## NN

## Nissan Chemical

CORPORATION

## Nissan Chemical Corporation

2Q FY2020 Financial Results Briefing
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## 1H FY2020 Actual Highlight

1. vs. 1H FY2019 Actual
$\checkmark$ OP flat (1H FY2020 Actual $¥ 18.0$ billion vs. 1H FY2019 Actual $¥ 18.0$ billion)
-Chemicals OP down due to sales decrease in melamine, TEPIC and environmental related products
-Performance Materials OP up due to substantial sales increase in Display Materials and Semis Materials, and fixed cost down
-Agro OP down due to Fluralaner sales decrease (above the Outlook as of May 2020) despite ALTAIR sales increase, and fixed cost up
-Pharma OP down due to LIVALO sales decrease, while Custom Chemicals sales increase

- Net Income down $¥ 0.6$ billion (1H FY2020 Actual $¥ 13.9$ billion vs. 1 H FY2019 Actual $¥ 14.5$ billion)

2. vs. 1 H FY2020 Outlook as of May 2020

OP above target $¥ 1.9$ billion (1H FY2020 Actual $¥ 18.0$ billion vs. 1 H FY2020 Outlook $¥ 16.1$ billion)
-Chemicals OP significantly below target due to sales below target mainly in melamine, TEPIC and environmental related products
-Performance Materials OP above target due to sales above target in Semis Materials, and fixed cost below expectations
-Agro OP above target due to fixed cost below target, while sales below target (Fluralaner sales above target, other agrochemical products sales below target overall)
-Pharma OP slightly below target

- Net Income above target $¥ 1.4$ billion (1H FY2020 Actual $¥ 13.9$ billion vs. 1H FY2020 Outlook $¥ 12.5$ billion)

Miyazaki: This is Miyazaki. Thank you in advance.

This is page two of the material explaining the highlights of the first half. First, as compared to the same period of the previous fiscal year, operating income remained unchanged from JPY18 billion for the same period of the previous fiscal year. Net income was JPY14.5 billion for the same period of the previous fiscal year, and JPY13.9 billion for the current fiscal year, a decrease of JPY600 million. Second, compared with the forecast, the forecast for operating income was JPY16.1 billion, so the result was JPY1.9 billion above the target. Net income exceeded the forecast by JPY1.4 billion because the forecast was JPY12.5 billion.

## 2H FY2020 Outlook Highlight

## 1. vs. 2H FY2019 Actual

> OP up $¥ 1.7$ billion (2H FY2020 Outlook $¥ 22.3$ billion vs. 2 H FY2019 Actual $¥ 20.6$ billion)
> -Chemicals OP up due to sales increase in high purity sulfuric acid, Nitric acid products, TEPIC for general applications and environmental related products -Performance Materials OP up due to substantial sales increase in Semis Materials -Agro OP up due to sales increase in ALTAIR, GRACIA and Fluralaner -Pharma OP up due to Custom Chemicals sales increase
> Net Income up $¥ 1.2$ billion (2H FY2020 Outlook $¥ 17.5$ billion vs. 2 H FY2019 Actual $¥ 16.3$ billion)
2. vs. 2H FY2020 Outlook as of May 2020
$\triangleleft$ OP below target $¥ 0.9$ billion (2H FY2020 Outlook as of Nov. $¥ 22.3$ billion vs. 2 H FY2020 Outlook as of May
$¥ 23.2$ billion)
-Chemicals OP below target due to sales below target mainly in melamine and Nitric acid products
-Performance Materials OP above target due to substantial sales increase in Semis Materials
-Agro OP below target due to sales below target mainly in GRACIA and Fluralaner
-Pharma OP above target due to LIVALO sales above target

- Net Income below target $¥ 0.8$ billion ( 2 H FY2020 Outlook as of Nov. $¥ 17.5$ billion vs. 2 H FY2020 Outlook as of May $¥ 18.3$ billion)

See page three. This is our forecast for the second half. First of all, as compared to the same period of the previous fiscal year, operating income is expected to increase by JPY1.7 billion to JPY22.3 billion from JPY20.6 billion of the same period of the previous fiscal year. Net income is expected to be JPY17.5 billion, an increase of JPY1.2 billion from JPY16.3 billion of the same period of the previous fiscal year. Compared to the previous forecast in May, operating income is expected to decrease by JPY900 million. Net income of the May forecast was JPY18.3 billion, and it is expected to be JPY17.5 billion, which is JPY800 million lower than the forecast.

## Full Year FY2020 Outlook Highlight

\author{

1. vs. Full Year FY2019 Actual
}
$\checkmark$ OP up $¥ 1.7$ billion (FY2020 Outlook as of Nov. $¥ 40.3$ billion vs. FY2019 Actual $¥ 38.6$ billion)
-Chemicals OP down due to sales decrease in melamine and TEPIC
-Performance Materials OP up due to sales increase in Display Materials and Semis Materials, and fixed cost down
-Agro OP down due to fixed cost up, while sales increase in ALTAIR and GRACIA
-Pharma OP down due to LIVALO sales decrease, while Custom Chemicals sales increase

- Net Income up $¥ 0.6$ billion (FY2020 Outlook as of Nov. $¥ 31.4$ billion vs. FY2019 Actual $¥ 30.8$ billion)

2. vs. Full Year FY2020 Outlook as of May 2020

- OP above target $¥ 1.0$ billion (FY2020 Outlook as of Nov. $¥ 40.3$ billion vs. FY2020 Outlook as of May $¥ 39.3$ billion)
-Chemicals OP below target due to sales below target mainly in melamine, Nitric acid products and TEPIC
-Performance Materials OP above target due to sales above target in Semis Materials, and fixed cost below expectations
-Agro OP above target due to fixed cost below target, while sales below target
-Pharma OP above target due to LIVALO sales above target
- Net Income above target $¥ 0.6$ billion (FY2020 Outlook as of Nov. $¥ 31.4$ billion vs. FY2020 Outlook as of May $¥ 30.8$ billion)

3. Shareholders Return

- Annual dividend up $¥ 8 /$ share
(FY2020 Outlook as of Nov. $¥ 98=1 \mathrm{H} 46+2 \mathrm{H} 52 \mathrm{vs}$. FY2019 Actual $¥ 90=1 \mathrm{H} 42+2 \mathrm{H} 48$ ), up $¥ 2 /$ share vs. FY2020 Outlook as of May $¥ 96=1 \mathrm{H} \mathbf{4 6}+2 \mathrm{H} 50$
-Dividend payout ratio 45.1\% vs. FY2019 Actual 42.8\%
-Completed a $¥ 7.0$ billion share repurchase program in July 2020
- Total payout ratio expected to be $67.2 \%$ taking into account of $¥ 98 /$ share dividend and $¥ 7.0$ billion share repurchase program (Mid-term Plan FY2020 target: 75\%)

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See page four. This is full year forecast, the sum of the first half and the second half. First, compared to the same period of the previous fiscal year, operating income for the current fiscal year is expected to increase by JPY1.7 billion to JPY40.3 billion from the previous fiscal year of JPY38.6 billion. Net income is expected to be JPY31.4 billion, an increase of JPY600 million from JPY30.8 billion in the same period of the previous fiscal year.

This is a comparison with the previous forecast of May. The revised operating income forecast is increased by JPY1 billion and the revised net income forecast by JPY600 million.

Third, about shareholders return. The annual dividend will be JPY98 with an interim dividend of JPY46 and a year-end dividend of JPY52, an increase of JPY8 from the previous year of JPY90. In addition, since the forecast of May was JPY96, this is increased by JPY2.

Based on this budget, dividend payout ratio is $45.1 \%$. We completed the JPY7 billion share repurchase program in July. The target for the total payout ratio is $75 \%$ as promised, but if we take into account only the JPY7 billion repurchase program, it will be 67.2\%.

## 1H FY2020 PL

(¥billion)

|  | $\begin{gathered} \text { 1H } \\ \text { FY2019 } \end{gathered}$ |  |  | $\begin{gathered} \text { 1H } \\ \text { FY } 2020 \end{gathered}$ |  |  | Change |  |  | Change <br> $(\%)$ <br> 1 H | 1H FY2020 Outlook as of May 2020 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1Q | 2Q | 1H | 1Q | 2Q | 1H | 1Q | 2Q | 1H |  | 1Q | 2Q | 1H |
| Sales | 48.7 | 47.8 | 96.5 | 49.3 | 45.2 | 94.5 | +0.6 | -2.6 | -2.0 | -2\% | 49.8 | 46.8 | 96.6 |
| Operating Profit | 9.3 | 8.7 | 18.0 | 9.8 | 8.2 | 18.0 | +0.5 | -0.5 | 0.0 | 0\% | 8.5 | 7.6 | 16.1 |
| Non-Operating Income/Expenses | 0.7 | -0.1 | 0.6 | 0.6 | -0.4 | 0.2 | -0.1 | -0.3 | -0.4 |  | 0.6 | 0.0 | 0.6 |
| Ordinary Income | 10.0 | 8.6 | 18.6 | 10.4 | 7.8 | 18.2 | +0.4 | -0.8 | -0.4 | -3\% | 9.1 | 7.6 | 16.7 |
| Extraordinary Income/Loss | 0.9 | 0.0 | 0.9 | 0.0 | 1.1 | 1.1 | -0.9 | +1.1 | +0.2 | - | 0.0 | 0.0 | 0.0 |
| Net Income (1) | 7.8 | 6.7 | 14.5 | 7.6 | 6.3 | 13.9 | -0.2 | -0.4 | -0.6 | -4\% | 6.8 | 5.7 | 12.5 |
| EBITDA (2) | 11.6 | 11.1 | 22.7 | 12.1 | 10.7 | 22.8 | +0.5 | -0.4 | +0.1 | 0\% |  | - | 20.5 |
| EPS ( $\# /$ share) | 53.13 | 45.62 | 98.75 | 52.38 | 43.58 | 95.96 | -0.75 | -2.04 | -2.79 | -3\% | - | - | 86.64 |
| Dividend ( $¥ /$ share) | - | - | 42 | - | - | 46 | - |  | +4 |  | - | - | 46 |
| Total amount of Dividend | - | - | 6.2 | - | - | 6.6 | - | - | +0.4 |  | - | - | 6.6 |
| OP Margin | 19.2\% | 18.2\% | 18.7\% | 19.9\% | 18.1\% | 19.0\% | +0.7\% | -0.1\% | +0.3\% |  | 17.1\% | 16.2\% | 16.7\% |
| ROE | - | - | - | - | - | - | - |  | - |  | - | - | - |
| FX Rate ( $\%$ /\$) | 110 | 107 | 109 | 108 | 106 | 107 |  |  |  |  | - | - | 108 |
| Crude Oil (JCC) (\$/bbl) (3) | 72 | 66 | 69 | 31 | 41 | 36 |  |  |  |  | 65 | 65 | 65 |

(1) Net income $=$ Profit Attributable to Owners of Parent
(2) EBITDA = Operating Profit + Depreciation
(3) Based on Trade Statistics of Japan Ministry of Finance

See page five. The table shows the results for the first half of the current fiscal year. In the first half of the current fiscal year, we recorded sales of JPY94.5 billion, operating income of JPY18 billion, and net income of JPY13.9 billion.

## 1H FY2020 Review

```
<vs.1H FY2019>
            (Sales) Down #2.0 billion (-2%) (+) Performance Materials, Trading
                                    (-) Chemicals, Agrochemicals, Pharmaceuticals
                                    (+) Performance Materials, Trading
                                    (-) Chemicals, Agrochemicals, Pharmaceuticals
                            (Ordinary Income) Down ¥ 0.4 billion (-3%)
(Extraordinary Income/Loss) Up #0.2 billion
                1H FY2020 Up }¥1.1\mathrm{ billion (Gain on sales of investment securities }¥1.1\mathrm{ billion,
                                    s ales am ount }¥1.6\mathrm{ billion, sold }11\mathrm{ listed com panies shares,
                                    sold 100% of our shareholdings of 7 listed companies)
                1H FY2019 Up }¥0.9\mathrm{ billion
            (Net Income) Down ¥ 0.6 billion (-4%)
            (EPS) Down #2.79 (-3%)
<Shareholders Return>
                    (Dividend) 1H #46/share (up #4 vs. 1H FY2019) (In line with FY2020 Outlook as of May 2020)
        (Share Repurchase) * #.0 billion, 1.33 million shares completed in July 2020
                            (Cancelled 1.0 million shares in August 2020)
<vs.1H FY2020 Outlook as of May 2020>
            (Sales) Down #2.1 billion (+) Performance Materials, Pharmaceuticals, Trading
                                    (-) Chemicals, Agrochemicals
                                    (+) Performance Materials, Agrochemicals, Trading
                                    (-) Chemicals, Pharmaceuticals
```



```
                                    Gain on sales of investment securities $1.1 billion,
                                    sales am ount }¥1.6\mathrm{ billion, sold }11\mathrm{ listed companies shares,
                                    sold 100% of our shareholdings of }7\mathrm{ listed companies)
(Net Income) Up # 1.4 billion
            (EPS) Up }\quad#9.3
```

Page six shows the status of each segment. In operating income, Performance Materials and Trading increased YoY, but Chemicals, Agrochemicals, and Pharmaceuticals decreased. Regarding extraordinary income and losses, there was a gain on sales of investment securities of JPY1.1 billion in the first half of the current fiscal year. We sold shares of 11 listed companies. We sold $100 \%$ of our shareholdings of seven listed companies out of these 11.

Concerning shareholders return listed below, the interim dividend was JPY46, an increase of JPY4 from the previous year.

Then, below, it is a comparison with the forecast of May. Concerning operating income by segment, Performance Materials, Agrochemicals, and Trading increased and Chemicals and Pharmaceuticals decreased.

## FY2020 Outlook (Including 3Q and 4Q Outlook)

|  | FY2019 Actual |  |  |  |  |  |  | FY2020 Outlook as of Nov. 2020 |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1Q | 2Q | 1H | 3Q | 4Q | 2 H | Total | $\begin{array}{\|c\|} \hline 1 \mathrm{Q} \\ \text { Actual } \end{array}$ | $\begin{gathered} 2 \mathrm{Q} \\ \text { Actual } \end{gathered}$ | 1 H Actual | 3Q | 4Q | 2H | To | tal |
| Sales | 48.7 | 47.8 | 96.5 | 41.5 | 68.8 | 110.3 | 206.8 | 49.3 | 45.2 | 94.5 | 44.7 | 70.3 | 115.0 | Record | 209.5 |
| Operating Profit | 9.3 | 8.7 | 18.0 | 3.4 | 17.2 | 20.6 | 38.6 | 9.8 | 8.2 | 18.0 | 4.2 | 18.1 | 22.3 | Record | 40.3 |
| Non-Operating Income/Expenses | 0.7 | -0.1 | 0.6 | 0.5 | 0.3 | 0.8 | 1.4 | 0.6 | -0.4 | 0.2 | 0.5 | 0.1 | 0.6 |  | 0.8 |
| Ordinary Income | 10.0 | 8.6 | 18.6 | 3.9 | 17.5 | 21.4 | 40.0 | 10.4 | 7.8 | 18.2 | 4.7 | 18.2 | 22.9 | Record | 41.1 |
| Extraordinary Income/Loss (1) | 0.9 | 0.0 | 0.9 | 0.0 | 0.1 | 0.1 | 1.0 | 0.0 | 1.1 | 1.1 | 0.0 | 0.5 | 0.5 |  | 1.6 |
| Net Income (2) | 7.8 | 6.7 | 14.5 | 3.0 | 13.3 | 16.3 | 30.8 | 7.6 | 6.3 | 13.9 | 3.7 | 13.8 | 17.5 | Record | 31.4 |
| EBITDA (3) | 11.6 | 11.1 | 22.7 | 6.3 | 20.2 | 26.5 | 49.2 | 12.1 | 10.7 | 22.8 | - |  | 27.9 |  | 50.7 |
| EPS (\#/share) | 53.13 | 45.62 | 98.75 | 20.76 | 90.58 | 111.34 | 210.09 | 52.38 | 43.58 | 95.96 | - |  | 121.60 |  | 217.56 |
| Dividend ( $7 /$ share) | - | - | 42 | - | - | 48 | 90 | - | - | 46 | - |  | 52 |  | 98 |
| Dividend payout ratio (\%) | - | - | - | - | - | - | 42.8 | - | - | - | - | - | - |  | 45.1 |
| Total amount of Dividend | - | - | 6.2 | - | - | 6.9 | 13.1 | - | - | 6.6 | - |  | 7.5 |  | 14.1 |
| OP Margin | 19.2\% | 18.2\% | 18.7\% | 8.2\% | 25.0\% | 18.7\% | 18.7\% | 19.9\% | 18.1\% | 19.0\% | 9.4\% | 25.7\% | 19.4\% |  | 19.2\% |
| ROE | - | - | - | - | - | - | 16.9\% | - | - | - | - | - | - |  | 16.6\% |
| FX Rate (*/\$) | 110 | 107 | 109 | 109 | 109 | 109 | 109 | 108 | 106 | 107 | 105 | 105 | 105 |  |  |
| Crude Oil (JCC) (\$/bbl) (4) | 72 | 66 | 69 | 66 | 68 | 67 | 68 | 31 | 41 | 36 | - | - | 44 |  |  |


| FY2020 Outlook as of May 2020 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| 1Q | 2Q | 1H | 2H | Total |
| 49.8 | 46.8 | 96.6 | 117.9 | 214.5 |
| 8.5 | 7.6 | 16.1 | 23.2 | 39.3 |
| 0.6 | 0.0 | 0.6 | 0.5 | 1.1 |
| 9.1 | 7.6 | 16.7 | 23.7 | 40.4 |
| 0.0 | 0.0 | 0.0 | 0.5 | 0.5 |
| 6.8 | 5.7 | 12.5 | 18.3 | 30.8 |
| - | - | 20.5 | 28.5 | 49.0 |
| - | - | 86.64 | 127.59 | 214.23 |
| - |  | 46 | 50 | 96 |
| - | - | - | - | 44.8 |
| - | - | 6.6 | 7.2 | 13.8 |
| 17.1\% | 16.2\% | 16.7\% | 19.7\% | 18.3\% |
| - | - | - | - | 16.4\% |
| - | - | 108 | 108 | 108 |
| 65 | 65 | 65 | 65 | 65 |

(1) FY2020 Outlook as of Nov. 2020: Gain on sales of investment securities Total $¥ 1.6$ billion
(2) Net income = Profit Attributable to Owners of Parent
(3) EBITDA = Operating Profit + Depreciation
(4) Based on Trade Statistics of Japan Ministry of Finance

See page seven for full year forecasts. As usual, forecasts for third quarter and fourth quarter are also disclosed in the second half. The exchange rate is assumed to be JPY105 in the second half as shown on the second last row. Regarding foreign exchange risk, in the second half of the year it will be around USD104 million, and this will be the amount by which exports exceed imports on a net basis.

## 2H FY2020 Outlook



Our forecast for the second half is on page eight. Operating income is expected to increase YoY, excluding trading.

Compared to the operating income forecast of May, Performance Materials and Pharmaceuticals are expected to increase, and Chemicals, Agrochemicals and Trading are to decrease.

## Full Year FY2020 Outlook



This is followed by full year forecasts on page nine. As highlighted in red, operating income and ordinary income is expected to reach record high for the seventh consecutive year. Net income is expected to hit a record high for the eighth consecutive year.

In terms of shareholders return, as I mentioned earlier, the annual dividend is JPY98. We completed the JPY7 billion share repurchase program and cancelled one million shares.

## 1H FY2020 Actual, FY2020 Outlook <br> Non-Operating Income/Expenses, Extraordinary Income/Loss

( $¥$ billion)

|  | FY2019 Actual |  |  | FY2020 Outlook as of Nov. 2020 |  |  | Change |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1H | 2H | Total | $\begin{array}{\|c} \hline 1 \mathrm{H} \\ \text { Actual } \end{array}$ | 2H | Total | $\begin{gathered} \text { 1H } \\ \text { Actual } \end{gathered}$ | 2H | Total |
| Non-Operating Income | 1.36 | 1.25 | 2.61 | 0.95 | 1.47 | 2.42 | -0.41 | +0.22 | -0.19 |
| Interest income, dividend income | 0.37 | 0.45 | 0.82 | 0.35 | 0.42 | 0.77 | -0.02 | -0.03 | -0.05 |
| Equity in earnings of affiliates | 0.40 | 0.55 | 0.95 | 0.26 | 0.80 | 1.06 | -0.14 | +0.25 | +0.11 |
| Foreign exchange gains | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Others | 0.59 | 0.25 | 0.84 | 0.34 | 0.25 | 0.59 | -0.25 | 0.00 | -0.25 |
| Non-Operating Expenses | 0.74 | 0.52 | 1.26 | 0.76 | 0.85 | 1.61 | +0.02 | +0.33 | +0.35 |
| Interest expense | 0.07 | 0.05 | 0.12 | 0.05 | 0.04 | 0.09 | -0.02 | -0.01 | -0.03 |
| Loss on disposal of non-current assets | 0.20 | 0.24 | 0.44 | 0.29 | 0.64 | 0.93 | +0.09 | +0.40 | +0.49 |
| Foreign exchange losses | 0.22 | 0.02 | 0.24 | 0.26 | 0.00 | 0.26 | +0.04 | -0.02 | +0.02 |
| Others | 0.25 | 0.21 | 0.46 | 0.16 | 0.17 | 0.33 | -0.09 | -0.04 | -0.13 |


| FY2020 Outlook <br> as of May 2020 |  |  |
| :---: | :---: | :---: |
| 1 H | 2 H | Total |
| 1.05 | 1.47 | 2.52 |
| 0.35 | 0.45 | 0.80 |
| 0.43 | 0.68 | 1.11 |
| 0.00 | 0.00 | 0.00 |
| 0.27 | 0.34 | 0.61 |
| 0.48 | 0.90 | 1.38 |
| 0.07 | 0.05 | 0.12 |
| 0.32 | 0.67 | 0.99 |
| 0.00 | 0.00 | 0.00 |
| 0.09 | 0.18 | 0.27 |


| Extraordinary Income (1) | 1.69 | 0.14 | 1.83 | 1.09 | 0.51 | 1.60 | -0.60 | +0.37 | -0.23 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Extraordinary Loss | 0.83 | 0.00 | 0.83 | 0.00 | 0.00 | 0.00 | -0.83 | 0.00 | -0.83 |


| 0.00 | 0.50 | 0.50 |
| :--- | :--- | :--- |
| 0.00 | 0.00 | 0.00 |

(1) Gain on sales of investment securities

Please refer to the table of non-operating income and expenses and extraordinary income and loss on page 10 later.

| Cash Flows | 1H FY2019 Actual | 1H FY2020 Actual | FY2019 Actual | FY2020 Outlook as of Nov. 2020 | FY2020 <br> Outiook <br> as of May <br> 2020 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| CF from operating activities | 31.9 | 33.6 | 35.5 | 35.0 | 39.1 |
| Income before income taxes \& non-controlling interests | 19.5 | 19.3 | 41.0 | 42.7 | 40.9 |
| Loss (gain) on sales of securities | -1.7 | -1.1 | -1.8 | -1.6 | -0.5 |
| Depreciation and amortization (1) | 4.7 | 4.8 | 10.5 | 10.4 | 10.9 |
| Income taxes paid | -4.3 | -6.6 | -8.4 | -11.4 | -11.2 |
| Working capital, others | 13.7 | 17.2 | -5.8 | -5.1 | -1.0 |
| CF from investing activities | -2.4 | -2.5 | -15.6 | -9.4 | -11.9 |
| Purchase of PPE | -4.2 | -4.0 | -8.9 | -9.9 | -11.1 |
| Purchase and sales of investment securities | 2.9 | 1.5 | 2.5 | 2.1 | 0.6 |
| Others (2) | -1.1 | 0.0 | -9.2 | -1.6 | -1.4 |
| CF from financing activities | -33.4 | -32.8 | -25.2 | -25.1 | -25.1 |
| Payout to shareholders (dividend) | -6.2 | -7.0 | -12.4 | -231 |  |
| Payout to shareholders (share repurchase) | -6.0 | -7.0 | -10.0 |  |  |
| Borrowings | -20.3 | -18.8 | -1.9 | -2.0 | -2.0 |
| Others (3) | -0.9 | 0.0 | -0.9 | 0.0 | 0.0 |
| Effect of exchange rate change on cash \& cash equivalents | -0.4 | 0.0 | -0.3 | 0.0 | 0.0 |
| Change in cash \& cash equivalents | -4.3 | -1.7 | -5.6 | 0.5 | 2.1 |
| Cash \& cash equivalents at the end of period | 31.9 | 28.9 | 30.6 | 31.1 | 32.7 |

(1) Including amortization of goodw ill
(2) FY2019 Actual: Payments for acquisition of QUINTEC -6.3, Others -2.9
(3) FY2019 Actual: Share repurchase related to Introduction
of a performance-linked stock compensation plan - 0.8 (in August 2019), Others -0.1
Then, page 11 is about cash flows. In the first half of FY2020, we had ample cash flows, the same as in the same period of the previous fiscal year. This year's full year forecast is on the second column from the right. Free cash flow is JPY25.6 billion, which was JPY19.9 billion last year, so we have more leeway in cash flows. The balance of cash and deposits at the end of period shown on the bottom is currently expected to be JPY31.1 billion.

## Balance Sheets

|  | 2019/9 | $2020 / 3$ <br> (A) | 2020/9 <br> (B) | Change $\text { (B) }-(A)$ |  | 2019/9 | $\begin{gathered} 2020 / 3 \\ \text { (A) } \end{gathered}$ | $2020 / 9$ <br> (B) | Change (B) - (A) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Current assets | 133.6 | 154.2 | 132.1 | -22.1 | Liabilities | 43.5 | 64.0 | 41.2 | -22.8 |
| Cash | 31.9 | 30.6 | 28.9 | -1.7 | Accounts payable | 15.8 | 16.9 | 14.0 | -2.9 |
| Accounts receivable | 51.8 | 72.5 | 49.1 | -23.4 | Borrowings | 6.2 | 24.6 | 5.8 | -18.8 |
| Inventories | 44.5 | 43.9 | 49.2 | +5.3 | Others | 21.5 | 22.5 | 21.4 | -1.1 |
| Others | 5.4 | 7.2 | 4.9 | -2.3 | Net assets | 180.0 | 185.5 | 188.0 | +2.5 |
| Fixed assets | 89.9 | 95.3 | 97.1 | +1.8 | Shareholders' equity | 171.0 | 177.1 | 177.0 | -0.1 |
| Total PPE | 52.2 | 51.6 | 51.2 | -0.4 | Valuation difference on av ailable-for-sale securities | 8.1 | 7.8 | 10.2 | +2.4 |
| Intangible assets | 1.4 | 7.4 | 7.2 | -0.2 | Foreign currency translation adjustment | -0.9 | -0.9 | -0.8 | +0.1 |
| Investment securities* | 30.4 | 30.9 | 33.9 | +3.0 | Non-controlling interests | 1.6 | 1.6 | 1.6 | 0.0 |
| Others | 5.9 | 5.4 | 4.8 | -0.6 | Remeasurements of defined benefit plans | 0.2 | -0.1 | 0.0 | +0.1 |
| Total assets | 223.5 | 249.5 | 229.2 | -20.3 | Total liabilities \& Net assets | 223.5 | 249.5 | 229.2 | -20.3 |
| *Investment securities |  |  |  |  | - Equity Ratio $79.8 \%$ $73.7 \%$ $81.3 \%$ <br> - D/E Ratio (1) $-15.0 \%$ $-3.4 \%$ $-13.1 \%$ |  |  |  |  |
| Listed shares | 20.8 | 20.7 | 23.7 | +3.0 |  |  |  |  |  |
| Unlisted shares | 2.4 | 2.6 | 2.6 | 0.0 | - Change in shareholders' equity $\mathbf{- 0 . 1}$ = Net Income 13.9 - Dividend and others 14.0 (1) $\mathrm{D} / \mathrm{E}$ Ratio $=($ Borrowings - Cash $) /$ Shareholders' equity |  |  |  |  |
| Subsidiaries/Associates shares | 7.2 | 7.6 | 7.6 | 0.0 |  |  |  |  |  |
| Total | 30.4 | 30.9 | 33.9 | +3.0 |  |  |  |  |  |

Please refer to the balance sheet on page 12. First of all, about listed shares as shown in the margin, it increased from JPY20.7 billion in March to JPY23.7 billion in September of 2020. As I mentioned earlier, we made efforts to reduce cross-shareholdings, but the evaluation difference increased due to the rise in the level of stock prices. As a result, here is an increase of JPY3 billion.

FY2020 Sales Outlook by Segment ${ }_{(1)(2)(3)}$
(¥billion)

|  | FY2019 Actual |  |  |  |  |  |  | FY2020 Outlook as of Nov. 2020 |  |  |  |  |  |  | Change |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1Q | 2Q | 1H | 3Q | 4Q | 2H | Total | 1Q <br> Actual | $\begin{gathered} \text { 2Q } \\ \text { Actual } \end{gathered}$ | $\begin{array}{\|c\|} \hline 1 \mathrm{H} \\ \text { Actual } \end{array}$ | 3Q | 4Q | 2H | Total | $1 \mathrm{H}$ Actual | 2H | Total |
| Chem | 8.4 | 8.4 | 16.8 | 8.7 | 8.8 | 17.5 | 34.3 | 7.4 | 7.3 | 14.7 | 8.1 | 8.9 | 17.0 | 31.7 | -2.1 | -0.5 | -2.6 |
| Fine | 2.6 | 2.6 | 5.2 | 2.6 | 2.7 | 5.3 | 10.5 | 2.7 | 2.7 | 5.4 | 2.9 | 3.5 | 6.4 | 11.8 | +0.2 | +1.1 | +1.3 |
| Basic | 5.8 | 5.8 | 11.6 | 6.1 | 6.1 | 12.2 | 23.8 | 4.7 | 4.6 | 9.3 | 5.2 | 5.4 | 10.6 | 19.9 | -2.3 | -1.6 | -3.9 |
| P.M | 15.1 | 16.3 | 31.4 | 17.0 | 17.1 | 34.1 | 65.5 | 17.1 | 17.5 | 34.6 | 17.5 | 17.7 | 35.2 | 69.8 | +3.2 | +1.1 | +4.3 |
| Agro | 14.7 | 13.2 | 27.9 | 5.5 | 30.6 | 36.1 | 64.0 | 14.6 | 11.1 | 25.7 | 8.2 | 30.7 | 38.9 | 64.6 | -2.2 | +2.8 | +0.6 |
| Pharma | 1.9 | 1.5 | 3.4 | 1.6 | 2.0 | 3.6 | 7.0 | 1.5 | 1.5 | 3.0 | 1.6 | 2.2 | 3.8 | 6.8 | -0.4 | +0.2 | -0.2 |
| D.D | 1.4 | 0.7 | 2.1 | 0.9 | 1.0 | 1.9 | 4.1 | 0.7 | 0.8 | 1.5 | 0.6 | 0.9 | 1.5 | 3.0 | -0.6 | -0.4 | -1.1 |
| C.C | 0.5 | 0.8 | 1.3 | 0.6 | 1.0 | 1.6 | 2.9 | 0.8 | 0.7 | 1.5 | 1.0 | 1.3 | 2.3 | 3.8 | +0.2 | +0.7 | +0.9 |
| Trading | 17.5 | 15.8 | 33.3 | 17.5 | 17.1 | 34.6 | 67.9 | 18.2 | 15.5 | 33.7 | 17.9 | 17.5 | 35.4 | 69.1 | +0.4 | +0.8 | +1.2 |
| Others | 4.9 | 4.9 | 9.8 | 5.1 | 7.5 | 12.6 | 22.4 | 4.8 | 4.6 | 9.4 | 6.4 | 7.6 | 14.0 | 23.4 | -0.4 | +1.4 | +1.0 |
| Adjust | -13.8 | -12.3 | -26.1 | -13.9 | -14.3 | -28.2 | -54.3 | -14.3 | -12.3 | -26.6 | -15.0 | -14.3 | -29.3 | -55.9 | -0.5 | -1.1 | -1.6 |
| Total | 48.7 | 47.8 | 96.5 | 41.5 | 68.8 | 110.3 | 206.8 | 49.3 | 45.2 | 94.5 | 44.7 | 70.3 | 115.0 | 209.5 | -2.0 | +4.7 | +2.7 |


| FY2020 Outlook as of May 2020 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| 1Q | 2Q | 1H | 2H | Total |
| 8.5 | 8.5 | 17.0 | 18.6 | 35.6 |
| 3.2 | 3.2 | 6.4 | 6.7 | 13.1 |
| 5.3 | 5.3 | 10.6 | 11.9 | 22.5 |
| 16.9 | 17.2 | 34.1 | 36.0 | 70.1 |
| 15.2 | 10.8 | 26.0 | 39.5 | 65.5 |
| 1.2 | 1.6 | 2.8 | 3.6 | 6.4 |
| 0.7 | 0.8 | 1.5 | 1.3 | 2.8 |
| 0.5 | 0.8 | 1.3 | 2.2 | 3.6 |
| 17.1 | 15.9 | 33.0 | 35.2 | 68.2 |
| 5.5 | 5.1 | 10.6 | 14.4 | 25.0 |
| -14.6 | -12.3 | -26.9 | -29.4 | -56.3 |
| 49.8 | 46.8 | 96.6 | 117.9 | 214.5 |

(1) Including inter-segment sales/transfers
(2) In the Pharmaceuticals segment, figures are rounded to the nearest 100 million yen. Accordingly, some discrepancies may occur among totals.
(3) In FY2020, FINEOXOCOL (FO, cosmetic raw materials) was transferred from Basic Chemicals to Fine Chemicals

## FY2020 OP Outlook by Segment (1)(2)

(¥billion)

|  | FY2019 Actual |  |  |  |  |  |  | FY2020 Outlook as of Nov. 2020 |  |  |  |  |  |  | Change |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1Q | 2Q | 1H | 3Q | 4Q | 2H | Total | $\begin{gathered} \text { 1Q } \\ \text { Actual } \end{gathered}$ | $\begin{gathered} \text { 2Q } \\ \text { Actual } \end{gathered}$ | $\begin{array}{\|c\|} \hline 1 \mathrm{H} \\ \text { Actual } \end{array}$ | 3Q | 4Q | 2H | Total | $\begin{array}{\|c\|} \hline \text { Actual } \\ \hline \end{array}$ | 2H | Total |
| Chem | 0.9 | -0.6 | 0.3 | 0.5 | 0.5 | 1.0 | 1.3 | 0.7 | -0.8 | -0.1 | 0.7 | 0.6 | 1.3 | 1.2 | -0.4 | +0.3 | -0.1 |
| $\begin{aligned} & \text { Performance } \\ & \text { Materials } \\ & \hline \end{aligned}$ | 4.0 | 4.4 | 8.4 | 4.7 | 3.9 | 8.6 | 17.0 | 5.3 | 5.4 | 10.7 | 4.9 | 5.0 | 9.9 | 20.6 | +2.3 | +1.3 | +3.6 |
| Agro | 4.5 | 4.9 | 9.4 | -1.8 | 11.7 | 9.9 | 19.3 | 4.0 | 3.8 | 7.8 | -0.7 | 11.6 | 10.9 | 18.7 | -1.6 | +1.0 | -0.6 |
| Pharma | 0.4 | 0.1 | 0.5 | 0.1 | 0.3 | 0.4 | 0.9 | -0.1 | 0.1 | 0.0 | 0.1 | 0.5 | 0.6 | 0.6 | -0.5 | +0.2 | -0.3 |
| D.D | 0.2 | -0.2 | 0.0 | -0.2 | 0.0 | -0.2 | -0.1 | -0.2 | -0.1 | -0.4 | -0.4 | -0.1 | -0.5 | -0.9 | -0.4 | -0.3 | -0.7 |
| C.C | 0.2 | 0.3 | 0.5 | 0.2 | 0.4 | 0.6 | 1.1 | 0.2 | 0.2 | 0.4 | 0.4 | 0.6 | 1.0 | 1.4 | -0.1 | $+0.5$ | +0.4 |
| Trading | 0.5 | 0.5 | 1.0 | 0.6 | 0.5 | 1.1 | 2.1 | 0.7 | 0.5 | 1.2 | 0.5 | 0.4 | 0.9 | 2.1 | +0.2 | -0.2 | 0.0 |
| Others | 0.1 | 0.0 | 0.1 | 0.1 | 0.5 | 0.6 | 0.7 | 0.0 | 0.0 | 0.0 | 0.1 | 0.5 | 0.6 | 0.6 | -0.1 | 0.0 | -0.1 |
| Adjustment | -1.1 | -0.6 | -1.7 | -0.8 | -0.2 | -1.0 | -2.7 | -0.8 | -0.8 | -1.6 | -1.4 | -0.5 | -1.9 | -3.5 | +0.1 | -0.9 | -0.8 |
| Total | 9.3 | 8.7 | 18.0 | 3.4 | 17.2 | 20.6 | 38.6 | 9.8 | 8.2 | 18.0 | 4.2 | 18.1 | 22.3 | 40.3 | 0.0 | +1.7 | +1.7 |


| FY2020 Outlook <br> as of May 2020 <br> 1 Q $\mathrm{raQ}_{2} 1 \mathrm{H}$ |  |  |  |  |
| ---: | ---: | ---: | ---: | ---: |
| 2 H | Total |  |  |  |
| 1.2 | 0.0 | 1.2 | 1.5 | 2.7 |
| 4.2 | 4.5 | 8.7 | 9.4 | 18.1 |
| 3.6 | 3.1 | 6.7 | 11.7 | 18.4 |
| -0.1 | 0.2 | 0.1 | 0.3 | 0.4 |
| -0.3 | -0.1 | -0.3 | -0.6 | -1.0 |
| 0.1 | 0.3 | 0.4 | 1.0 | 1.4 |
| 0.5 | 0.5 | 1.0 | 1.0 | 2.0 |
| 0.0 | 0.1 | 0.1 | 0.6 | 0.7 |
| -0.9 | -0.8 | -1.7 | -1.3 | -3.0 |
| 8.5 | 7.6 | 16.1 | 23.2 | 39.3 |

(1) $O P$ is calculated by new method

1. Applied from FY2020 (no change for sales segmentation)
2. FY2019 restated based on new methods
3. Consolidation items
(such as unrealized gain on inventories)

- (Old method)

Included in each segment

- (New method) Excluded from each segment and included in "Adjustment"
(2) In the Pharmaceuticals segment, figures are rounded to the nearest 100 million yen.

Accordingly, some discrepancies may occur among totals.

This is followed by sales and operating income by segment. Sales are listed on page 13, followed by operating income on page 14.

| FY2020 Sales Outlook of Future Growth Engines <br> (Announced in May 2020) <br> (1)Including R\&D costs deduction due to the sample shipments |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| FY2020 Sales Outlook Level (1) | Below $¥ 0.3$ billion |  | $¥ 0.3$ to $¥ 0.6$ billion | Above $¥ 0.6$ billion | Total |
| Chem | New TEPIC (Liquid type) (Fine Chemicals) |  |  |  | $¥ 0.0$ billion |
| Performance Materials | Flexible hard coating <br> materials (Display) | $\begin{aligned} & \text { Light control film } \\ & \text { materials (Display) } \end{aligned}$ | CMOS image sensor materials (Semis) | $\begin{aligned} & \text { EUV under layer } \\ & \text { (Semis) } \end{aligned}$ | $¥ 3.1$ billion |
|  | $\begin{array}{\|c} \begin{array}{c} \text { Hole injection layer } \\ \text { materials (Display) } \end{array} \\ \hline \end{array}$ | Repellant bank layer materials (Display) | Oilfield materials <br> (lnorganic) |  |  |
|  | Alignment materials for LC retarder (Display) | Alignment materials for TV (Display) |  |  |  |
|  | $\begin{aligned} & \begin{array}{l} \text { 30 packaging process } \\ \text { materials (Semis) } \end{array} \end{aligned}$ | Monomersol <br> (3D-printing) <br> (Inorganic) |  |  |  |
|  | $\begin{aligned} & \text { Organosool (Insulation CTE) } \\ & \text { (Inorganic) } \end{aligned}$ |  |  |  |  |
|  | New high refractive materials (IM layer film)(Inorganic) |  |  |  |  |
| Agro | $\left.\begin{array}{l}\text { NEXTER } \\ \text { (Licensed-in) }\end{array} \begin{array}{l}\text { CLARE } \\ \text { (ln-house) }\end{array} \begin{array}{l}\text { ALEILE } \\ \text { (ln-house) }\end{array}\right]$ |  |  |  | ¥9.1 billion |
|  |  |  |  | GRACIA <br> (ln-house) QUINTEC <br> (Acquisition) |  |
| Pharma, Others | New GE API product <br> (Custom Chemicals)New GE API product <br> (Custom Chemicals) |  |  | $\begin{aligned} & \text { Eldealacitol } \\ & \text { (Custom Chemicals) } \end{aligned}$ | ¥1.2 billion |
|  | Cell cuture medium |  |  |  |  |
|  | Total $¥ 13.4$ billion |  |  |  |  |

Then, page 15 and after, we provided the table of future growth engines which was presented in May for reference. Figures have not been changed from May. This continues from page 15 to page 21.

## Chemicals - (A) Recent Financial Performance

1. FY2019 Sales Distribution (¥billion)

2. FY2019 OP Distribution (New method ${ }^{*}$ ) ( $¥$ billion)
3. Recent Financial Performance (¥billion)


Then, we will report on the status of each segment. This is for Chemicals. On page 23, this is common to all segments, but on the first page, we have included FY2019 sales, operating income distribution, and recent financial performance.

## Chemicals - (B) Flow Chart of Selected Basic and Fine Chemicals Products

- Core products of Basic Chemicals : Ammonia related products and sulfuric acid related products
- FY2019 ammonia domestic production capacity share $11 \%$, high percentage of self-consumption of ammonia


Page 24 shows the flow of main products.

## Chemicals - (C) Sales YOY Change

| Main Products |  | Sales YOY Change(1) |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | FY2019 Actual |  |  | FY2020 Outlook as of May 2020 |  |  | FY2020 Outlook as of Nov. 2020 |  |  |
|  |  | 1H | 2H | Total | 1H | 2H | Total | 1H Actual | 2H | Total |
| TEPIC | - Epoxy compound for : <br> (A) electronic materials (solder resist, LED materials), <br> (B) general applications such as powder coating agent for paint <br> World largest producer | +5\% | +3\% | +4\% | +5\% | +7\% | +6\% | -10\% | +1\% | -4\% |
| Environmental related products | $\bullet$ HI-LITE : made from chlorinated isocyanuric acid, used for sterilizing, disinfectant for swimming pool as well as water purification tank | +2\% | -6\% | -2\% | +1\% | +20\% | +9\% | -9\% | +22\% | +4\% |
| Total Fine Chemicals <br> Two products account for $83 \%$ of total consolidated subsegment sales (FY2019) |  | +3\% | -1\% | +1\% | +20\% | +28\% | +24\% | +3\% | +21\% | +12\% |
| Melamine | - Mainly used as adhesive agent for particle board, medium density fiberboard, plywood | 0\% | -22\% | -12\% | -34\% | -26\% | -30\% | -55\% | -49\% | -52\% |
| Urea including AdBlue | - Urea: mainly used for urea formaldehyde resin, adhesive agent <br> - AdBlue: solution of urea in demineralised water for diesel trucks to reduce Nox | +7\% | +5\% | +6\% | +7\% | +6\% | +6\% | -5\% | -1\% | -3\% |
| High purity sulfuric acid | - Used to clean semiconductors <br> - Largest in domestic market | -2\% | +12\% | +5\% | +19\% | +15\% | +17\% | +14\% | +19\% | +17\% |
| Nitric acid products | - Nitric acid, nitrous acid and nitrate of soda: Metal dissolution, surface treatment, antifoam agent | -4\% | -10\% | -7\% | +14\% | +19\% | +17\% | -2\% | +7\% | +3\% |
| Total Basic ChemicalsFour products account for 53\% of total consolidated subsegment sales (FY2019) |  | -2\% | -8\% | -6\% | -8\% | -4\% | -6\% | -20\% | -13\% | -16\% |

(1) In FY2020, FINEOXOCOL (cosmetic raw materials, FY2019 sales about $¥ 1.5$ billion) was transferred from Basic Chemicals to Fine Chemicals

Page 25 shows the sales trends of the Chemicals Segment. As shown in the note in the margin, FINEOXOCOL, which sales are approximately JPY1.4 billion or JPY1.5 billion was in FY2020 transferred from Basic Chemicals to Fine Chemicals. This makes reading some figures of Basic and Fine Chemicals a little complicated.

Chemicals - (D-1) Profit Overview

|  | FY2019 Actual (A) |  |  |  |  |  |  | FY2020 Outlook as of May 2020 |  |  |  |  | $\begin{aligned} & \text { FY2020 Outlook (B) } \\ & \text { as of Nov. } 2020 \end{aligned}$ |  |  |  |  |  |  | Change$\text { (B) }-(\mathrm{A})$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1Q | 2Q | 1H | 3Q | 4Q | 2H | Total | 1Q | 2Q | 1H | 2 H | Total | $\begin{array}{\|c\|} \hline \text { 1Q } \\ \text { Actual } \\ \hline \end{array}$ | $\begin{array}{\|c\|} \hline \text { 2Q } \\ \text { Actual } \\ \hline \end{array}$ | $\begin{array}{\|c\|} \hline 1 \mathrm{H} \\ \text { Actual } \\ \hline \end{array}$ | 3Q | 4Q | 2H | Total | $\begin{array}{\|c\|} \hline 1 \mathrm{H} \\ \text { Actual } \\ \hline \end{array}$ | 2 H | Total |
| Sales | 8.4 | 8.4 | 16.8 | 8.7 | 8.8 | 17.5 | 34.3 | 8.5 | 8.5 | 17.0 | 18.6 | 35.6 | 7.4 | 7.3 | 14.7 | 8.1 | 8.9 | 17.0 | 31.7 | -2.1 | -0.5 | -2.6 |
| Fine | 2.6 | 2.6 | 5.2 | 2.6 | 2.7 | 5.3 | 10.5 | 3.2 | 3.2 | 6.4 | 6.7 | 13.1 | 2.7 | 2.7 | 5.4 | 2.9 | 3.5 | 6.4 | 11.8 | +0.2 | +1.1 | +1.3 |
| Basic | 5.8 | 5.8 | 11.6 | 6.1 | 6.1 | 12.2 | 23.8 | 5.3 | 5.3 | 10.6 | 11.9 | 22.5 | 4.7 | 4.6 | 9.3 | 5.2 | 5.4 | 10.6 | 19.9 | -2.3 | -1.6 | -3.9 |
| OP | 0.9 | -0.6 | 0.3 | 0.5 | 0.5 | 1.0 | 1.3 | 1.2 | 0.0 | 1.2 | 1.5 | 2.7 | 0.7 | -0.8 | -0.1 | 0.7 | 0.6 | 1.3 | 1.2 | -0.4 | +0.3 | -0.1 |

*In FY2020, FINEOXOCOL (FO, cosmetic raw materials) was transferred from Basic Chemicals to Fine Chemicals

1Q FY2020 Review
<vs. 1Q FY2019>
(Fine)
Sales down: TEPIC for general applications (export), TEPIC for electronic materials (sluggish demand for cars), environmental related products (sluggish demand for pools)

- Inventory adjustment cost down
- Sales up (including $¥ 0.3$ billion FO* $^{*}$ transferred from BC), OP up
(Basic)
- Sales up: high purity sulfuric acid (for semis)
- Sales down: domestic melamine (sluggish demand for housing) export melamine(due to reduction of low margin deals) urea including AdBlue, nitric acid products
- Sales down (including $¥ 0.3$ billion FO* transferred to FC), OP down (Total)
-Sales down $¥ 1.0$ billion, OP down $¥ 0.2$ billion
<vs. 1Q FY2020 Outlook as of May 2020>
(Fine)
- Sales below target: TEPIC for general applications, TEPIC for electronic materials, environmental related products
- Sales below target, OP below target
(Basic)
- Sales below target: melamine (both domestic and export), urea including AdBlue, high purity sulfuric acid, nitric acid products
- Sales below target, OP below target
(Total)
- Sales down $¥ 1.1$ billion, OP down $¥ 0.5$ billion


## 2Q FY2020 Review

## <vs. 2Q FY2019>

Sales down: TEPIC for general applications (export),
TEPIC for electronic materials (sluggish demand for cars), environmental related products (export up, sluggish demand for domestic pools)

- Inventory adjustment cost up
- Sales up (including $¥ 0.3$ billion FO* transferred from BC ), OP down $^{*}$
(Basic)
-Sales up: high purity sulfuric acid (for semis)
- Sales down: domestic melamine (sluggish demand for housing),
export melamine (due to reduction of low margin deals, sluggish demand)
nitric acid products (for capacitors), urea including AdBlue (sluggish demand for trucks)
- Inventory adjustment cost up
- Sales down (including $¥ 0.3$ billion FO* transferred to FC), OP down
(Total)
- Sales down $¥ 1.1$ billion, OP down $¥ 0.2$ billion
(Fine)


## <vs. 2Q FY2020 Outlook as of May 2020>

- Sales above target: TEPIC for general applications (export)
- Sales below target: TEPIC for electronic materials (sluggish demand for cars), environmental related products (export up, sluggish demand for domestic pools)
- Inventory adjustment cost above expectations
- Sales below target, OP below target
(Basic)
- Sales below target: urea including AdBlue (sluggish demand for trucks), melamine (sluggish demand for domestic, export in line with target), high purity sulfuric acid, nitric acid products (decline in demand)
- Inventory adjustment cost above expectations
- Sales below target, OP below target
(Total)
Sales down $¥ 1.2$ billion, OP down $¥ 0.8$ billion

Profit overview of Chemicals Segment comes next. There is a table on the top of page 27. We don't have much time, so for each segment, I will explain the results for the first half of FY2020 and the forecast for the second half of FY2020.

## Chemicals - (D-2) Profit Overview

```
                1H FY2020 Review
                <vs. 1H FY2019>
(Fine)
    Sales down: TEPIC for general applications (export),
        TEPIC for electronic materials (sluggish demand for cars),
        environmental related products (export up,
            sluggish demand for domestic pools)
    * Sales up (including ¥0.6 billion FO* transferred from BC), OP down
(Basic)
* Sales up: high purity sulfuric acid (for semis)
    -Sales down: domestic melamine (sluggish demand for housing),
        export melamine (due to reduction of low margin deals,
            sluggish demand)
        nitric acid products (for capacitors),
        urea including AdBlue (sluggish demand for trucks)
    Sales down (including ¥0.6 billion FO* transferred to FC), OP down
(Total)
    Sales down }\because2.1\mathrm{ billion, OP down }¥0.4\mathrm{ billion
                <vs. 1H FY2020 Outlook as of May 2020>
(Fine)
     Sales below target: TEPIC for general applications (export),
        TEPIC for electronic materials (sluggish demand for cars),
        environmental related products (export up,
            sluggish demand for domestic pools)
    * Sales below target, OP below target
(Basic)
    * Sales below target: urea including AdBlue,
        melamine (sluggish demand for domestic and export),
        high purity sulfuric acid,
        nitric acid products (decline in demand, failure to increase prices)
    - Inventory adjustment cost above expectations
    Sales below target, OP below target
(Total)
    \leqslantales down }¥2.3\mathrm{ billion, OP down }¥1.3\mathrm{ billion
```

1H FY2020 Review<br><vs. 1H FY2019>

## (Fine)

```
Sales down: TEPIC for general applications (export),
TEPIC for electronic materials (sluggish demand fo environmental related products (export up, sluggish demand for domestic pools) - Sales up (including \(¥ 0.6\) billion FO* transferred from BC), OP down (Basic)
- Sales down: domestic melamine (sluggish demand for housing), sluggish demand)
products (for capacitors), Sales down (including \(¥ 0.6\) billion FO* transferred to FC), OP down (Total)
- Sales down \(¥ 2.1\) billion, OP down \(¥ 0.4\) billion
```


## <vs. 1H FY2020 Outlook as of May 2020>

- Sales below target: TEPIC for general applications (export), TEPIC for electronic materials (sluggish demand for cars), vironmental related products (export up,
Sales below target, OP below target
(Basic)
- Sales below target: urea including AdBlue, high pune (sluggish demand for domestic and export), nitric acid products (decline in demand, failure to increase prices) Inventory adjustment cost above expectations
- Sales below target, OP below target
- Sales down $¥ 2.3$ billion, OP down $¥ 1.3$ billion

```

2H FY2020 Outlook <vs. 2H FY2019> (Fine)

Sales up: TEPIC for general applications (export), environmental related products (export up, isocyanuric acid capacity expansion completed)
- Sales flat: TEPIC for electronic materials (decline for automotive applications, increase for others),
- Fixed cost up, feedstock and raw materials cost down
- Sales up (including \(¥ 0.8\) billion \(\mathrm{FO}^{*}\) transferred from BC ), OP up
(Basic)
- Sales up: high purity sulfuric acid (for semis), nitric acid products (a competitor's withdrawal from the market)
- Sales down: domestic melamine (sluggish demand for housing), export melamine (due to reduction of low margin deals, sluggish demand) urea including AdBlue (urea sales weak despite AdBlue recovery)
- Inventory adjustment cost down, feedstock and raw materials cost down
\(\bullet\) Sales down (including \(¥ 0.8\) billion FO* transferred to FC), OP up (Total)
- Sales down \(¥ 0.5\) billion, OP up \(¥ 0.3\) billion
<vs. 2H FY2020 Outlook as of May 2020>
(Fine)
- Sales above target: TEPIC for general applications (export), environmental related products (export up, sluggish demand for domestic pools)
- Sales below target: TEPIC for electronic materials (sluggish demand for cars),
- Inventory adjustment cost above expectations, feedstock and raw materials cost below expectations
\(\rightarrow\) Sales below target, OP below target
(Basic)
- Sales above target: high purity sulfuric acid (for semis)
- Sales below target: melamine (sluggish demand for domestic and export), urea including AdBlue (sluggish recovery), nitric acid products (decline in demand, failure to increase prices)
- Inventory adjustment cost below expectations, feedstock and raw materials cost below expectations
Sales below target, OP above target
(Total)
-Sales down \(¥ 1.6\) billion, OP down \(¥ 0.2\) billion

Please refer to page 28 for the first half of Chemicals. About Fine Chemicals, compared with the first half of FY2019, sales of TEPIC for general applications declined due to the impact of COVID-19, and sales of TEPIC for electronic materials for automotive applications were also sluggish due to the slump in the automobile industry.

Concerning the environmental related products, although exports increased, domestic sales declined in pools and spas, resulting in a decrease on a net basis. However, for the impact of the transfer of FINEOXOCOL as mentioned earlier, sales increased, and operating income decreased.

Next, Basic Chemicals. Only sales of high purity sulfuric acid increased, and sales of other major products declined. In particular, domestic sales of melamine declined due to a decrease in the number of domestic housing construction. Originally, our policy for export melamine was to reduce volume with an emphasis on spreads. As for nitric acid products, sales of capacitors and other products are sluggish. In addition, sales of AdBlue for trucks have been sluggish, resulting in a substantial decline in sales here and a decline in operating income.

Overall, segment sales were down JPY2.1 billion and operating income was down JPY400 million.
Compared to the forecast of May, as I just mentioned, sales of Fine Chemicals were down, and as a result, profits were also down. Basic Chemicals had the same negative factors as YOY and additional negative factors for inventory fluctuations, resulting in sales and profits below the forecast. As a result, sales were down JPY2.3 billion and operating income was down JPY1.3 billion, a significant underachievement.

Next is the forecast for the second half on the right. Compared to 2H FY2019, as for Fine Chemicals, sales of TEPIC for general applications are expected to increase in anticipation of a recovery from the impact of COVID19. We expect a sales of environmental related products increase because export increases and domestic
increases with capacity expansion for isocyanuric acid. TEPIC for electrical materials are on a flat trend. On the other hand, there are negative and positive factors, such as an increase in fixed costs and a decrease in raw material and fuel costs. Accordingly, we expect sales and operating income increases.

Concerning Basic Chemicals, we are seeing an increase in sales of high-purity sulfuric acid and also nitric acid products, partly due to the withdrawal of competing manufacturers. On the other hand, about sales decrease, the situation is expected to remain very unchanged from the first half of FY2020. Decrease in sales of melamine, AdBlue, et cetera. This will result in sales decrease and operating income increase, which was partly attributable to lower raw material and fuel prices, as well as positive inventory fluctuations.

As the segment, total sales are expected to be down JPY500 million and operating income to be up JPY300 million.

Compared with the forecasts of May for the second half, in Fine Chemicals, sales are expected to rise in TEPIC for general applications and environmental related products. Sales of TEPIC for electronic materials are expected to be below the target. In addition, there are negative factors for inventory fluctuations, but there are also positive factors for raw materials and fuels. Sales are expected to be below target and profits are also expected to be below target.

In Basic Chemicals, only high-purity sulfuric acid sales are expected to increase, while sales of other products are expected to be below target. However, despite lower sales thanks to positive factors in inventory fluctuations and cheaper raw materials and fuels, we forecast higher profits.

In total, sales are expected to be down JPY1.6 billion and operating income is expected to be down JPY200 million.

\section*{Performance Materials - (A) Recent Financial Performance}


\section*{Performance Materials - (B) FY2017-2020E Sales Distribution}


Next is Performance Materials. Its performance trends are shown on page 29 and changes in sales distribution of Display Materials, Semis Materials, and Inorganic are shown on page 30.

Performance Materials - (C) Sales YOY Change
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow{3}{*}{Main Products} & \multicolumn{9}{|c|}{Sales YOY Change} \\
\hline & \multicolumn{3}{|l|}{FY2019 Actual} & \multicolumn{3}{|l|}{FY2020 Outlook as of May 2020} & \multicolumn{3}{|l|}{FY2020 Outlook as of Nov. 2020} \\
\hline & 1H & 2 H & Total & 1H & 2 H & Total & 1H Actual & 2 H & Total \\
\hline SUNEVER & +3\% & +14\% & +9\% & +7\% & +1\% & +4\% & +7\% & 0\% & +3\% \\
\hline Total Display Materials & +3\% & +14\% & +8\% & +7\% & +3\% & +5\% & +7\% & +1\% & +4\% \\
\hline KrF (ARC®) & -5\% & +12\% & +3\% & +1\% & -4\% & -2\% & +14\% & -3\% & +5\% \\
\hline ArF (ARC®) & -3\% & +5\% & +1\% & +6\% & +5\% & +6\% & +16\% & +10\% & +13\% \\
\hline Total ARC \({ }^{\text {R }}\) ) & -3\% & +9\% & +3\% & +5\% & +2\% & +3\% & +16\% & +6\% & +11\% \\
\hline Other Semis Materials (1) & -8\% & +25\% & +8\% & +45\% & +28\% & +35\% & +51\% & +17\% & +31\% \\
\hline Total Semis Materials & -4\% & +13\% & +4\% & +15\% & +9\% & +12\% & +25\% & +9\% & +16\% \\
\hline SNOWTEX & -2\% & -2\% & -2\% & +6\% & +7\% & +7\% & +2\% & 0\% & +1\% \\
\hline Organo/Monomer Sol & -11\% & -14\% & -13\% & -5\% & +2\% & -1\% & -15\% & -3\% & -9\% \\
\hline Oilfield Materials & -64\% & -29\% & -52\% & +29\% & +70\% & +50\% & -91\% & -15\% & -52\% \\
\hline \begin{tabular}{l}
Total Inorganic Materials \\
Three products account for \(82 \%\) of total consolidated subsegment sales (FY2019)
\end{tabular} & -11\% & -8\% & -9\% & +1\% & +7\% & +4\% & -8\% & -2\% & -5\% \\
\hline
\end{tabular}
(1) Multi layer process materials (OptiStack(8), EUV materials, CMOS image sensor materials, 3D packaging process materials etc.
- Semiconductor capex plan to capture long-term future business:

Main capex :

\section*{FY2014}

FY2015
FY2016
Analyzing and evaluation ReD equip bilit ( A1.1 bilion)
(approval basis)
( development facies( 2.8 bill), Analyzing and evaluation R\&D equipment ( \(¥ 0.8\) billion),
Production capacity expansion ( \(¥ 0.8\) billion), NCK* ( \(¥ 0.7\) billion), Material Research Lab. ( \(¥ 0.5\) billion) \(\mathrm{NCK}^{*}\) production capacity expansion ( \(¥ 2.6\) billion),

FY2017 \(\quad\) Material Research Lab. ( \(¥ 0.4\) billion)
FY2018 Production capacity expansion ( \(¥ 0.2\) billion), Production test facilities ( \(¥ 0.2\) billion)
FY2019 Production test facilities ( \(¥ 0.1\) billion)
FY2020 Material Research Lab. new annex ( \(¥ 2.0\) billion), Analyzing and evaluation R\&D equipment ( \(¥ 0.4\) billion),
Production test facilities ( \(¥ 0.2\) billion)
*NCK: Consolidated subsidiary in South Korea. R\&D, production and sales of display and semis materials. 31

Please see page 31. This shows sales growth rate of major products. First of all, about SUNEVER, the results for the first half are \(7 \%\) up, which is exactly the same as the initial forecast for FY2020. Looking at a slight slowdown in the second half of FY2020, we see 3\% up for full year, slightly below the target of 4\% forecasted in May.

For Semis Materials in the middle, the initial forecast for the first half of FY2020 was up \(15 \%\), but the result of the first half was \(25 \%\), which was well above the forecast. We expected to be \(16 \%\) up for full year.

On the other hand, for Inorganic Materials at the bottom, at the beginning of FY2020, we had projected a 1\% up in the first half, but this was down \(8 \%\) due to a general downturn.

\section*{Performance Materials－（D）SUNEVER}

\section*{＜SUNEVER Sales Distribution by Mode＞}

＜SUNEVER Sales YOY Change by Mode＞
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline & \multicolumn{3}{|c|}{FY2019 Actual} & \multicolumn{3}{|c|}{FY2020 Outlook as of May 2020} & \multicolumn{3}{|c|}{FY2020 Outlook as of Nov． 2020} & \multicolumn{2}{|l|}{YOY Change} \\
\hline & 1 H & \({ }^{2 H}\) & Total & 1 H & \({ }^{2 H}\) & Total & \[
\underset{\text { Actual }}{\text { AH }}
\] & 2 H & Total & ＋20～＋29\％ & \(\frac{17}{17}\) \\
\hline TN & \\ \＞ & \1 & \(4 \geq 14\) & 1 4 & 41 & 1 4 & \(4 \geq 1\) & \ \gg & \(4 \backslash 1\) & ＋0～＋9\％ & 7 \\
\hline VA & 入入入 & 入入 & 入入 & \(\lambda\) & \(\pi\) & \(\pi\) & 4 & 4 1 & 4 & －0～－9\％
\(-10 \sim-19 \%\) & \(\frac{1}{4}\) \\
\hline IPS & \(\lambda\) & 入入 & \(\lambda\) & \(\lambda\) & \(\lambda\) & \(\nearrow\) & 入入 & 入 & 入 & －20～－29\％ & 3it \\
\hline Total & ＋3\％ & ＋14\％ & ＋9\％ & ＋7\％ & ＋1\％ & ＋4\％ & ＋7\％ & 0\％ & ＋3\％ & －30\％～－39\％ & atht \\
\hline
\end{tabular}
＊TN ：Twisted Nematic，VA ：Vertical Alignment，IPS ：In－Plane Switching

Page 32 shows SUNEVER sales distribution by mode．IPS mode including rubbing and photo are still driving forces．

\section*{Performance Materials - (E-1) Profit Overview}
(¥billion)
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline & \multicolumn{7}{|c|}{FY2019 Actual (A)} & \multicolumn{5}{|c|}{FY2020 Outlook as of May 2020} & \multicolumn{7}{|c|}{FY2020 Outlook (B) as of Nov. 2020} & \multicolumn{3}{|c|}{Change
\[
(\mathrm{B})-(\mathrm{A})
\]} \\
\hline & 1Q & 2Q & 1H & 3Q & 4Q & 2H & Total & 1Q & 2Q & 1H & 2H & Total & \[
\begin{gathered}
\text { 1Q } \\
\text { Actual }
\end{gathered}
\] & \[
\begin{array}{|c|}
\hline 2 \mathrm{Q} \\
\text { Actual }
\end{array}
\] & \[
\begin{array}{|c|}
\hline 1 \mathrm{H} \\
\text { Actual }
\end{array}
\] & 3Q & 4Q & 2H & Total & \[
\begin{array}{|c|}
\hline 1 \mathrm{H} \\
\text { Actual }
\end{array}
\] & 2H & Total \\
\hline Sales & 15.1 & 16.3 & 31.4 & 17.0 & 17.1 & 34.1 & 65.5 & 16.9 & 17.2 & 34.1 & 36.0 & 70.1 & 17.1 & 17.5 & 34.6 & 17.5 & 17.7 & 35.2 & 69.8 & +3.2 & +1.1 & +4.3 \\
\hline OP & 4.0 & 4.4 & 8.4 & 4.7 & 3.9 & 8.6 & 17.0 & 4.2 & 4.5 & 8.7 & 9.4 & 18.1 & 5.3 & 5.4 & 10.7 & 4.9 & 5.0 & 9.9 & 20.6 & +2.3 & +1.3 & +3.6 \\
\hline
\end{tabular}

\section*{1Q FY2020 Review}
- DP sales up, OP up <VS. 1Q FY2019>

Photo IPS up (smartphone and non-smartphone up),
rubbing IPS up (non-smartphone up), VA up, TN down
- Semis Materials sales up, OP up

ARC® up, other semis materials up (multi layer materials up, other new materials up)
Steadily growing logic market, recovery of memory marke Fixed cost down \(¥ 0.4\) billion
- Inorganic Materials sales down, OP down

SNOWTEX up (non-polishing flat, polishing up),
Organo/Monomer Sol down, Oilfield materials down (sluggish shale oil market)
- Fixed cost down \(¥ 0.4\) billion in total
- Sales up \(¥ 2.0\) billion, OP up \(¥ 1.3\) billion
<vs. 1Q FY2020 Outlook as of May 2020>
- DP sales above target, OP above target

Photo IPS below target (smartphone below target),
rubbing IPS above target (non-smartphone above target),
VA below target, TN below target,
Fixed cost below expectations ( \(¥ 0.3\) billion)
- Semis Materials sales above target, OP above target

ARC(8) above target, other semis materials below target
(multi layer materials and other new materials below target)
Steadily growing logic semis market overall
Fixed cost below expectations ( \(¥ 0.5\) billion)
- Inorganic Materials sales below target, OP above target

SNOWTEX above target (non-polishing for cars below target, polishing above target) Organo/Monomer Sol below target,
Oilfield materials below target (sluggish shale oil market)
Fixed cost below expectations ( \(¥ 0.2\) billion)
- Fixed cost below expectations ( \(¥ 1.0\) billion) in total
- Sales up \(¥ 0.2\) billion, OP up \(¥ 1.1\) billion

\section*{2Q FY2020 Review}
<vs. 2Q FY2019>
- DP sales up, OP up

Photo IPS up (non-smartphone up), rubbing IPS down (shifted to photo IPS), VA down, TN down, Fixed cost up \(¥ 0.1\) billion
- Semis Materials sales up, OP up

ARC \({ }^{\circledR}\) up, other semis materials up (multi layer materials and other new materials up) Steadily growing semis market overall
Fixed cost down \(¥ 0.2\) billion
- Inorganic Materials sales down, OP up

SNOWTEX down (non-polishing down, polishing up),
Organo/Monomer Sol down, Oilfield materials down (sluggish shale oil market)
Fixed cost down \(¥ 0.2\) billion
- Fixed cost down \(¥ 0.3\) billion in total
- Sales up \(¥ 1.2\) billion, OP up \(¥ 1.0\) billion
<vs. 2Q FY2020 Outlook as of May 2020>
- DP sales below target, OP above target

Photo IPS above target (non-smartphone above target),
rubbing IPS above target (smartphone above target),
VA below target, TN below target, Fixed cost below expectations ( \(¥ 0.2\) billion)
- Semis Materials sales above target, OP above target

ARC® above target, other semis materials above target
(multi layer materials and other new materials above target)
Steadily growing semis market overall, Fixed cost below expectations ( \(¥ 0.2\) billion)
- Inorganic Materials sales below target, OP below target

SNOWTEX below target (non-polishing for cars below target,
polishing in line with target), Organo/Mor cars below target,
Oilfield materials below targ), (sluggish shale soll market)
Fixed cost below expectations ( \(¥ 0.2\) billion)
Fixed cost below expectations ( \(¥ 0.6\) billion) in total
Sales up \(¥ 0.3\) billion, OP up \(¥ 0.9\) billion

Next, page 33 shows the profit overview of Performance Materials Segment.

\section*{Performance Materials - (E-2) Profit Overview}
other new materials: EUV materials, CMOS image sensor materials, 3D packaging process materials total

\author{
1H FY2020 Review <vs. 1H FY2019> \\ - DP sales up, OP up \\ Photo IPS up (non-smartphone up), \\ rubbing IPS down (shifted to photo IPS, non-smartphone up), \\ VA down (customer production decrease), TN down, Fixed cost up \(¥ 0.2\) billion \\ Semis Materials sales up, OP up \\ ARC® up, other semis materials up (multi layer materials and other new materials up) Steadily growing semis market overall Fixed cost down \(¥ 0.6\) billion \\ - Inorganic Materials sales down, OP up \\ SNOWTEX up (non-polishing down, polishing up), \\ Organo/Monomer Sol down, Oilfield materials down (sluggish shale oil market) Fixed cost down \(¥ 0.3\) billion \\ - Fixed cost down \(¥ 0.7\) billion in total \\ - Sales up \(¥ 3.2\) billion, OP up \(¥ 2.3\) billion \\ <vs. 1H FY2020 Outlook as of May 2020>
}

DP sales in line with target, OP above target
Photo IPS below target (smartphone below target, non-smartphone above target), rubbing IPS above target (smartphone and non-smartphone above target), VA below target, TN below target,
Fixed cost below expectations ( \(¥ 0.5\) billion)
- Semis Materials sales above target, OP above targe

ARC® above target, other semis materials above target
(multi layer materials above target, other new materials below target)
Steadily growing semis market overall
Fixed cost below expectations ( \(¥ 0.7\) billion)
- Inorganic Materials sales below target, OP above target

SNOWTEX below target (non-polishing for cars below target, polishing above target),
Organo/Monomer Sol below target,
Oilfield materials below target (sluggish shale oil market)
Fixed cost below expectations ( \(¥ 0.3\) billion)
Fixed cost below expectations ( \(¥ 1.6\) billion) in total
Sales up \(¥ 0.5\) billion, OP up \(¥ 2.0\) billion

\section*{2H FY2020 Outiook \\ <vs. 2H FY2019>}
- DP sales up, OP down

Photo IPS up (non-smartphone up),
rubbing IPS down (shift to photo IPS), VA down (customer production decrease), TN down, Fixed cost up \(¥ 0.1\) billion
- Semis Materials sales up, OP up

ARC® up, other semis materials up (multi layer materials up, other new materials down)
Steadily growing semis market overal
Fixed cost down \(¥ 0.3\) billion
- Inorganic Materials sales down, OP up

SNOWTEX flat (non-polishing down, polishing up),
Organo/Monomer Sol down, Oilfield materials down (sluggish shale oil market)
- Fixed cost down \(¥ 0.2\) billion in total
- Sales up \(¥ 1.1\) billion, OP up \(¥ 1.3\) billion
<vs. 2H FY2020 Outlook as of May 2020>
- DP sales below target, OP above target

Photo IPS above target (non-smartphone above target),
rubbing IPS below target (customer production decrease),
VA below target (customer production decrease), TN below target,
Fixed cost below expectations ( \(¥ 0.2\) billion)
- Semis Materials sales in line with target, OP above target

ARC® above target, other semis materials below target (multi layer materials and other new materials below target) inventory adjustment cost below expectations ( \(¥ 0.2\) billion)
- Inorganic Materials sales below target, OP below target SNOWTEX below target (non-polishing for cars below target, polishing below target),
Organo/Monomer Sol below target,
Oilfield materials below target (sluggish shale oil market)
- Fixed cost below expectations ( \(¥ 0.2\) billion) in total
- Sales down \(¥ 0.8\) billion, OP up \(¥ 0.5\) billion

Move on to page 34. I will explain YoY comparison for the first half.

First of all, Display Materials sales and profits increased. Photo IPS sales were extremely strong and grew significantly for non-smartphones. For rubbing IPS, sales for non-smartphones, tablets, et cetera, were favorable, but net sales declined due to a large shift to Photo. Although we have succeeded in expanding sales of VA, sales have declined due to a significant decrease in production by a customer. Like in the past, TN was down due to switching to other modes. Fixed costs for Display Materials increased by JPY200 million.

Next, Semis Materials increased in sales and profits. Sales of ARC, other multi-layer materials and new materials increased, reflecting the strong performance of the overall market. In addition, its fixed costs decreased by JPY600 million.

Inorganic Materials sales decreased but profits increased. Although sales of SNOWTEX for general applications declined due to the impact of COVID-19, sales of semiconductor-related polishing materials increased. Organo/Monomer Sol sales were down. Oilfield materials sales were down due to the sluggish shale-oil market. On the other hand, the decrease in fixed costs was also large, at JPY300 million, and as I mentioned earlier, sales decreased but profits increased.

Overall segment, with a decrease in fixed costs of JPY700 million, the sales increased by JPY3.2 billion and the operating income increased by JPY2.3 billion.

Compared to the forecast of May, firstly concerning Display Materials, sales were in line with the forecast, but operating income was above forecast. The major factor behind this is the reduced fixed costs of JPY500 million.

About Semis Materials, both sales and profits were well above target. In addition to strong sales, fixed costs fell below the target by JPY700 million.

Sales of Inorganic Materials was below target, but operating income increased thanks to a JPY300 million lower fixed costs.

As a result, compared to the May forecast, sales were up JPY500 million and operating income was up JPY2 billion.

Next is the outlook for the second half on the right.

For Display Materials, we expect YoY sales increase and profit decrease. Photo IPS continues to perform well, mainly for non-smartphones. On the other hand, the shift from rubbing IPS to Photo IPS continues. As I mentioned earlier, VA sales decrease because of the production suspension and decrease in our customer which are occurring ahead of schedule. Fixed costs are also JPY100 million plus due to the completion of the new facility.

Semis Materials will remain unchanged from the first half, and a further decrease in fixed costs of JPY300 million will be added. Therefore, both sales and profits are expected to increase.

We expect Inorganic Materials sales decrease but profits increase. SNOWTEX sales remain flat, sales of Organo/Monomer Sol sales may decrease, and Oilfield materials sales also may decrease. Looking at the details, we expect profits to increase as a result of lower sales of low-profit products in general and an increase sales highly profitable products.

For the segment as a whole, sales will increase by JPY1.1 billion and operating income by JPY1.3 billion.

Compared to the forecast of May as shown on the bottom of page 34, Display Materials and Semis Materials are expected to generate higher profits and Inorganic Materials are expected to be below target. Compared to the first half of FY2020, the gap in fixed costs becomes smaller with JPY200 million, but sales are down JPY800 million, and profit is up JPY500 million.

\section*{Agrochemicals - (A) Recent Financial Performance}


\section*{Agrochemicals - (B) Sales YOY Change (Before Discount)}
- No. 1 in the domestic agrochemicals sales ranking (Oct.2017-Sep.2018)
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{3}{*}{\begin{tabular}{l}
Main Products \\
(in order of FY2019 sales amount)
\end{tabular}} & & \multicolumn{8}{|c|}{Consolidated Sales YOY Change} \\
\hline & & \multicolumn{3}{|c|}{FY2019 Actual} & \multirow[t]{2}{*}{\begin{tabular}{c} 
FY2020 Outlook \\
(as of May 2020)
\end{tabular}
Total} & \multicolumn{4}{|c|}{FY2020 Outlook(as of Nov. 2020)} \\
\hline & & 1H & 2H & Total & & \begin{tabular}{l}
1H \\
Actual
\end{tabular} & vs. Plan as of May 2020(undisclosed) & 2H & Total \\
\hline Fluralaner & Animal health products & -10\% & -8\% & -9\% & -9\% & -20\% & above & +3\% & -11\% \\
\hline ROUNDUP (1) & Herbicide & +7\% & +5\% & +6\% & 0\% & -1\% & below & +1\% & 0\% \\
\hline ALTAIR & Herbicide & +7\% & +3\% & +4\% & +13\% & +21\% & below & +15\% & +16\% \\
\hline TARGA & Herbicide & -21\% & -16\% & -19\% & -4\% & -11\% & above & +23\% & +4\% \\
\hline GRACIA & Insecticide & over \(+2900 \%\) & over \(+450 \%\) & over+700\% & +33\% & -6\% & below & +21\% & +10\% \\
\hline PERMIT & Herbicide & -30\% & +28\% & +8\% & -5\% & -26\% & below & +1\% & -5\% \\
\hline LEMAY & Fungicide & -37\% & -4\% & -16\% & +8\% & +26\% & above & +5\% & +11\% \\
\hline QUINTEC & Fungicide & - & - & - & +36\% & - & above & +4\% & +25\% \\
\hline Total segment & - & -1\% & +6\% & +3\% & +2\% & -7\% & below & +7\% & +1\% \\
\hline
\end{tabular}
-GRACIA Sales Growth forecast


Next is Agrochemicals. Page 35 shows the recent financial performance, followed by page 36 for sales YoY changes in major products.

The results of the first half are shown by product with "above" or "below" remark, and the revised YoY full year outlook is listed on the right-hand side.

Fluralaner was expected to be down \(9 \%\) at the beginning of the year, but now down \(11 \%\). ROUNDUP remains unchanged from the initial forecast. ALTAIR initially was expected up \(13 \%\) at the beginning of the year, but now up \(16 \%\). We expected GRACIA to be up \(33 \%\) at the beginning of the year. However, since April, there has been an extremely low number of pests observed, and flowers are not sold well due to the impact of COVID19. As a result, the growth ratio here was modified to up \(10 \%\). QUINTEC shown in the last, we expected up \(36 \%\), but modified today up \(25 \%\).

The situation of GRACIA is shown on the bottom left. As you can see, the revised figures in November is slightly lower than the announced forecasted figures in May.

\section*{Agrochemicals - (C) Main Products}
\begin{tabular}{|c|c|c|c|c|}
\hline Launch & Products & Application & Product development type & Notes \\
\hline 2002 & ROUNDUP & Herblclde & Acquired & Acquired domestic business from Monsanto, continuing to grow \\
\hline 2008 & LEIMAY & Funglclde & In-house & \\
\hline 2008 & STARMITE & Insecticlde & In-house & \\
\hline 2009 & PULSOR (THIFLUZAMIDE) & Funglclde & Acquired & Acquired world business from Dow \\
\hline 2009 & PREVATHON & Insecticlde & LIcensed-In & Licensed from DuPont \\
\hline 2010 & ROUNDUP AL & Herblclde & In-house & For general household shower-type herbicide market, launched ROUNDUP ALII in FY2016 and ALIII in FY2017, growing sharply \\
\hline 2011 & ALTAIR & Herblclde & In-house & Launched in Korea in FY2011 and in Japan in FY2012 \\
\hline 2013 & Fluralaner & Animal health products & In-house & Started to be supplied to MSD* \({ }^{*}\) in July as scheduled \\
\hline 2014 & BRAVECTO** & Veterinary medical product for companion animals & - & Launched in several countries in EU in April 2014, in the USA in June 2014 and in Japan in July 2015 \\
\hline 2015 & TREFANOCIDE & Herblclde & LIcensed-In & Acquired by Gowan from Dow, exclusive sales right in Japan transferred to NCC \\
\hline 2017 & NEXTER & Funglcide & LIcensed-In & Licensed from Syngenta \\
\hline 2017 & TRANSFORM \({ }^{\text {TM }} /\) EXCEED \(^{\text {mu }}\) & Insecticlde & LIcensed-In & Licensed from Dow \\
\hline 2017 & EXZOLT** & Veterinary medical product for poultry & - & Launched in EU in September for poultry red mites by MSD \\
\hline 2018 & GRACIA & Insecticlde & In-house & Effective against a wide range of serious pests, having less negative impact on honeybees. Launched in Korea in FY2018 (expected peak sales \(\mathbf{1 0 . 0}\) billion yen) \\
\hline 2019 & QUINTEC (QUINOXYFEN) & Funglclde & Acquired & Acquired world business from Corteva in November 2019 Protectant fungicide highly effective in controlling powdery mildew in fruits and vegetables \\
\hline
\end{tabular}
Plpellne
\begin{tabular}{|c|l|l|l|l|}
\hline 2023 & NC-241(PYRAPROPOYNE) & FungIcIde & In-house & General fungicide (expected peak sales 5.0 billion yen) \\
\hline 2024 & NC-653(DIMESULFAZFT) & Herblclde & In-house & \begin{tabular}{l} 
Effective against resistant weeds, having excellent safety to rice, \\
(expected peak sales 3.0 billion yen)
\end{tabular} \\
\hline 2027 & NC-656 & Herblclde & \begin{tabular}{l} 
In-house \\
Ougainst foliar application rice herbicide with excellent efficacy \\
and
\end{tabular} \\
\hline
\end{tabular}
*MSD: MSD Animal Health, the global animal health business unit of Merck
**BRAVECTO, EXZOLT: the product names developed by MSD, containing the active substance Fluralaner
- Export sales* account for 39\% of FY2019 consolidated segment sales (Asia:21\%, Europe/Africa:65\%, North/Central/South America:14\%)

Expected peak sales of new products (GRACIA, QUINTEC, NC-241, 653, 656) 30.0 billion yen

The trend of our main products is shown on page 37

\section*{Agrochemicals - (D-1) Fluralaner}
-Fluralaner
MSD: MSD Animal Health, the global animal health business unit of Merck
- Invented by NCC and supplied to MSD* as the active pharmaceutical ingredient of BRAVECTO and EXZOLT
- Currently, BRAVECTO series and EXZOLT are available in 100 countries
- Compound patent

Fluralaner's compound patent expires in March 2025,
but many countries have a patent term extension system
-Some EU countries including UK, France, Germany - already extended to February 2029
-USA, etc. - applications under examination

\section*{- BRAVECTO}
- Developed and launched by MSD
- Veterinary medical products providing 12 weeks of continuous protection for dogs and cats against fleas and ticks with immediate effect, nearly 3 times longer than any monthly products in the market.
- Chewable tablet for dogs

April 2014 Europe, June 2014 USA, July 2015 Japan, July 2019 China July 2020 monthly chews for puppies approved in USA
- Spot-on solution for dogs and cats for cats: July 2016 EU, December 2016 USA, June 2018 Japan for dogs: January 2017 USA, EU, August 2020 Japan(approved)
- BRAVECTO Plus
- A broad-spectrum combination spot-on solution
for cats to treat internal and external parasite infestations July 2018 Europe, December 2019 USA, August 2020 Japan(approved)
-EXZOLT
- A poultry medicine against red mite launched by MSD
(administered via drinking water)
September 2017 Europe, June 2018 Korea, and Middle East etc.


Next, see page 38 for special remarks on Fluralaner. About the third black bullet point in BRAVECTO, chewable tablet for dogs, sales of its monthly chews were approved in July 2020 in the US. In addition, sales of spot-on solution for dogs and cats were approved in August in Japan. For BRAVECTO Plus listed below, we also received approval in August for the sale in Japan.

\section*{Agrochemicals - (D-2) Fluralaner}

\section*{-NCC's Revenues}

\section*{Sales of Fluralaner to MSD as API* of BRAVECTO and EXOLT products +}

Running royalties received from MSD semi-annually (February, August) API*: Active Pharmaceutical Ingredient
©FY2018-FY2020 Fluralaner Quarterly Sales (including royalties)

*FY2019-FY2023 Fluralaner Pro-forma Sales (including royalties) Image (Announced in May 2020)
- BRAVECTO and EXOLT sales expected to grow steadily
- NCC's Fluralaner sales expected to decrease until FY2022 due to continuing
inventory adjustment and recover in FY2023


\section*{-BRAVECTO and EXOLT R\&D}

Several pipeline products being developed by MSD
(including new type of BRAVECTO for pets and spot-on solution for livestock)

Concerning the Fluralaner situation, as we have seen, the sales decrease more than expected at the beginning of the year. This is because of requests from Merck. Some shipments will be delayed from the fourth quarter to the next fiscal year. As I explained in May, we expect the sales recovery in FY2023 to the level of FY2019. This has not changed at all, and we expect to recover from the bottom of FY2022 years to FY2023.

\section*{Agrochemicals - (E) Joint Venture Company in India}

\section*{Nissan Bharat Rasayan Private Limited (NBR)}
\begin{tabular}{|c|c|c|c|c|c|}
\hline Head Office & \multicolumn{5}{|l|}{Gurgaon, Haryana (near New Delhi)} \\
\hline Plant Location & \multicolumn{5}{|l|}{\multirow[t]{2}{*}{Newly built in Saykha, Gujarat (land leased by Gujarat Industrial Development Corporation) April 1, 2020 (assumptions as of 2022)}} \\
\hline Opening of Business & & & & & \\
\hline Business & \multicolumn{5}{|l|}{\begin{tabular}{l}
Manufacturing active ingredients of agrochemicals (GRACIA, LEIMAY, QUINTEC, etc.) and exporting them to NCC \\
<Funding Plan (*billion)>
\end{tabular}} \\
\hline Number of Operators & 150-200 & Plant & 4.3 & Capital (INR 1.5 billion) & 2.3 \\
\hline \multirow[t]{3}{*}{Plant Operating Shareholders} & 2Q FY2022 & Working capital and others & 2.4 & Borrowings provided by NCC & 3.3 \\
\hline & NCC 70\%, & & & Borrowings provided by local banks & 1.1 \\
\hline & Bharat Rasayan LTD (BRL) 30\% & Total required funds & & Total funding plan & 6.7 \\
\hline Board of Directors & NCC 5, BRL 2, Independent 1,Total 8 & & & & \\
\hline
\end{tabular}

Bharat Rasayan Ltd (BRL)
<Expected Net Contribution to NCC's Consolidated PL>
\begin{tabular}{|c|c|r|r|r|r|}
\hline FY & 2021 & \multicolumn{1}{|c|}{2022} & \multicolumn{1}{|c|}{2023} & \multicolumn{1}{|c|}{2024} & \multicolumn{1}{|c|}{2025} \\
\hline OP & -0.3 & 0.5 & 1.2 & 2.0 & 3.2 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|}
\hline Foundation & 1989 \\
\hline Listing & National Stock Exchange of India(NSE), Bombay Stock Exchange (BSE) \\
\hline Major Shareholders & Founders families including Sat Narain Gupta, Chairman 74.8\% \\
\hline 2019 PL & Sales INR 12,151 million, Net Income after Taxes INR 1,576 million (one of major Indian agrochemical companies) \\
\hline Plant Location & 2 plants: (A) Dahej, Gujarat (B) Rohtak, Haryana \\
\hline Relationship with NCC & BRL manufactures active ingredients and intermediates of NCC's products. Bharat Insecticides Ltd (BIL), a related company of Bharat group, distributes certain NCC's products(TARGA, PULSOR, PERMIT) in India \\
\hline \multirow[t]{5}{*}{Merits to NCC} & -Reliable and experienced local partner \\
\hline & - Diversify and secure sources of active ingredients and decrease materials shortage risks \\
\hline & -Lower production costs compared to plants in Japan \\
\hline & -Readily available plant site (official approval process for land lease already completed) \\
\hline & -Much less management and financial risks compared to M\&A of an existing local company \\
\hline
\end{tabular}

See page 40 for joint venture companies in India. Currently planning their construction proceeds smoothly.

\section*{Agrochemicals - (F-1) Profit Overview}
( \(¥\) billion)
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline & \multicolumn{7}{|c|}{FY2019 Actual (A)} & \multicolumn{5}{|c|}{FY2020 Outlook as of May 2020} & \multicolumn{7}{|c|}{\[
\begin{aligned}
& \text { FY2020 Outlook (B) } \\
& \text { as of Nov. } 2020
\end{aligned}
\]} & \multicolumn{3}{|c|}{Change
\[
(\mathrm{B})-(\mathrm{A})
\]} \\
\hline & 1Q & 2Q & 1H & 3Q & 4Q & 2H & Total & 1Q & 2Q & 1H & 2H & Total & \[
\begin{array}{|c|}
\hline \text { 1Q } \\
\text { Actual } \\
\hline
\end{array}
\] & \[
\begin{gathered}
2 Q \\
\text { Actual }
\end{gathered}
\] & \[
1 \mathrm{H}
\]
Actual & 3Q & 4Q & 2H & Total & \begin{tabular}{l}
\[
1 \mathrm{H}
\] \\
Actual
\end{tabular} & 2H & Total \\
\hline Sales & 14.7 & 13.2 & 27.9 & 5.5 & 30.6 & 36.1 & 64.0 & 15.2 & 10.8 & 26.0 & 39.5 & 65.5 & 14.6 & 11.1 & 25.7 & 8.2 & 30.7 & 38.9 & 64.6 & -2.2 & +2.8 & +0.6 \\
\hline
\end{tabular}
\begin{tabular}{|c|r|r|r|r|r|r|r|r|r|r|r|r|r|r|r|r|r|r|r|r|r|r|}
\hline OP & 4.5 & 4.9 & 9.4 & -1.8 & 11.7 & 9.9 & 19.3 & 3.6 & 3.1 & 6.7 & 11.7 & 18.4 & 4.0 & 3.8 & 7.8 & -0.7 & 11.6 & 10.9 & 18.7 & -1.6 & +1.0 & -0.6 \\
\hline
\end{tabular}

\section*{1Q FY2020 Review \\ <vs. 1Q FY2019>}

Sales up : TARGA(export: shipment shifted from 2 H , for mixtures in several markets overseas), ALTAIR(domestic, export), QUINTEC(export), LEIMAY(domestic, export), GRACIA(export)
- Sales down : Fluralaner (BRAVECTO inventory adjustment), GRACIA(domestic: less pest at low temperature) PERMIT(export: recoil of increased in FY2019), ROUNDUP(ML down, AL up)

\section*{Fixed cost up \(¥ 0.3\) billion}
- Inventory adjustment cost down \(¥ 0.2\) billion
- Sales down \(¥ 0.1\) billion, OP down \(¥ 0.5\) billion
<vs. 1Q FY2020 Outlook as of May 2020>
- Sales above target :

TARGA(export: shipment shifted from 2 H ,
for mixtures in several markets overseas),
Fluralaner(shifted from 2Q), LEIMAY(export)

\section*{- Sales below target :}

GRACIA(domestic: less pest at low temperature, export),
ROUNDUP(ML below target, AL above target)
ALTAIR(domestic), QUINTEC(export), PERMIT(domestic)
- Fixed cost below expectations ( \(¥ 0.5\) billion)
- Inventory adjustment cost below expectations ( \(¥ 0.3\) billion)
- Sales down \(¥ 0.6\) billion, OP up \(¥ 0.4\) billion

2Q FY2020 Review
<vs. 2Q FY2019>
- Sales up
: QUINTEC(export), ROUNDUP(ML flat, AL up) LEIMAY(domestic, export), PERMIT(export), ALTAIR(domestic, export)
- Sales down : Fluralaner (BRAVECTO inventory adjustment), TARGA(export), GRACIA(export)
- Fixed cost up \(¥ 0.3\) billion
- Sales down \(¥ 2.1\) billion, OP down \(¥ 1.1\) billion
<vs. 2Q FY2020 Outlook as of May 2020>
- Sales above target :

Fluralaner(royalties above target),
ROUNDUP(ML and AL above target),
QUINTEC(export), ALTAIR(domestic, export)
- Sales below target :

TARGA(export),
GRACIA(domestic: less pest at low temperature), LEIMAY(export), PERMIT(export)
- Fixed cost below expectations ( \(¥ 0.5\) billion)
- Inventory adjustment cost above expectations ( \(¥ 0.3\) billion)
- Sales up \(¥ 0.3\) billion, OP up \(¥ 0.7\) billion

Profit overview for Agrochemicals is shown on page 41.

\title{
Agrochemicals - (F-2) Profit Overview
}

\author{
1H FY2020 Review \\ <vs. 1H FY2019> \\ ```
- Sales up : ALTAIR(domestic, export), QUINTEC(export), LEIMAY(domestic, export), GRACIA(export) \\ - Sales down : Fluralaner(BRAVECTO inventory adjustment), GRACIA(domestic: less pest at low temperature), TARGA(export), PERMIT(export), \\ ROUNDUP(ML down, AL up)
``` \\ - Fixed cost up \(¥ 0.6\) billion \\ - Inventory adjustment cost down \(¥ 0.1\) billion \\ - Sales down \(¥ 2.2\) billion, OP down \(¥ 1.6\) billion
}
<vs. 1H FY2020 Outlook as of May 2020>
- Sales above target :

Fluralaner(royalties above target),
TARGA(export: for mixtures in several markets overseas),
LEIMAY(domestic), QUINTEC(export)
- Sales below target :

GRACIA(domestic: less pest at low temperature, export: shifted to 2 H ),
ROUNDUP(ML below target, AL above target)
ALTAIR(domestic), PERMIT(domestic)
- Fixed cost below expectations ( \(¥ 1.0\) billion)
- Sales down \(¥ 0.3\) billion, OP up \(¥ 1.1\) billion

\title{
<vs. 2H FY2020 Outlook as of May 2020>
}

\section*{- Sales above target :}

ALTAIR(domestic), TARGA(export),
ROUNDUP(ML and AL above target),
LEIMAY(domestic, export), PERMIT(export)
- Sales below target :

Fluralaner(shipment shift to FY2021, royalties above target),
GRACIA(domestic), QUINTEC(export),
- Inventory adjustment cost above expectations ( \(¥ 0.2\) billion)
- Sales down \(¥ 0.6\) billion, OP down \(¥ 0.8\) billion

Next, I will explain the situation of the first half listed on page 42.
In the first half of FY2020, ALTAIR, which performance was dramatically improved in the second-generation product was sold well and increased sales. The addition of new products to the ALTAIR lineup also contributed to the increase in sales. Export of QUINTEC increased. LEIMAY and export of GRACIA also increased.

On the other hand, the sales decrease of Fluralaner was not as bad as expected at the beginning of the year, but sales declined significantly due to the inventory adjustments at BRAVECTO. As mentioned earlier, GRACIA's domestic sales were also decreasing due to the fact that there are fewer pests. Sales of TARGA declined due to the impact of generics. ROUNDUP was slightly down, ML sales declined slightly, although AL sales for households rose, but the ROUNDUP total sales declined slightly.

Fixed cost increased by JPY600 million. Of this amount, about JPY300 million was due to the amortization of QUINTEC's goodwill.

As a result, sales were down JPY2.2 billion and operating income was down JPY1.6 billion.
However, when comparing these with the forecasts, sales of Fluralaner, especially its royalties were above target. Then TARGA, LEIMAY, are QUINTEC were above target. Those below target were, as I mentioned earlier, GRACIA, ROUNDUP and ALTAIR, plus fixed costs of JPY1 billion below expectation, which resulted in JPY300 million down in sales and JPY1.1 billion up in operating income.

Please see the outlook for the second half on the right-hand side. First, the increase in sales is attributable to the successful introduction of new products for ALTAIR, as I mentioned earlier. In addition, GRACIA's exports, TARGA's exports, and Fluralaner mainly from royalties also saw an increase in sales, as well as LEIMAY, ROUNDUP, QUINTEC and PERMIT, so many items are expected to increase sales.

With the addition of a decrease in fixed costs, although inventory adjustment cost has a negative impact of JPY500 million, we expect sales to be up JPY2.8 billion and operating income to be up JPY1 billion.

Comparison with the forecast of May is shown below. Those which sales are above target are ALTAIR, TARGA, ROUNDUP, LEIMAY and PERMIT. Those which sales are expected below target are Fluralaner for delayed shipments, while royalties are expected to rise and GRACIA. Sales are expected to be down JPY600 million and operating income is expected to be down JPY800 million.

\section*{Pharmaceuticals - (A) Recent Financial Performance}


Next is Pharmaceuticals. Page 43 shows the recent financial performance.

\section*{Pharmaceuticals - (B) Business Model (New Drug) and LIVALO}

Unique ethical pharma business model without sales force


API*: Active Pharmaceutical Ingredient

\section*{LIVALO API (Anti-Cholesterol Drug)}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline & FY2013 Actual & FY2014 Actual & FY2015 Actual & FY2016 Actual & \begin{tabular}{l}
FY2017 \\
Actual
\end{tabular} & FY2018 Actual & FY2019 Actual & FY2020 Outlook as of May 2020 & \[
\begin{array}{|c|}
\hline \text { FY2020 } \\
\text { Outlook } \\
\text { as of Nov. } \\
2020
\end{array}
\] \\
\hline Domestic End Market Sales (NHI drug price basis, ¥billion) & 52.6 & 34.5 & 29.7 & 23.9 & 21.0 & 16.7 & 14.3 & & \\
\hline Our Domestic and Export API Sales (\%billion) & 10.2 & 6.9 & 5.8 & 5.2 & 4.8 & 4.3 & 4.0 & 2.7 & 2.9 \\
\hline \begin{tabular}{l}
Our Domestic and Export API Sales YOY Change \\
(Domestic API Sales YOY Change) \\
(Export API Sales YOY Change)
\end{tabular} & \[
\begin{array}{r}
-2 \% \\
(-2 \%) \\
(-1 \%)
\end{array}
\] & \[
\begin{array}{r}
-32 \% \\
(-46 \%) \\
(+21 \%)
\end{array}
\] & \[
\begin{array}{r}
-15 \% \\
(-27 \%) \\
(+5 \%)
\end{array}
\] & \[
\begin{array}{r}
-11 \% \\
(-42 \%) \\
(+26 \%)
\end{array}
\] & \[
\begin{array}{r}
-7 \% \\
(-73 \%) \\
(+29 \%)
\end{array}
\] & \[
\begin{array}{r}
-11 \% \\
(-53 \%) \\
(-6 \%)
\end{array}
\] & \[
\begin{array}{r}
-7 \% \\
(+105 \%) \\
(-14 \%)
\end{array}
\] & \[
\begin{array}{r}
-31 \% \\
(+25 \%) \\
(-39 \%)
\end{array}
\] & \[
\begin{array}{r}
-27 \% \\
(-1 \%) \\
(-31 \%)
\end{array}
\] \\
\hline
\end{tabular}
- August 2013, domestic compound patent expired
- August 2020, market exclusivity expired in EU
- Currently, available in 26 countries

Page 44 shows LIVALO's domestic end and API sales status and the growth rate for both domestic and export sales.

\section*{Pharmaceuticals - (C) Pipeline}
\begin{tabular}{|l|l|l|l|}
\hline Product & Mechanism of action & Expected indications & \multicolumn{1}{c|}{ Development partners }
\end{tabular}
*Japan Agency for Medical Research and Development
<Policy for drug discovery research>
To create innovative medicines by using the strategic chemical library, the precise organic synthesis technology, proprietary oligonucleotides therapeutics discovery platform
- In-house research
- Focusing on cardiovascular disease and neurological disease as core therapeutic areas
- Using state-of-the art-ion channel evaluation platform as key technology
- Collaborative research
- Conducting small molecule and oligonucleotides drug discovery programs with several pharmaceutical companies and bio-venture companies

Next, page 45 shows the status of the pipeline, and this has not changed.

\section*{Pharmaceuticals - (D) Custom Chemicals}
- Custom manufacturing and process researching services for new drug pharmaceutical ingredients and intermediates from pre-clinical to commercial production stages
- In addition, focusing on obtaining new contracts mainly for high activity and high-valued added GE API products 2016- Maxacalcitol (Secondary hyperparathyroidism and Psoriasis) 2017-Eldecalcitol (Osteoporosis)
- Custom Chemicals Sales Growth
\begin{tabular}{|l|r|r|r|r|r|r|r|r|r|}
\multicolumn{1}{c|}{} & FY2013 & FY2014 & FY2015 & FY2016 & FY2017 & FY2018 & FY2019 & \begin{tabular}{l} 
FY2020E \\
as of \\
an \\
\multicolumn{1}{c|}{}
\end{tabular} & \begin{tabular}{l} 
FY2020 \\
as of \\
Nov. 2020
\end{tabular} \\
\hline Sales & 1.2 & 1.8 & 2.3 & 2.4 & 2.5 & 2.6 & 2.9 & 3.6 & 3.8 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{8}{|c|}{ Sales YOY Change } \\
\hline \multicolumn{2}{|c|}{ FY2019 Actual } & \multicolumn{3}{|c|}{\begin{tabular}{c} 
FY2020 Outlook \\
as of May 2020
\end{tabular}} & \multicolumn{2}{|c|}{\begin{tabular}{c} 
FY2020 Outlook \\
as of Nov. 2020
\end{tabular}} \\
\hline 1 H & 2 H & Total & 1 H & 2 H & Total & \begin{tabular}{c}
1 H \\
Actual
\end{tabular} & 2 H & Total \\
\hline \(0 \%\) & \(+23 \%\) & \(+11 \%\) & \(0 \%\) & \(+42 \%\) & \(+23 \%\) & \(+12 \%\) & \(+46 \%\) & \(+30 \%\) \\
\hline
\end{tabular}

Page 46 shows the situation of Custom Chemicals. As you can see with these figures, the business has grown steadily.

\section*{Pharmaceuticals - (E) New Strategies (Announced in May 2020)}

\section*{1. Drug Discovery (D.D)}
(1) New drug discovery strategy
A. In-house research (Previously) License out only at clinical testing stage
(New) Focus on themes initiated by NCC and selected by potential licensees and license out before clinical testing stage
B. Collaborative research
-Provide our unique drug discovery technologies
(such as oligonucleotides drug discovery platform) to partners and aim to receive fees
- Advantages of our oligonucleotides drug discovery technologies
--- unique modified nucleic acids
(2) Ceilings on R\&D resources
A. Reduce 10 drug discovery staffs in two years
B. Fix R\&D expenses at \(¥ 2.5\) billion
(3) Focus on 10 out of 18 existing new drug discovery projects
2. Custom Chemicals (C.C)
(1) Expand high margin C.C business to support D.D business currently relying solely on LIVALO
(2) Following Maxacalcitol and Eldecalcitol, develop another high value added GE API products and launch peptides CMO business
3. FY2019-FY2023 Pro-forma PL Image (Announced in May 2020)
\begin{tabular}{|c|c|c|c|c|c|}
\hline \multicolumn{2}{|l|}{\multirow[t]{2}{*}{}} & FY2019 & FY2020 & FY2021 & FY2023 \\
\hline & & Actual & Outlook \({ }^{\text {a }}\) & Pro-forma & Pro-forma \\
\hline \multirow{3}{*}{Sales} & D.D(1) & 4.06 & 2.79 & 2.4 & 2.2 \\
\hline & C.C & 2.90 & 3.56 & 5.1 & 6.0 \\
\hline & Total Segment & 6.96 & 6.35 & 7.5 & 8.2 \\
\hline \multirow{3}{*}{OP} & D.D(1) & -0.12 & -0.95 & -1.2 & -1.3 \\
\hline & C.C & 1.05 & 1.38 & 2.3 & 2.8 \\
\hline & Total Segment & 0.93 & 0.43 & 1.1 & 1.5 \\
\hline
\end{tabular}
( \(¥\) billion, OP: new method)
(1) Excluding possible upfront and milestone revenues in FY2021, 2023
(p55 including \(¥ 0.5\) billion in FY2023)

Page 47 shows our future business strategies for Pharmaceuticals, and data shown here is the same in the materials provided in May.

\section*{Pharmaceuticals - (F) Equity participation in PeptiStar Inc. (PS)}
\begin{tabular}{|c|c|}
\hline - Our Investment Amount: & \(¥ 0.9\) billion, \((8.2 \%\) of the number of shares outstanding after the third-party allotment) \\
\hline - Outline of PS: & \begin{tabular}{l}
The world's first Contract Manufacturing Organization (CMO) for the research and commercial manufacture of constrained peptide therapeutics. \\
Established by PeptiDream, Shionogi and Sekisui Chemical in September 2017
\end{tabular} \\
\hline \multirow[t]{3}{*}{Funding of PS: (approximate amount)} & \(¥ 11.0\) billion Equity provided by about \(\mathbf{2 0}\) companies by way of third-party allotment \\
\hline & \(¥ 9.0\) billion \(\quad \begin{gathered}\text { Grant program of Cyclic Innovation for Clinical } \\ \\ \quad \text { Empowerment (CiCLE) by the Japan Agency for }\end{gathered}\) Medical Research and Development (AMED) \\
\hline & Total \(¥ 20.0\) billion \\
\hline - Business Status of PS : & Completion of R\&D center in April 2019, manufacturing fab in July 2019 \\
\hline - Our Role and Objective: & Develop solution-phase synthesis suitable for mass production of constrained peptides \\
\hline - Impact on our Business: & Improve our novel synthetic method (solution-phase synthesis) of constrained peptides, reduce manufacturing cost substantially and expand our CMO business. \\
\hline
\end{tabular}

Page 48 explains our investment in PeptiStar Inc. This situation has not changed, either.


Next, see page 49 for Pharmaceuticals. Basically, the situation is not much different from that in May. Looking at this table, operating income for FY2019 totaled JPYO. 93 billion with a negative profit of JPY0. 12 billion in Drug Discovery and a positive profit of JPY1.05 billion in Custom Chemicals. In May, the forecast was JPY0.43 billion, consisting of a negative profit of JPY0.95 billion for Drug Discovery and a positive profit of JPY1.38 billion for Custom Chemicals.

Currently, we are forecasting improvements of around JPY0.1 billion as shown in the fourth column from the right side and total operating income of JPYO. 56 billion, minus JPYO. 85 billion for Drug Discovery and plus JPY1. 41 billion for Custom Chemicals.

\section*{Rough Image of FY2023 Sales- (A) Overall(1)}
(Announced in May 2020)
(¥billion)


Fluralaner sales expected to decrease until FY2022 due to continuing inventory adjustment and recover in FY2023
- Based on this assumption, we have created a medium-term sales growth image for each segment
- Total company-wide sales expected to increase from 206.8 billion yen in FY2019 to 239.3 billion yen (+16\%) in FY2023

(2) FO: FINEOXOCOL (cosmetic raw materials, acrylate adhesives), MC: Melamine Cyanurate (flame retardants, lubricants), other products(reinforced fiber materials) (products name are undisclosed)
\begin{tabular}{l} 
(Basic chemicals) \\
\begin{tabular}{|c|r|l|}
\hline Products & \begin{tabular}{c} 
Changes \\
(billion yen, \\
every0.5)
\end{tabular} & \multicolumn{1}{|c|}{ Main reasons for changes } \\
\hline Melamine & \(\mathbf{- 1 . 5}\) & \begin{tabular}{l} 
(export) Drastic volume reduction with emphasis on spreads, \\
continued stagnant market conditions \\
(domestic) Flat at FY2020 levels
\end{tabular} \\
\hline \begin{tabular}{c} 
High purity \\
sulfuric acid
\end{tabular} & \(\mathbf{+ 1 . 0}\) & \begin{tabular}{l} 
Expanding sales according to the equipment and production \\
plans of semiconductor customers
\end{tabular} \\
\hline \begin{tabular}{c} 
Nitric acid \\
products
\end{tabular} & \(\mathbf{+ 0 . 5}\) & \begin{tabular}{l} 
W ithdrawal of a domestic competitor from the market \\
(April 2020)
\end{tabular} \\
\hline \begin{tabular}{c} 
Urea including \\
AdBlue
\end{tabular} & \(\mathbf{+ 0 . 5}\) & \begin{tabular}{l} 
Demand for AdBlue's light- and medium-dutytrucks \\
and construction equipment increases
\end{tabular} \\
\hline \begin{tabular}{c} 
Sulfuric acid \\
products
\end{tabular} & \(\mathbf{+ 0 . 5}\) & \begin{tabular}{l} 
Expanding demand for electronic components and battery \\
applications.
\end{tabular} \\
\hline \begin{tabular}{c} 
Ammonia, \\
others
\end{tabular} & \(\mathbf{+ 1 . 0}\) & \\
\hline
\end{tabular} \\
\hline
\end{tabular}
\begin{tabular}{|c|c|l|}
\hline (Fine chemicals) \\
\hline Products & \begin{tabular}{l} 
Changes \\
(billion yen, \\
every 0.5\()\)
\end{tabular} & \multicolumn{1}{c|}{ Main reasons for changes } \\
FO, MC, Other & +1.5 & \begin{tabular}{l} 
(FO) Expand overseas uith existing cosmetic ingredients and \\
development of newapplications \\
(MC) Expanded applications of lubricants for newpowder molding \\
(increased density). \\
(Other) Development of newapplications \\
(Total sales of the three products in FY2019: about 2.7 billion yen).
\end{tabular} \\
\hline \begin{tabular}{c} 
Environmental \\
related products
\end{tabular} & \(\mathbf{+ 1 . 0}\) & \begin{tabular}{l} 
Incease in isocyanuric acid capacity(to be completed byDec. 2020) \\
Sales expansion to major customers (vith contracts)
\end{tabular} \\
\hline TEPIC & \(\mathbf{+ 0 . 5}\) & \begin{tabular}{l} 
(General) Mostlymaintained at FY2019 level \\
(Electronic Materials) Expand the customer base for solder resist inks \\
and expand the use of LED sealants
\end{tabular} \\
\hline Others & \(\mathbf{+ 0 . 5}\) & \\
\hline
\end{tabular}
Rough Image of FY2023 Sales- (C) Performance Materials(1) (Announced in May 2020)

(1) Changes are rounded off to the nearest 0.5 billion yen.
\begin{tabular}{|c|c|c|}
\hline products & Changes (billion yen, every 0.5 ) & Main reasons for changes \\
\hline SUNEVER & -0.5 & \begin{tabular}{ll} 
(TN) & \(-\mathbf{0 . 5}\) \\
(VA) & +1.0 \\
market share expansion \\
(rubbing IPS) & \(-\mathbf{1 . 0}\) \\
market share expansion, shift to photo IPS \\
(Photo IPS) & +0.0 \\
Decrease in smartphone use, expansion of non-smartphone use
\end{tabular} \\
\hline \begin{tabular}{l}
OLED \\
materials
\end{tabular} & +1.5 & \begin{tabular}{ll}
\begin{tabular}{ll} 
(Vapor \\
deposition) & +0.5 \\
(Printing)
\end{tabular} & \(+\mathbf{+ 1 . 0}\) Repellent bank layer, Hole injection layer
\end{tabular} \\
\hline Flexible HC & +1.0 & Hard coating materials for flexible OLED smartphone \\
\hline \[
\begin{aligned}
& \hline \text { Light control } \\
& \text { film } \\
& \hline
\end{aligned}
\] & +0.5 & Development of construction materials, in-vehicle and bullet train applications \\
\hline \multicolumn{3}{|l|}{(Inorganic)} \\
\hline SNOWTEX & +1.0 & (non-polishing) Increase in materials for automobiles (polishing) Increase in silicon wafers and CMP \\
\hline \begin{tabular}{l}
Organo/ \\
Monomer Sol
\end{tabular} & +1.0 & Increase in hard coating materials for foldable smartphone film and 3D printing materials \\
\hline Oilfield material & +1.0 & Expanded to repair existing vells with lowoil price impact \\
\hline
\end{tabular}
(Semiconductors)
\begin{tabular}{|c|r|l|}
\hline products & \begin{tabular}{c} 
Changes \\
(billion yen, \\
every 0.5\()\)
\end{tabular} & \multicolumn{1}{c|}{ Main reasons for changes } \\
\hline \begin{tabular}{c} 
Multi layer \\
process materials
\end{tabular} & \(\mathbf{+ 2 . 5}\) & \begin{tabular}{l} 
Demand increases with the development of \\
5 G and IoT
\end{tabular} \\
\hline ARC® & \(\mathbf{+ 2 . 0}\) & \begin{tabular}{l} 
Demand increases with the development of \\
EG and loT \\
EUV materials \\
(Entered EUV Si-HM market in FY2019 finally
\end{tabular} \\
\hline \(\mathbf{+ 0 . 5}\) & \(\mathbf{+ 0 . 5}\) & \begin{tabular}{l} 
Entered the market for high value-added \\
lens materials.
\end{tabular} \\
\hline \begin{tabular}{c} 
CMOS image \\
sensor materials
\end{tabular} & \(\mathbf{+ 0 . 5}\) & \begin{tabular}{l} 
Acquisition of newcustomers, development \\
of newmaterials
\end{tabular} \\
\hline \begin{tabular}{c} 
3D packaging \\
process materials
\end{tabular} &
\end{tabular}
(Inorganic)

\section*{Rough Image of FY2023 Sales- (D) Agrochemicals(1)} (Announced in May 2020)

(1) Changes are rounded off to the nearest 0.5 billion yen.
(2) ALEILE:Foliar application herbicide for paddy rice including ALTAIR
(3) TRANSFORM \({ }^{\text {TM }} /\) EXCEED \(^{\text {TM }} /\) VIRESCO \(^{\text {TM }}\) : Insecticide for fruits, vegetables, and paddy rice (licensed in from DOW) NEXTER: Fungicide for fruits and vegetables (licensed in from Syngenta)
\begin{tabular}{|c|r|l|}
\hline Products & \begin{tabular}{c} 
Changes \\
(billion yen, every0.5)
\end{tabular} & \multicolumn{1}{c|}{ Main reasons for changes } \\
\hline Fluralaner & \(\mathbf{- 1 . 0}\) & Decrease until FY2022 due to continuing inventoryadjustment and recover in FY2023 (see p39) \\
\hline \begin{tabular}{c} 
TARGA, PERMIT, \\
SIRIUS
\end{tabular} & \(\mathbf{- 1 . 0}\) & \begin{tabular}{l} 
(TARGA) Shrink rapeseed cropping market in Europe, (PERMIT) Decrease in Europe, \\
(SIRIUS) Decline in the alternative progression to ALTAR.
\end{tabular} \\
\hline LEIMAY & \(\mathbf{+ 4 . 0}\) & Develop two mixtures for European market with two major agrochemical manufacturers \\
\hline GRACIA & \(\mathbf{+ 2 . 5}\) & \begin{tabular}{l} 
(Domestic) Launch the newformulation in Japan \\
(Export) Increase in sales countries (India, Indonesia, Vietnam, Argentina)
\end{tabular} \\
\hline AL TAR & \(\mathbf{+ 2 . 0}\) & \begin{tabular}{l} 
Switch to the newgeneration products and expand sales in China and Southeast Asia.
\end{tabular} \\
\hline ROUNDUP & \(\mathbf{+ 1 . 5}\) & \begin{tabular}{l} 
Focus on large-sized standardized products in ROUNDUP ML, and strengthen AL via drugstores and \\
supermarkets as well as home centers
\end{tabular} \\
\hline QUINTEC & \(\mathbf{+ 0 . 5}\) & \begin{tabular}{l} 
Increase in sales volume \\
\hline ALEILE
\end{tabular} \\
\hline \(\mathbf{+ 0 . 5}\) & \begin{tabular}{l} 
Newfoliar application herbicide for paddyrice including ALTARR \\
Capable of in-water and highlyresistant to rain
\end{tabular} \\
\hline TRANSFORM/EXCEED & \(\mathbf{+ 0 . 5}\) & Focused lisenced-in products \\
\hline VRESCO, NEXTER & & \\
\hline Others & & \\
\hline
\end{tabular}

\section*{Rough Image of FY2023 Sales- (E) Pharmaceuticals(1)} (Announced in May 2020)

(1) Changes are rounded off to the nearest 0.5 billion yen.
(Drug Discovery)
\begin{tabular}{|c|r|l|}
\hline Products & \begin{tabular}{c} 
Changes \\
(billion yen, every 0.5)
\end{tabular} & \multicolumn{1}{|c|}{ Main reasons for changes } \\
\hline LIVALO & \(\mathbf{- 2 . 0}\) & \begin{tabular}{l} 
(Domestic) Volume down due to increase in generics \\
(Export) Generic entry in Europe and the U.S. and volume down in Korea
\end{tabular} \\
\hline Milestone payment & \(\mathbf{+ 0 . 5}\) & Pipeline drug is expected to be licensed in the focused area \\
\hline
\end{tabular}
(Custom Chemicals)
\begin{tabular}{|c|r|l|}
\hline \begin{tabular}{c} 
Maxacalcitol, \\
Eldecalcitol
\end{tabular} & \(\mathbf{+ 1 . 5}\) & \begin{tabular}{l} 
(Maxacalcitol) Started accepting orders from newcustomer \\
(Eldecalcitol) Expected to increase in volume at 1H 2020 launch
\end{tabular} \\
\hline Peptide CMO & \(\mathbf{+ 1 . 0}\) & Expect to be commissioned byPeptiStar and other companies \\
\hline Others & \(\mathbf{+ 0 . 5}\) & Existing contracted products \\
\hline
\end{tabular}

\section*{Rough Image of FY2023 Sales- (F) New Business (Announced in May 2020)}
\begin{tabular}{|l|l|l|}
\hline \multicolumn{1}{|c|}{ Field } & \multicolumn{1}{c|}{ Products } & \begin{tabular}{c} 
Changes \\
(every 0.5 billion yen)
\end{tabular} \\
\hline Life Sciences & \begin{tabular}{l} 
Cell culture medium \\
Biointerface control materials \\
(inhibition of cell and protein adhesion) \\
Cosmetic materials \\
(promotion of skin penetration of active ingredients, \\
moisturizing effect, etc.)
\end{tabular} & \\
\hline \begin{tabular}{l} 
Environment \& \\
Energy
\end{tabular} & \begin{tabular}{l} 
Secondary battery materials \\
(undercoat materials to promote low resistance) \\
Hole transport layer materials for organic solar cells \\
(energy conversion of sunlight)
\end{tabular} & Total ¥1.0 billion \\
\hline \begin{tabular}{l} 
Information \& \\
Communication
\end{tabular} & Optical interconnect materials & \\
\hline
\end{tabular}

Page 51 to page 56 introduces the rough image of FY2023 sales, which data is the same and was announced in May and copied.

\section*{Capex/Depreciation/R\&D by Segment}
( \(¥\) billion)
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline & \multicolumn{6}{|c|}{Capex (1)} & \multicolumn{6}{|c|}{Depreciation (2)} & \multicolumn{6}{|c|}{R\&D expenses} \\
\hline & 2016 & 2017 & 2018 & 2019 & \[
\begin{aligned}
& 2020 \mathrm{E} \\
& \text { May } 2020
\end{aligned}
\] & \[
\begin{array}{|c|}
\hline 2020 \mathrm{E} \\
\text { Nov. } 2020 \\
\hline
\end{array}
\] & 2016 & 2017 & 2018 & 2019 & \[
\begin{array}{|l|}
\hline 2020 \mathrm{E} \\
\text { May 2020 } \\
\hline
\end{array}
\] & \[
\begin{array}{|c|}
\hline 2020 E \\
\text { Nov. } 2020 \\
\hline
\end{array}
\] & 2016 & 2017 & 2018 & 2019 & \[
\begin{array}{|l|}
\hline 2020 E \\
\text { May } 2020
\end{array}
\] & \[
\begin{array}{|l|}
\hline 2020 \mathrm{E} \\
\text { Nov. } 2020 \\
\hline
\end{array}
\] \\
\hline Chem & 2.0 & 2.6 & 2.0 & 3.1 & 6.8 & 5.0 & 1.6 & 1.7 & 1.8 & 1.8 & 2.2 & 2.3 & 0.5 & 0.6 & 0.6 & 0.4 & 0.4 & 0.3 \\
\hline P.M & 8.4 & 7.2 & 3.3 & 3.3 & 4.9 & 3.9 & 4.8 & 5.9 & 6.0 & 5.1 & 5.0 & 4.6 & 7.9 & 8.1 & 8.2 & 7.7 & 8.4 & 7.3 \\
\hline Agro & 2.4 & 2.6 & 3.3 & 7.9 & 0.7 & 0.8 & 1.3 & 1.4 & 1.7 & 2.2 & 2.3 & 2.5 & 3.8 & 4.3 & 4.5 & 4.6 & 5.0 & 4.3 \\
\hline Pharma & 0.9 & 0.7 & 0.5 & 0.6 & 0.4 & 0.4 & 0.7 & 0.7 & 0.6 & 0.6 & 0.6 & 0.5 & 2.2 & 2.5 & 2.5 & 2.5 & 2.3 & 2.3 \\
\hline Trading & 0.0 & 0.0 & 0.1 & 0.1 & 0.2 & 0.2 & 0.1 & 0.1 & 0.1 & 0.1 & 0.1 & 0.1 & 0.0 & 0.0 & 0.0 & 0.0 & 0.0 & 0.0 \\
\hline Others & 0.6 & 0.6 & 0.7 & 0.7 & 0.8 & 0.8 & 0.4 & 0.7 & 0.7 & 0.7 & 0.5 & 0.4 & 1.7 & 1.7 & 2.0 & 2.0 & 2.1 & 2.6 \\
\hline Total & 14.3 & 13.7 & 9.9 & 15.7 & 13.8 & 11.1 & 8.9 & 10.5 & 10.9 & 10.5 & 10.7 & 10.4 & 16.1 & 17.2 & 17.8 & 17.2 & 18.2 & 16.8 \\
\hline \multicolumn{13}{|r|}{R\&D expenses/Sales} & 8.9\% & 8.9\% & 8.7\% & 8.3\% & 8.5\% & 8.0\% \\
\hline
\end{tabular}
(1) Capex

Actual - Acceptance basis
Outlook - Production commencement basis
(2) Depreciation Method

SUNEVER, ARC®, Multi layer process materials - 4 year declining balance method
( \(50.0 \%\) of initial capex amount in the \(1^{1 \text { st }}\) year)
Other products - 8 year declining balance method ( \(25.0 \%\) of initial capex amount in the \(1^{\text {st }}\) year)
\begin{tabular}{|l|r|}
\hline R\&D Personnel (Sept. 2019) -A & 450 \\
\hline Total Professionals (Sept. 2019) -B & 1,165 \\
\hline A/B & \(39 \%\) \\
\hline
\end{tabular}
※Parent company only ※Round number

Then, page 57 shows the status of Capex, depreciation, and R\&D expenses. As you can see, R\&D expenses were estimated to be JPY18.2 billion at the beginning of the year in May, but currently we expect JPY16.8 billion at the end of period.

Mid-Term Plan Vista2021 Stage II (FY2019-2021) announced in May 2019 - (A)
\begin{tabular}{|c|c|c|c|}
\hline \multirow[t]{2}{*}{1. PL} & Actual & New Mid-Term Plan announced in May 2019 & Mid-Term Plan announced in May 2016 \\
\hline & FY2018 & FY2021 & FY2021 \\
\hline Sales & 204.9 & 235.0 & 250.0 \\
\hline Operating Profit & 37.1 & 43.0 & 40.0 \\
\hline Ordinary Income & 39.1 & 44.0 & 40.8 \\
\hline Net Income & 29.4 & 33.0 & 31.0 \\
\hline EPS (\%/share) & 197.67 & 230.00 & \\
\hline Dividend (\%/share) & 82 & & \\
\hline FX Rate ( \(¥ / \$\) ) & 111 & 110 & 115 \\
\hline Naphtha ( \(7 / \mathrm{kl}\) ) & 49,700 & 43,000 & 51,100 \\
\hline \multirow[t]{2}{*}{(Financial Targets)} & Actual & New Mid-Term Plan announced in May 2019 & Mid-Term Plan announced in May 2016 \\
\hline & FY2018 & FY2020, FY2021 & FY2021 \\
\hline OP Margin & 18.1\% & Above 18\% & Above 15\% \\
\hline ROE & 16.6\% & Above 16\% & Above 14\% \\
\hline Dividend Payout Ratio & 41.5\% & 45\% & 40\% \\
\hline Total Payout Ratio & 72.0\% & 75\% & 70\% \\
\hline
\end{tabular}

Mid-Term Plan Vista2021 Stage II (FY2019-2021) announced in May 2019 - (B)

2. Capex, Depreciation, R\&D expenses, Researchers
( \(¥\) billion)
(person)
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multirow[t]{3}{*}{} & \multicolumn{2}{|r|}{Capex} & \multicolumn{2}{|r|}{Depreciation} & \multicolumn{2}{|l|}{R\&D expenses} & \multicolumn{2}{|l|}{Researchers} \\
\hline & Actual & \[
\begin{gathered}
\text { New } \\
\text { Mid-Term Plan }
\end{gathered}
\] & Actual & \[
\begin{array}{|c|}
\hline \text { New } \\
\text { MId-TermPlan } \\
\hline
\end{array}
\] & Actual & \[
\begin{array}{|c|}
\hline \text { New } \\
\text { Mid-TermPlan }
\end{array}
\] & Actual & \begin{tabular}{|c} 
New \\
Mid-TermPlan
\end{tabular} \\
\hline & \[
\begin{array}{|c|}
\hline \text { Total } \\
\text { FY2016-2018 } \\
\hline
\end{array}
\] & \[
\begin{gathered}
\text { Total } \\
\text { FY2019-2021 }
\end{gathered}
\] & \[
\begin{array}{|c|}
\hline \text { Total } \\
\text { FY2016-2018 }
\end{array}
\] & \[
\begin{array}{|c|}
\hline \text { Total } \\
\text { FY2019-2021 } \\
\hline
\end{array}
\] & \[
\begin{array}{|c|}
\hline \text { Total } \\
\text { FY2016-2018 } \\
\hline
\end{array}
\] & \[
\begin{array}{|c|}
\hline \text { Total } \\
\text { FY2019-2021 }
\end{array}
\] & FY2018 & FY2021 \\
\hline Chemicals & 6.6 & 14.7 & 5.2 & 9.4 & 1.6 & 1.4 & 10 & 10 \\
\hline Performance Materials & 18.9 & 17.8 & 16.7 & 17.0 & 24.3 & 26.7 & 200 & 210 \\
\hline Agrochemicals & 8.3 & 8.2 & 4.4 & 5.5 & 12.6 & 14.8 & 95 & 95 \\
\hline Pharmaceuticals & 2.1 & 1.7 & 2.1 & 1.8 & 7.2 & 7.1 & 85 & 90 \\
\hline Trading, Others, Adjustment & 2.0 & 2.3 & 1.9 & 3.1 & 5.4 & 8.0 & 80 & 75 \\
\hline Total & 37.9 & 44.7 & 30.3 & 36.8 & 51.1 & 58.0 & 470 & 480 \\
\hline
\end{tabular}

Figures on pages 59 and 60 are based on the current medium-term management plan.

\section*{ESG}
- April 2019

Established Nomination and Remuneration Advisory Committee as an optional advisory body of the Board of Directors
- June 2019
- Introduced a performance-linked stock compensation plan called a Board Benefit Trust for members of the Board of Directors, etc.
- One Outside Director added

As a result, the Board of Directors consisting of 9 Directors include 3 Outside Directors
- August 2019

NCC was selected as one of the 50 candidates among all listed companies of the Corporate Value Improvement Award hosted by the Tokyo Stock Exchange for the second consecutive year.
-September 2019
NCC was selected as an inclusion in the Dow Jones Sustainability Asia Pacific Index for the second consecutive year
- December 2019

Published "Integrated Reports 2019" https://www.nissanchem.co.jp/eng/ir info/archive/ar/ar2019.pdf
- February 2020

NCC was listed for the first time on Water Security "A List" as a company with excellent sustainable water resource management by CDP
-June 2020
NCC was selected as an inclusion in the S\&P/JPX Carbon Efficient Index for the second consecutive year NCC was selected as a constituent of FTSE4Good Index Series and FTSE Blossom Japan Index
- August 2020

NCC announced its support for recommendations of Task Force on Climate-related Financial Disclosures (TCFD)
- October 2020

NCC won the 2020 Awards for Excellence in Corporate Disclosure in the chemicals and fiber sector, selected by Securities Analysts Association of Japan (SAAJ)

Page 61 shows our effort on ESG.

In August 2020, we announced our support for recommendations of TCFD. And see the last item, we finally, for the first time, won the Awards for Excellence in Corporate Disclosure in the chemicals and fiber sector. Thank you very much for your support.

\section*{Our Characteristics - (A) Recording Stable OP Margin}

NCC has recorded more than 10\% OP margin in 17 consecutive years (FY2003-2019)


\section*{Our Characteristics - (B) High ROE}
- The most important financial indicator for a long time

Mid-Term Plan FY2016-2018 Target : Maintain above 14\%
\(\Rightarrow\) Achieved in FY2016, 2017 and 2018
\(\checkmark\) New Mid-Term Plan FY2019-2021 Target : Maintain above 16\%


\section*{Our Characteristics - (C) Shareholders Return Policy - Total Payout Ratio}
- Maintaining an aggressive shareholders return policy
- Mid-Term Plan FY2016-2018 Target : Maintain 70\% total payout ratio \(\Rightarrow\) Achieved in FY2016, 2017 and 2018
- New Mid-Term Plan FY2019-2021 Target : 72.5\% in FY2019, 75\% in FY2020-2021 \(\Rightarrow\) Achieved in FY2019 (75.1\%)


Our Characteristics - (D) Shareholders Return Policy - Dividend
Mid-Term Plan FY2016-2018 Target : Gradually increased to 41.5\% in FY2018
\(\Rightarrow\) Achieved in FY2018 (41.5\%)
- New Mid-Term Plan FY2019-2021 Target : 42.5\% in FY2019, 45\% in FY2020-2021
\(\Rightarrow\) Achieved in FY2019 (42.8\%)


EEPS (left axis) Dividend/Share (left axis) - Dividend Payout Ratio (right axis)

\section*{Our Characteristics - (E) Shareholders Return Policy - Share Repurchase}
- Started share repurchase in 2006 only to enhance ROE
- Repurchased \(¥ \mathbf{8 2 . 5}\) billion, \(\mathbf{4 0 . 9}\) million shares ( \(21.8 \%\) of shares issued) in total from FY2006 to FY2019

Cancelled all repurchased shares

\section*{Shareholders Return FY2006-2019}
(1) excluding share acquisitions for performance-based compensation ( 166,200 shares) (2) including share acquisitions for performance-based compensation ( 166,200 shares)
\begin{tabular}{|l|r|r|r|r|r|r|r|r|r|r|r|r|r|r|r|}
\hline \multicolumn{1}{|c|}{ Fiscal year } & 2006 & 2007 & 2008 & 2009 & 2010 & 2011 & 2012 & 2013 & 2014 & 2015 & 2016 & 2017 & 2018 & 2019 & Total \\
\hline \begin{tabular}{l} 
Shares purchased (1) \\
(thousand shares)
\end{tabular} & 3,500 & 3,399 & 7,355 & 0 & 2,167 & 0 & 6,372 & 3,263 & 2,764 & 3,333 & 2,621 & 2,292 & 1,682 & 2,138 & 40,886 \\
\hline \begin{tabular}{l} 
Purchase costs (1) \\
(¥billion)
\end{tabular} & 4.7 & 5.0 & 8.0 & 0.0 & 2.8 & 0.0 & 5.0 & 5.0 & 6.0 & 9.0 & 9.0 & 9.0 & 9.0 & 10.0 & 82.5 \\
\hline \begin{tabular}{l} 
Shares cancelled \\
(thousand shares)
\end{tabular} & 3,000 & 3,635 & 7,000 & 0 & 3,000 & 0 & 6,000 & 4,000 & 3,000 & 2,000 & 2,000 & 3,000 & 2,000 & 3,000 & 41,635 \\
\hline \begin{tabular}{l} 
Shares issued at FY end \\
(million shares)
\end{tabular} & 185 & 181 & 174 & 174 & 171 & 171 & 165 & 161 & 158 & 156 & 154 & 151 & 149 & 146 & \\
\hline \begin{tabular}{l} 
Treasury shares at FY end (2) \\
(thousand shares)
\end{tabular} & 1,367 & 1,233 & 1,660 & 1,709 & 885 & 886 & 1,258 & 522 & 287 & 1,621 & 2,242 & 1,535 & 1,218 & 523 & \\
\hline
\end{tabular}

\section*{Share repurchase program}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Fiscal Year} & \multicolumn{3}{|c|}{2017} & \multicolumn{3}{|c|}{2018} & \multicolumn{3}{|c|}{2019} & 2020 \\
\hline & 1H & 2H & Tatal & 1H & 2H & Tatal & 1H & 2H & Tatal & From May 18, 2020 to July 28, 2020 \\
\hline Shares purchased (thous and shares) (1) & 1,304 & 988 & 2,292 & 976 & 706 & 1,682 & 1,270 & 868 & 2,138 & 1,334 \\
\hline Purchase costs ( \(\#\) billion) (1) & 5.0 & 4.0 & 9.0 & 5.0 & 4.0 & 9.0 & 6.0 & 4.0 & 10.0 & 7.0 \\
\hline Shares cancelled (thous and shares) & 3,000 & 0 & 3,000 & 2,000 & 0 & 2,000 & 2,000 & 1,000 & 3,000 & 1,000 (Aug 31, 2020) \\
\hline
\end{tabular}

\section*{Cash Management Policy}

Aiming to control cash balance around the level of
\(=\) Minimum required level
+ \(1 / 3\) of annual scheduled long-term borrowings repayment
+ \(1 / 3\) of short-term borrowings outstanding + Contingent risk reserves

From page 63 and after, we have listed our characteristics. Page 63 is for operating income margin, page 64 is for ROE, page 65 is for shareholders return and total return ratio, page 66 is for dividend payout ratio, and page 67 is for share repurchase.

\section*{Our Characteristics- (F-1) R\&D Oriented Chemical Company}

FY2019 R\&D expenses/sales: 8.3\%
Maintaining above 8\% R\&D expenses/sales in recent years
About 40\% of profession staff assigned to R\&D centers


Our Characteristics- (F-2) R\&D Oriented Chemical Company
R\&D by segment
\begin{tabular}{|l|r|r|r|r|r|}
\cline { 2 - 6 } \multicolumn{1}{c|}{} & \multicolumn{5}{c|}{ FY2019 Actual } \\
\hline \multicolumn{1}{c|}{ Segment } & \multicolumn{5}{c|}{\begin{tabular}{c} 
Sales \\
(¥billion)
\end{tabular}} \\
\hline \multicolumn{1}{c|}{\begin{tabular}{c} 
OP* \\
(¥billion)
\end{tabular}} & OP margin & \begin{tabular}{c} 
R\&D \\
expenses \\
(¥billion)
\end{tabular} & \begin{tabular}{c}
\(\%\) \\
of Sales
\end{tabular} \\
\hline Chemicals & 34.3 & 1.3 & \(3.8 \%\) & 0.4 & \(1.2 \%\) \\
\hline Performance Materials & 65.5 & 17.0 & \(26.0 \%\) & 7.7 & \(11.8 \%\) \\
\hline Agrochemicals & 64.0 & 19.3 & \(30.2 \%\) & 4.6 & \(7.2 \%\) \\
\hline Pharmaceuticals & 7.0 & 0.9 & \(12.9 \%\) & 2.5 & \(35.7 \%\) \\
\hline Others & - & - & & 2.0 & - \\
\hline \begin{tabular}{l} 
Total \\
(including others and adjustment)
\end{tabular} & 206.8 & 38.6 & \(18.7 \%\) & 17.2 & \(8.3 \%\) \\
\hline
\end{tabular}

\section*{*New method, see p14}


Pages 69 and 70 are explaining our focus on R\&D.

Thank you for your patience. My explanation now comes to an end.

\section*{Question \& Answer}

\section*{<Questioner 1>}

Q: First, for Performance Materials. I am concerned about SUNEVER. Please tell us about performance by major mode from the first quarter to the second quarter. In addition, I would like to ask you to provide your view for the second half of FY2020.

A: IPS are performing well both in the first and second quarters. This mode including rubbing IPS still goes strong. On the other hand, with regard to VA, although there is no change in our market shares itself, it is partly affected by a decline in production at a customer.

In the second half of FY2020, we expect IPS in total to maintain this strong performance. Between rubbing IPS and Photo IPS, we forecast that the shift to Photo IPS will accelerate through the second half of FY2020.

On the other hand, we are seeing a decline in VA due to the fact that the customer production decrease like the first half will have a larger impact in the second half.

Q: About SUNEVER total, First quarter sales growth is up \(14 \%\) and the first half growth is up \(7 \%\), so if only the second quarter is taken, the growth is almost unchanged. I think the growth in the second quarter slowed down.

A: Overall, the balance of inventory adjustments at the customers creates a slight gap between the first and the second quarters, but we think that the operation itself is going strong. For the second quarter, about IPS, both rubbing and Photo performed above target compared to the forecasts of May. So, this is within our expectations.

Q: I see. Regarding Photo IPS, the strongest performers are for non-smartphones, especially tablets, laptops, monitors, and so on, right?

A: That's correct. In particular, with regard to tablets as well as notebook PCs, the shift to Photo from rubbing is accelerated, and I think that this is another factor for this good performance.

Q: Yes, I understand. Second, I would like to sort out the fixed costs once. At the beginning of the term, I think you were talking that fixed costs of JPY900 million would increase in this year compared with last year. Looking at this time, in terms of Performance Materials, it will be decreased by JPY900 million in FY2020, in comparison, it will be down about JPY1.8 billion, which can be regarded as a factor behind the increase in profits from the initial forecast?

A: Yes, you can.

Q: I would like to ask you how you can break down the difference of JPY1.8 billion among Display Materials, Semis Materials, and Inorganic. Could you tell us about the content of the difference? Why the forecast was turned to positive?

A: The breakdown of JPY1.8 billion is JPY700 million for Display, JPY 700million for Semis, JPY300 million for Inorganic, and JPY100 million for others. The background to this is basically travel expenses and transportation expenses. This is largely due to the fact that we are unable to move due to the impact of COVID-19 and to the fact that our research and development expenses are getting smaller.

Q: Do you mean that the impact of COVID-19 is a little positive around here?

A: I think that is correct.

Q: You didn't make extra effort to save expenses, especially by cutting fixed costs?

A: We haven't forced our staff members to reduce expenses.

Q: OK. Do you intend on further reduction?

A: There is no particular plan for further reduction. In the current situation, the situation remains that we are not able to actually visit local markets, and we are doing so while devising sales and R\&D methods in this situation. So far, I do not think that there are any major disadvantages to this situation.

\section*{<Questioner 2>}

Q: My first question is about Agrochemicals. Looking at YoY ratio of increase or decrease on page 42, or the movement of profit compared to the plan, particularly at Fluralaner I think that the royalties are up, but the plan was revised downward in this period due to the delayed shipment. The fact that royalties are rising suggests that end-use demand is stronger than expected, but what is the situation in which shipments are being pushed back?

Considering customers and downstream side, as the procurement of raw materials is decreasing while product sales are increasing, do you think inventory adjustments are proceeding at a faster pace than originally expected? Or, unlike electronic materials, I think this kind of thing is unlikely to happen, but for example, the original unit has been changed at the downstream side because of production innovation? First, let me confirm this point.

In addition, regarding fixed costs of Agrochemicals. In the first half of the fiscal year, it was decreased by JPY1 billion compared to the plan, while in the second half, we particularly did not see any changes compared to the plan. However, if the number of business trips has decreased in the first half of the fiscal year, as in the case of Performance Materials, it is possible to assume a certain decline in expenses in the second half of the fiscal year. How about that?

A: Fluralaner is still strong for end users and the royalties will increase. There is no particular technical innovation in that production, as you just mentioned. I think this is the result that Merck would like to make some more inventory adjustments.

Then, about fixed costs. Some research and development expenses were delayed from the first half to the second half. There are some rooms to decrease or to increase. I'm looking at the figures for the second half, which is almost unchanged from the budget for the beginning of the year on a net basis.

Q: I heard that the impact of COVID-19 is increasing the demand for pets as the backdrop of the strong performance with end users. Did you agree to that?

Originally, you will continue inventory adjustments until FY2022. If Merck is accelerating the pace at which it will reduce inventories a little more, could this outlook be a little more accelerated depending on the situation?

A: I have some information in it, but it is still fragmentary information, so I am uncertain and cannot give you the details. However, on the figures, as we mentioned earlier, the royalties are improving, so I guess we are
progressing, but I don't know if it is temporary movement or not. We have not yet obtained accurate information on trend of end users.

Q: How about, whether or not it will be earlier or not regarding the outlook for the time when inventory adjustments will end, I think it is still early at this stage.

A: As originally predicted. It does not change.

Q: My second question is about Semis Materials of Performance Materials Segment. This figure has been much higher than the initial forecast, and how can you divide it into Logic and Memory? Please tell us a little more about in which region it performs particularly good and the background to the upward movement of this Semis Material.

A: Overall, both Logic and Memory in Semis Materials are performing well. Quick recovery of DRAM contributed to exceed our expectations and contributed significantly. As for the region, The Peninsula is the main. I expected it would take a little longer at the beginning of the year.

Q: I understand. At the same time, how is the state of sales expansion of EUV under layer in line with the initial forecast?

A: Slightly upward movement.

\section*{<Questioner 3>}

Q: Movements in profit of Performance Materials, Display Materials were flat to second quarter from the first quarter, and Semis Materials were increasing. Under such circumstances, operating income increased by only JPY100 million, is this due to an increase of fixed costs? Please tell us about the direction of this profit, including the movement of fixed costs to the second half from the first half?

A: Fixed costs have increased by about JPY400 million from the first quarter to the second quarter. On the other hand, inventory adjustment cost had a positive impact of about JPY300 million. By division, QoQ trends in operating income were down JPY100 million for Display, up JPY200 million for Semis, and zero for Inorganic, which were up JPY100 million.

Then, the movement from the first half to the second half. We are currently forecasting operating income JPY800 million down, but we are assuming that fixed costs will increase by JPY1.9 billion from the first half to the second half. Then, in sub-segments, HoH operating profit is down JPY100 million for Display, down JPY600 million for Semis, down JPY100 million for Inorganic Materials, in total expected down JPY800 million.

Q: I feel that when sales increase by JPY600 million to the second half from the first half and fixed costs increase by JPY1.9 billion, there is a little drop in profit. This means you will increase inventory?

A: There will be a difference in the composition of sales, so first of all, the marginal profit will increase by almost JPY600 million. Increase to the same level as sales. Then, fixed costs will increase by JPY1.9 billion, but for the inventory, the figure will be plus JPY500 million.

Q: My second question is about the current inventory level, which seems to be a bit too high. There are some segments in which the inventory factor is written, Chemicals and Agrochemicals. Can you tell us whether this will probably push up slightly in the first half of the fiscal year, reducing inventory in the second half and lowering profits, or what the movement of inventory is on this side?

A: As for the movement of inventory, it is quite different for each segment, so I can't say anything. I don't feel that there is too much inventory.

\section*{<Questioner 4>}

Q: My first question is joint ventures for Agrochemicals in India. This briefing material says that the joint venture partner sells TARGA, PULSOR, and PERMIT in India. Are these three products already approved for sale in India?

A: Sales approval has already been approved. However, although it would be misleading, basically we are not thinking of selling the products made by these joint ventures in India. In the first few years, the idea now is that we will take the products in Japan and sell them.

Q: I see. They are your manufacturing base. Don't you think India is the market to promote these products?

A: That's not something we will think about for a few years. This is a second manufacturing base, because the domestic production and supply capacity are somewhat bottlenecked, or sales are expected to increase.

Q: I understand. The second is about Photo IPS. You said that the shift from rubbing to Photo is accelerating on tablets. Either in the sense that the brands that have originally adopted Photo IPS are increasing their market shares or in the sense that the number of models that have been adopted is increasing in the first place?

A: There is an increasing number of models.
Q: The number of models is increasing means that the number of models which used rubbing before and now switched to Photo IPS is increasing?

A: Yes, yes. That's it.

Q: Together with that, I think the growth of Photo IPS for notebooks and cars was probably higher, but is it doubling?

A: Not double, but we believe the ratio has risen more than expected.

Q: Do you think it is sustainable? Notebook PCs are selling well for telework, which may not last long. Or, for automobiles, perhaps it could be longer, but how about sustainability?

A: We estimate that there will be continuity for a certain period of time.

Q: I understand.

A: I would like to give an additional explanation. The usage of notebook PCs and tablets has changed steadily, when we use them to watch television, watch movies, and play games, we still want high-definition ones. I think there is a big change in demand.

Q: I see, that's what you mean. If that's the case, the bottom line is that it lasts quite a long time, doesn't it?

A: Yes.
[END]```

