contact:**

KUREHA CORPORATION  
Public Relations and IR Department  
Tel. 03-3249-4651

**Condensed interim balance sheets**

*As of March 31 and September 30, 2018*

(Millions of yen)

	Mar. 2018	Sep. 2018
<b>Assets</b>		
Current assets	76,963	74,522
Cash and cash equivalents	6,475	5,531
Noncurrent assets	165,318	173,666
Property, plant and equipment	114,236	116,038
Intangible assets	1,336	1,227
Investments and other assets	49,745	56,401
<b>Total assets</b>	<b>242,281</b>	<b>248,189</b>
<b>Liabilities and net assets</b>		
Current liabilities	62,595	60,890
Short-term borrowings	25,759	26,026
Fixed liabilities	27,644	26,755
Corporate bonds and long-term borrowings	21,657	19,311
<b>Total liabilities</b>	<b>90,240</b>	<b>87,645</b>
<b>Net assets</b>		
Shareholders' equity	150,193	158,937
Minority interest	1,847	1,605
<b>Total net assets</b>	<b>152,041</b>	<b>160,543</b>
<b>Total liabilities and net assets</b>	<b>242,281</b>	<b>248,189</b>

**Condensed interim income statement**

*As of March 31 and September 30, 2018*

(Millions of yen)

	Mar. 2018	Sep. 2018
<b>Revenue</b>	<b>147,329</b>	<b>72,466</b>
Cost of goods sold	107,300	52,386
Selling, general and administrative expenses	27,193	13,745
<b>Operating profit</b>	<b>12,973</b>	<b>7,066</b>
<b>Income before income tax</b>	<b>12,683</b>	<b>7,327</b>
Taxes and minority interest adjustments	2,869	1,995
<b>Profit attributable to owners of Kureha</b>	<b>9,697</b>	<b>5,321</b>

# **FY2018 Interim Report**

(Period April 1 – September 30, 2018)

November 7, 2018

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# 1. **FY2018 Half-Year Results**

(April 1 – September 30, 2018)

# FY2018 1H Overview

KUREHA CORPORATION

(in billions of yen, except where stated otherwise)

	FY2017 1H	FY2018 1H	Change (%)
Revenue	69.5	<b>72.5</b> 72.0	3.0 (4.3%) 0.5 (0.6%)
Operating profit	7.2	<b>7.1</b> 5.0	-0.2 (-2.5%) 2.1 (41.3%)
Profit before income tax	7.2	<b>7.3</b> 5.0	0.2 (2.1%) 2.3 (46.6%)
Profit attributable to owners of Kureha Corp.	5.8	<b>5.3</b> 3.5	-0.4 (-7.7%) 1.8 (52.0%)
Profit per share	¥325.46	<b>¥257.63</b>	
Profit per share attributable to owners of Kureha	¥7,257	<b>¥7,695</b>	
Ratio of profit attributable to owners of Kureha to revenue	62.0%	<b>64.0%</b>	
Dividend per share*	¥55.0	<b>¥70.0</b>	

Note: Figures indicated in blue are initial projections announced in May 2018

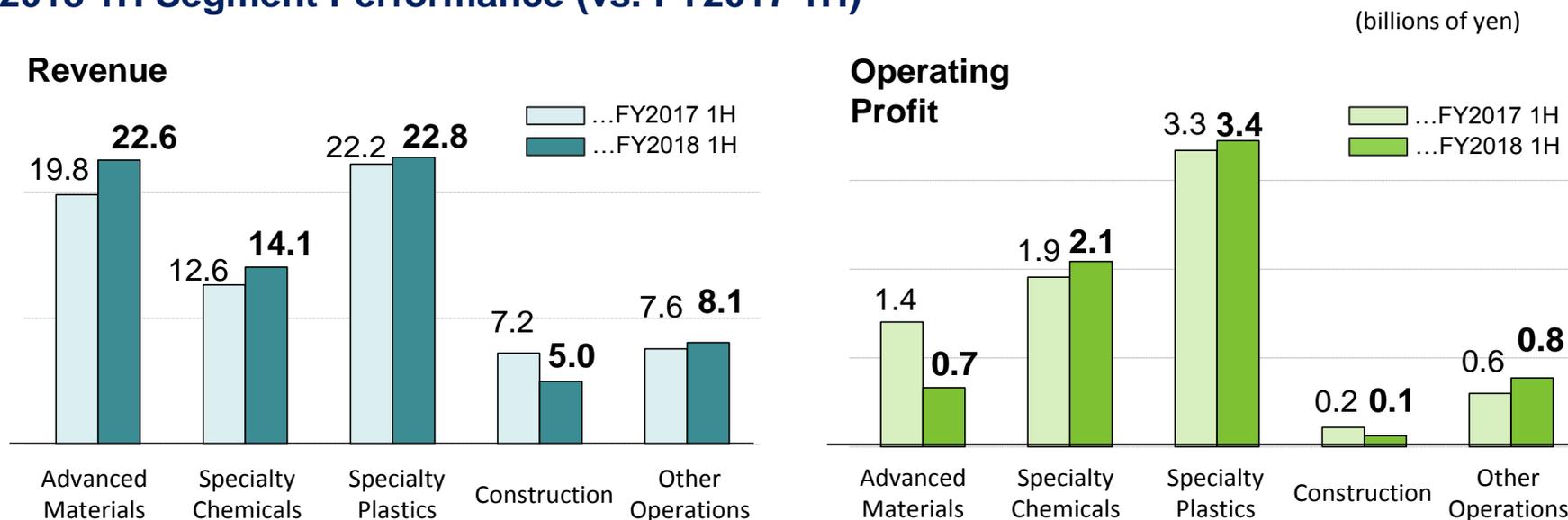
## FY2018 1H vs. FY2017 1H

- Revenue grew on strong performance in Advanced Materials and Specialty Chemicals, while Construction declined
- Operating profit decreased as result of temporary cost associated with Advanced Materials, more than offsetting gains driven by higher volumes
- Profit before income tax rose due to higher financial income
- Profit for the period increased due to higher tax cost

# FY2018 1H Overview

KUREHA CORPORATION

## FY2018 1H Segment Performance (vs. FY2017 1H)



### Factors attributing to operating profit (vs. FY2017 1H)

- Advanced Materials: Temporary PGA-related cost more than offsetting volume growth in advanced plastics and carbon products
- Specialty Chemicals: Higher agrochemicals volumes compensating for lower gains in pharmaceuticals
- Specialty Plastics: Higher packaging film volume more than offsetting higher costs associated with home products and synthetic fiber
- Construction: Fewer construction projects in private sector
- Other Operations: Higher volumes in environmental business

# FY2018 1H Overview

KUREHA CORPORATION

(billions of yen)

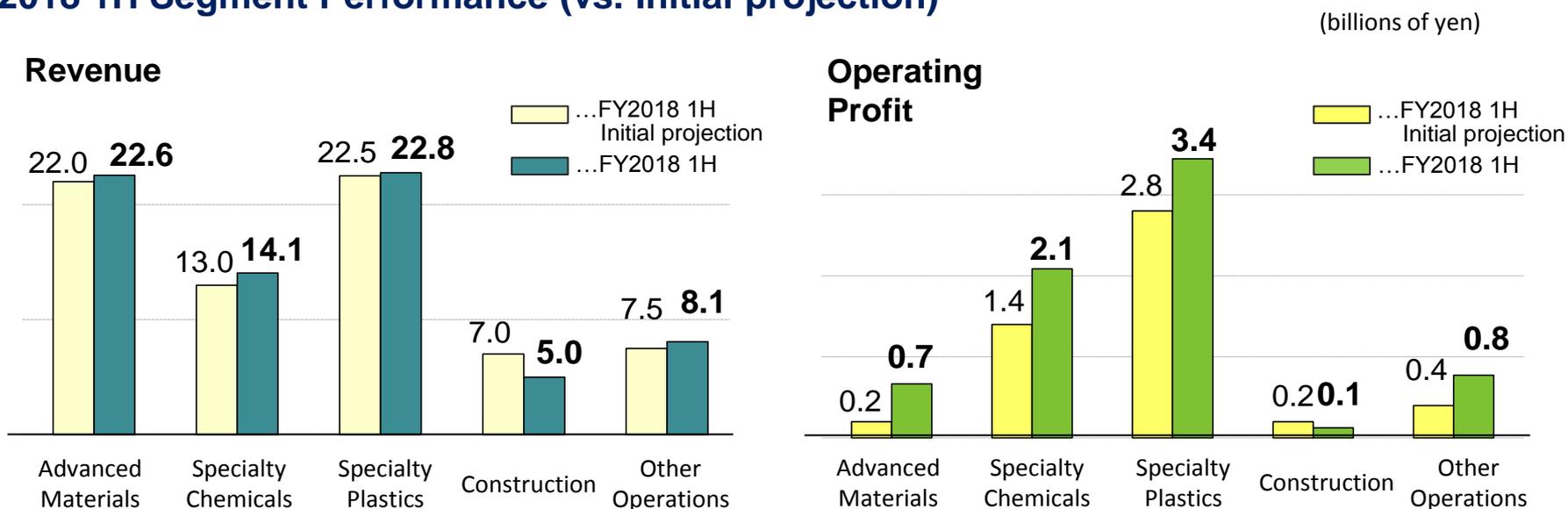
<b>FY2017 1H</b>	Advanced Materials	Specialty Chemicals	Specialty Plastics	Construction	Other Operations	Segment Total	Adjustment	Total
Revenue	19.8	12.6	22.2	7.2	7.6	69.5	-----	69.5
Elimination							0.1	-----
Other income							0.2	-----
Other expenses	*Environment-related expenses: ¥0.4bn						0.5	-----
Operating profit	1.4	1.9	3.3	0.2	0.6	7.5	-0.2	7.2
Finance income							0.3	-----
Finance costs							0.4	-----
Profit before income tax								7.2
Profit for the period								5.8

<b>FY2018 1H</b>	Advanced Materials	Specialty Chemicals	Specialty Plastics	Construction	Other Operations	Segment Total	Adjustment	Total
Revenue	22.6	14.1	22.8	5.0	8.1	72.5	-----	72.5
Elimination							-0.1	-----
Other income							0.2	-----
Other expenses							0.2	-----
Operating profit	0.7	2.1	3.4	0.1	0.8	7.1	-0.0	7.1
Finance income							0.4	-----
Finance costs							0.2	-----
Profit before income tax								7.3
Profit for the period								5.3

# FY2018 1H Overview

KUREHA CORPORATION

## FY2018 1H Segment Performance (vs. Initial projection)



### Factors attributing operating profit (vs. Initial projection)

- Advanced Materials: PVDF and carbon products volumes growth compensating for lower profit in PPS
- Specialty Chemicals: Higher agrochemicals volumes as result of front-loaded delivery (originally scheduled for 2<sup>nd</sup> half of FY2018), higher industrial chemicals prices
- Specialty Plastics: Higher home products and synthetic fiber volumes and lower costs
- Construction: Fewer construction projects in private sector
- Other Operations: Higher volumes in environmental business

# FY2018 1H Overview

KUREHA CORPORATION

(billions of yen)

## FY2018 1H Initial projection

	Advanced Materials	Specialty Chemicals	Specialty Plastics	Construction	Other Operations	Segment Total	Adjustment	Total
Revenue	22.0	13.0	22.5	7.0	7.5	72.0	-----	72.0
Elimination							0.0	-----
Other income							0.1	-----
Other expenses							0.1	-----
Operating profit	0.2	1.4	2.8	0.2	0.4	5.0	0.0	5.0
Finance income							0.3	-----
Finance costs							0.3	-----
Profit before income tax								5.0
Profit for the period								3.5

## FY2018 1H

	Advanced Materials	Specialty Chemicals	Specialty Plastics	Construction	Other Operations	Segment Total	Adjustment	Total
Revenue	22.6	14.1	22.8	5.0	8.1	72.5	-----	72.5
Elimination							-0.1	-----
Other income							0.2	-----
Other expenses							0.2	-----
Operating profit	0.7	2.1	3.4	0.1	0.8	7.1	-0.0	7.1
Finance income							0.4	-----
Finance costs							0.2	-----
Profit before income tax								7.3
Profit for the period								5.3

# Segment Performance: Advanced Materials

(billions of yen)

	FY2017 1H	FY2018 1H	Change %
<b>Advanced Materials</b>			
Advanced plastics	11.6	<b>13.0</b>	12%
Carbon products	2.6	<b>2.7</b>	4%
Revenue: Kureha Co.	14.1	<b>15.7</b>	11%
Revenue: Subsidiaries	14.0	<b>14.6</b>	4%
Elimination	-8.3	<b>-7.7</b>	--
<b>Kureha-G Revenue</b>	<b>19.8</b>	<b>22.6</b>	<b>14%</b>
<b>Kureha-G Operating Profit</b>	<b>1.4</b>	<b>0.7</b>	<b>-53%</b>

(FY18 1H Initial Projection: Revenue ¥22bn, Ope.profit ¥0.2bn)

## FY2018 1H vs. FY2017 1H

Revenue  Operating Profit 

### Advanced plastics:

Operating profit decreased due to temporary PGA-related cost and profit decline for PPS, despite higher revenue driven by PVDF (as LiB binder) and PGA (applications for oil/gas exploration)

### Carbon products

Operating profit improved on higher revenue

# Segment Performance: Specialty Chemicals

(billions of yen)

	FY2017 1H	FY2018 1H	Change %
<b>Specialty Chemicals</b>			
Agrochemicals	4.0	<b>4.6</b>	14%
Pharmaceuticals	2.2	<b>2.5</b>	12%
Industrial chemicals	4.8	<b>5.2</b>	9%
Revenue: Kureha Co.	11.0	<b>12.2</b>	11%
Revenue: Subsidiaries	3.0	<b>3.4</b>	13%
Elimination	-1.4	<b>-1.6</b>	--
<b>Kureha-G Revenue</b>	<b>12.6</b>	<b>14.1</b>	<b>11%</b>
<b>Kureha-G Operating Profit</b>	<b>1.9</b>	<b>2.1</b>	<b>9%</b>

(FY18 1H Initial Projection: Revenue ¥13bn, Ope.profit ¥1.4bn)

## FY2018 1H vs. FY2017 1H

Revenue  Operating Profit 

### Agrochemicals

Revenue and profit increased on higher fungicides volumes

### Pharmaceuticals

Operating profit declined due to lower prices as result of drug price revisions despite higher Kremezin (therapeutic agent for chronic kidney disease) volume

### Industrial chemicals

Revenue grew but operating profit remained flat due to increased raw materials and fuels costs offsetting higher prices

# Segment Performance: Specialty Plastics

(billions of yen)

	FY2017 1H	FY2018 1H	Change %
<b>Specialty Plastics</b>			
Home products	10.6	<b>10.7</b>	1%
Packaging materials	3.2	<b>3.0</b>	-6%
<b>Revenue: Kureha Co.</b>	<b>13.7</b>	<b>13.6</b>	<b>-1%</b>
Packaging materials	5.9	<b>6.3</b>	7%
Fiber products	2.2	<b>2.3</b>	4%
Others	3.5	<b>3.2</b>	-6%
<b>Revenue: Subsidiaries</b>	<b>11.5</b>	<b>11.8</b>	<b>3%</b>
Elimination	-3.0	<b>-2.7</b>	--
<b>Kureha-G Revenue</b>	<b>22.2</b>	<b>22.8</b>	<b>2%</b>
<b>Kureha-G Operating Profit</b>	<b>3.3</b>	<b>3.4</b>	<b>3%</b>

(FY18 1H Initial Projection: Revenue ¥22.5bn, Ope.profit ¥2.8bn)

## FY2018 1H vs. FY2017 1H

Revenue  Operating Profit 

### Home products

Operating profit decreased due to higher costs, despite revenue growth driven by NEW Krewrap (plastic wrap) and Seaguar (fishing lines)

### Packaging materials

Revenue and profit grew on higher heat-shrink multilayer film volumes

# Segment Performance: Construction & Other Operations

(billions of yen)

	FY2017 1H	FY2018 1H	Change %
<b>Construction</b>			
Construction	10.4	8.1	-22%
Elimination	-3.2	-3.1	--
<b>Kureha-G Revenue</b>	<b>7.2</b>	<b>5.0</b>	<b>-31%</b>
<b>Kureha-G Operating Profit</b>	<b>0.2</b>	<b>0.1</b>	<b>-42%</b>

(FY18 1H Initial Projection: Revenue ¥7bn, Ope.profit ¥0.2bn)

## Other Operations

Environmental engineering	4.6	5.3	15%
Logistics	4.1	4.1	-0%
Hospital operations	1.8	1.8	0%
Others	0.9	1.0	4%
<b>Revenue: Subsidiaries</b>	<b>11.5</b>	<b>12.2</b>	<b>6%</b>
Elimination	-3.9	-4.1	--
<b>Kureha-G Revenue</b>	<b>7.6</b>	<b>8.1</b>	<b>7%</b>
<b>Kureha-G Operating Profit</b>	<b>0.6</b>	<b>0.8</b>	<b>29%</b>

(FY18 1H Initial Projection: Revenue ¥7.5bn, Ope.profit ¥0.4bn)

## FY2018 1H vs. FY2017 1H

Revenue ↓ Operating Profit ↓

### Construction

Revenue and profit declined due to fewer projects in private sector more than offsetting the steady growth in public sector

Revenue ↑ Operating Profit ↑

### Environmental Engineering

Revenue and profit increased due mainly to strong industrial waste treatment business

### Logistics

Operating profit remained flat on lower revenue

### Hospital Operations

Revenue and profit remained flat

# Financial Position

KUREHA CORPORATION

(billions of yen)

## Assets

	Mar.31 2018	Sept.30 2018	Change
Cash and cash equivalents	6.5	<b>5.5</b>	-0.9
Trade and other receivables	32.7	<b>30.9</b>	-1.7
Inventories	36.0	<b>33.6</b>	-2.4
Other current assets	1.8	<b>4.5</b>	2.7
<b>Total current assets</b>	<b>77.0</b>	<b>74.5</b>	-2.4
Property, plant and equipment	114.2	<b>116.0</b>	1.8
Intangible assets	1.3	<b>1.2</b>	-0.1
Investments and other assets	49.7	<b>56.4</b>	6.7
<b>Total non-current assets</b>	<b>165.3</b>	<b>173.7</b>	<b>8.3</b>
<b>Total assets</b>	<b>242.3</b>	<b>248.2</b>	<b>5.9</b>

## Liabilities and Equity

	Mar.31 2018	Sept.31 2018	Change
Trade and other payables	21.5	<b>20.0</b>	-1.6
Interest-bearing debt	48.1	<b>45.9</b>	-2.2
Provisions	6.6	<b>6.5</b>	-0.1
Other liabilities	14.0	<b>15.3</b>	1.3
<b>Total liabilities</b>	<b>90.2</b>	<b>87.6</b>	<b>-2.6</b>
Shareholders' equity	18.2	<b>18.2</b>	--
Capital surplus	15.3	<b>15.0</b>	-0.2
Less: Treasury stock	-0.7	<b>-0.7</b>	-0.0
Retained earnings	108.7	<b>113.1</b>	4.3
Other components of equity	8.7	<b>13.4</b>	4.6
Non-controlling interests	1.8	<b>1.6</b>	-0.2
<b>Total equity</b>	<b>152.0</b>	<b>160.5</b>	<b>8.5</b>
<b>Total liabilities and equity</b>	<b>242.3</b>	<b>248.2</b>	<b>5.9</b>

# Cash Flow

KUREHA CORPORATION

(billions of yen)

	FY2017 1H	FY2018 1H	Change
Profit before income tax	7.2	7.3	0.2
Depreciation	4.9	5.0	0.1
Other	-1.3	-1.9	-0.6
<b>Cash flow from operating activities</b>	<b>10.8</b>	<b>10.3</b>	<b>-0.4</b>
<b>Cash flow from investing activities</b>	<b>-5.9</b>	<b>-7.3</b>	<b>-1.4</b>
<b>Cash flow from financing activities</b>	<b>-5.3</b>	<b>-4.0</b>	<b>1.2</b>
Effect of exchange rate changes on cash and cash equivalents	-0.0	0.0	0.1
Increase/decrease in cash and cash equivalents	-0.4	-0.9	-0.6
Cash and cash equivalents at beginning of period	6.2	6.5	0.3
Cash and cash equivalents at end of period	5.8	5.5	-0.3

## **2. FY2018 Full-Year Outlook**

(April 1, 2018 – March 31, 2019)

# FY2018 Forecast

KUREHA CORPORATION

(billions of yen, except where stated otherwise)

	FY2017	FY2018e	Change YOY (%)
Revenue	147.3	<b>150.0</b>	2.7 (1.8%)
Operating profit	13.0	<b>14.0</b>	1.0 (7.9%)
Profit before income tax	12.7	<b>14.0</b>	1.3 (10.4%)
Profit attributable to owners of Kureha Corp.	9.7	<b>10.5</b>	0.8 (8.3%)
<hr/>			
Earnings per share	¥507.48	<b>¥508.36</b>	
Shareholders' equity per share	¥7,272	<b>¥7,731</b>	
Dividend per share			
(Interim)	¥55.0	<b>¥70.0</b>	
(Year-end)	¥70.0	<b>¥70.0</b>	

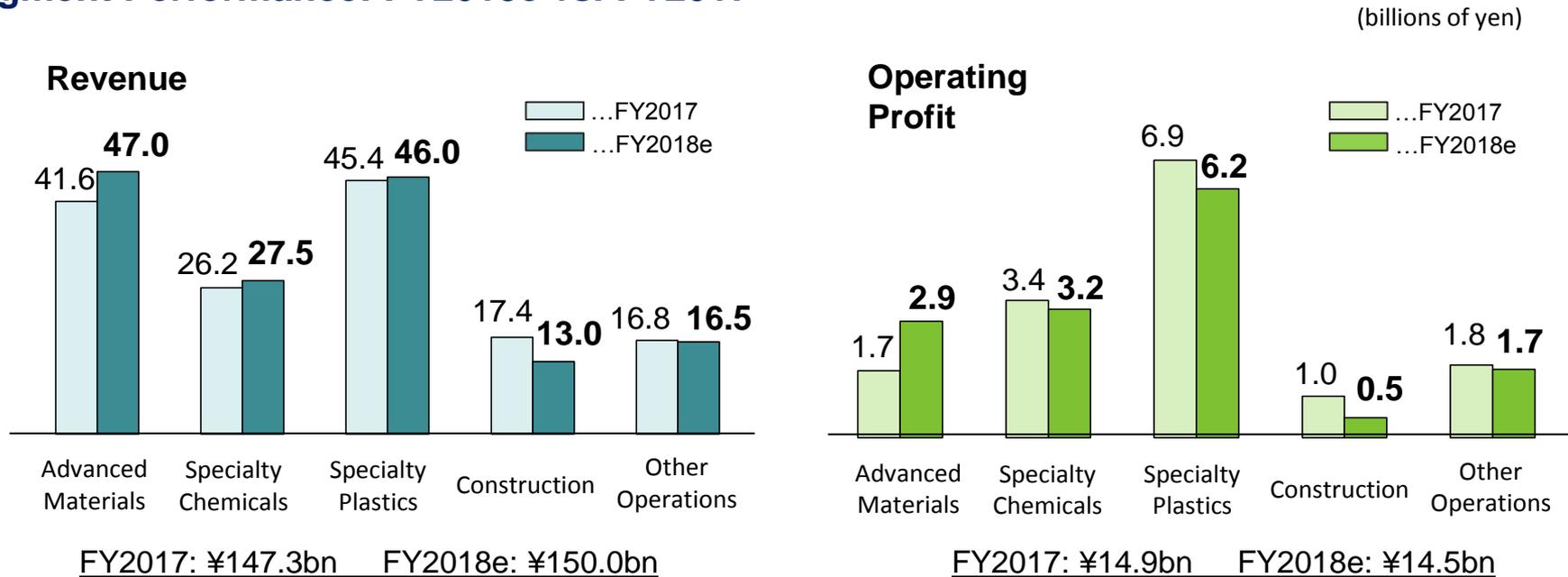
## FY2018e vs. FY2017

- Revenue growth supported largely by Advanced Materials
- Higher operating profit driven by Advanced Materials, improved operating loss for PGA and fewer 'other expenses' more than offsetting profit declines and higher costs in other segments
- Profit before income tax to improve on higher operating profit
- Profit for the period to improve on higher profit before income tax

# FY2018 Forecast

KUREHA CORPORATION

## Segment Performance: FY2018e vs. FY2017



### Factors attributing to FY2018e operating profit (vs. FY2017)

- Advanced Materials: Improved operating loss for PGA more than offsetting lower gains for PPS
- Specialty Chemicals: Lower agrochemicals volumes, lower pharmaceutical prices
- Specialty Plastics: Higher promotion cost for home products
- Construction: Higher labor and raw materials costs
- Other Operations: Intensified competition in environmental business

# FY2018 Forecast

KUREHA CORPORATION

(billions of yen)

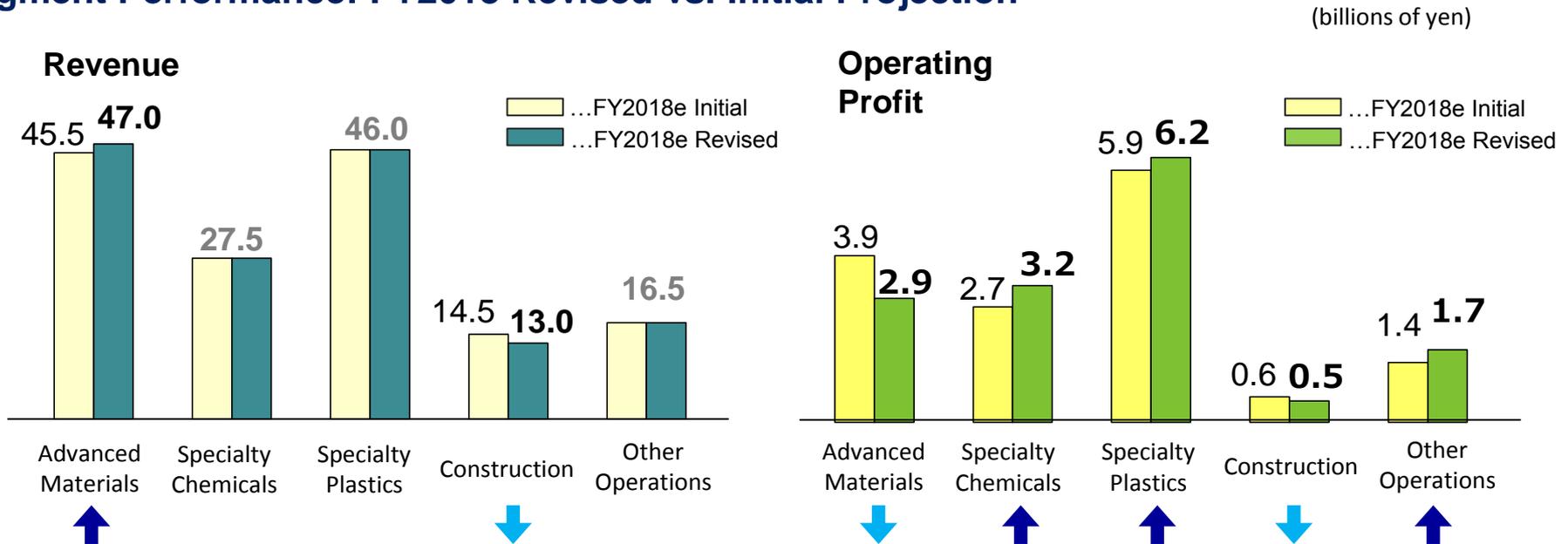
<b>FY2017</b>	Advanced Materials	Specialty Chemicals	Specialty Plastics	Construction	Other Operations	Segment Total	Adjustment	Total
Revenue	41.6	26.2	45.4	17.4	16.8	147.3	-----	147.3
Elimination							0.2	-----
Other income	*Subsidy income: ¥0.3bn						0.5	-----
Other expenses	*Loss on retirement of non-current assets: ¥1.3bn, Loss on non-current asset impairment: ¥0.7bn, Environment-related expenses: ¥0.4bn						2.6	-----
Operating profit	1.7	3.4	6.9	1.0	1.8	14.9	-1.9	13.0
Finance income							0.6	-----
Finance costs							0.9	-----
Profit before income tax								12.7
Profit for the period								9.7

<b>FY2018e</b>	Advanced Materials	Specialty Chemicals	Specialty Plastics	Construction	Other Operations	Segment Total	Adjustment	Total
Revenue	47.0	27.5	46.0	13.0	16.5	150.0	-----	150.0
Elimination							0.0	-----
Other income							0.2	-----
Other expenses	*Loss on retirement of non-current assets: ¥0.5bn						0.7	-----
Operating profit	2.9	3.2	6.2	0.5	1.7	14.5	-0.5	14.0
Finance income							0.6	-----
Finance costs							0.6	-----
Profit before income tax								14.0
Profit for the period								10.5

# FY2018 Forecast

KUREHA CORPORATION

## Segment Performance: FY2018 Revised vs. Initial Projection



### Factors attributing to FY2018 revised projection (vs. Initial projection)

- Advanced Materials:** A large profit decline for PPS including in US JV operation and lower contributions from PGA subsidiary in US (while achieving sales target) more than offsetting higher profit gains for PVDF and carbon products
- Specialty Chemicals:** Improved operating margin for industrial chemicals, favorable effects of weaker yen against US dollar in agrochemicals export
- Specialty Plastics:** Higher home products volumes and lower costs
- Construction:** Fewer construction projects in private sector
- Other Operations:** Higher volumes in industrial treatment business

# FY2018 Forecast

KUREHA CORPORATION

(billions of yen)

<b>FY2017</b>	Advanced Materials	Specialty Chemicals	Specialty Plastics	Construction	Other Operations	Segment Total	Adjustment	Total
Revenue	45.5	27.5	46.0	14.5	16.5	150.0	-----	150.0
Elimination							0.0	-----
Other income							0.1	-----
Other expenses	*Loss on retirement of non-current assets: ¥0.5bn						0.6	-----
Operating profit	3.9	2.7	5.9	0.6	1.4	14.5	-0.5	14.0
Finance income							0.6	-----
Finance costs							0.6	-----
Profit before income tax								14.0
Profit for the period								10.5

<b>FY2018e</b>	Advanced Materials	Specialty Chemicals	Specialty Plastics	Construction	Other Operations	Segment Total	Adjustment	Total
Revenue	47.0	27.5	46.0	13.0	16.5	150.0	-----	150.0
Elimination							0.0	-----
Other income							0.2	-----
Other expenses	*Loss on retirement of non-current assets: ¥0.5bn						0.7	-----
Operating profit	2.9	3.2	6.2	0.5	1.7	14.5	-0.5	14.0
Finance income							0.6	-----
Finance costs							0.6	-----
Profit before income tax								14.0
Profit for the period								10.5

# Segment Outlook: Advanced Materials

(billions of yen)

	FY2017	FY2018e	Change %
<b>Advanced Materials</b>			
Advanced plastics	24.4	<b>28.2</b>	15%
Carbon products	4.9	<b>4.8</b>	-3%
Revenue: Kureha Co.	29.4	<b>33.0</b>	12%
Revenue: Subsidiaries	29.6	<b>34.0</b>	15%
Elimination	-17.3	<b>-20.0</b>	--
<b>Kureha-G Revenue</b>	<b>41.6</b>	<b>47.0</b>	<b>13%</b>
<b>Kureha-G Operating Profit</b>	<b>1.7</b>	<b>2.9</b>	<b>74%</b>

(FY18 1H Initial Projection: Revenue ¥45.5bn, Ope.profit ¥3.9bn)

## FY2018e vs. FY2017

Revenue  Operating Profit 

### Advanced plastics

Revenue and operating profit expected to rise on the back of strong PGA business growth (oil/gas exploration applications) and higher PVDF (LiB binder) volume, more than offsetting a decline for PPS

### Carbon products

Revenue and profit likely to decline despite continued price adjustments and cost reduction

# Segment Outlook: Specialty Chemicals

(billions of yen)

	FY2017	FY2018e	Change %
<b>Specialty Chemicals</b>			
Agrochemicals	9.2	<b>8.3</b>	-9%
Pharmaceuticals	3.8	<b>5.1</b>	33%
Industrial chemicals	9.4	<b>10.1</b>	7%
Revenue: Kureha Co.	22.4	<b>23.5</b>	5%
Revenue: Subsidiaries	6.5	<b>7.0</b>	8%
Elimination	-2.7	<b>-3.0</b>	--
<b>Kureha-G Revenue</b>	<b>26.2</b>	<b>27.5</b>	<b>5%</b>
<b>Kureha-G Operating Profit</b>	<b>3.4</b>	<b>3.2</b>	<b>-6%</b>

(FY18 1H Initial Projection: Revenue ¥27.5bn, Ope.profit ¥2.7bn)

## FY2018e vs. FY2017

Revenue  Operating Profit 

### Agrochemicals

Operating profit to decrease on lower fungicides volumes

### Pharmaceuticals

Operating profit to remain level due to lower prices as result of drug price revisions, despite higher revenue expected from volume growth of new Kremezin product

### Industrial chemicals

Revenue and profit to grow as result of continued margin improvement and price adjustments

# Segment Outlook: Specialty Plastics

(billions of yen)

	FY2017	FY2018e	Change %
<b>Specialty Plastics</b>			
Home products	20.7	21.1	2%
Packaging materials	6.3	5.9	-7%
<b>Revenue: Kureha Co.</b>	<b>27.0</b>	<b>27.0</b>	<b>0%</b>
Packaging materials	13.1	14.0	7%
Fiber products	4.2	4.5	7%
Others	7.4	7.0	-6%
<b>Revenue: Subsidiaries</b>	<b>24.8</b>	<b>25.5</b>	<b>3%</b>
Elimination	-6.4	-6.5	--
<b>Kureha-G Revenue</b>	<b>45.4</b>	<b>46.0</b>	<b>1%</b>
<b>Kureha-G Operating Profit</b>	<b>6.9</b>	<b>6.2</b>	<b>-10%</b>

(FY18 1H Initial Projection: Revenue ¥46.0bn, Ope.profit ¥5.9bn)

## FY2018e vs. FY2017

Revenue  Operating Profit 

### Home products

Operating profit to decline due to higher promotion cost despite revenue growth driven by NEW Krewrap and Kitchinto-san series products

### Packaging materials

Revenue and operating profit to increase on the back of global sales expansion for advanced heat-shrink multilayer film products

# Segment Outlook: Construction & Other Operations

(billions of yen)

	FY2017	FY2018e	Change %
<b>Construction</b>			
Construction	23.9	<b>20.0</b>	-16%
Elimination	-6.6	<b>-7.0</b>	--
<b>Kureha-G Revenue</b>	<b>17.4</b>	<b>13.0</b>	<b>-25%</b>
<b>Kureha-G Operating Profit</b>	<b>1.0</b>	<b>0.5</b>	<b>-52%</b>
<b>Other Operations</b>			
Environmental engineering	11.0	<b>11.0</b>	0%
Logistics	8.3	<b>8.3</b>	0%
Hospital operations	3.6	<b>3.7</b>	3%
Others	1.8	<b>1.8</b>	1%
<b>Revenue: Subsidiaries</b>	<b>24.7</b>	<b>24.8</b>	<b>0%</b>
Elimination	-7.9	<b>-8.3</b>	--
<b>Kureha-G Revenue</b>	<b>16.8</b>	<b>16.5</b>	<b>-2%</b>
<b>Kureha-G Operating Profit</b>	<b>1.8</b>	<b>1.7</b>	<b>-6%</b>

(FY18 1H Initial Projection: Revenue ¥14.5bn, Ope.profit ¥0.6bn)

(FY18 1H Initial Projection: Revenue ¥16.5bn, Ope.profit ¥1.4bn)

## FY2018e vs. FY2017

Revenue ↓ Operating Profit ↓

### Construction

Revenue and operating profit to decrease due to a decline in post-quake demand and higher labor/raw materials costs

Revenue ↓ Operating Profit ↓

### Other Operations

Operating profit to remain level on flat revenue, due largely to intensified competition for micro PCB treatment in environment business

# Key Indicators

KUREHA CORPORATION

(billions of yen)

	FY2017			FY2018e			Change YOY
	1H	2H	Full-year	1H	2H	Full-year	
Capital expenditure	4.0	5.8	<b>9.8</b>	5.8	8.7	<b>14.5</b>	48%
Depreciation	4.9	5.0	<b>9.9</b>	5.0	5.3	<b>10.3</b>	4%
R&D expenses	2.3	2.7	<b>5.0</b>	2.5	3.3	<b>5.8</b>	16%
Interest-bearing debt	56.0	48.1	<b>48.1</b>	45.9	45.4	<b>45.4</b>	-6%

(Currency exchange rates)

1USD:	Term average	¥111.0	¥110.7	<b>¥110.9</b>	¥110.3	¥110.0	<b>¥110.1</b>
	Term end	¥112.7	¥106.2	<b>¥106.2</b>	¥113.6	¥110.0	<b>¥110.0</b>
1EUR:	Term average	¥126.3	¥133.1	<b>¥129.7</b>	¥129.8	¥130.0	<b>¥129.9</b>
	Term end	¥132.9	¥130.5	<b>¥130.5</b>	¥132.1	¥130.0	<b>¥130.0</b>
1CHY:	Term average	¥16.4	¥17.1	<b>¥16.7</b>	¥16.7	¥16.0	<b>¥16.4</b>
	Term end	¥17.0	¥16.9	<b>¥16.9</b>	¥16.5	¥16.0	<b>¥16.0</b>

# Cash Flow

KUREHA CORPORATION

(billions of yen)

	FY2017	FY2018e	Change
Profit before income tax	12.7	14.0	1.3
Depreciation	9.9	10.5	0.6
Other	-2.4	1.1	3.5
<b>Cash flow from operating activities</b>	<b>20.2</b>	<b>25.6</b>	<b>5.4</b>
<b>Cash flow from investing activities</b>	<b>-9.7</b>	<b>-17.7</b>	<b>-8.0</b>
<b>Cash flow from financing activities</b>	<b>-10.4</b>	<b>-8.6</b>	<b>1.8</b>
Effect of exchange rate changes on cash and cash equivalents	0.2	0.0	-0.2
Increase/decrease in cash and cash equivalents	0.3	-0.6	-0.9
Cash and cash equivalents at beginning of year	6.2	6.5	0.3
Cash and cash equivalents at end of year	6.5	5.8	-0.6

# Consolidated Companies: Revenues & Assets

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KUREHA CORPORATION

(billions of yen)

		FY2017 1H		FY2018 1H		Change	
		Revenue	Total assets	Revenue	Total assets	Revenue	Total assets
Kureha Corporation		32.2	191.1	<b>34.3</b>	<b>196.9</b>	1.9	5.8
Kureha Trading Group (2)		8.6	13.9	<b>9.2</b>	<b>13.8</b>	0.6	-0.1
Advanced Materials	Kureha Corporation	14.1	--	<b>15.7</b>	--	1.5	--
	Kureha Trading Group (2)	5.3	--	<b>5.7</b>	--	0.5	--
	Kureha Extron Co.	0.9	2.0	<b>1.1</b>	<b>2.1</b>	0.2	0.1
	Kureha Extech Co.	1.1	1.6	<b>1.3</b>	<b>1.4</b>	0.2	-0.1
	Kureha GmbH	0.9	0.7	<b>1.1</b>	<b>1.1</b>	0.3	0.5
	Kureha America Group (4)	3.3	28.7	<b>1.2</b>	<b>27.2</b>	-2.1	-1.5
	Kureha (Shanghai) Carbon Fiber Materials Co.	0.4	1.6	<b>0.7</b>	<b>1.3</b>	0.2	-0.3
	Kureha China Group (2)	2.2	11.2	<b>3.5</b>	<b>10.2</b>	1.3	-1.0
	Consolidation adjustments	-8.3	--	<b>-7.7</b>	--	0.6	--
	<b>Total</b>	<b>19.8</b>	<b>--</b>	<b>22.6</b>	<b>--</b>	<b>2.7</b>	<b>--</b>
Specialty Chemicals	Kureha Corporation	11.0	--	<b>12.2</b>	--	1.3	--
	Kureha Trading Co.	3.0	--	<b>3.4</b>	--	0.4	--
	Consolidation adjustments	-1.4	--	<b>-1.6</b>	--	-0.2	--
	<b>Total</b>	<b>12.6</b>	<b>--</b>	<b>14.1</b>	<b>--</b>	<b>1.4</b>	<b>--</b>
Specialty Plastics	Kureha Corporation	13.7	--	<b>13.6</b>	--	-0.1	--
	Kureha Trading Co.	2.5	--	<b>2.4</b>	--	-0.1	--
	Kureha Gohsen Co.	2.2	4.6	<b>2.3</b>	<b>5.0</b>	0.1	0.4
	Kureha China Group (2)	0.1	--	<b>0.1</b>	--	-0.0	--
	Kureha America Group (4)	0.9	0.8	<b>0.8</b>	<b>0.8</b>	-0.0	0.0
	Kureha Europe Group (4)	4.2	7.5	<b>4.7</b>	<b>7.7</b>	0.4	0.2
	Kureha Vietnam Co.	1.7	3.8	<b>1.6</b>	<b>3.4</b>	-0.0	-0.4
	Consolidation adjustments	-3.0	--	<b>-2.7</b>	--	0.3	--
<b>Total</b>	<b>22.2</b>	<b>--</b>	<b>22.8</b>	<b>--</b>	<b>0.5</b>	<b>--</b>	

# Revenues & Assets

KUREHA CORPORATION

(billions of yen)

		FY2017 1H		FY2018 1H		Change	
		Revenue	Total assets	Revenue	Total assets	Revenue	Total assets
Construction	Kureha Nishiki Group (4)	9.4	10.9	<b>6.7</b>	<b>10.0</b>	-2.6	-0.9
	Kureha Engineering Co.	1.0	2.3	<b>1.4</b>	<b>1.8</b>	0.4	-0.4
	Consolidation adjustments	-3.2	--	<b>-3.1</b>	--	0.0	--
	<b>Total</b>	<b>7.2</b>	<b>--</b>	<b>5.0</b>	<b>--</b>	<b>-2.2</b>	<b>--</b>
Other Operations	Kureha Ecology Management Co.	4.0	8.0	<b>4.7</b>	<b>8.8</b>	0.6	0.8
	Kureha Special Laboratory Co.	0.6	0.5	<b>0.6</b>	<b>0.6</b>	0.0	0.1
	Kureha Unyu Group (2)	4.1	5.9	<b>4.1</b>	<b>6.2</b>	-0.0	0.3
	Kureha Trading Co.	0.0	--	<b>0.0</b>	--	-0.0	--
	Kureha Service Co.	0.3	1.0	<b>0.3</b>	<b>1.0</b>	0.0	0.0
	Kureha-Kai Medical Corporation	1.8	3.5	<b>1.8</b>	<b>3.3</b>	0.0	-0.2
	Kureha Staff Service Co.	0.6	0.6	<b>0.6</b>	<b>0.6</b>	0.0	0.0
	Consolidation adjustments	-3.9	--	<b>-4.1</b>	--	-0.2	--
<b>Total</b>	<b>7.6</b>	<b>--</b>	<b>8.1</b>	<b>--</b>	<b>0.5</b>	<b>--</b>	
<b>Kureha Group Total</b>		<b>69.5</b>	<b>--</b>	<b>72.5</b>	<b>--</b>	<b>3.0</b>	<b>--</b>
<b>Total number of consolidated subsidiaries &amp; equity-method affiliates</b>		<b>32</b>		<b>32</b>			

\*Parenthesized numbers indicate the number of consolidated companies for each group.

# Supplemental Information

# Iwaki Factory Capacity Enhancements

KUREHA CORPORATION

## Polyvinylidene fluoride(PVDF)

Electrification of vehicles  
(EV/PHEV/HEV)



Demand growing for **LiB binder**



Commercial production at the new Iwaki plant (2000tpa, capex ¥4.7bn, completed in Aug. 2018) begins in January 2019.

→ Annual PVDF production capacity: 11,000tpa (6,000t in Iwaki, Japan and 5,000t in China)

## Polyphenylene sulfide(PPS)

Heat resistance

Mechanical strength

Weldability

**Electrification**



**Weight reduction**



Capacity enhancement of 5,000tpa is underway at the current Iwaki plant (10,7000tpa) and scheduled to complete by February 2021 (capex ¥10bn)

→ Annual PPS production capacity: 15,700tpa

# PGA (Frac Plugs) Business Expansion

KUREHA CORPORATION

## Shale Oil/Gas Exploration



Metal or other non-degradable frac plugs are used and drilled out after use

*A horizontal well is short due to limited drillout technology*

**(PAST)**

2km



Degradable PGA frac plugs are used in the extended 'toe' part of horizontal well

**(Present)**

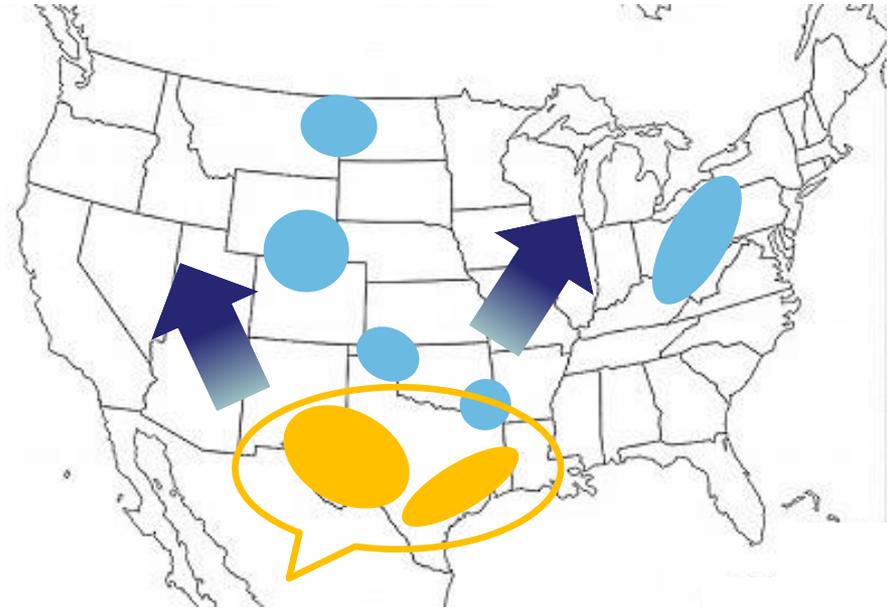
3km



PGA frac plugs are used for the entire horizontal well (and eliminate drillout process)

**(Future)**

3km



**Present focus markets:  
Permian, Eagle Ford**

### PGA degradable frac plugs

- Currently adopted by 8 oil field operators
- Continue to expand in the US market
- A new ultra low-temp degradable grade launched this fall
- Tested and approved by a major operator for full-bore use – Preparing for orders

**KUREHA**

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