SHOWA DENKO K. K.

Consolidated Financial Statements

For the first half year (January 1 to June 30, 2019)

Ⅰ. Consolidated Financial Results

August 7th, 2019

(1) Results of operations:

(¥ in millions, US$ in thousands, except for net income attributable to owners of the parent per share)

	Results for the first half year (Jan.1–Jun.30)			
	2018	**2019**	Increase (Decrease)	**2019**
	¥	**¥**	%	**$**
Net sales	455,845	**475,494**	4.3	**4,411,300**
Operating income	77,865	**85,471**	9.8	**792,940**
Ordinary income	77,572	**84,830**	9.4	**786,996**
Net income attributable to owners of the parent	57,949	**65,813**	13.6	**610,569**
Net income attributable to owners of the parent per share: Basic	397.31	**451.16**	—	**4.19**
Net income attributable to owners of the parent per share: Diluted	—	**—**	—	**—**

Notes

Important changes in accounting policies : not applicable

Comprehensive income :

Results for the year ended January 1 to June 30,2019 ¥61,053 million

Results for the year ended January 1 to June 30,2018 ¥52,870 million

(2) Financial position:

(¥ in millions, US$ in thousands, except for stockholders' equity ratio)

	Dec.31, 2018	**Jun.30, 2019**	**Jun.30, 2019**
	¥	**¥**	**$**
Total assets	1,074,983	**1,077,807**	**9,999,138**
Total equity	465,340	**510,822**	**4,739,044**
	%	**%**	**%**
Stockholders' equity ratio	41.5	**45.6**	**45.6**

(3) Dividends:

	2018	**2019 Forecast**
Q1 dividends per share (¥)	—	**—**
Q2 dividends per share (¥)	20.00	**50.00**
Q3 dividends per share (¥)	—	**—**
End of Term dividends per share (¥)	100.00	**80.00**
Annual dividends per share (¥)	120.00	**130.00**

Ⅱ. Forecast of performance for the year ending December 31, 2019

(¥ in millions, US$ in thousands, except for net income attributable to owners of the parent per share)

	fiscal year	
	¥	$
Net sales	980,000	9,091,752
Operating income	145,000	1,345,208
Ordinary income	142,000	1,317,376
Net income attributable to owners of the parent	90,000	834,957
Net income attributable to owners of the parent per share: Basic	616.96	5.72

The above forecast is based on the information available at this point of time. Actual results may differ materially due to a variety of reasons, including such economic factors as fluctuations in foreign currency exchange rates as well as market supply and demand conditions.

Note

Yen amounts have been translated into U.S.dollars for convenience only, at the rate of ¥107.79 to US$1.00, the approximate rate of exchange as of June 30, 2019.

[Business Results and Financial Conditions]
1. Analysis of business results

(1) Summary
During the first half of 2019 (January 1 – June 30), the Japanese economy continued to recover gradually. Consumer spending showed a steady change against the background of good employment situation. Though corporate earnings were at high levels, they entered no-growth period due to a decline in domestic production and gradual slowdown in export. Overseas economies were slowing down. Though the U.S. economy continued to recover gradually, a feeling of slowdown of the European economy was strengthened. The economic growth of ASEAN countries slowed gradually. As for the Chinese economy, it is desired that financial and monetary measures to stimulate the slowing down economy taken by relevant authorities be fully effective. Moreover, mood of uncertainty over future prospects for global economy has been enhanced by global issues such as prolonged adjustment of production in the semiconductor industry, and a reduction in production in the automotive industry centering on Europe and China, in addition to the tense economic environment caused by US-China trade friction and the unstable situation in the Middle East. Extension of the effect of these issues to Japan is a matter of concern. In addition, expected lowering of interest rate by the Federal Reserve Board of the United States may cause yen's appreciation, which will be a cause for concern in the second half of this year.

In the petrochemicals industry, domestic plants to produce ethylene and its derivatives maintained high operating rate. However, in the East Asian market, the supply-demand situation of petrochemicals was slightly eased due to a slowdown in the Chinese economy. In the electronics parts/materials industry, production of semiconductors and display panels was in the period of adjustment of production, in addition to continuing low-level shipment volumes of PCs and smartphones.

Under these circumstances, the Showa Denko Group started its new medium-term consolidated business plan "The TOP 2021" in January 2019. It is very important for the Showa Denko Group to enhance the value of the Group and satisfy all stakeholders including shareholders, customers, suppliers, local communities and employees in order that the Group continuously grows and becomes trusted and acclaimed by society. The Showa Denko Group defines this idea as the Group's business philosophy, thereby promoting management to maximize shareholders', customers' and social value. The Group will change its course toward long-term business growth, strengthen its earning power and reduce the range of fluctuation in income through promotion of "The TOP 2021," enhance the value of the Group, and establish a stable foundation which will continuously support the Group's growth far into the future.

The Group recorded consolidated net sales of ¥475,494 million in the first half of 2019, up 4.3 % from the same period of the previous year. The sales in the Electronics segment decreased due to a decrease in shipment volumes of HD media. Sales in the Aluminum, Chemicals and Others segments also decreased. On the other hand, sales in the Inorganics segment considerably increased due mainly to a rise in market prices of graphite electrodes. In the Petrochemicals segment, sales increased from the same period of the previous year in which once-in-four-year large-scale shutdown maintenance of ethylene production facilities took place.

Operating income of the Group increased 9.8%, to ¥85,471 million. Though the Electronics, Chemicals, Aluminum, and Others segments recorded lower income, the Inorganics segment recorded considerably higher income due to a rise in the market prices

of graphite electrodes. The Petrochemicals segment recorded higher income because the segment got rid of the effect of the periodic shutdown maintenance which took place in the year-before period. The group recorded ordinary income of ¥84,830 million, up 9.4% from the same period of the previous year.

The Group recorded net income attributable to owners of the parent of ¥65,813 million in the first half of 2019, up 13.6% from the same period of the previous year, despite an increase in corporate tax and other expenses.

(Unit: millions of yen)

	1H 2018	1H 2019	Increase/decrease
Sales	455,845	475,494	19,649
Operating income	77,865	85,471	7,606
Ordinary income	77,572	84,830	7,259
Net income attributable to owners of the parent	57,949	65,813	7,864

(2) A breakdown of net sales and operating income by segment (January 1 - June 30, 2019)

[Petrochemicals segment]
In the Petrochemicals segment, sales increased 10.5%, to ¥127,480 million. Sales of olefins increased. Sales volumes of ethylene and propylene in the first half of 2019 increased from the same period of 2018 because there was no once-in-four-year large-scale shutdown maintenance of ethylene production facilities which took place in the first half of 2018. Sales of organic chemicals increased due to an increase in sales volumes of ethyl acetate and vinyl acetate. Operating income of the segment increased 14.2%, to ¥8,465 million.

(Unit: millions of yen)

	1H 2018	1H 2019	Increase/decrease
Sales	115,411	127,480	12,069
Operating income	7,412	8,465	1,053

[Chemicals segment]
In the Chemicals segment, sales decreased 1.5%, to ¥73,525 million. In the basic chemicals business, sales of chloroprene rubber increased due to brisk export and strong market. However, sales of liquefied ammonia was at the same level of the year-before period, and sales of acrylonitrile decreased due to a decline in market price. As a result, sales of basic chemicals slightly decreased. Sales volumes of industrial gases slightly increased. Sales of functional chemicals slightly increased due to a rise in sales prices of products. Sales of electronic chemicals decreased due to adjustment of production in the semiconductor and display industries. Operating income of the segment decreased 28.8%, to ¥5,522 million.

(Unit: millions of yen)

	1H 2018	1H 2019	Increase/decrease
Sales	74,620	73,525	-1,095
Operating income	7,751	5,522	-2,230

[Electronics segment]
In the Electronics segment, sales decreased 21.4%, to ¥44,588 million. Sales of HD media decreased due to a major decrease in sales volumes due partly to a bearish shipment volumes of media for PCs. In addition, shipment volumes of HD media for data centers also decreased due to a global slowdown in investment in the field of information technology. Sales of rare earth magnetic alloys and compound semiconductors significantly decreased. Sales of lithium-ion battery (LIB) materials decreased due to a decrease in shipment volumes. As for SiC epitaxial wafer business, sales increased due mainly to an increase in sales volumes of products for use in electric railcars and other equipment. Operating income of the segment decreased 84.2%, to ¥947 million.

(Unit: millions of yen)

	1H 2018	1H 2019	Increase/decrease
Sales	56,722	44,588	-12,135
Operating income	6,012	947	-5,065

SiC epitaxial wafer business was transferred from the Others segment to the Electronics segment at the beginning of the first quarter of 2019. Data in the table above are based on this new segmentation retrospective to 2018.

[Inorganics segment]
In the Inorganics segment, sales increased 22.5%, to ¥142,713 million. Sales of graphite electrodes substantially increased from the same period of the previous year due to a rise in sales prices of graphite electrodes in the global market caused by an active electric steel production, centering on the United States, despite the weakening of supply-demand situation of graphite electrodes in the European market resulting from a slowdown in steel production by customers and their partial-clearance of graphite-electrode inventory, and a decline in market prices of graphite electrodes in China resulting from a decrease in production of electric steel and an increase in production of medium- and low-quality graphite electrodes. Sales of ceramics decreased due mainly to a fall in shipment volumes of general-purpose alumina, despite an increase in shipment volumes of fine ceramics for electronics. The segment recorded operating income of ¥71,837 million, up 23.6% from the same period of the previous year.

(Unit: millions of yen)

	1H 2018	1H 2019	Increase/decrease
Sales	116,458	142,713	26,254
Operating income	58,107	71,837	13,730

[Aluminum segment]
In the Aluminum segment, sales decreased 8.0%, to ¥49,018 million. Sales of aluminum rolled products decreased due to a decline in shipment volumes of high-purity foil for aluminum electrolytic capacitors, especially for those used in industrial equipment and devices for data centers, resulting from adjustment of production. Sales of aluminum specialty components decreased due to a decline in shipment volumes of those for use in automotive parts and industrial equipment. Sales of aluminum cans increased due to slight increases in domestic sales and sales by Hanacans Joint Stock Company of Vietnam. Operating income of the segment decreased 82.0%, to ¥480 million.

(Unit: millions of yen)

	1H 2018	1H 2019	Increase/decrease
Sales	53,279	49,018	-4,262
Operating income	2,669	480	-2,189

[Others segment]
In the Others segment, sales decreased 4.4%, to ¥64,303 million. SHOKO CO., LTD.'s sales slightly decreased. Operating income of the segment decreased 34.3%, to ¥612 million.

(Unit: millions of yen)

	1H 2018	1H 2019	Increase/decrease
Sales	67,249	64,303	-2,946
Operating income	931	612	-319

SiC epitaxial wafer business was transferred from the Others segment to the Electronics segment at the beginning of the first quarter of 2019. Data in the table above are based on this new segmentation retrospective to 2018.

(3) Major steps taken or decided in the first half of 2019
[General]
- Revised CSR policy

In May 2019, the Showa Denko Group revised its CSR policy in order to clearly show our stakeholders that we aim to contribute to creating sustainable society from the medium- to long-term perspective. Our new CSR policy determines that "We at the Showa Denko Group will aim to make ourselves a social contribution company that satisfies all stakeholders by contributing to solving issues concerning SDGs through its business activities, and ensuring all employees' conduct conforming to Our Code of Conduct." Under this new CSR Policy, the Group will continue striving to create economic and social value based on safety and compliance. In addition, SDK endorsed the aim of the opinion offered by Financial Stability Board* (FSB) to establish Task Force on Climate-related Financial Disclosures (TCFD). We will disclose the effect of climate change on our business in a positive manner, following guidelines which is to be offered by TCFD in the near future.

*Financial Stability Board was established in 2009, and copes with fragility of international financial system and promotes dialogue among authorities responsible for stability of financial system.

- Set 2030 GHG reduction target conforming to global standard

In July 2019, SDK set a medium-term target figure to reduce emissions of greenhouse gases (GHGs) by 2030. In addition, recognizing importance of information disclosure to the global community, SDK has decided to announce the amount of the Showa Denko Group's GHG emissions in conformity with "GHG Protocol," which is the global standard, starting from the data for FY 2018 (April 2018 - March 2019). This time, the Showa Denko Group set a goal of 11% reduction of GHG emissions from its domestic bases for FY 2030 compared with that for FY 2013. In addition, starting from the announcement of data for FY2018, the Showa Denko Group will disclose the total amount of GHG emissions from bases at home and abroad in accordance with GHG Protocol, namely, the amount of direct GHG emissions from the Group's own facilities (Scope 1), the amount of indirect GHG emissions from purchased or acquired electricity, steam and heat (Scope 2), and the amount of indirect GHG emissions from the corporate value chain (Scope 3). The Group will announce these data through its integrated report (Showa Denko Report), its Website explaining the Group's CSR activities, and other media. Moreover, aiming to

set the Group's global warming mitigation measures as a part of its business strategy, the Group will introduce Internal Carbon Pricing mechanism and incorporate reduction of GHG emissions into the decision-making process for investment as a factor to be considered. The Showa Denko Group will continue introducing environment-conscious production equipment and technologies, promoting environment protection measures, and providing products that support recycling-oriented society, thereby contributing to creation of society where affluence and sustainability are harmonized.

- Acquired ILAG Group, global non-stick coatings manufacturer

In July 2019, SDK acquired all shares in ILAG Industrielack AG, which leads the ILAG Group (ILAG), a specialty non-stick coating chemicals manufacturing company. Non-stick coating chemicals (NSCs) are used on consumer goods such as cookware, bakeware, and home electrical appliances, and also on industrial goods including automotive parts and other industrial equipment, for the purposes of preventing sticking of substances on their surfaces and supporting low friction and release during use. The global market for NSCs is put about ¥130 billion (about $1.2 billion) a year (SDK's estimate for 2019). ILAG has the fourth largest share in the consumer-goods NSC market of worldwide operating companies. ILAG's products are also applied on industrial goods. ILAG exports its products manufactured in Switzerland to more than 50 countries. On the other hand, SDK already acquired GMM Group, another large manufacturer of NSCs for consumer goods, in November 2016. Therefore, SDK Group can pursue a synergy effect of integrated operation and marketing between ILAG and GMM groups because they have high market shares in different geographic areas in the world. In addition, after the acquisition of ILAG, annual sales figure of SDK's NSC business leaped up to about $60 million, and now has strong presence and competitiveness in global market, especially in the field of consumer goods. SDK's functional polymer/monomer business sector manufactures and sells materials for coatings for various purposes, and have rich expertise in prescription and manufacturing of raw materials for high-performance coatings and evaluation of performance of those coatings. NSCs can be classified into three categories in terms of raw materials, namely, fluorinated-resin based, silicon based, and Sol-Gel based coatings. Therefore, SDK can offer optimum solutions to its own NSC business by taking advantage of its wide-ranging businesses, products and technologies as an integrated chemical company.

- Decided to introduce SAP S4/HANA as next-generation ERP system

In May 2019, SDK decided to introduce "SAP S/4HANA," an enterprise resource planning (ERP) system developed by SAP SE, and will start operation of the new system in January 2020. SDK decided to introduce this new system with a view to establishing information platform which will support further globalization of the Group's business activities and management. The new ERP system will gather and accumulate various primary information about production, logistics, sale, accounting and procurement, and will realize integrated management of that information. In addition, SDK will strengthen its marketing function with additional new system, aiming to maximize customer experience. SDK will utilize SAP S/4HANA for issuing sophisticated sales forecast and simulating profit and loss so that the Company can make proper decisions quickly. In addition, SDK will introduce a marketing support system which will enable the Company to implement cross-sectional CRM* and generate new business opportunities. The total investment in our information infrastructure of this time will amount to about 4 billion yen. The Showa Denko Group holds up "Maximization of CUSTOMER Experience" as its business strategy, and promotes utilization of AI/IoT related technologies as measures to strengthen the Group's business foundation. SDK will analyze information accumulated in the new system with AI and other leading-edge technologies, realize more efficient

management of the Group and offer excellent solutions as combination of high-quality products and services.

*CRM is an abbreviation of “customer relationship management,” which is a management method to provide customers with more satisfactory products and services by accumulating and analyzing data concerning customers’ purchasing behavior and history.

- Established a technology to joint aluminum alloy and polycarbonate directly

In August 2019, SDK developed a technology to joint aluminum alloy and polycarbonate resin directly. Mechanical joining with bolts and nuts and gluing is widely used to joint metal and plastics. Technologies to joint metal and resins directly when resin materials are injected for molding are now attracting manufacturers’ attention because such technologies enable manufacturers to simplify manufacturing processes, improve productivity, and process parts with complicated shapes. It has been believed difficult to joint aluminum alloy with amorphous engineering plastics including polycarbonate resin with joining technologies depending on mechanical cohesiveness including anchoring. However, SDK has successfully developed a technology to joint aluminum alloy and polycarbonate resin directly by utilizing our special surface-treatment technology and expertise in primers. This new technology is characterized with joining mechanism utilizing not only anchoring effect but also chemical cohesiveness. In addition, in experiments, this technology successfully achieved cohesiveness of more than 25Mpa between aluminum alloy and polycarbonate under normal molding condition for polycarbonate resin. Since this technology realizes direct joining between polycarbonate resin, which has wide multiplicity of use, and light aluminum alloy, it is applicable to molding of composite housings for smartphones. In the future, we will aim to strengthen cohesiveness and durability of this joining, apply this technology to heat-resistant super-engineering plastics, and put automotive parts made with this technology to practical use.

[Chemicals segment]

- Started mass production of liquefied carbon dioxide in Oita Petrochemical Complex

Showa Denko Gas Products Co., Ltd. (SGP), a consolidated subsidiary of SDK, established a new plant to produce liquefied carbon dioxide in its Oita Plant in the premise of SDK’s Oita Petrochemical Complex. This new plant has a capacity to produce 15,000t of liquefied carbon dioxide per year, and started to ship products in this April. Liquefied carbon dioxide is made from carbon dioxide gas contained in by-product gas generated in the processes of oil-refining, steel-making and ammonia production. However, a tight supply-demand situation for liquefied carbon dioxide is chronic due to scaling back of oil-refining and ammonia production in Japan. This new plant utilizes carbon dioxide gas stably supplied from chemical plant in the Complex, and will continue supplying products to customers in the region in a stable manner, thereby contributing to the growth of the regional economy. SGP’s project to establish Oita Plant has been acknowledged by relevant organizations that it is eligible for the “Program to subsidize establishment of corporate bases in Oita City” sponsored by Oita City and the “Program to promote establishment of corporate bases that can lead growth of regional economies” sponsored by the Ministry of Economy, Trade and Industry (METI) under the provision of Regional Future Investment Promotion Act.

[Electronics segment]

- To begin shipment of MAMR-technology-based HD media

In 2019, SDK will begin shipment of newly developed 3.5-inch HD media which have storage capacity of 2 terabyte per disk based on the Microwave Assisted Magnetic Recording (MAMR)*[1] technology for next-generation hard disk drives (HDDs). In terms

of Conventional Magnetic Recording (CMR)*2, this product represents the 10th generation media. This new product has been adopted by Toshiba Electronic Devices & Storage Corporation for use in MAMR-technology-based 18 terabyte near-line HDD, which represents the largest storage capacity*3 in the industry. Due to the rapid expansion of cloud service and video content, data centers need HDDs with larger storage capacity. HD media are key parts for HDDs to determine their storage capacities, and SDK has been quickly launching top-quality media based on innovative technologies. As the largest independent HD media supplier, SDK will continue contributing to the increase in storage capacities of HDDs in accordance with its motto of "Best in Class."

*1: MAMR is an abbreviation of Microwave Assisted Magnetic Recording, which is a technology to assist high-density recording of data into HD media by radiating microwave on magnetic layer of the disk to reduce coercive force only when data is written into there.
*2: CMR is an abbreviation of Conventional Magnetic Recording, which is a kind of Perpendicular Magnetic Recording (PMR) technology without the use of Shingled Magnetic Recording (SMR). CMR ensures high random access.
*3: As of February 11, 2019.

[Inorganics segment]

- Decided to improve Carbon Division's production sites in Europe

In May 2019, SDK decided to improve facilities to produce graphite electrodes at its three production sites in Europe, one each in Germany, Spain and Austria, in order to establish a global system for supplying products with the same high quality. These sites are controlled by SDK's consolidated subsidiary SHOWA DENKO CARBON Holding GmbH, The construction work and quality improvement efforts are scheduled to begin in 2019 for completion in 2020. This project is expected to be equivalent to reducing SDK's total production capacity by around 5% during this period. In its graphite electrode business, SDK is operating a total of seven production sites in Japan, Europe, the USA and Asia, with the largest share in the world's production capacity of high-quality, ultrahigh power (UHP) electrodes. This year, SDK aims to achieve the synergy effect of business integration (BIS40 Note) while ensuring stable supply and optimizing supply cost at respective graphite electrode production sites. SDK will continue taking various measures to achieve "Value in Use No. 1" for customers and to increase the competitiveness and profitability of its graphite electrode business.

Note: "BIS40" refers to SDK's medium-term plan for maximizing the synergy of integrating graphite electrode business of SDK and its U.S. subsidiary Showa Denko Carbon, Inc. with that of former SGL GE Holding GmbH (acquired in 2017). Specifically, SDK aims to optimize its global supply and distribution channels, increase its bargaining power in raw material procurement, and combine respective advantages; namely, high productivity and cost-competitiveness of former SGL sites with high product quality at SDK's Omachi Plant and Showa Denko Carbon, Inc. Through these measures, SDK aims to achieve "Value in Use No. 1" for customers, and produce an economic effect of ¥4 billion by 2020.

[Aluminum segment]

- Decided to streamline domestic aluminum can production lines

In May 2019, Showa Aluminum Can Corporation (SAC), a consolidated subsidiary of SDK, decided to stop a part of its production lines to manufacture aluminum cans in its Oyama Plant and Hikone Plant, in order to respond to changes in the domestic market environment. SAC has been manufacturing aluminum cans in its three plants in this country, located in Oyama, Hikone and Omuta. SAC decided this time to stop a part of lines to produce aluminum cans, mainly for non-alcoholic beverages, and streamline its production capacity to be about 60% of the current level by June 2020. In the domestic market for aluminum cans, the demand for cans for alcoholic beverages continues to be strong due to an increase in the demand for alcoholic beverages other than beer and beer-like beverages, though the demand for beer/beer-like beverages continues declining.

However, the demand for aluminum cans for non-alcoholic beverages is expected to decrease significantly due to a shift from aluminum cans to PET bottles. As a result, the total demand for aluminum cans in Japan is expected to continue stagnant into the future. In its domestic aluminum can business, SAC will promote introduction of formulas linked to aluminum-metal prices to calculate and determine sales prices of aluminum cans, and will focus its management resources mainly on production of cans for alcoholic beverages, aiming to stabilize its revenue base. SAC will also promote further development of ink-jet printing technologies suitable for production of multiple models and smaller lots and search for new use of aluminum cans, aiming to improve its profitability.

- Decided to establish third aluminum can production base in Vietnam and expand can end production lines

In April 2019, Showa Aluminum Can Corporation (SAC), a consolidated subsidiary of SDK, decided to establish its third base in Vietnam to produce aluminum cans, aiming to expand its business in that country. This new production base is to be located in Ba Ria-Vung Tau Province, which is in the southern part of Vietnam. In addition, SAC also decided to expand the capacity of can end production lines in the existing factory located in the northern part of Vietnam. Hanacans Joint Stock Company (Hanacans), an affiliated company of SAC incorporated in Vietnam, has lines to produce can bodies and can ends in its Bac Ninh Factory located in the northern part of Vietnam, and lines to produce can bodies in its Quang Nam Factory located in the central part of Vietnam. This time, SAC decided to establish a new factory, which is to have capacity to produce 1.3 billion can bodies per year, in the southern part of Vietnam, and install an additional line to produce can ends with production capacity of 1.1 billion can ends per year in Hanacans' Bac Ninh Factory. As a result of these measures, Hanacans will have three factories to cover everywhere in Vietnam, and have capacities to produce 3.1 billion can bodies and 3.3 billion can ends per year in total. The total amount of investment in the construction of the new factory and additional can-end production line is expected to be about ¥7 billion. The new facilities are scheduled to start production in July 2020.

2. Financial conditions for the January 1 – June 30, 2019 period (as compared with the conditions at December 31, 2018)

a) Situation of assets, liabilities and net assets

Total assets at June 30, 2019 amounted to ¥1,077,807 million, an increase of ¥2,824 million from the level at December 31, 2018. Total assets increased due partly to an increase in inventories, despite a decrease in accounts receivable-trade. Total liabilities decreased ¥42,658 million, to ¥566,986 million, due partly to a decrease in notes and accounts payable-trade. Interest-bearing debts decreased ¥1,756 million, to ¥286,212 million. Net assets increased ¥45,482 million from the level at December 31, 2018, to ¥510,822 million, due mainly to the posting of net income attributable to owners of the parent.

b) Situation of cash flows

Net cash provided by operating activities during the first half of 2019 amounted to ¥40,494 million, a decrease of ¥11,682 million from the same period of the previous year, due partly to an increase in corporate tax, despite an increase in the income before income taxes and minority interests. Net cash used in investing activities decreased ¥7,660 million from the same period of the previous year, to ¥17,865 million, due partly to an increase in proceeds from sales of investment securities. Thus free cash flow ended up in the proceeds of ¥22,629 million, a decline in proceeds of ¥4,022 million. Cash flows from financing activities ended up in the expenditure of ¥18,703 million, an

increase in expenditure of ¥5,822 million from the same period of the previous year, due partly to an increase in cash dividends paid. As a result, after the effects of exchange rate fluctuations are taken into account, cash and cash equivalents at the end of the first half year period increased ¥589 million from the level at December 31, 2018, to ¥113,424 million.

3. Performance forecast

The Company announced revised forecast of consolidated financial results today (August 7, 2019). Revised forecast of consolidated financial results for full year 2019 (January 1 – December 31) is as in the tale given below.

(Unit: millions of yen)

	Net sales	Operating income	Ordinary income	Net income attributable to owners of the parent
Forecast of results for full-year 2019	980,000	145,000	142,000	90,000

The forecast stated above is based on the revised assumption that the exchange rates and the naphtha price for the second half of 2019 (July 1 – December 31) will be as follows.

Exchange rate: ¥110/$, ¥126/€ (Forecast at the beginning of the year: ¥105/$, ¥126/€)
Naphtha price: ¥47,400/KL (Forecast at the beginning of the year: ¥53,400/KL)

Consolidated Balance Sheets

(¥ in millions, US$ in thousands)

	Dec. 31, 2018	Jun. 30, 2019	Jun. 30, 2019
Assets	¥	¥	$
Current assets			
Cash and deposits	113,186	113,767	1,055,452
Notes and accounts receivable-trade	203,730	183,430	1,701,737
Merchandise and finished goods	65,882	73,825	684,894
Work in process	26,160	35,032	325,001
Raw materials and supplies	60,758	61,203	567,799
Other	28,202	31,451	291,777
Allowance for doubtful accounts	(1,386)	(980)	(9,094)
Total current assets	496,533	497,727	4,617,566
Noncurrent assets			
Property, plant and equipment			
Buildings and structures, net	78,777	79,380	736,435
Machinery, equipment and vehicles, net	146,764	141,699	1,314,587
Land	234,987	236,665	2,195,613
Other, net	17,879	22,369	207,528
Total property, plant and equipment	478,406	480,114	4,454,163
Intangible assets			
Other	14,950	16,673	154,681
Total intangible assets	14,950	16,673	154,681
Investments and other assets			
Investment securities	71,886	69,926	648,725
Other	21,540	21,351	198,075
Allowance for doubtful accounts	(8,332)	(7,984)	(74,072)
Total investments and other assets	85,094	83,292	772,728
Total noncurrent assets	578,450	580,080	5,381,573
Total assets	1,074,983	1,077,807	9,999,138
Liabilities			
Current liabilities			
Notes and accounts payable-trade	139,420	125,661	1,165,793
Short-term loans payable	61,747	51,450	477,317
Current portion of long-term loans payable	41,403	38,748	359,480
Commercial papers	20,000	8,000	74,218
Provision	3,714	3,186	29,558
Income taxes payable	10,160	14,578	135,244
Other	85,630	63,497	589,077
Total current liabilities	362,074	305,120	2,830,689
Noncurrent liabilities			
Bonds payable	42,000	62,000	575,193
Long-term loans payable	122,818	126,013	1,169,063
Provision	4,133	3,887	36,063
Net defined benefit liability	22,018	13,194	122,404
Other	56,599	56,771	526,684
Total noncurrent liabilities	247,569	261,866	2,429,406
Total liabilities	609,643	566,986	5,260,095
Net assets			
Shareholders' equity			
Capital stock	140,564	140,564	1,304,050
Capital surplus	78,911	78,912	732,090
Retained earnings	197,717	249,348	2,313,274
Treasury stock	(11,659)	(11,661)	(108,179)
Total shareholders' equity	405,532	457,163	4,241,235
Accumulated other comprehensive income			
Valuation difference on available-for-sale securities	7,489	8,119	75,324
Deferred gains or losses on hedges	836	150	1,389
Revaluation reserve for land	33,281	32,990	306,061
Foreign currency translation adjustment	7,069	(39)	(365)
Remeasurements of defined benefit plans	(8,244)	(7,306)	(67,779)
Total accumulated other comprehensive income	40,431	33,914	314,630
Non-controlling interests	19,377	19,745	183,178
Total net assets	465,340	510,822	4,739,044
Total liabilities and net assets	1,074,983	1,077,807	9,999,138

Consolidated Statements of Income

(¥ in millions, US$ in thousands)

	Results for the first half year (Jan.1-Jun.30)		
	2018	2019	2019
	¥	¥	$
Net sales	455,845	475,494	4,411,300
Cost of sales	325,108	334,836	3,106,371
Gross profit	130,736	140,658	1,304,928
Selling, general and administrative expenses	52,871	55,187	511,988
Operating income	77,865	85,471	792,940
Non-operating income			
Interest income	377	568	5,271
Dividends income	703	713	6,610
Equity in earnings of affiliates	594	540	5,008
Rent income on noncurrent assets	684	678	6,294
Miscellaneous income	1,096	582	5,401
Total non-operating income	3,453	3,081	28,584
Non-operating expenses			
Interest expenses	1,561	1,111	10,309
Environmental expenses	286	780	7,234
Loss on mothballing of operation	644	785	7,287
Miscellaneous expenses	1,255	1,045	9,699
Total non-operating expenses	3,746	3,722	34,529
Ordinary income	77,572	84,830	786,996
Extraordinary income			
Gain on sales of noncurrent assets	71	499	4,632
Gain on sales of investment securities	281	1,189	11,032
Other	169	121	1,124
Total extraordinary income	521	1,810	16,787
Extraordinary loss			
Loss on sales and retirement of noncurrent assets	1,663	986	9,145
Impairment loss	59	1,140	10,573
Loss on liquidation of subsidiaries	—	635	5,892
Other	297	246	2,284
Total extraordinary losses	2,019	3,007	27,893
Profit before income taxes	76,073	83,633	775,890
Income taxes	15,217	16,167	149,983
Net income	60,857	67,466	625,907
Net income attributable to non-controlling interests	2,907	1,653	15,338
Net income attributable to owners of the parent	57,949	65,813	610,569

Consolidated Statements of Comprehensive Income

(¥ in millions, US$ in thousands)

	Results for the first half year (Jan.1-Jun.30)		
	2018	2019	2019
	¥	¥	$
Profit	60,857	67,466	625,907
Other comprehensive income:			
Valuation difference on available-for-sale securities	(1,607)	642	5,957
Deferred gains or losses on hedges	(1,536)	(690)	(6,401)
Foreign currency translation adjustments	(5,630)	(7,235)	(67,124)
Remeasurements of defined benefit plans, net of tax	777	948	8,796
Share of other comprehensive income of entities accounted for using equity method	9	(78)	(727)
Total other comprehensive income	(7,987)	(6,413)	(59,500)
Comprehensive income	52,870	61,053	566,407
(Comprehensive income attributable to)			
Comprehensive income attributable to owners of the parent	50,318	59,587	552,810
Comprehensive income attributable to non-controlling interests	2,552	1,466	13,597

Consolidated Statements of Cash Flows

(¥ in millions, US$ in thousands)

	Results for the first half year (Jan. 1-Jun. 30)		
	2018	2019	2019
	¥	¥	$
Net cash provided by (used in) operating activities			
Income before income taxes and minority interests	76,073	83,633	775,890
Depreciation and amortization	19,972	18,598	172,541
Impairment loss	59	1,140	10,573
Amortization of negative goodwill	(8)	(1)	(7)
Increase (decrease) in net defined benefit liability	(1,905)	(8,663)	(80,365)
Interest and dividends income	(1,080)	(1,281)	(11,882)
Interest expenses	1,561	1,111	10,309
Equity in (earnings) losses of affiliates	(594)	(540)	(5,008)
Loss (gain) on sales and valuation of investment securities	(258)	(1,188)	(11,023)
Loss on retirement of noncurrent assets	1,637	913	8,468
Loss (gain) on sales of noncurrent assets	(46)	(426)	(3,955)
Decrease (increase) in notes and accounts receivable-trade	(11,682)	19,117	177,355
Decrease (increase) in inventories	(14,465)	(19,442)	(180,373)
Increase (decrease) in notes and accounts payable-trade	12,785	(12,978)	(120,400)
Other, net	(24,923)	(26,653)	(247,266)
Subtotal	57,127	53,341	494,858
Interest and dividends income received	2,153	1,769	16,412
Interest expenses paid	(1,576)	(1,141)	(10,582)
Income taxes paid	(5,529)	(13,475)	(125,013)
Net cash provided by (used in) operating activities	52,176	40,494	375,675
Net cash provided by (used in) investing activities			
Payments into time deposits	(131)	-	-
Proceeds from withdrawal of time deposits	3	-	-
Purchase of property, plant and equipment	(20,944)	(19,166)	(177,813)
Proceeds from sales of property, plant and equipment	134	1,029	9,547
Purchase of investment securities	(670)	(561)	(5,200)
Proceeds from sales of investment securities	2,452	4,045	37,525
Net decrease (increase) in short-term loans receivable	(95)	372	3,447
Payments of long-term loans receivable	(465)	(24)	(223)
Collection of long-term loans receivable	113	42	393
Other, net	(5,922)	(3,602)	(33,418)
Net cash provided by (used in) investing activities	(25,525)	(17,865)	(165,742)
Net increase (decrease) in short-term loans payable	(8,533)	(10,075)	(93,472)
Net increase (decrease) in commercial papers	7,000	(12,000)	(111,328)
Proceeds from long-term loans payable	12,584	19,800	183,691
Repayment of long-term loans payable	(35,513)	(18,948)	(175,784)
Proceeds from issuance of bonds	-	20,000	185,546
Purchase of treasury shares	(9)	(4)	(39)
Proceeds from sales of treasury shares	26,104	3	26
Cash dividends paid	(7,108)	(14,560)	(135,079)
Cash dividends paid to non controlling shareholders	(2,045)	(1,283)	(11,905)
Other, net	(5,361)	(1,635)	(15,168)
Net cash provided by (used in) financing activities	(12,881)	(18,703)	(173,513)
Effect of exchange rate change on cash and cash equivalents	(1,850)	(3,348)	(31,063)
Net increase (decrease) in cash and cash equivalents	11,921	578	5,358
Cash and cash equivalents at beginning of period	76,833	112,835	1,046,804
Increase in cash and cash equivalents from newly consolidated subsidiary	-	11	102
Cash and cash equivalents at end of period	88,754	113,424	1,052,264

(Reference)

SEGMENT INFORMATION

Imformation about sales and operating income :

6 Months ended June 30, 2018	Millions of yen							
	Petrochemicals	Chemicals	Electronics	Inorganics	Aluminum	Others	Elimination	Consolidated
Sales								
Outside customers	¥110,373	¥65,993	¥55,839	¥112,410	¥48,674	¥62,554	¥–	¥455,845
Inter-segment	5,037	8,627	883	4,048	4,605	4,695	(27,896)	–
Total	115,411	74,620	56,722	116,458	53,279	67,249	(27,896)	455,845
Operating income (loss)	¥7,412	¥7,751	¥6,012	¥58,107	¥2,669	¥931	(¥5,018)	¥77,865

6 Months ended June 30, 2019	Millions of yen							
	Petrochemicals	Chemicals	Electronics	Inorganics	Aluminum	Others	Elimination	Consolidated
Sales								
Outside customers	**¥122,345**	**¥65,079**	**¥44,234**	**¥138,884**	**¥45,313**	**¥59,640**	**¥–**	**¥475,494**
Inter-segment	**5,135**	**8,446**	**354**	**3,829**	**3,705**	**4,663**	**(26,133)**	**–**
Total	**127,480**	**73,525**	**44,588**	**142,713**	**49,018**	**64,303**	**(26,133)**	**475,494**
Operating income (loss)	**¥8,465**	**¥5,522**	**¥947**	**¥71,837**	**¥480**	**¥612**	**(¥2,392)**	**¥85,471**

6 Months ended June 30, 2019	Thousands of U.S. dollars							
	Petrochemicals	Chemicals	Electronics	Inorganics	Aluminum	Others	Elimination	Consolidated
Sales								
Outside customers	**$1,135,030**	**$603,758**	**$410,369**	**$1,288,465**	**$420,379**	**$553,299**	**$–**	**$4,411,300**
Inter-segment	**47,639**	**78,358**	**3,284**	**35,523**	**34,372**	**43,263**	**(242,439)**	**–**
Total	**1,182,669**	**682,116**	**413,653**	**1,323,987**	**454,751**	**596,562**	**(242,439)**	**4,411,300**
Operating income (loss)	**$78,531**	**$51,229**	**$8,787**	**$666,453**	**$4,452**	**$5,676**	**($22,187)**	**$792,940**

SHOWA DENKO K.K.

Aug. 7, 2019

First Half, 2019 Consolidated Financial Results (Summary)

Ⅰ. First Half 2019 Results

1. Summary

(Unit: billions of yen, except for Net income attributable to owners of the parent per share and Net assets per share)

Items	1st half, 2018 (Jan.-Jun.)	1st half, 2019 (Jan.-Jun.)	Increase/ decrease
Net Sales	455.8	475.5	19.6
Operating Income	77.9	85.5	7.6
Net income attributable to owners of the parent	57.9	65.8	7.9
Net income attributable to owners of the parent per share	¥397.31	¥451.16	¥53.85
Net assets per share	¥2,839.57	¥3,366.39	¥526.83
Midterm dividends per share	¥20.00	¥50.00	¥30.00

2. Net Sales and Operating Income by Segment

(Unit: billions of yen)

Segment		1st half, 2018 (Jan.-Jun.)	1st half, 2019 (Jan.-Jun.)	Increase/ decrease	CQ1, 2019 (Jan. - Mar.)	CQ2, 2019 (Apr. - Jun.)
Net Sales	Petrochemicals	115.4	127.5	12.1	62.7	64.8
	Chemicals	74.6	73.5	-1.1	36.0	37.5
	Electronics	56.7	44.6	-12.1	20.6	24.0
	Inorganics	116.5	142.7	26.3	72.4	70.3
	Aluminum	53.3	49.0	-4.3	23.8	25.3
	Others	67.2	64.3	-2.9	32.4	31.9
	Adjustments	-27.9	-26.1	1.8	-13.1	-13.0
	Total	455.8	475.5	19.6	234.7	240.8
Operating Income	Petrochemicals	7.4	8.5	1.1	4.0	4.5
	Chemicals	7.8	5.5	-2.2	2.4	3.1
	Electronics	6.0	0.9	-5.1	-0.3	1.2
	Inorganics	58.1	71.8	13.7	39.5	32.3
	Aluminum	2.7	0.5	-2.2	0.3	0.2
	Others	0.9	0.6	-0.3	0.3	0.3
	Adjustments	-5.0	-2.4	2.6	-0.8	-1.6
	Total	77.9	85.5	7.6	45.4	40.1

SiC epitaxial wafer business was transferred from the Others segment to the Electronics segment at the beginning of 2019.
The above data for 2018 and 2019 are based on this new segmentation.

3. Cash Flow

(Unit: billions of yen)

Cash Flows from:	1st half, 2018 (Jan.-Jun.)	1st half, 2019 (Jan.-Jun.)	Increase/ decrease	2019 Revised forecast (Jan.-Dec.)
Operating Activities	52.2	40.5	-11.7	95.0
Investing Activities	-25.5	-17.9	7.7	-60.0
Free Cash Flow	26.7	22.6	-4.0	35.0
Financing Activities	-12.9	-18.7	-5.8	-13.0
Others	-1.9	-3.3	-1.5	0.0
Net increase in Cash	11.9	0.6	-11.3	22.0

announced on Aug. 7, 2019

4. Reference

(Unit: billions of yen)

Items	1st half, 2018 (Jan.-Jun.)	1st half, 2019 (Jan.-Jun.)	Increase/ decrease	
Capital expenditures	20.7	22.3	1.6	
Depreciation and amortization	19.8	18.6	-1.2	
R&D expenditures	10.3	10.1	-0.2	
Gap between interest/dividend income and interest expense	-0.5	0.2	0.7	
Total number of employees	10,589	10,603	14	
Exchange rate (yen/US$)	108.7	110.1	1.4	Yen depreciated
Domestic naphtha price (yen/kl)	48,350	43,300	-5,050	

Items	Dec. 31, 2018	Jun. 30, 2019	Increase/ decrease
Total assets	1,075.0	1,077.8	2.8
Interest-bearing debt	288.0	286.2	-1.8

SHOWA DENKO K.K.

Ⅱ. Forecast for 2019

1. Summary

(Unit: billions of yen, except for Net income attributable to owners of the parent per share and Cash dividends per share)

Items	2018	2019 Revised forecast *	Increase/ decrease
Net Sales	992.1	980.0	-12.1
Operating Income	180.0	145.0	-35.0
Net income attributable to owners of the parent	111.5	90.0	-21.5
Net income attributable to owners of the parent per share	¥758.15	¥616.96	¥-141.19
Cash dividends per share	¥120.00	¥130.00	¥10.00

* announced on Aug 7, 2019

2. Net sales and Operating Income by Segment

(Unit: billions of yen)

Segment		2018	2019 Revised forecast *	Increase/ decrease
Net Sales	Petrochemicals	268.9	260.0	-8.9
	Chemicals	156.5	160.0	3.5
	Electronics	111.9	105.0	-6.9
	Inorganics	266.1	270.0	3.9
	Aluminum	108.3	105.0	-3.3
	Others	137.3	135.0	-2.3
	Adjustments	-56.9	-55.0	1.9
	Total	992.1	980.0	-12.1
Operating Income	Petrochemicals	20.3	15.5	-4.8
	Chemicals	17.4	14.5	-2.9
	Electronics	13.6	8.0	-5.6
	Inorganics	132.4	111.0	-21.4
	Aluminum	4.9	2.5	-2.4
	Others	1.7	1.0	-0.7
	Adjustments	-10.4	-7.5	2.9
	Total	180.0	145.0	-35.0

SiC epitaxial wafer business was transferred from the Others segment to the Electronics segment at the beginning of 2019.
The above data for 2018 and 2019 are based on this new segmentation.

Ⅲ. Reference

(Unit: billions of yen)

Items	2018	2019 Revised forecast *	Increase/ decrease	
Capital expenditures	41.7	57.6	15.9	
Depreciation and amortization	39.5	38.5	-0.9	
R&D expenditures	19.7	21.5	1.8	
Gap between interest / dividend income and interest expense	-0.6	0.2	0.8	
Interest-bearing debt	288.0	310.0	22.0	
Total number of employees	10,476	10,712	236	
Exchange rate (yen/US$)	(1st half) 108.7 (2nd half) 112.2	(1st half) 110.1 (2nd half) 110.0	(1st half) 1.4 (2nd half) 2.2	Yen depreciated Yen appreciated
Domestic naphtha price (yen/kl)	(1st half) 48,350 (2nd half) 53,850	(1st half) 43,300 (2nd half) 47,400	(1st half) -5,050 (2nd half) -6,450	

Note : The above forecast is based on the information available as of today and assumptions as of today 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 or market conditions for our products such as graphite electrodes and other commodities, and foreign exchange rates. We undertake no obligation to update the forward-looking statements unless required by law.