

## Summary of Questions and Answers at a Briefing on SDK's Second Quarter 2018 Results

10:00 - 11:30, Thursday, August 9, 2018

Briefer: Kohei Morikawa, President and CEO

Toshiharu Kato, Director, Corporate Officer and CFO

\*All contents are based on the information available as of the date and time of the briefing.

### **[General]**

**Q. You said SDK will aim to grow especially in Chemicals, Electronics, and Aluminum segments. Which is your target market, semiconductor related market or automobile related market?**

A. As for high-purity gases and electronics, we will focus on semiconductor related market. As for functional chemicals, we will focus on infrastructure and automobile related markets. Our challenge is to find combination of businesses to be expanded which do not synchronize in vulnerability to market fluctuation. Typical example is the relation between HD media business and aluminum can business, which have no impact on each other.

**Q. How is your policy on return to shareholders for this year? Do you have any plan for payment of dividends and repurchasing of your company's own stock?**

A. We will pay midterm dividend for the first time in 28 years. As for the term-end dividend, we will examine the appropriate amount upon deliberation of our financial condition, net income, and plant and equipment investment plan because the economic situation is still very fluid. In the next medium-term business plan which we are now formulating, we will incorporate plans to use cash flow earned by our graphite electrode and petrochemical businesses for investment in Chemicals, Electronics and Aluminum segments, and implement M&A if necessary. As for proposal on return to shareholders, we will examine it considering the balance between investment including M&A and return to shareholders. We will consider whether we can increase dividend and repurchase the company's own stocks in the near future.

### **[Petrochemicals segment]**

**Q. Shipment of resins made from shale oil and expansion of the capacity to produce ethylene in China are expected. How do you think the supply-demand balance of petrochemical products will be?**

A. The increase in demand for petrochemical products remains strong due to strong demand in China.

This increase in demand is mainly caused by the expansion of middle class in China who purchase lots of daily necessities. In addition to the demand increase in China, we are looking for the same demand increase in India and ASEAN countries. We will pay close attention to the situation of the balance between increases in supply and demand of petrochemical products.

### **[Chemicals segment]**

#### **(High-purity gases for electronics)**

**Q. How do you foresee the sustainability of the growth of semiconductors market and that of strong demand for high-purity gases for electronics?**

A. The growth of semiconductor market including that for SSD seems to continue without limit. The demand for semiconductors caused by expansion of data centers, increase in supply of surveillance cameras, etc., will continue to increase. When the number of layers in NAND is doubled due to introduction of 3D structure, the demand for high-purity gas to be used in semiconductor manufacturing process will increase to 4 to 6 times as much as the previous level. The more complexity and accuracy are needed in processing of semiconductors, the more variety of high-purity gases become necessary.

### **[Electronics segment]**

#### **(HD media)**

**Q. You expect that the demand for HD media to be used in storage devices for data centers will be 200 million platters/year or more. How will you stabilize profit earned by your HD media business?**

A. We estimate that half of the total amount of generated data is stored in PCs and tablets, and the other half is stored in large capacity storage devices for data centers and surveillance cameras. The demand for large capacity storage media to be used in data centers, etc. will increase to about 1.5 times of

the current level within 2 to 3 years from now. Thus the demand for storage media for data centers will exceed that for PCs. We think we should continue strengthening our technological support to the trend in which HDDs continue to be the mainstream of the large capacity storage devices. This mission will be the key factor for the stabilization of our profit earned by the HD media business.

**(LIB materials)**

**Q. How do you expect the demand for LIB materials will be? What is your strategy for LIB materials business?**

A. The demand for LIB materials in China has gotten off to a good start. We also expect that the take-off of EV market will also increase the demand for LIB materials. We foresee that the sales of our LIB materials will continue to increase, though there are issues to be solved such as possible short supply of lithium and other materials.

**[Inorganics segment]**

**(Graphite electrodes)**

**Q. How is your assumption of prices of graphite electrodes and needle coke as raw material for the second half of 2018?**

A. The average of sales prices of GEs in the first half of 2018 was more than three times as high as the average of those in full-year 2017, and we assume that GE prices in the second half of 2017 will be more than four times as high as the 2017 full-year average. The ratio of the rise in price of needle coke is expected to be larger than those in the prices of GEs. The profit margin of GE sales will increase in the second half of 2018. We are now negotiating with our customers about sales contracts beginning in October 2018. We are discussing with our customers about those contracts from the proposition that GE prices will be slightly higher than our assumption for the second half of the fiscal year due to tight supply-demand situation.

**Q. How do you foresee the increase in global capacity to produce UHP GEs?**

A. We think our competitors do not have any plan to construct new large-scale plant to produce UHP GEs. Removal of bottleneck in production process of UHP GEs can be executed in relatively short term. Therefore, our competitors may be investigating possible “de-bottleneck,” aiming to increase their production capacity for a few percent in average. “De-bottleneck” requires stable procurement of raw materials. We also think it is very important for a UHP GE supplier to form a clear view of the relation between the trend in actual demand for UHP GE and stock of UHP GEs held by users. Construction of new UHP GE plant takes about three years. However, “de-bottleneck” takes half a year to 1 year. We don’t have any plan to implement “de-bottleneck” soon. Of course we are carefully watching UHP GE market condition, and ready to start “de-bottleneck” soon if necessary.

**Q. Do you have any plan to introduce sales price calculation formula?**

A. The point is whether we can design formula good and fair enough to reflect market condition of needle coke as raw material or not. We are in the middle of value chain of electric steel production. Therefore, we are investigating whether it is possible for us to find good and fair formula to calculate UHP GE prices which make both our customers and SDK as UHP GE supplier happy.

**[Others segment]**

**(SiC epitaxial-wafer for power devices)**

**Q. How do you think about the growth of your SiC epi-wafer business in the near future?**

A. Shipment volumes of our “High-grade Epi” are rapidly increasing because our customers have recognized our products’ high-performance. We expect the shipment volumes will show more considerable increase when full-swing on-board use of High-grade Epi starts. We must promote cost reduction in order to expand the market further. It is essential for us to concurrently improve quality and productivity.

\*Performance forecast and other statements pertaining to the future as contained in this material are based on the information available as of the date and time of the briefing regarding risk factors that could affect our future performance. Actual results may differ materially from the forecast due to a variety of risk factors, including, but not limited to, the economic conditions, costs of naphtha and other raw materials, demand for our products including graphite electrodes, market conditions, foreign exchange rates, changes in laws and regulations, and lawsuits. As to the assumptions about the consolidated performance forecast including exchange rate and naphtha price, please refer to the Consolidated Financial Statements for the second quarter of 2018 which were announced on August 8, 2018.