

Key Points of the Q&A Session for the Second Quarter of the Year Ending December 31, 2022

(Monday, August 1, 2022; conference call)

Q1. Please explain the second half volume for flat panel displays (FPDs) glass and the facility operation status.

A1. Shipments of glass for FPDs have declined sharply since June. Shipment volume in the third quarter will be about 20% lower than the first quarter. In the second half of FY2022, we expect to continue small shipment. We consider that panel manufacturers, who are our customers, are adjusting their production including G10.5 fabrication. As for our production, we will respond to the current sales by making adjustments such as reducing old or unproductive facilities and not starting those that are ready to production.

Q2. What is the business environment for glass fiber? Is the amount of glass fiber used per automobile increasing?

A2. Glass fiber products for the automotive industry are at the upstream end of the supply chain. Because the companies in the supply chain hold more inventory than before, we have a sense that shipments were higher than actual demand in FY2021 and the first half of FY2022. For our shipments, supply chain inventories are increasing, and we expect a slight sales adjustment in the second half of FY2022. In Europe, there have been moves to reduce purchases and push back deliveries since June. On the other hand, the supply of glass fiber for housing and construction applications is extremely short, so we hope to start production as soon as possible at the capacity expansion facilities that are currently planned at our Malaysian subsidiary. The fact that our subsidiaries in Europe and the US are now profitable is a very large difference compared to FY2021.

There is a sense that the amount of glass fiber used per automobile is increasing. Although electric vehicles will no longer use engineering plastics in the engine peripherals, high-performance engineering plastics will be used in large quantities because of the need to reduce the weight of the body. Since the unit price has risen in FY2022, we believe that the amount used per vehicle has also increased by some percentage.

Q3. Energy costs were originally forecast to increase by 20 billion yen year on year, but what is the current outlook?

A3. Assuming an exchange rate of 110 yen per dollar and fuel price of 75 dollar per barrel, we have explained that the increase of the total amount of raw materials, gas and electricity including an increase in volume will be 20 billion yen compared to FY2021. Compared to that budget, we are looking at an exchange rate of 125 yen per dollar and fuel price of more than 100 dollar per barrel in the second half of FY2022, and unit prices have also increased, so we expect an increase of 40 billion yen over FY2021.

Q4. Please tell us how the increase in energy costs will affect each business and how extent it will be passed on to prices.

A4. The cost increase mentioned above is the total of raw materials, gas and electricity. We think the impact on the display glass business and the glass fiber business is about half each. We have the impression that the raw material cost has a greater impact on the display glass business, while the energy cost has a greater impact on the glass fiber business.

The price of glass fiber was raised in January 2022 all over the world. In addition, in Europe, the energy cost has

been passed on to the price as energy surcharges since April. On the other hand, it is very difficult to pass on the price of glass for FPDs under the current situation. We believe that all glass manufacturers are in a difficult situation, so we will increase a price at some point, but it might be flat in FY2022.

Q5. It seems to be difficult to achieve FY2022's targets due to cost increase and other factors. Are there any factors that will enable you to overcome the difficult situation?

A5. We believe we will be able to achieve net sales. As for costs, there will be production adjustments in glass for FPDs, but we hope to produce in a way that will lower costs. For glass fiber, we expect to be able to absorb some of cost increase by starting an operation of the facilities in the fourth quarter as quickly as possible. It is true that the second half of FY2022 is difficult, but we feel that there is nothing to change our target on a dare.

Q6. Inventories have increased by about 20 billion yen from the end of FY2021. Please explain about the trends for the future.

A6. Although production was strong, inventory volume increased due to a slowdown in sales of glass for FPDs in the second quarter. Since we have begun to adjust production of glass for FPDs, we plan to reduce inventories after peaking around August. We are increasing the inventory of semi-finished heat-resistant glass and also slightly increasing the inventory of glass fiber in order to optimize the inventory.

Q7. The forecast for capital investment for FY2022 is 80 billion yen. Is there a possibility of revising it in light of changes in the external environment?

A7. We currently have no plans to revise our investments. We are strongly promoting the renewal of facilities and continuing to make investments to enhance our competitiveness including efforts toward carbon-neutral without delay even if sales are slow at the moment. There is still a shortage of glass fiber products, and we are trying to start production that we are planning as soon as possible. We believe that we will need more production capacity for glass fiber in FY2023 and beyond, and we are considering investments mainly in Europe and the US.

Q8. How is the current situation compared with the strategies in the Medium-term Business Plan? Is there any progress in the development of products such as LTCC and all-solid-state batteries?

A8. The first year of the display glass business is very weak. We expect it to recover to some extent in FY2023, but we are proceeding the business with a slightly conservative approach. We will increase productivity per facility and increase production volume without increasing the number of facilities, and we will continue to upgrade our facilities. In the glass fiber business, geopolitical risks have increased and the trend toward local production for local consumption has become stronger again. We believe that we need to make investments earlier and in a large scale than what we had planned in the Medium-term Business Plan. We intend to move ahead aggressively from FY2023 onward. Shipment of semiconductor-related products exceeded our estimate, and we will consider additional investment. In the areas of heat-resistant glass and glass tubing for pharmaceutical use, we have to start making investments ahead of the Medium-term Business Plan.

Sales of LTCC materials have been strong, but the launch it for semiconductor use has been delayed. We expect to begin shipments for semiconductors in FY2022. Regarding all-solid-state batteries, we exhibited samples at Battery Japan of World Smart Energy Week in March 2022. We were reminded once again that the safety and

wide operating temperature range of our batteries were highly evaluated by visitors. Our development themes in FY2022 are to bring the weight energy density closer to that of lithium batteries and to establish a process for making battery packs and battery elements. We are moving forward so that we can start shipping samples toward the end of FY2022 and into FY2023. After that, we will consider investments depending on how we can develop the business.

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